ELCO INDUSTRIAL AUTOMATION

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DESIGN AWARD 2015

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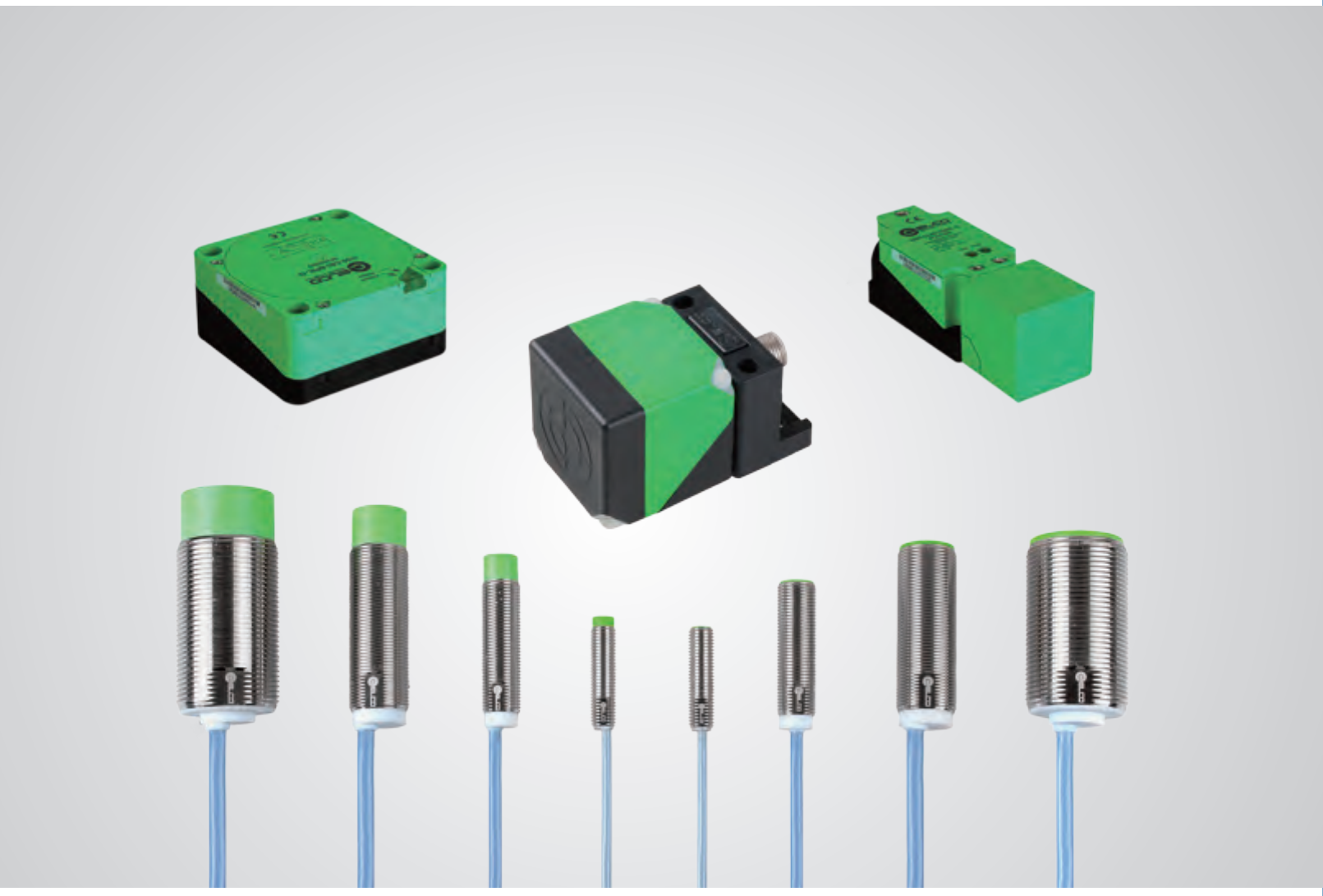


Inductive Sensors

Inductive sensor

When the metal conductive objects close to the magnetic field and reach the induction area,high-frequency alternating magnetic field generated by a LC oscillation circuit, which is composed of a coil wound on a ferrite, through the eddy current effect generated by internal of metal objects to achieve non-contact detection.

Standards

All ELCO's inductive proximity sensors conform to IEC 60947-5-2.

Housing material

The housing material of sensor including nickel plated copper, also stainless steel and plastic with resistance of compression and temperature rapid change.Most of square sensor is plastic housing. These materials can also be used to produce square sensors with adjustable sensing surface or compact (small square) sensors. Such sensors can be used in the occasions of limited installation space or required large detection range.

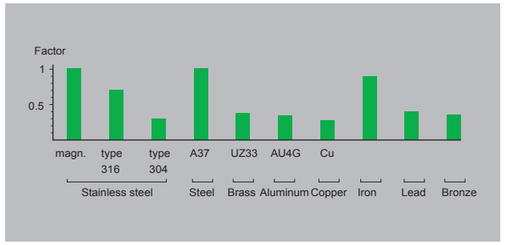
Application

Inductive proximity switch is a low cost method for non-contact detection of metal objects,which is widely used in the following sectors, such as:

- Automotive Industry
- Metallurgical sector
- Machine tool sector
- Robot industry
- Conveyor system
- Paper and printing industry
- Mechanical Engineering

Attenuation coefficient

When detect different materials with inductive sensors, there will be different detection distance even using the same product,please refer to following Figure.



Factor=1

ELCO provides a series of all-metal inductive sensors with the same detection range for all metals including copper, aluminum and iron. (See Page197)

Special inductive sensor

ELCO can provide special sensor for special environment to adapt to the field environment, avoid malfunction occurred and extend the service life.

General parameters

Shock resistance 30G, 11 ms

Anti-vibration 55 Hz, 1 mm

Voltage drop

- 2-wire non-polarity DC transistor output proximity switch ＜5V
- 2-wire polarity DC transistor output proximity switch ＜5V
- 2-wire AC / DC proximity switch ＜6V
- 3-wire DC transistor output proximity switch ＜1.8 V
- 4-wire DC transistor output proximity switch ＜1.8 V

Fastening nut	M8	M12	M18	M30
Fastening torque Nm	Brass 2	Brass 10	Brass 30	Brass 40
		Plastic 1	Plastic 3	Plastic 5
	Stainless steel 5	Stainless steel 25	Stainless steel 50	Stainless steel 100

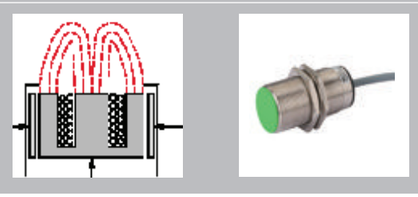
<<Inductive Sensor
Introduction

Flush mounting and non-flush mounting

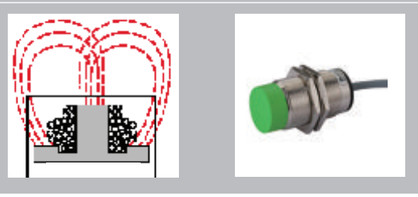
Flush mounting, the sensing surface and the base surface are flushed to protect the detection surface of sensor.

Non-flush mounting, the sensing surface is higher than the base surface. Generally, the non-flushing sensor has larger detection range.

Flush mounting



Non-flush mounting

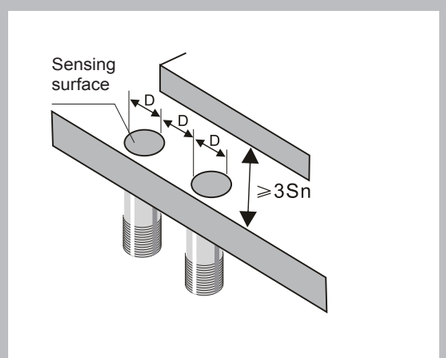


Installation space requirements

To avoid the interference of the surrounding metal objects or other sensors during installation, there shall have the minimum installation space.

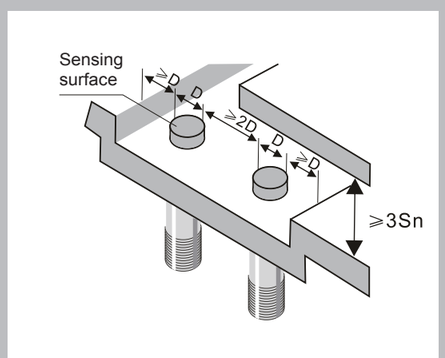
Flush

The sensing surface is flushed with the metal surface during installation. The distance from the switch surface to opposite metal object should be ≥3Sn.The distance between two adjacent switches must be ≥D.



Non-flush

Since there is no metal housing in the sensing surface,the mounting type can be identified through the sensor head.The distance from sensing surface to the metal mounting medium must be ≥2Sn. The distance from the sensing surface to opposite metal object must be ≥3Sn.The distance between the other two adjacent proximity switches must be ≥ 2D.



Type Code

F i 2 . ——— . M 12 . ——— O P 6 L ——— Q12 / ·

Special Functions
Null:Standard
A: Magnetic Field Immune
D: High Pressure
H: Wide Temperature
F: High Frequency
XA:Welding Resistance

Rating Operating Distance Sn
2mm

Principle
i:Inductive Sensors

Mounting
F:Flush
N: Non-flush

Housing Material
Null: Brass Nickel-plate
K: Stainless Steel
T: Telfon-coated
A: All-metal

Specifications
G: Thread Barrel
H: Smooth Barrel
M: Partly Thread Barrel
MC: All-metal Rectangular
Q: Mini Rectangular
W: W-series Rectangular
WL: W-series Rectangular Long
C: C-series Rectangular

Size
M12*1

Additional Information
Null:
Standard Length
B: Side Induction
E: Long Version
S: Short Version

Output Function
B: Change-over
C: NC
O: NO
V: NO or NC
LIU: Analog output (current + voltage)
NE: NAMUR

Output Type
N:NPN
P:PNP
A: AC/DC
D: 2-wire DC
SA: AC

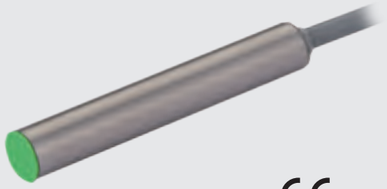
Voltage Range
6:10--30VDC
9:10--60VDC
3:20--250VAC
41:20--250VAC
20--250VDC

Function Display
LED

Connection
Null: Cable 2m
Q: Screw terminal
Q8: M8*1
Q12: M12*1

Special Function
Null: Non-special function

Metal Barrel-H3/H4



Description:

Stainless steel housing, smooth barrel, DC 3-wire output,
IP67 protection class, LED indicator, compact size.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi0.8-KH03-OP6L	0.8mm	Flush	PNP NO	10...30VDC	≤100mA	2500Hz	-25...70˚C	2m cable	Fig.1
Fi0.8-KH03-ON6L	0.8mm	Flush	NPN NO	10...30VDC	≤100mA	2500Hz	-25...70˚C	2m cable	Fig.1
Fi0.8-KH03-CP6L	0.8mm	Flush	PNP NC	10...30VDC	≤100mA	2500Hz	-25...70˚C	2m cable	Fig.1
Fi0.8-KH03-CN6L	0.8mm	Flush	NPN NC	10...30VDC	≤100mA	2500Hz	-25...70˚C	2m cable	Fig.1
Fi1-KH04-OP6L	1mm	Flush	PNP NO	10...30VDC	≤100mA	2500Hz	-25...70˚C	2m cable	Fig.2
Fi1-KH04-ON6L	1mm	Flush	NPN NO	10...30VDC	≤100mA	2500Hz	-25...70˚C	2m cable	Fig.2
Fi1-KH04-CP6L	1mm	Flush	PNP NC	10...30VDC	≤100mA	2500Hz	-25...70˚C	2m cable	Fig.2
Fi1-KH04-CN6L	1mm	Flush	NPN NC	10...30VDC	≤100mA	2500Hz	-25...70˚C	2m cable	Fig.2

Dimensions:

Fig.1

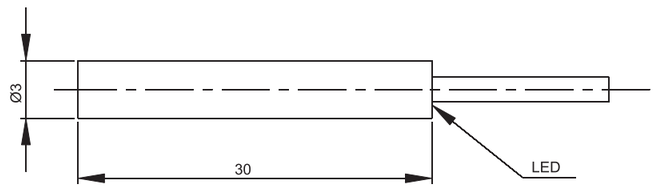
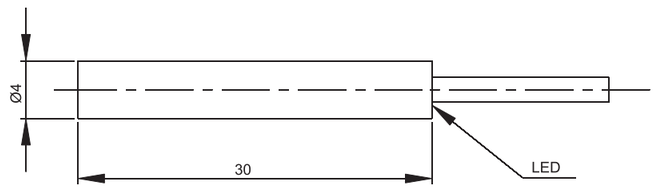


Fig.2



Metal Barrel-M4/M5

Description:

Stainless steel housing, threaded barrel, DC 3-wire output,
IP67 protection class, LED indicator, compact size.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi0.8-KM04-OP6L	0.8mm	Flush	PNP NO	10...30VDC	≤100mA	2500Hz	-25...70˚C	2m cable	Fig.1
Fi0.8-KM04-ON6L	0.8mm	Flush	NPN NO	10...30VDC	≤100mA	2500Hz	-25...70˚C	2m cable	Fig.1
Fi0.8-KM04-CP6L	0.8mm	Flush	PNP NC	10...30VDC	≤100mA	2500Hz	-25...70˚C	2m cable	Fig.1
Fi0.8-KM04-CN6L	0.8mm	Flush	NPN NC	10...30VDC	≤100mA	2500Hz	-25...70˚C	2m cable	Fig.1
Fi1-KM05-OP6L	1mm	Flush	PNP NO	10...30VDC	≤100mA	1000Hz	-25...70˚C	2m cable	Fig.2
Fi1-KM05-ON6L	1mm	Flush	NPN NO	10...30VDC	≤100mA	1000Hz	-25...70˚C	2m cable	Fig.2
Fi1-KM05-CP6L	1mm	Flush	PNP NC	10...30VDC	≤100mA	1000Hz	-25...70˚C	2m cable	Fig.2
Fi1-KM05-CN6L	1mm	Flush	NPN NC	10...30VDC	≤100mA	1000Hz	-25...70˚C	2m cable	Fig.2
Fi1-KM05-OP6L-Q8	1mm	Flush	PNP NO	10...30VDC	≤100mA	1000Hz	-25...70˚C	M8 Connector	Fig.3
Fi1-KM05-ON6L-Q8	1mm	Flush	NPN NO	10...30VDC	≤100mA	1000Hz	-25...70˚C	M8 Connector	Fig.3
Fi1-KM05-CP6L-Q8	1mm	Flush	PNP NC	10...30VDC	≤100mA	1000Hz	-25...70˚C	M8 Connector	Fig.3
Fi1-KM05-CN6L-Q8	1mm	Flush	NPN NC	10...30VDC	≤100mA	1000Hz	-25...70˚C	M8 Connector	Fig.3

Dimensions:

Fig.1

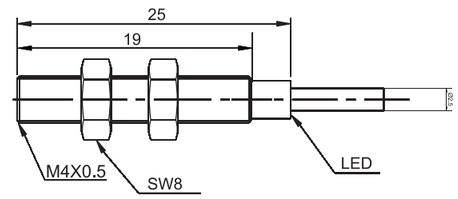


Fig.2

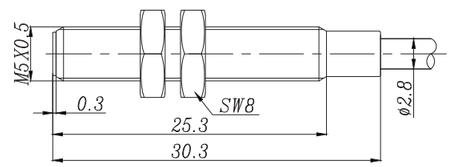
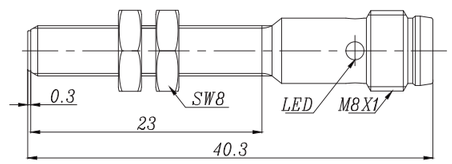
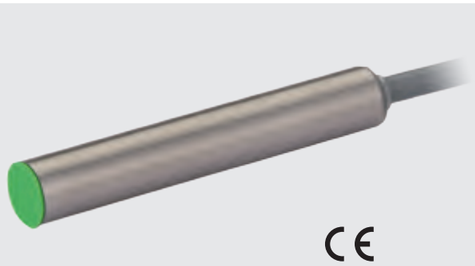


Fig.3



Metal Barrel-H6.5



Description:

Stainless steel housing, smooth barrel, DC 2-wire output,

IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi1.5-KH6.5-OD6L	1.5mm	Flush	DC NO	10...30VDC	≤100mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi1.5-KH6.5-CD6L	1.5mm	Flush	DC NC	10...30VDC	≤100mA	1000Hz	-25...70℃	2m cable	Fig.1
Ni2-KH6.5-OD6L	2mm	Non-flush	DC NO	10...30VDC	≤100mA	1000Hz	-25...70℃	2m cable	Fig.2
Ni2-KH6.5-CD6L	2mm	Non-flush	DC NC	10...30VDC	≤100mA	1000Hz	-25...70℃	2m cable	Fig.2
Fi1.5-KH6.5-OD6L-Q8	1.5mm	Flush	DC NO	10...30VDC	≤100mA	1000Hz	-25...70℃	M8 Connector	Fig.3
Fi1.5-KH6.5-CD6L-Q8	1.5mm	Flush	DC NC	10...30VDC	≤100mA	1000Hz	-25...70℃	M8 Connector	Fig.3
Ni2-KH6.5-OD6L-Q8	2mm	Non-flush	DC NO	10...30VDC	≤100mA	1000Hz	-25...70℃	M8 Connector	Fig.4
Ni2-KH6.5-CD6L-Q8	2mm	Non-flush	DC NC	10...30VDC	≤100mA	1000Hz	-25...70℃	M8 Connector	Fig.4

Dimensions:

Fig.1

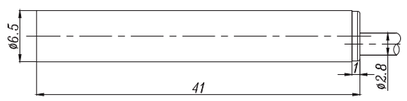


Fig.2

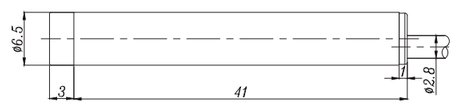


Fig.3

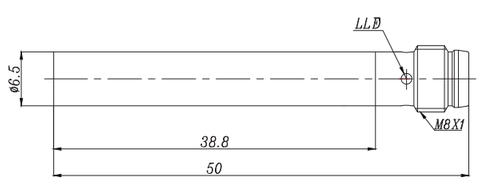
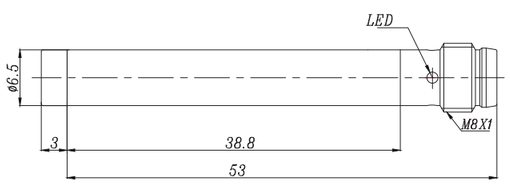
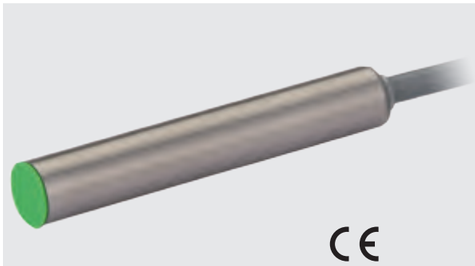


Fig.4



Metal Barrel-H6.5



Description:

Stainless steel housing, smooth barrel, DC 3-wire output, I

P67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi1.5-KH6.5-OP6L	1.5mm	Flush	PNP NO	10...30VDC	≤100mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi1.5-KH6.5-ON6L	1.5mm	Flush	NPN NO	10...30VDC	≤100mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi1.5-KH6.5-CP6L	1.5mm	Flush	PNP NC	10...30VDC	≤100mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi1.5-KH6.5-CN6L	1.5mm	Flush	NPN NC	10...30VDC	≤100mA	1000Hz	-25...70℃	2m cable	Fig.1
Ni2-KH6.5-OP6L	2mm	Non-flush	PNP NO	10...30VDC	≤100mA	1000Hz	-25...70℃	2m cable	Fig.2
Ni2-KH6.5-ON6L	2mm	Non-flush	NPN NO	10...30VDC	≤100mA	1000Hz	-25...70℃	2m cable	Fig.2
Ni2-KH6.5-CP6L	2mm	Non-flush	PNP NC	10...30VDC	≤100mA	1000Hz	-25...70℃	2m cable	Fig.2
Ni2-KH6.5-CN6L	2mm	Non-flush	NPN NC	10...30VDC	≤100mA	1000Hz	-25...70℃	2m cable	Fig.2
Fi1.5-KH6.5-OP6L-Q8	1.5mm	Flush	PNP NO	10...30VDC	≤100mA	1000Hz	-25...70℃	M8 Connector	Fig.3
Fi1.5-KH6.5-ON6L-Q8	1.5mm	Flush	NPN NO	10...30VDC	≤100mA	1000Hz	-25...70℃	M8 Connector	Fig.3
Fi1.5-KH6.5-CP6L-Q8	1.5mm	Flush	PNP NC	10...30VDC	≤100mA	1000Hz	-25...70℃	M8 Connector	Fig.3
Fi1.5-KH6.5-CN6L-Q8	1.5mm	Flush	NPN NC	10...30VDC	≤100mA	1000Hz	-25...70℃	M8 Connector	Fig.3
Ni2-KH6.5-OP6L-Q8	2mm	Non-flush	PNP NO	10...30VDC	≤100mA	1000Hz	-25...70℃	M8 Connector	Fig.4
Ni2-KH6.5-ON6L-Q8	2mm	Non-flush	NPN NO	10...30VDC	≤100mA	1000Hz	-25...70℃	M8 Connector	Fig.4
Ni2-KH6.5-CP6L-Q8	2mm	Non-flush	PNP NC	10...30VDC	≤100mA	1000Hz	-25...70℃	M8 Connector	Fig.4
Ni2-KH6.5-CN6L-Q8	2mm	Non-flush	NPN NC	10...30VDC	≤100mA	1000Hz	-25...70℃	M8 Connector	Fig.4

Dimensions:

Fig.1

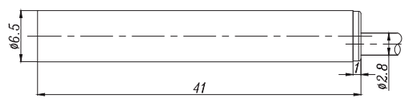


Fig.2

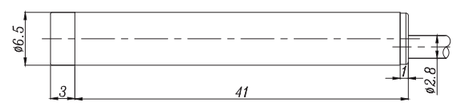


Fig.3

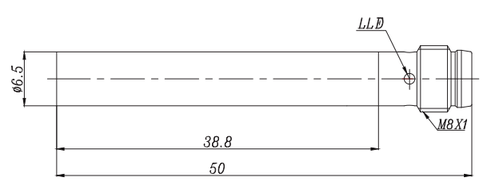
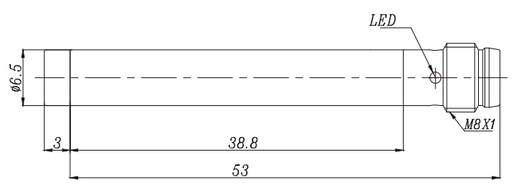
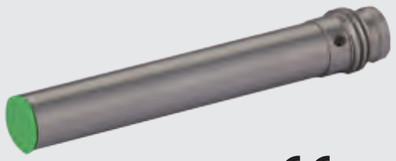


Fig.4



Metal Barrel-H6.5S(Short type)



Description:

Stainless steel housing, smooth barrel, DC 2-wire output,

IP67 protection class, LED indicator, compact size.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi1.5-KH6.5S-OD6L	1.5mm	Flush	DC NO	10...30VDC	≤100mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi1.5-KH6.5S-CD6L	1.5mm	Flush	DC NC	10...30VDC	≤100mA	1000Hz	-25...70℃	2m cable	Fig.1
Ni2-KH6.5S-OD6L	2mm	Non-flush	DC NO	10...30VDC	≤100mA	1000Hz	-25...70℃	2m cable	Fig.2
Ni2-KH6.5S-CD6L	2mm	Non-flush	DC NC	10...30VDC	≤100mA	1000Hz	-25...70℃	2m cable	Fig.2
Fi1.5-KH6.5S-OD6L-Q8	1.5mm	Flush	DC NO	10...30VDC	≤100mA	1000Hz	-25...70℃	M8 Connector	Fig.3
Fi1.5-KH6.5S-CD6L-Q8	1.5mm	Flush	DC NC	10...30VDC	≤100mA	1000Hz	-25...70℃	M8 Connector	Fig.3
Ni2-KH6.5S-OD6L-Q8	2mm	Non-flush	DC NO	10...30VDC	≤100mA	1000Hz	-25...70℃	M8 Connector	Fig.4
Ni2-KH6.5S-CD6L-Q8	2mm	Non-flush	DC NC	10...30VDC	≤100mA	1000Hz	-25...70℃	M8 Connector	Fig.4

Dimensions:

Fig.1

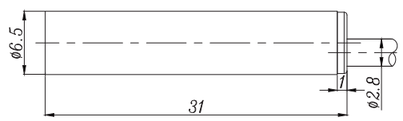


Fig.2

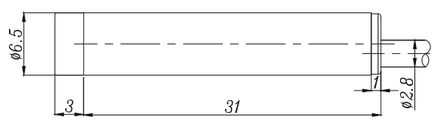


Fig.3

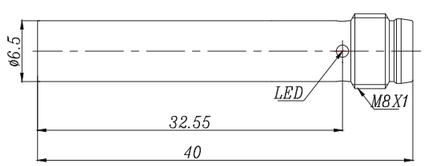
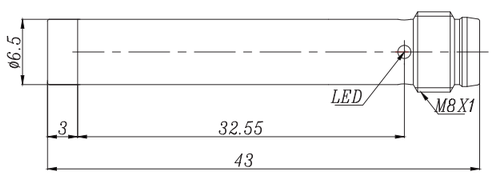


Fig.4



Metal Barrel-H6.5S(Short type)

Description:

Stainless steel housing, smooth barrel, DC 3-wire output,

IP67 protection class, LED indicator, compact size.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi1.5-KH6.5S-OP6L	1.5mm	Flush	PNP NO	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi1.5-KH6.5S-ON6L	1.5mm	Flush	NPN NO	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi1.5-KH6.5S-CP6L	1.5mm	Flush	PNP NC	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi1.5-KH6.5S-CN6L	1.5mm	Flush	NPN NC	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1
Ni2-KH6.5S-OP6L	2mm	Non-flush	PNP NO	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.2
Ni2-KH6.5S-ON6L	2mm	Non-flush	NPN NO	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.2
Ni2-KH6.5S-CP6L	2mm	Non-flush	PNP NC	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.2
Ni2-KH6.5S-CN6L	2mm	Non-flush	NPN NC	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.2
Fi1.5-KH6.5S-OP6L-Q8	1.5mm	Flush	PNP NO	10...30VDC	≤200mA	1000Hz	-25...70℃	M8 Connector	Fig.3
Fi1.5-KH6.5S-ON6L-Q8	1.5mm	Flush	NPN NO	10...30VDC	≤200mA	1000Hz	-25...70℃	M8 Connector	Fig.3
Fi1.5-KH6.5S-CP6L-Q8	1.5mm	Flush	PNP NC	10...30VDC	≤200mA	1000Hz	-25...70℃	M8 Connector	Fig.3
Fi1.5-KH6.5S-CN6L-Q8	1.5mm	Flush	NPN NC	10...30VDC	≤200mA	1000Hz	-25...70℃	M8 Connector	Fig.3
Ni2-KH6.5S-OP6L-Q8	2mm	Non-flush	PNP NO	10...30VDC	≤200mA	1000Hz	-25...70℃	M8 Connector	Fig.4
Ni2-KH6.5S-ON6L-Q8	2mm	Non-flush	NPN NO	10...30VDC	≤200mA	1000Hz	-25...70℃	M8 Connector	Fig.4
Ni2-KH6.5S-CP6L-Q8	2mm	Non-flush	PNP NC	10...30VDC	≤200mA	1000Hz	-25...70℃	M8 Connector	Fig.4
Ni2-KH6.5S-CN6L-Q8	2mm	Non-flush	NPN NC	10...30VDC	≤200mA	1000Hz	-25...70℃	M8 Connector	Fig.4

Dimensions:

Fig.1

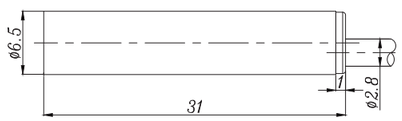


Fig.2

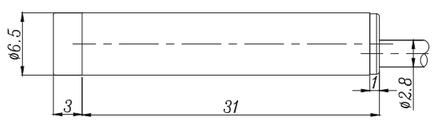


Fig.3

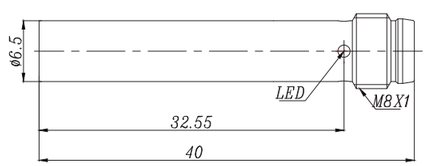
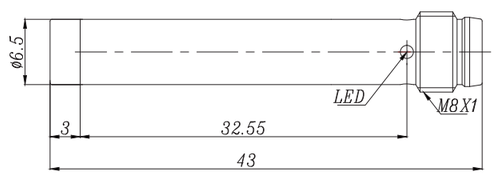
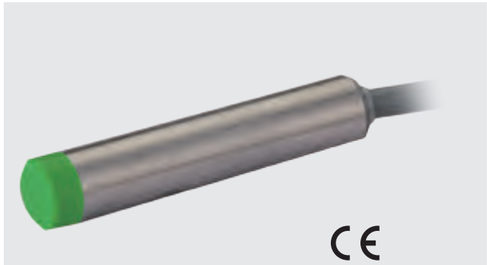


Fig.4



Metal Barrel-H6.5E(Long type)



Description:

Stainless steel housing, smooth barrel, DC 2-wire output,

IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi1.5-KH6.5E-OD6L	1.5mm	Flush	DC NO	10...30VDC	≤100mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi1.5-KH6.5E-CD6L	1.5mm	Flush	DC NC	10...30VDC	≤100mA	1000Hz	-25...70℃	2m cable	Fig.1
Ni2-KH6.5E-OD6L	2mm	Non-flush	DC NO	10...30VDC	≤100mA	1000Hz	-25...70℃	2m cable	Fig.2
Ni2-KH6.5E-CD6L	2mm	Non-flush	DC NC	10...30VDC	≤100mA	1000Hz	-25...70℃	2m cable	Fig.2
Fi1.5-KH6.5E-OD6L-Q8	1.5mm	Flush	DC NO	10...30VDC	≤100mA	1000Hz	-25...70℃	M8 Connector	Fig.3
Fi1.5-KH6.5E-CD6L-Q8	1.5mm	Flush	DC NC	10...30VDC	≤100mA	1000Hz	-25...70℃	M8 Connector	Fig.3
Ni2-KH6.5E-OD6L-Q8	2mm	Non-flush	DC NO	10...30VDC	≤100mA	1000Hz	-25...70℃	M8 Connector	Fig.4
Ni2-KH6.5E-CD6L-Q8	2mm	Non-flush	DC NC	10...30VDC	≤100mA	1000Hz	-25...70℃	M8 Connector	Fig.4

Dimensions:

Fig.1

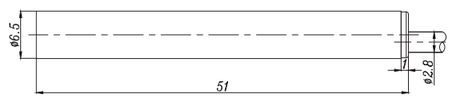


Fig.2

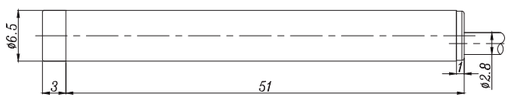


Fig.3

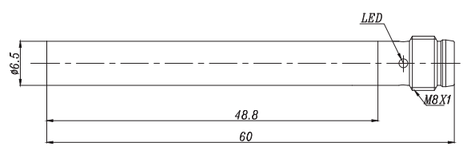
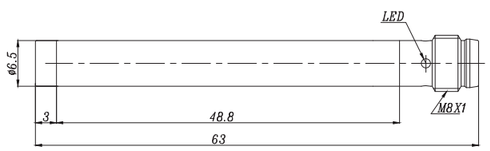
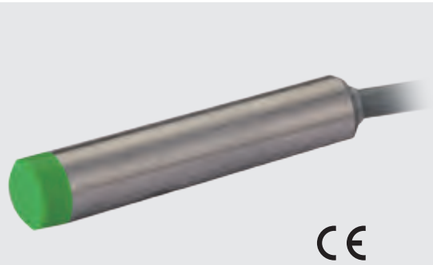


Fig.4



Metal Barrel-H6.5E(Long type)



Description:

Stainless steel housing, smooth barrel, DC 3-wire output,

IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi1.5-KH6.5E-OP6L	1.5mm	Flush	PNP NO	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi1.5-KH6.5E-ON6L	1.5mm	Flush	NPN NO	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi1.5-KH6.5E-CP6L	1.5mm	Flush	PNP NC	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi1.5-KH6.5E-CN6L	1.5mm	Flush	NPN NC	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1
Ni2-KH6.5E-OP6L	2mm	Non-flush	PNP NO	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.2
Ni2-KH6.5E-ON6L	2mm	Non-flush	NPN NO	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.2
Ni2-KH6.5E-CP6L	2mm	Non-flush	PNP NC	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.2
Ni2-KH6.5E-CN6L	2mm	Non-flush	NPN NC	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.2
Fi1.5-KH6.5E-OP6L-Q8	1.5mm	Flush	PNP NO	10...30VDC	≤200mA	1000Hz	-25...70℃	M8 Connector	Fig.3
Fi1.5-KH6.5E-ON6L-Q8	1.5mm	Flush	NPN NO	10...30VDC	≤200mA	1000Hz	-25...70℃	M8 Connector	Fig.3
Fi1.5-KH6.5E-CP6L-Q8	1.5mm	Flush	PNP NC	10...30VDC	≤200mA	1000Hz	-25...70℃	M8 Connector	Fig.3
Fi1.5-KH6.5E-CN6L-Q8	1.5mm	Flush	NPN NC	10...30VDC	≤200mA	1000Hz	-25...70℃	M8 Connector	Fig.3
Ni2-KH6.5E-OP6L-Q8	2mm	Non-flush	PNP NO	10...30VDC	≤200mA	1000Hz	-25...70℃	M8 Connector	Fig.4
Ni2-KH6.5E-ON6L-Q8	2mm	Non-flush	NPN NO	10...30VDC	≤200mA	1000Hz	-25...70℃	M8 Connector	Fig.4
Ni2-KH6.5E-CP6L-Q8	2mm	Non-flush	PNP NC	10...30VDC	≤200mA	1000Hz	-25...70℃	M8 Connector	Fig.4
Ni2-KH6.5E-CN6L-Q8	2mm	Non-flush	NPN NC	10...30VDC	≤200mA	1000Hz	-25...70℃	M8 Connector	Fig.4

Dimensions:

Fig.1

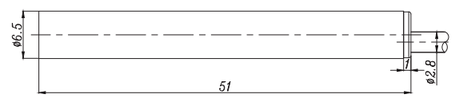


Fig.2

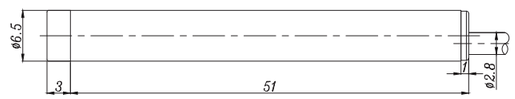


Fig.3

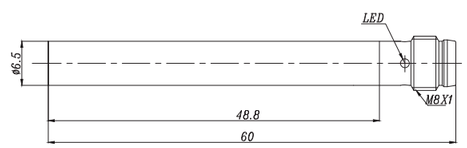
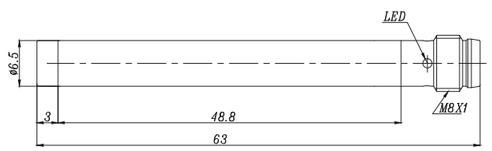
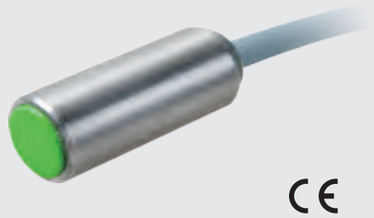


Fig.4



Metal Barrel-KH08SS



Description:

Stainless steel housing, smooth barrel, DC 3-wire output,
IP67 protection class, LED indicator, super short size.

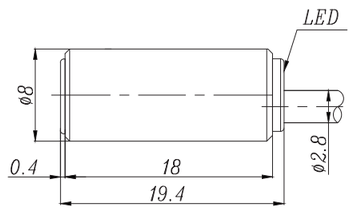
See the wiring diagram on page 233-234 for your reference.

Technical Data:

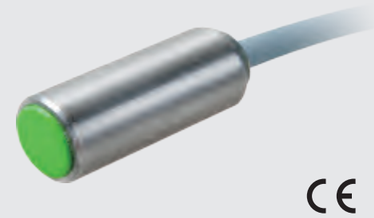
Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi2-KH08SS-OP6L	2mm	Flush	PNP NO	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi2-KH08SS-ON6L	2mm	Flush	NPN NO	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi2-KH08SS-CP6L	2mm	Flush	PNP NC	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi2-KH08SS-CN6L	2mm	Flush	NPN NC	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1

Dimensions:

Fig.1



Metal Barrel-KH08SS



Description:

Stainless steel housing, smooth barrel, DC 2-wire output,
IP67 protection class, LED indicator, super short size.

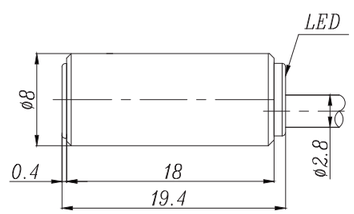
See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi2-KH08SS-OD6L	2mm	Flush	DC NO	10...30VDC	≤100mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi2-KH08SS-CD6L	2mm	Flush	DC NC	10...30VDC	≤100mA	1000Hz	-25...70℃	2m cable	Fig.1

Dimensions:

Fig.1



Metal Barrel-KM08SS

Description:

Stainless steel housing, smooth barrel, DC 3-wire output,
IP67 protection class, LED indicator, super short size.

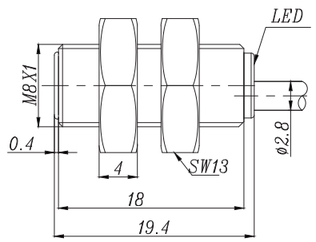
See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi2-KM08SS-OP6L	2mm	Flush	PNP NO	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi2-KM08SS-ON6L	2mm	Flush	NPN NO	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi2-KM08SS-CP6L	2mm	Flush	PNP NC	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi2-KM08SS-CN6L	2mm	Flush	NPN NC	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1

Dimensions:

Fig.1



Metal Barrel-KM08SS

Description:

Stainless steel housing, smooth barrel, DC 2-wire output,
IP67 protection class, LED indicator, super short size.

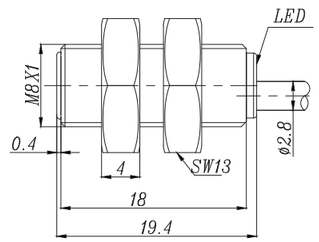
See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi2-KM08SS-OD6L	2mm	Flush	DC NO	10...30V DC	≤100mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi2-KM08SS-CD6L	2mm	Flush	DC NC	10...30V DC	≤100mA	1000Hz	-25...70℃	2m cable	Fig.1

Dimensions:

Fig.1



Metal Barrel-M12SS

Description:

Brass nickel-plated, threaded barrel, DC 3-wire output, IP67 protection class, LED indicator, super short size.

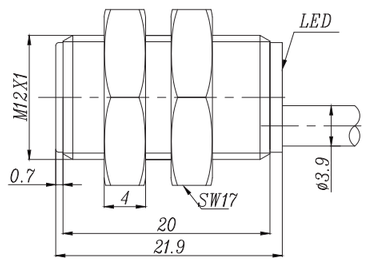
See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi2-M12SS-OP6L	2mm	Flush	PNP NO	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi2-M12SS-ON6L	2mm	Flush	NPN NO	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi2-M12SS-CP6L	2mm	Flush	PNP NC	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi2-M12SS-CN6L	2mm	Flush	NPN NC	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1

Dimensions:

Fig.1



Metal Barrel-M12SS

Description:

Brass nickel-plated, threaded barrel, DC 2-wire output, IP67 protection class, LED indicator, super short size.

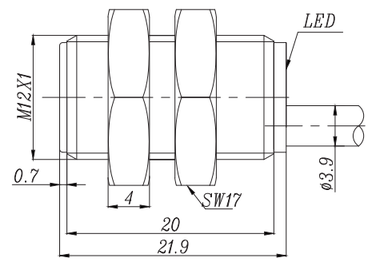
See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi2-M12SS-OD6L	2mm	Flush	DC NO	10...30VDC	≤100mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi2-M12SS-CD6L	2mm	Flush	DC NC	10...30VDC	≤100mA	1000Hz	-25...70℃	2m cable	Fig.1

Dimensions:

Fig.1



Metal Barrel-M08

Description:

Brass nickel-plated, threaded barrel, DC 3-wire output,

IP67 protection class, LED indicator, 10mm shorter size M08S available.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi2-M08-OP6L	2mm	Flush	PNP NO	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi2-M08-ON6L	2mm	Flush	NPN NO	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi2-M08-CP6L	2mm	Flush	PNP NC	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi2-M08-CN6L	2mm	Flush	NPN NC	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1
Ni3-M08-OP6L	3mm	Non-flush	PNP NO	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.2
Ni3-M08-ON6L	3mm	Non-flush	NPN NO	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.2
Ni3-M08-CP6L	3mm	Non-flush	PNP NC	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.2
Ni3-M08-CN6L	3mm	Non-flush	NPN NC	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.2
Fi2-M08-OP6L-Q12	2mm	Flush	PNP NO	10...30VDC	≤200mA	1000Hz	-25...70℃	M12 Connector	Fig.3
Fi2-M08-ON6L-Q12	2mm	Flush	NPN NO	10...30VDC	≤200mA	1000Hz	-25...70℃	M12 Connector	Fig.3
Fi2-M08-CP6L-Q12	2mm	Flush	PNP NC	10...30VDC	≤200mA	1000Hz	-25...70℃	M12 Connector	Fig.3
Fi2-M08-CN6L-Q12	2mm	Flush	NPN NC	10...30VDC	≤200mA	1000Hz	-25...70℃	M12 Connector	Fig.3
Ni3-M08-OP6L-Q12	3mm	Non-flush	PNP NO	10...30VDC	≤200mA	800Hz	-25...70℃	M12 Connector	Fig.4
Ni3-M08-ON6L-Q12	3mm	Non-flush	NPN NO	10...30VDC	≤200mA	800Hz	-25...70℃	M12 Connector	Fig.4
Ni3-M08-CP6L-Q12	3mm	Non-flush	PNP NC	10...30VDC	≤200mA	800Hz	-25...70℃	M12 Connector	Fig.4
Ni3-M08-CN6L-Q12	3mm	Non-flush	NPN NC	10...30VDC	≤200mA	800Hz	-25...70℃	M12 Connector	Fig.4

Dimensions:

Fig.1

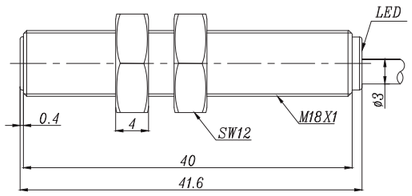


Fig.2

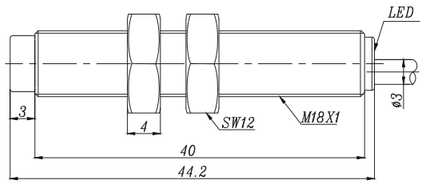


Fig.3

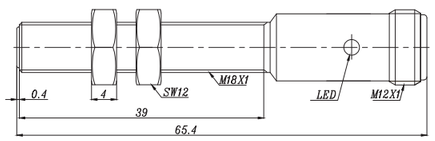
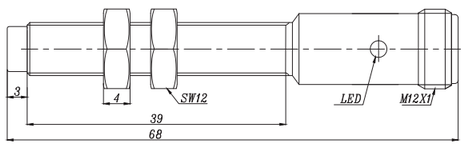


Fig.4



Metal Barrel-M08

Description:

Brass nickel-plated, threaded barrel, DC 3-wire output,

IP67 protection class, LED indicator, 10mm shorter size M08S available.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi2-M08-OP6L-Q8	2mm	Flush	PNP NO	10...30VDC	≤200mA	1000Hz	-25...70℃	M8 Connector	Fig.1
Fi2-M08-ON6L-Q8	2mm	Flush	NPN NO	10...30VDC	≤200mA	1000Hz	-25...70℃	M8 Connector	Fig.1
Fi2-M08-CP6L-Q8	2mm	Flush	PNP NC	10...30VDC	≤200mA	1000Hz	-25...70℃	M8 Connector	Fig.1
Fi2-M08-CN6L-Q8	2mm	Flush	NPN NC	10...30VDC	≤200mA	1000Hz	-25...70℃	M8 Connector	Fig.1
Ni3-M08-OP6L-Q8	3mm	Non-flush	PNP NO	10...30VDC	≤200mA	800Hz	-25...70℃	M8 Connector	Fig.2
Ni3-M08-ON6L-Q8	3mm	Non-flush	NPN NO	10...30VDC	≤200mA	800Hz	-25...70℃	M8 Connector	Fig.2
Ni3-M08-CP6L-Q8	3mm	Non-flush	PNP NC	10...30VDC	≤200mA	800Hz	-25...70℃	M8 Connector	Fig.2
Ni3-M08-CN6L-Q8	3mm	Non-flush	NPN NC	10...30VDC	≤200mA	800Hz	-25...70℃	M8 Connector	Fig.2

Dimensions:

Fig.1

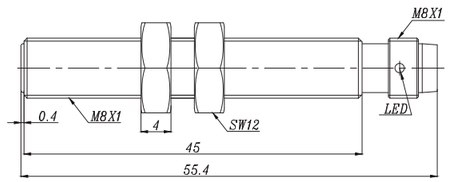
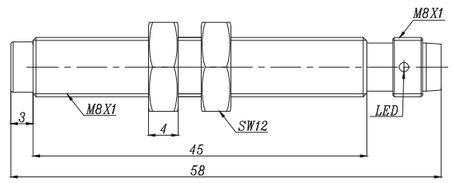


Fig.2



Metal Barrel-M08

Description:

Brass nickel-plated, threaded barrel, DC 2-wire output,

IP67 protection class, LED indicator, 10mm shorter size M08S available.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi2-M08-OD6L-Q8	2mm	Flush	DC NO	10...30VDC	≤100mA	1000Hz	-25...70℃	M8 Connector	Fig.1
Fi2-M08-CD6L-Q8	2mm	Flush	DC NC	10...30VDC	≤100mA	1000Hz	-25...70℃	M8 Connector	Fig.1
Ni3-M08-OD6L-Q8	3mm	Non-flush	DC NO	10...30VDC	≤100mA	800Hz	-25...70℃	M8 Connector	Fig.2
Ni3-M08-CD6L-Q8	3mm	Non-flush	DC NC	10...30VDC	≤100mA	800Hz	-25...70℃	M8 Connector	Fig.2

Dimensions:

Fig.1

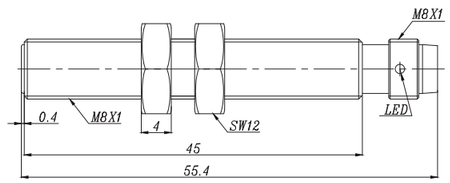
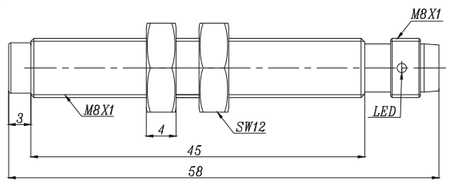


Fig.2



Metal Barrel-M08

Description:

Brass nickel-plated, threaded barrel, DC 2-wire output,

IP67 protection class, LED indicator, 10mm shorter size M08S available.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi2-M08-OD6L	2mm	Flush	DC NO	10...30VDC	≤100mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi2-M08-CD6L	2mm	Flush	DC NC	10...30VDC	≤100mA	1000Hz	-25...70℃	2m cable	Fig.1
Ni3-M08-OD6L	3mm	Non-flush	DC NO	10...30VDC	≤100mA	800Hz	-25...70℃	2m cable	Fig.1
Ni3-M08-CD6L	3mm	Non-flush	DC NC	10...30VDC	≤100mA	800Hz	-25...70℃	2m cable	Fig.1
Fi2-M08-OD6L-Q12	2mm	Flush	DC NO	10...30VDC	≤100mA	1000Hz	-25...70℃	M12 Connector	Fig.2
Fi2-M08-CD6L-Q12	2mm	Flush	DC NC	10...30VDC	≤100mA	1000Hz	-25...70℃	M12 Connector	Fig.2
Ni3-M08-OD6L-Q12	3mm	Non-flush	DC NO	10...30VDC	≤100mA	800Hz	-25...70℃	M12 Connector	Fig.2
Ni3-M08-CD6L-Q12	3mm	Non-flush	DC NC	10...30VDC	≤100mA	800Hz	-25...70℃	M12 Connector	Fig.2

Dimensions:

Fig.1

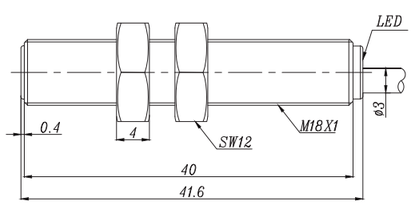


Fig.2

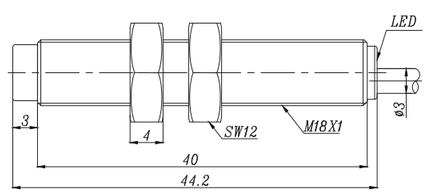


Fig.3

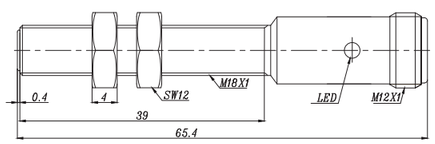
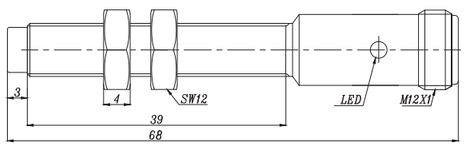


Fig.4



Metal Barrel-M12

Description:

Brass nickel-plated, threaded barrel, DC 2-wire output,

IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi2-M12-OD6L	2mm	Flush	DC NO	10...30VDC	≤100mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi2-M12-CD6L	2mm	Flush	DC NC	10...30VDC	≤100mA	1000Hz	-25...70℃	2m cable	Fig.1
Ni4-M12-OD6L	4mm	Non-flush	DC NO	10...30VDC	≤100mA	800Hz	-25...70℃	2m cable	Fig.2
Ni4-M12-CD6L	4mm	Non-flush	DC NC	10...30VDC	≤100mA	800Hz	-25...70℃	2m cable	Fig.2
Ni5-M12-OD6L	5mm	Non-flush	DC NO	10...30VDC	≤100mA	800Hz	-25...70℃	2m cable	Fig.2
Ni5-M12-CD6L	5mm	Non-flush	DC NC	10...30VDC	≤100mA	800Hz	-25...70℃	2m cable	Fig.2
Fi2-M12-OD6L-Q12	2mm	Flush	DC NO	10...30VDC	≤100mA	1000Hz	-25...70℃	M12 Connector	Fig.3
Fi2-M12-CD6L-Q12	2mm	Flush	DC NC	10...30VDC	≤100mA	1000Hz	-25...70℃	M12 Connector	Fig.3
Ni4-M12-OD6L-Q12	4mm	Non-flush	DC NO	10...30VDC	≤100mA	800Hz	-25...70℃	M12 Connector	Fig.4
Ni4-M12-CD6L-Q12	4mm	Non-flush	DC NC	10...30VDC	≤100mA	800Hz	-25...70℃	M12 Connector	Fig.4
Ni5-M12-OD6L-Q12	5mm	Non-flush	DC NO	10...30VDC	≤100mA	800Hz	-25...70℃	M12 Connector	Fig.4
Ni5-M12-CD6L-Q12	5mm	Non-flush	DC NC	10...30VDC	≤100mA	800Hz	-25...70℃	M12 Connector	Fig.4

Dimensions:

Fig.1

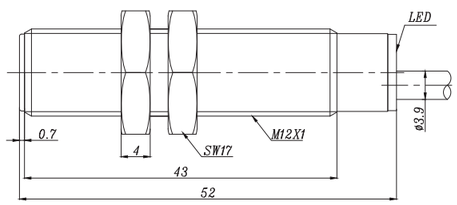


Fig.2

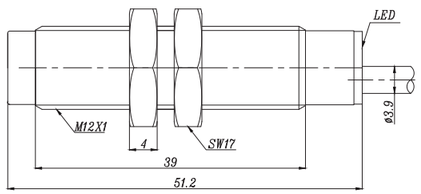


Fig.3

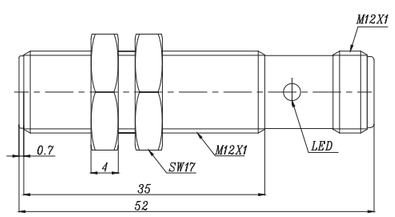
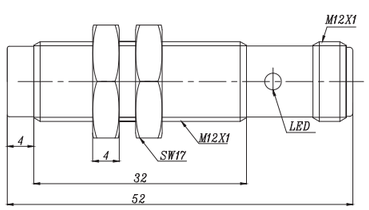


Fig.4



Metal Barrel-M12

Description:

Brass nickel-plated, threaded barrel, DC 3-wire output,

IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi2-M12-OP6L	2mm	Flush	PNP NO	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi2-M12-ON6L	2mm	Flush	NPN NO	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi2-M12-CP6L	2mm	Flush	PNP NC	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi2-M12-CN6L	2mm	Flush	NPN NC	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1
Ni4-M12-OP6L	4mm	Non-flush	PNP NO	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.2
Ni4-M12-ON6L	4mm	Non-flush	NPN NO	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.2
Ni4-M12-CP6L	4mm	Non-flush	PNP NC	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.2
Ni4-M12-CN6L	4mm	Non-flush	NPN NC	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.2
Ni5-M12-OP6L	5mm	Non-flush	PNP NO	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.2
Ni5-M12-ON6L	5mm	Non-flush	NPN NO	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.2
Ni5-M12-CP6L	5mm	Non-flush	PNP NC	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.2
Ni5-M12-CN6L	5mm	Non-flush	NPN NC	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.2

Dimensions:

Fig.1

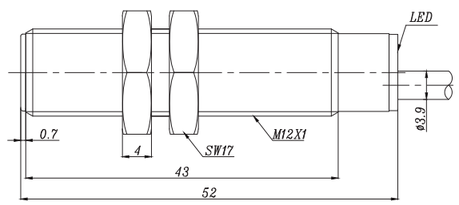
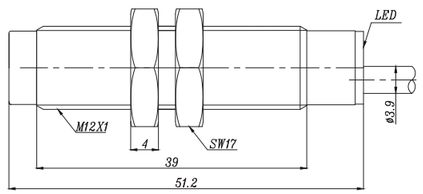


Fig.2



Metal Barrel-M12

Description:

Brass nickel-plated, threaded barrel, DC 3-wire output,

IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi2-M12-OP6L-Q12	2mm	Flush	PNP NO	10...30VDC	≤200mA	1000Hz	-25...70℃	M12 Connector	Fig.1
Fi2-M12-ON6L-Q12	2mm	Flush	NPN NO	10...30VDC	≤200mA	1000Hz	-25...70℃	M12 Connector	Fig.1
Fi2-M12-CP6L-Q12	2mm	Flush	PNP NC	10...30VDC	≤200mA	1000Hz	-25...70℃	M12 Connector	Fig.1
Fi2-M12-CN6L-Q12	2mm	Flush	NPN NC	10...30VDC	≤200mA	1000Hz	-25...70℃	M12 Connector	Fig.1
Ni4-M12-OP6L-Q12	4mm	Non-flush	PNP NO	10...30VDC	≤200mA	800Hz	-25...70℃	M12 Connector	Fig.2
Ni4-M12-ON6L-Q12	4mm	Non-flush	NPN NO	10...30VDC	≤200mA	800Hz	-25...70℃	M12 Connector	Fig.2
Ni4-M12-CP6L-Q12	4mm	Non-flush	PNP NC	10...30VDC	≤200mA	800Hz	-25...70℃	M12 Connector	Fig.2
Ni4-M12-CN6L-Q12	4mm	Non-flush	NPN NC	10...30VDC	≤200mA	800Hz	-25...70℃	M12 Connector	Fig.2
Ni5-M12-OP6L-Q12	5mm	Non-flush	PNP NO	10...30VDC	≤200mA	800Hz	-25...70℃	M12 Connector	Fig.2
Ni5-M12-ON6L-Q12	5mm	Non-flush	NPN NO	10...30VDC	≤200mA	800Hz	-25...70℃	M12 Connector	Fig.2
Ni5-M12-CP6L-Q12	5mm	Non-flush	PNP NC	10...30VDC	≤200mA	800Hz	-25...70℃	M12 Connector	Fig.2
Ni5-M12-CN6L-Q12	5mm	Non-flush	NPN NC	10...30VDC	≤200mA	800Hz	-25...70℃	M12 Connector	Fig.2

Dimensions:

Fig.1

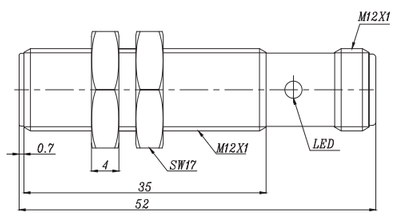
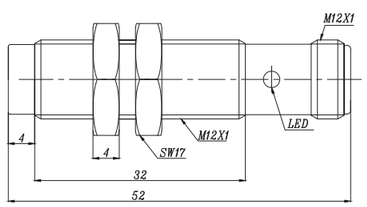


Fig.2



Metal Barrel-M12

Description:

Brass nickel-plated, threaded barrel, DC 4-wire output,

IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi2-M12-BP6L	2mm	Flush	PNP NO+NC	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi2-M12-BN6L	2mm	Flush	NPN NO+NC	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1
Ni4-M12-BP6L	4mm	Non-flush	PNP NO+NC	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.2
Ni4-M12-BN6L	4mm	Non-flush	NPN NO+NC	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.2
Ni5-M12-BP6L	5mm	Non-flush	PNP NO+NC	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.2
Ni5-M12-BN6L	5mm	Non-flush	NPN NO+NC	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.2
Fi2-M12-BP6L-Q12	2mm	Flush	PNP NO+NC	10...30VDC	≤200mA	1000Hz	-25...70℃	M12 Connector	Fig.3
Fi2-M12-BN6L-Q12	2mm	Flush	NPN NO+NC	10...30VDC	≤200mA	1000Hz	-25...70℃	M12 Connector	Fig.3
Ni4-M12-BP6L-Q12	4mm	Non-flush	PNP NO+NC	10...30VDC	≤200mA	800Hz	-25...70℃	M12 Connector	Fig.4
Ni4-M12-BN6L-Q12	4mm	Non-flush	NPN NO+NC	10...30VDC	≤200mA	800Hz	-25...70℃	M12 Connector	Fig.4
Ni5-M12-BP6L-Q12	5mm	Non-flush	PNP NO+NC	10...30VDC	≤200mA	800Hz	-25...70℃	M12 Connector	Fig.4
Ni5-M12-BN6L-Q12	5mm	Non-flush	NPN NO+NC	10...30VDC	≤200mA	800Hz	-25...70℃	M12 Connector	Fig.4

Dimensions:

Fig.1

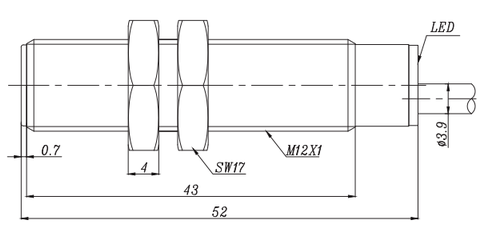


Fig.2

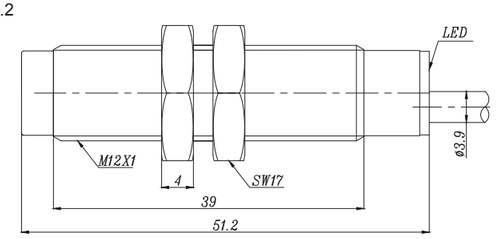


Fig.3

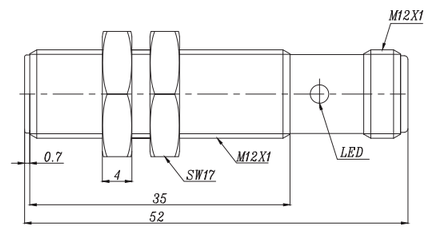
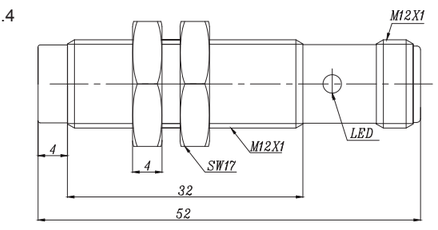


Fig.4



Metal Barrel-M12

Description:

Brass nickel-plated, threaded barrel, AC 2-wire output,

IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi2-M12-OSA3L	2mm	Flush	AC NO	20...250VAC	≤200mA	40Hz	-25...70℃	2m cable	Fig.1
Fi2-M12-CSA3L	2mm	Flush	AC NC	20...250VAC	≤200mA	40Hz	-25...70℃	2m cable	Fig.1
Ni4-M12-OSA3L	4mm	Non-flush	AC NO	20...250VAC	≤200mA	40Hz	-25...70℃	2m cable	Fig.2
Ni4-M12-CSA3L	4mm	Non-flush	AC NC	20...250VAC	≤200mA	40Hz	-25...70℃	2m cable	Fig.2
Fi2-M12-OSA3L-Q12	2mm	Flush	AC NO	20...250VAC	≤200mA	40Hz	-25...70℃	M12 Connector	Fig.3
Fi2-M12-CSA3L-Q12	2mm	Flush	AC NC	20...250VAC	≤200mA	40Hz	-25...70℃	M12 Connector	Fig.3
Ni4-M12-OSA3L-Q12	4mm	Non-flush	AC NO	20...250VAC	≤200mA	40Hz	-25...70℃	M12 Connector	Fig.4
Ni4-M12-CSA3L-Q12	4mm	Non-flush	AC NC	20...250VAC	≤200mA	40Hz	-25...70℃	M12 Connector	Fig.4

Dimensions:

Fig.1

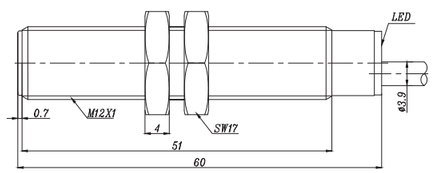


Fig.2

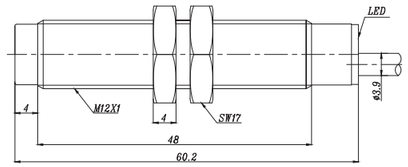


Fig.3

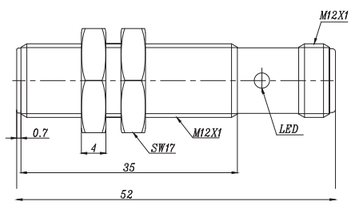
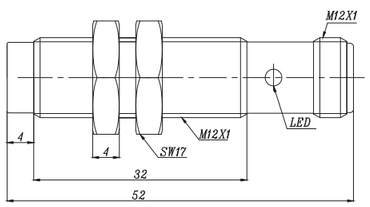


Fig.4



Metal Barrel-M12

Description:

Brass nickel-plated, threaded barrel, AC/DC 2-wire output,

IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi2-M12-OA41L	2mm	Flush	DC/AC NO	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-25...70℃	2m cable	Fig.1
Fi2-M12-CA41L	2mm	Flush	DC/AC NC	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-25...70℃	2m cable	Fig.1
Ni4-M12-OA41L	4mm	Non-flush	DC/AC NO	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-25...70℃	2m cable	Fig.2
Ni4-M12-CA41L	4mm	Non-flush	DC/AC NC	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-25...70℃	2m cable	Fig.2
Fi2-M12-OA41L-Q12	2mm	Flush	DC/AC NO	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-25...70℃	M12 Connector	Fig.3
Fi2-M12-CA41L-Q12	2mm	Flush	DC/AC NC	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-25...70℃	M12 Connector	Fig.3
Ni4-M12-OA41L-Q12	4mm	Non-flush	DC/AC NO	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-25...70℃	M12 Connector	Fig.4
Ni4-M12-CA41L-Q12	4mm	Non-flush	DC/AC NC	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-25...70℃	M12 Connector	Fig.4

Dimensions:

Fig.1

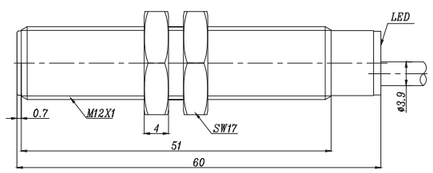


Fig.2

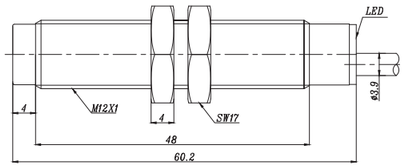


Fig.3

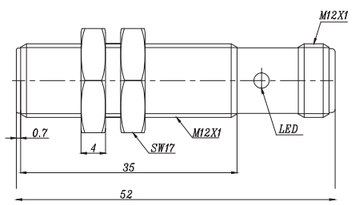
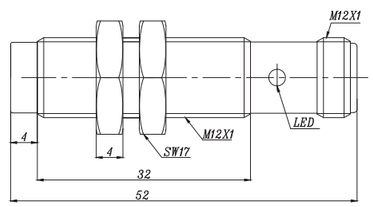


Fig.4



Metal Barrel-M12S (Short)

Description:

Brass nickel-plated, threaded barrel, DC 2-wire output,

IP67 protection class, LED indicator, short size.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi2-M12S-OD6L	2mm	Flush	DC NO	10...30VDC	≤100mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi2-M12S-CD6L	2mm	Flush	DC NC	10...30VDC	≤100mA	1000Hz	-25...70℃	2m cable	Fig.1
Ni4-M12S-OD6L	4mm	Non-flush	DC NO	10...30VDC	≤100mA	800Hz	-25...70℃	2m cable	Fig.2
Ni4-M12S-CD6L	4mm	Non-flush	DC NC	10...30VDC	≤100mA	800Hz	-25...70℃	2m cable	Fig.2
Ni5-M12S-OD6L	5mm	Non-flush	DC NO	10...30VDC	≤100mA	800Hz	-25...70℃	2m cable	Fig.2
Ni5-M12S-CD6L	5mm	Non-flush	DC NC	10...30VDC	≤100mA	800Hz	-25...70℃	2m cable	Fig.2
Fi2-M12S-OD6L-Q12	2mm	Flush	DC NO	10...30VDC	≤100mA	1000Hz	-25...70℃	M12 Connector	Fig.3
Fi2-M12S-CD6L-Q12	2mm	Flush	DC NC	10...30VDC	≤100mA	1000Hz	-25...70℃	M12 Connector	Fig.3
Ni4-M12S-OD6L-Q12	4mm	Non-flush	DC NO	10...30VDC	≤100mA	800Hz	-25...70℃	M12 Connector	Fig.4
Ni4-M12S-CD6L-Q12	4mm	Non-flush	DC NC	10...30VDC	≤100mA	800Hz	-25...70℃	M12 Connector	Fig.4
Ni5-M12S-OD6L-Q12	5mm	Non-flush	DC NO	10...30VDC	≤100mA	800Hz	-25...70℃	M12 Connector	Fig.4
Ni5-M12S-CD6L-Q12	5mm	Non-flush	DC NC	10...30VDC	≤100mA	800Hz	-25...70℃	M12 Connector	Fig.4

Dimensions:

Fig.1

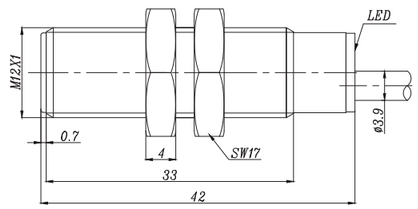


Fig.2

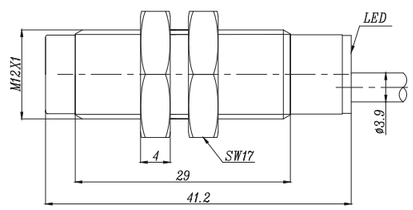


Fig.3

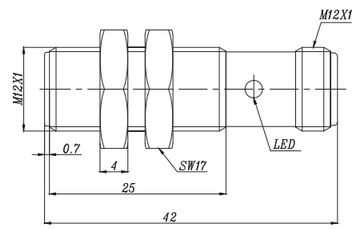
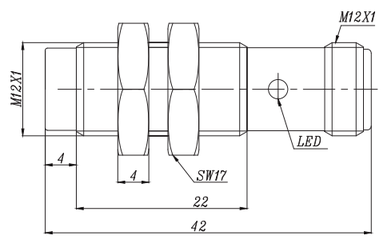


Fig.4



Metal Barrel-M12S (Short)

Description:

Brass nickel-plated, threaded barrel, DC 3-wire output,

IP67 protection class, LED indicator, short size.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi2-M12S-OP6L	2mm	Flush	PNP NO	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi2-M12S-ON6L	2mm	Flush	NPN NO	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi2-M12S-CP6L	2mm	Flush	PNP NC	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi2-M12S-CN6L	2mm	Flush	NPN NC	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1
Ni4-M12S-OP6L	4mm	Non-flush	PNP NO	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.2
Ni4-M12S-ON6L	4mm	Non-flush	NPN NO	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.2
Ni4-M12S-CP6L	4mm	Non-flush	PNP NC	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.2
Ni4-M12S-CN6L	4mm	Non-flush	NPN NC	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.2
Ni5-M12S-OP6L	5mm	Non-flush	PNP NO	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.2
Ni5-M12S-ON6L	5mm	Non-flush	NPN NO	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.2
Ni5-M12S-CP6L	5mm	Non-flush	PNP NC	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.2
Ni5-M12S-CN6L	5mm	Non-flush	NPN NC	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.2

Dimensions:

Fig.1

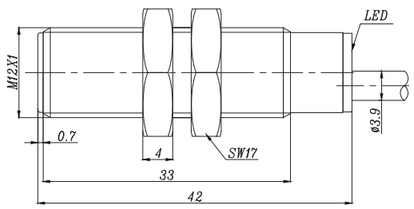
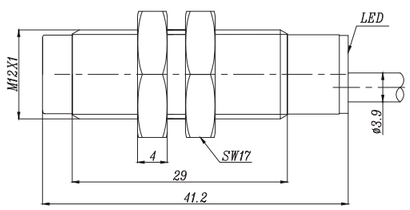


Fig.2



Metal Barrel-M12S (Short)

Description:

Brass nickel-plated, threaded barrel, DC 3-wire output, LED indicator, IP67 protection class, short size.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi2-M12S-OP6L-Q12	2mm	Flush	PNP	NO	10...30VDC	≤100mA	1000Hz	-25...70℃	M12 Connector	Fig.1
Fi2-M12S-ON6L-Q12	2mm	Flush	NPN	NO	10...30VDC	≤100mA	1000Hz	-25...70℃	M12 Connector	Fig.1
Fi2-M12S-CP6L-Q12	2mm	Flush	PNP	NC	10...30VDC	≤100mA	1000Hz	-25...70℃	M12 Connector	Fig.1
Fi2-M12S-CN6L-Q12	2mm	Flush	NPN	NC	10...30VDC	≤100mA	1000Hz	-25...70℃	M12 Connector	Fig.1
Ni4-M12S-OP6L-Q12	4mm	Non-flush	PNP	NO	10...30VDC	≤100mA	800Hz	-25...70℃	M12 Connector	Fig.2
Ni4-M12S-ON6L-Q12	4mm	Non-flush	NPN	NO	10...30VDC	≤100mA	800Hz	-25...70℃	M12 Connector	Fig.2
Ni4-M12S-CP6L-Q12	4mm	Non-flush	PNP	NC	10...30VDC	≤100mA	800Hz	-25...70℃	M12 Connector	Fig.2
Ni4-M12S-CN6L-Q12	4mm	Non-flush	NPN	NC	10...30VDC	≤100mA	800Hz	-25...70℃	M12 Connector	Fig.2
Ni5-M12S-OP6L-Q12	5mm	Non-flush	PNP	NO	10...30VDC	≤100mA	800Hz	-25...70℃	M12 Connector	Fig.2
Ni5-M12S-ON6L-Q12	5mm	Non-flush	NPN	NO	10...30VDC	≤100mA	800Hz	-25...70℃	M12 Connector	Fig.2
Ni5-M12S-CP6L-Q12	5mm	Non-flush	PNP	NC	10...30VDC	≤100mA	800Hz	-25...70℃	M12 Connector	Fig.2
Ni5-M12S-CN6L-Q12	5mm	Non-flush	NPN	NC	10...30VDC	≤100mA	800Hz	-25...70℃	M12 Connector	Fig.2

Dimensions:

Fig.1

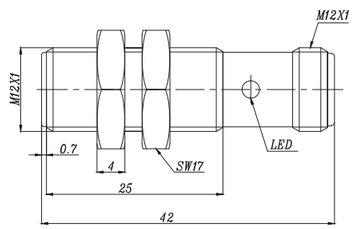
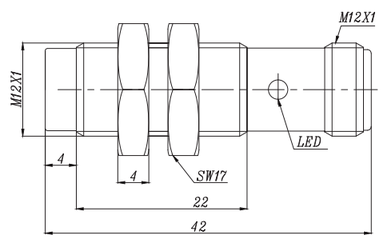


Fig.2



Metal Barrel-M12S (Short)

Description:

Brass nickel-plated, threaded barrel, DC 4-wire output, yellow LED indicator, IP67 protection class, short size.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi2-M12S-BP6L	2mm	Flush	PNP	NO+NC	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi2-M12S-BN6L	2mm	Flush	NPN	NO+NC	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1
Ni4-M12S-BP6L	4mm	Non-flush	PNP	NO+NC	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.2
Ni4-M12S-BN6L	4mm	Non-flush	NPN	NO+NC	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.2
Ni5-M12S-BP6L	5mm	Non-flush	PNP	NO+NC	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.2
Ni5-M12S-BN6L	5mm	Non-flush	NPN	NO+NC	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.2
Fi2-M12S-BP6L-Q12	2mm	Flush	PNP	NO+NC	10...30VDC	≤200mA	1000Hz	-25...70℃	M12 Connector	Fig.3
Fi2-M12S-BN6L-Q12	2mm	Flush	NPN	NO+NC	10...30VDC	≤200mA	1000Hz	-25...70℃	M12 Connector	Fig.3
Ni4-M12S-BP6L-Q12	4mm	Non-flush	PNP	NO+NC	10...30VDC	≤200mA	800Hz	-25...70℃	M12 Connector	Fig.4
Ni4-M12S-BN6L-Q12	4mm	Non-flush	NPN	NO+NC	10...30VDC	≤200mA	800Hz	-25...70℃	M12 Connector	Fig.4
Ni5-M12S-BP6L-Q12	5mm	Non-flush	PNP	NO+NC	10...30VDC	≤200mA	800Hz	-25...70℃	M12 Connector	Fig.4
Ni5-M12S-BN6L-Q12	5mm	Non-flush	NPN	NO+NC	10...30VDC	≤200mA	800Hz	-25...70℃	M12 Connector	Fig.4

Dimensions:

Fig.1

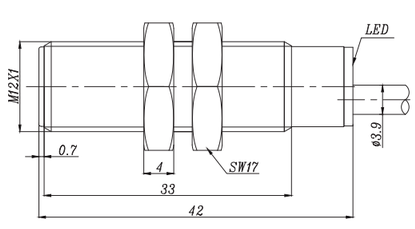


Fig.2

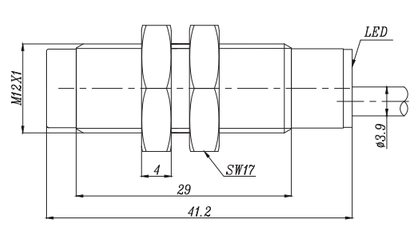


Fig.3

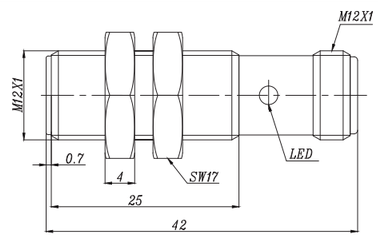
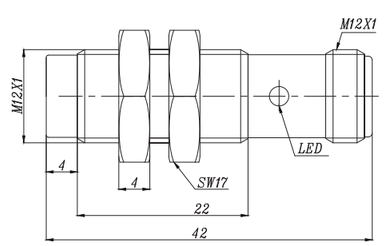


Fig.4



Metal Barrel-M12E (Long)

Description:

Brass nickel-plated, threaded barrel, DC 2-wire output, IP67 protection class, LED indicator, long size.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi2-M12E-OD6L	2mm	Flush	DC	NO	10...30VDC	≤100mA	1000Hz	-25...70°C	2m cable	Fig.1
Fi2-M12E-CD6L	2mm	Flush	DC	NC	10...30VDC	≤100mA	1000Hz	-25...70°C	2m cable	Fig.1
Ni4-M12E-OD6L	4mm	Non-flush	DC	NO	10...30VDC	≤100mA	800Hz	-25...70°C	2m cable	Fig.2
Ni4-M12E-CD6L	4mm	Non-flush	DC	NC	10...30VDC	≤100mA	800Hz	-25...70°C	2m cable	Fig.2
Ni5-M12E-OD6L	5mm	Non-flush	DC	NO	10...30VDC	≤100mA	800Hz	-25...70°C	2m cable	Fig.2
Ni5-M12E-CD6L	5mm	Non-flush	DC	NC	10...30VDC	≤100mA	800Hz	-25...70°C	2m cable	Fig.2
Fi2-M12E-OD6L-Q12	2mm	Flush	DC	NO	10...30VDC	≤100mA	1000Hz	-25...70°C	M12 Connector	Fig.3
Fi2-M12E-CD6L-Q12	2mm	Flush	DC	NC	10...30VDC	≤100mA	1000Hz	-25...70°C	M12 Connector	Fig.3
Ni4-M12E-OD6L-Q12	4mm	Non-flush	DC	NO	10...30VDC	≤100mA	800Hz	-25...70°C	M12 Connector	Fig.4
Ni4-M12E-CD6L-Q12	4mm	Non-flush	DC	NC	10...30VDC	≤100mA	800Hz	-25...70°C	M12 Connector	Fig.4
Ni5-M12E-OD6L-Q12	5mm	Non-flush	DC	NO	10...30VDC	≤100mA	800Hz	-25...70°C	M12 Connector	Fig.4
Ni5-M12E-CD6L-Q12	5mm	Non-flush	DC	NC	10...30VDC	≤100mA	800Hz	-25...70°C	M12 Connector	Fig.4

Dimensions:

Fig.1

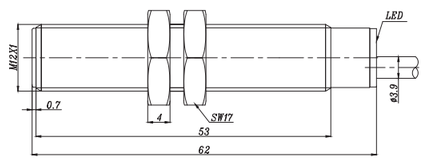


Fig.2

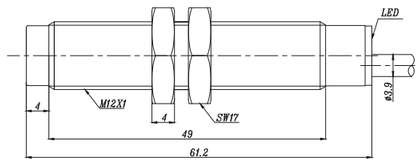


Fig.3

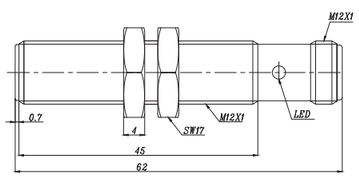
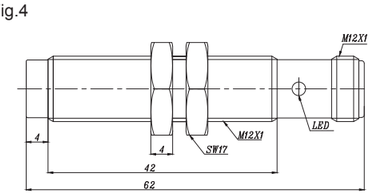


Fig.4



Metal Barrel-M12E (Long)

Description:

Brass nickel-plated, threaded barrel, DC 3-wire output, IP67 protection class, LED indicator, long size.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi2-M12E-OP6L	2mm	Flush	PNP	NO	10...30VDC	≤200mA	1000Hz	-25...70°C	2m cable	Fig.1
Fi2-M12E-ON6L	2mm	Flush	NPN	NO	10...30VDC	≤200mA	1000Hz	-25...70°C	2m cable	Fig.1
Fi2-M12E-CP6L	2mm	Flush	PNP	NC	10...30VDC	≤200mA	1000Hz	-25...70°C	2m cable	Fig.1
Fi2-M12E-CN6L	2mm	Flush	NPN	NC	10...30VDC	≤200mA	1000Hz	-25...70°C	2m cable	Fig.1
Ni4-M12E-OP6L	4mm	Non-flush	PNP	NO	10...30VDC	≤200mA	800Hz	-25...70°C	2m cable	Fig.2
Ni4-M12E-ON6L	4mm	Non-flush	NPN	NO	10...30VDC	≤200mA	800Hz	-25...70°C	2m cable	Fig.2
Ni4-M12E-CP6L	4mm	Non-flush	PNP	NC	10...30VDC	≤200mA	800Hz	-25...70°C	2m cable	Fig.2
Ni4-M12E-CN6L	4mm	Non-flush	NPN	NC	10...30VDC	≤200mA	800Hz	-25...70°C	2m cable	Fig.2
Ni5-M12E-OP6L	5mm	Non-flush	PNP	NO	10...30VDC	≤200mA	800Hz	-25...70°C	2m cable	Fig.2
Ni5-M12E-ON6L	5mm	Non-flush	NPN	NO	10...30VDC	≤200mA	800Hz	-25...70°C	2m cable	Fig.2
Ni5-M12E-CP6L	5mm	Non-flush	PNP	NC	10...30VDC	≤200mA	800Hz	-25...70°C	2m cable	Fig.2
Ni5-M12E-CN6L	5mm	Non-flush	NPN	NC	10...30VDC	≤200mA	800Hz	-25...70°C	2m cable	Fig.2

Dimensions:

Fig.1

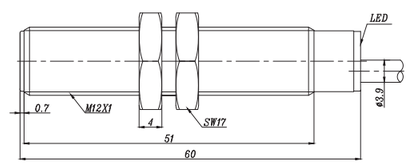
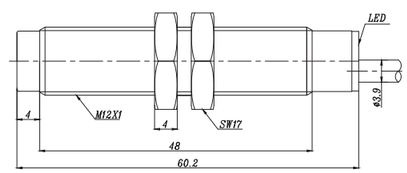


Fig.2



Metal Barrel-M12E (Long)

Description:

Brass nickel-plated, threaded barrel, DC 3-wire output, IP67 protection class, LED indicator, long size.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi2-M12E-OP6L-Q12	2mm	Flush	PNP	NO	10...30VDC	≤200mA	1000Hz	-25...70˚C	M12 Connector	Fig.1
Fi2-M12E-ON6L-Q12	2mm	Flush	NPN	NO	10...30VDC	≤200mA	1000Hz	-25...70˚C	M12 Connector	Fig.1
Fi2-M12E-CP6L-Q12	2mm	Flush	PNP	NC	10...30VDC	≤200mA	1000Hz	-25...70˚C	M12 Connector	Fig.1
Fi2-M12E-CN6L-Q12	2mm	Flush	NPN	NC	10...30VDC	≤200mA	1000Hz	-25...70˚C	M12 Connector	Fig.1
Ni4-M12E-OP6L-Q12	4mm	Non-flush	PNP	NO	10...30VDC	≤200mA	800Hz	-25...70˚C	M12 Connector	Fig.2
Ni4-M12E-ON6L-Q12	4mm	Non-flush	NPN	NO	10...30VDC	≤200mA	800Hz	-25...70˚C	M12 Connector	Fig.2
Ni4-M12E-CP6L-Q12	4mm	Non-flush	PNP	NC	10...30VDC	≤200mA	800Hz	-25...70˚C	M12 Connector	Fig.2
Ni4-M12E-CN6L-Q12	4mm	Non-flush	NPN	NC	10...30VDC	≤200mA	800Hz	-25...70˚C	M12 Connector	Fig.2
Ni5-M12E-OP6L-Q12	5mm	Non-flush	PNP	NO	10...30VDC	≤200mA	800Hz	-25...70˚C	M12 Connector	Fig.2
Ni5-M12E-ON6L-Q12	5mm	Non-flush	NPN	NO	10...30VDC	≤200mA	800Hz	-25...70˚C	M12 Connector	Fig.2
Ni5-M12E-CP6L-Q12	5mm	Non-flush	PNP	NC	10...30VDC	≤200mA	800Hz	-25...70˚C	M12 Connector	Fig.2
Ni5-M12E-CN6L-Q12	5mm	Non-flush	NPN	NC	10...30VDC	≤200mA	800Hz	-25...70˚C	M12 Connector	Fig.2

Dimensions:

Fig.1

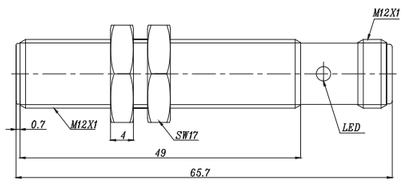
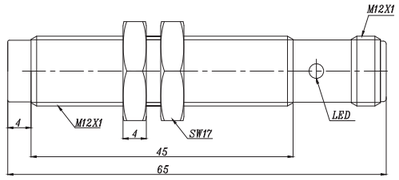


Fig.2



Metal Barrel-M12E (Long)

Description:

Brass nickel-plated, threaded barrel, DC 4-wire output, IP67 protection class, LED indicator, long size.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi2-M12E-BP6L	2mm	Flush	PNP	NO+NC	10...30VDC	≤200mA	1000Hz	-25...70˚C	2m cable	Fig.1
Fi2-M12E-BN6L	2mm	Flush	NPN	NO+NC	10...30VDC	≤200mA	1000Hz	-25...70˚C	2m cable	Fig.1
Ni4-M12E-BP6L	4mm	Non-flush	PNP	NO+NC	10...30VDC	≤200mA	800Hz	-25...70˚C	2m cable	Fig.2
Ni4-M12E-BN6L	4mm	Non-flush	NPN	NO+NC	10...30VDC	≤200mA	800Hz	-25...70˚C	2m cable	Fig.2
Ni5-M12E-BP6L	5mm	Non-flush	PNP	NO+NC	10...30VDC	≤200mA	800Hz	-25...70˚C	2m cable	Fig.2
Ni5-M12E-BN6L	5mm	Non-flush	NPN	NO+NC	10...30VDC	≤200mA	800Hz	-25...70˚C	2m cable	Fig.2
Fi2-M12E-BP6L-Q12	2mm	Flush	PNP	NO+NC	10...30VDC	≤200mA	1000Hz	-25...70˚C	M12 Connector	Fig.3
Fi2-M12E-BN6L-Q12	2mm	Flush	NPN	NO+NC	10...30VDC	≤200mA	1000Hz	-25...70˚C	M12 Connector	Fig.3
Ni4-M12E-BP6L-Q12	4mm	Non-flush	PNP	NO+NC	10...30VDC	≤200mA	800Hz	-25...70˚C	M12 Connector	Fig.4
Ni4-M12E-BN6L-Q12	4mm	Non-flush	NPN	NO+NC	10...30VDC	≤200mA	800Hz	-25...70˚C	M12 Connector	Fig.4
Ni5-M12E-BP6L-Q12	5mm	Non-flush	PNP	NO+NC	10...30VDC	≤200mA	800Hz	-25...70˚C	M12 Connector	Fig.4
Ni5-M12E-BN6L-Q12	5mm	Non-flush	NPN	NO+NC	10...30VDC	≤200mA	800Hz	-25...70˚C	M12 Connector	Fig.4

Dimensions:

Fig.1

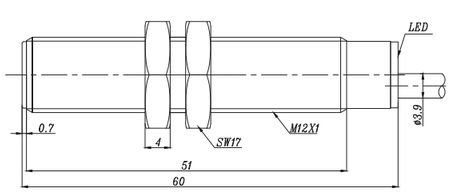


Fig.2

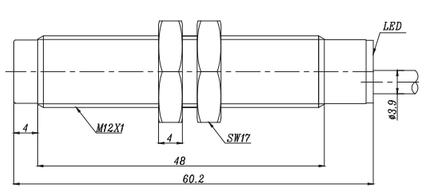


Fig.3

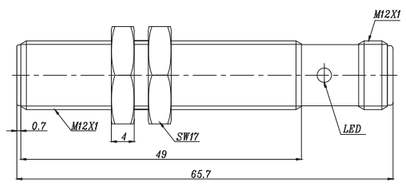
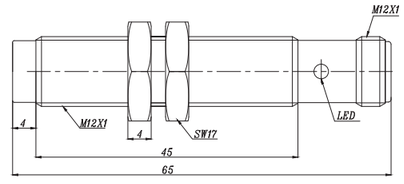


Fig.4



Metal Barrel-M12E (Long)

Description:

Brass nickel-plated, threaded barrel, AC 2-wire output, IP67 protection class, LED indicator, long size.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi2-M12E-OSA3L	2mm	Flush	AC	NO	20...250VAC	≤200mA	40Hz	-25...70℃	2m cable	Fig.1
Fi2-M12E-CSA3L	2mm	Flush	AC	NC	20...250VAC	≤200mA	40Hz	-25...70℃	2m cable	Fig.1
Ni4-M12E-OSA3L	4mm	Non-flush	AC	NO	20...250VAC	≤200mA	40Hz	-25...70℃	2m cable	Fig.2
Ni4-M12E-CSA3L	4mm	Non-flush	AC	NC	20...250VAC	≤200mA	40Hz	-25...70℃	2m cable	Fig.2
Ni5-M12E-OSA3L	5mm	Non-flush	AC	NO	20...250VAC	≤200mA	40Hz	-25...70℃	2m cable	Fig.2
Ni5-M12E-CSA3L	5mm	Non-flush	AC	NC	20...250VAC	≤200mA	40Hz	-25...70℃	2m cable	Fig.2
Fi2-M12E-OSA3L-Q12	2mm	Flush	AC	NO	20...250VAC	≤200mA	40Hz	-25...70℃	M12 Connector	Fig.3
Fi2-M12E-CSA3L-Q12	2mm	Flush	AC	NC	20...250VAC	≤200mA	40Hz	-25...70℃	M12 Connector	Fig.3
Ni4-M12E-OSA3L-Q12	4mm	Non-flush	AC	NO	20...250VAC	≤200mA	40Hz	-25...70℃	M12 Connector	Fig.4
Ni4-M12E-CSA3L-Q12	4mm	Non-flush	AC	NC	20...250VAC	≤200mA	40Hz	-25...70℃	M12 Connector	Fig.4
Ni5-M12E-OSA3L-Q12	5mm	Non-flush	AC	NO	20...250VAC	≤200mA	40Hz	-25...70℃	M12 Connector	Fig.4
Ni5-M12E-CSA3L-Q12	5mm	Non-flush	AC	NC	20...250VAC	≤200mA	40Hz	-25...70℃	M12 Connector	Fig.4

Dimensions:

Fig.1

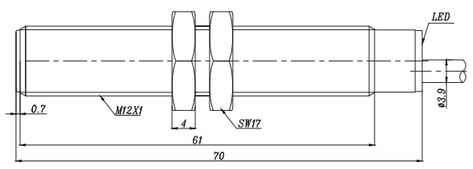


Fig.2

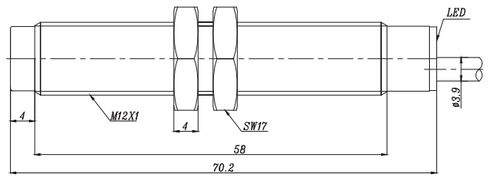


Fig.3

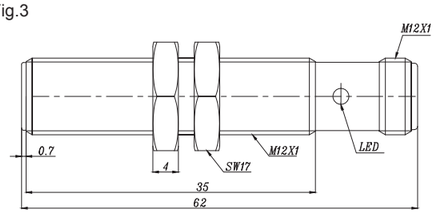
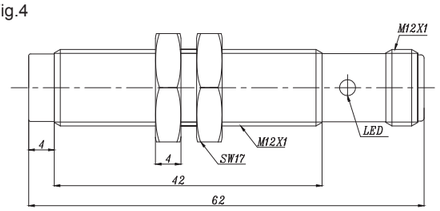


Fig.4



Metal Barrel-M12E (Long)

Description:

Brass nickel-plated, threaded barrel, AC/DC 2-wire output, IP67 protection class, LED indicator, long size.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi2-M12E-OA41L	2mm	Flush	DC/AC	NO	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-25...70℃	2m cable	Fig.1
Fi2-M12E-CA41L	2mm	Flush	DC/AC	NC	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-25...70℃	2m cable	Fig.1
Ni4-M12E-OA41L	4mm	Non-flush	DC/AC	NO	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-25...70℃	2m cable	Fig.2
Ni4-M12E-CA41L	4mm	Non-flush	DC/AC	NC	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-25...70℃	2m cable	Fig.2
Ni5-M12E-OA41L	5mm	Non-flush	DC/AC	NO	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-25...70℃	2m cable	Fig.2
Ni5-M12E-CA41L	5mm	Non-flush	DC/AC	NC	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-25...70℃	2m cable	Fig.2
Fi2-M12E-OA41L-Q12	2mm	Flush	DC/AC	NO	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-25...70℃	M12 Connector	Fig.3
Fi2-M12E-CA41L-Q12	2mm	Flush	DC/AC	NC	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-25...70℃	M12 Connector	Fig.3
Ni4-M12E-OA41L-Q12	4mm	Non-flush	DC/AC	NO	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-25...70℃	M12 Connector	Fig.4
Ni4-M12E-CA41L-Q12	4mm	Non-flush	DC/AC	NC	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-25...70℃	M12 Connector	Fig.4
Ni5-M12E-OA41L-Q12	5mm	Non-flush	DC/AC	NO	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-25...70℃	M12 Connector	Fig.4
Ni5-M12E-CA41L-Q12	5mm	Non-flush	DC/AC	NC	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-25...70℃	M12 Connector	Fig.4

Dimensions:

Fig.1

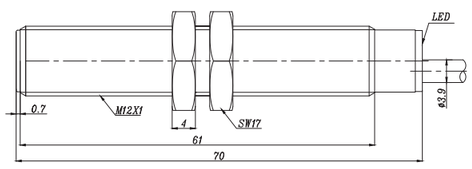


Fig.2

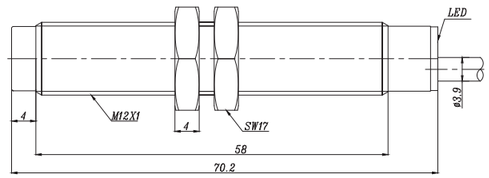


Fig.3

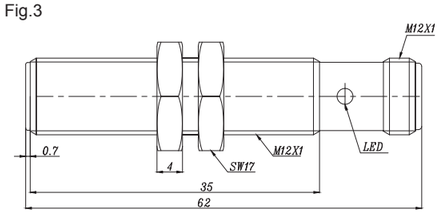
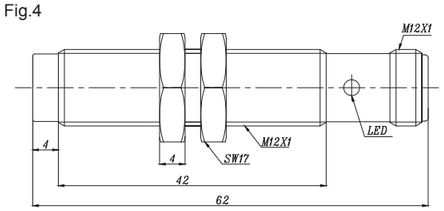


Fig.4



Metal Barrel-M18

Description:

Brass nickel-plated, threaded barrel, DC 2-wire output,

IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi5-M18-OD6L	5mm	Flush	DC NO	10...30VDC	≤100mA	800Hz	-25...70℃	2m cable	Fig.1
Fi5-M18-CD6L	5mm	Flush	DC NC	10...30VDC	≤100mA	800Hz	-25...70℃	2m cable	Fig.1
Ni8-M18-OD6L	8mm	Non-flush	DC NO	10...30VDC	≤100mA	500Hz	-25...70℃	2m cable	Fig.2
Ni8-M18-CD6L	8mm	Non-flush	DC NC	10...30VDC	≤100mA	500Hz	-25...70℃	2m cable	Fig.2
Fi5-M18-OD6L-Q12	5mm	Flush	DC NO	10...30VDC	≤100mA	800Hz	-25...70℃	M12 Connector	Fig.3
Fi5-M18-CD6L-Q12	5mm	Flush	DC NC	10...30VDC	≤100mA	800Hz	-25...70℃	M12 Connector	Fig.3
Ni8-M18-OD6L-Q12	8mm	Non-flush	DC NO	10...30VDC	≤100mA	500Hz	-25...70℃	M12 Connector	Fig.4
Ni8-M18-CD6L-Q12	8mm	Non-flush	DC NC	10...30VDC	≤100mA	500Hz	-25...70℃	M12 Connector	Fig.4

Dimensions:

Fig.1

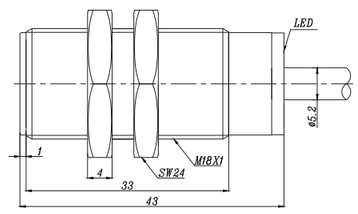


Fig.2

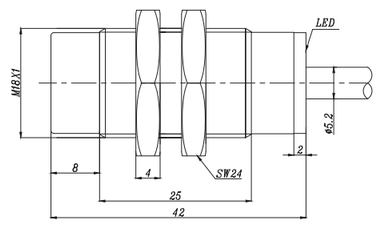


Fig.3

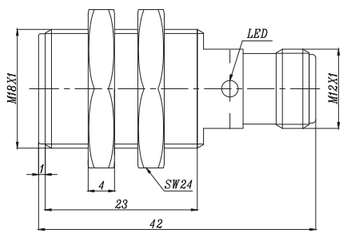
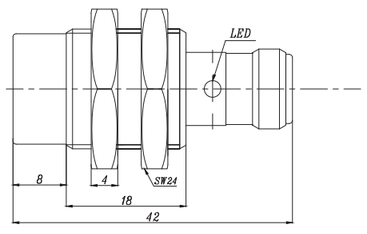


Fig.4



Metal Barrel-M18

Description:

Brass nickel-plated, threaded barrel, DC 3-wire output,

IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi5-M18-OP6L	5mm	Flush	PNP NO	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.1
Fi5-M18-ON6L	5mm	Flush	NPN NO	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.1
Fi5-M18-CP6L	5mm	Flush	PNP NC	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.1
Fi5-M18-CN6L	5mm	Flush	NPN NC	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.1
Ni8-M18-OP6L	8mm	Non-flush	PNP NO	10...30VDC	≤200mA	500Hz	-25...70℃	2m cable	Fig.2
Ni8-M18-ON6L	8mm	Non-flush	NPN NO	10...30VDC	≤200mA	500Hz	-25...70℃	2m cable	Fig.2
Ni8-M18-CP6L	8mm	Non-flush	PNP NC	10...30VDC	≤200mA	500Hz	-25...70℃	2m cable	Fig.2
Ni8-M18-CN6L	8mm	Non-flush	NPN NC	10...30VDC	≤200mA	500Hz	-25...70℃	2m cable	Fig.2
Fi5-M18-OP6L-Q12	5mm	Flush	PNP NO	10...30VDC	≤200mA	800Hz	-25...70℃	M12 Connector	Fig.3
Fi5-M18-ON6L-Q12	5mm	Flush	NPN NO	10...30VDC	≤200mA	800Hz	-25...70℃	M12 Connector	Fig.3
Fi5-M18-CP6L-Q12	5mm	Flush	PNP NC	10...30VDC	≤200mA	800Hz	-25...70℃	M12 Connector	Fig.3
Fi5-M18-CN6L-Q12	5mm	Flush	NPN NC	10...30VDC	≤200mA	800Hz	-25...70℃	M12 Connector	Fig.3
Ni8-M18-OP6L-Q12	8mm	Non-flush	PNP NO	10...30VDC	≤200mA	500Hz	-25...70℃	M12 Connector	Fig.4
Ni8-M18-ON6L-Q12	8mm	Non-flush	NPN NO	10...30VDC	≤200mA	500Hz	-25...70℃	M12 Connector	Fig.4
Ni8-M18-CP6L-Q12	8mm	Non-flush	PNP NC	10...30VDC	≤200mA	500Hz	-25...70℃	M12 Connector	Fig.4
Ni8-M18-CN6L-Q12	8mm	Non-flush	NPN NC	10...30VDC	≤200mA	500Hz	-25...70℃	M12 Connector	Fig.4

Dimensions:

Fig.1

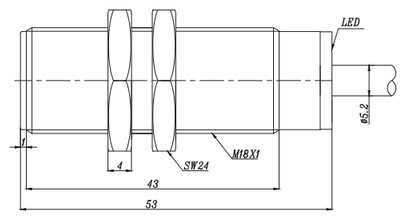


Fig.2

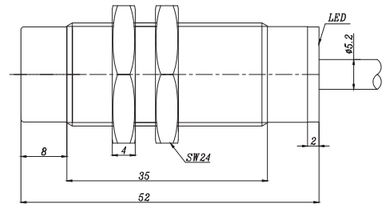


Fig.3

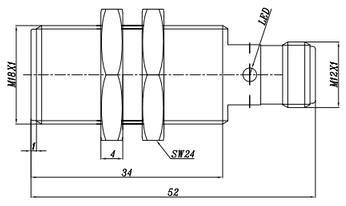
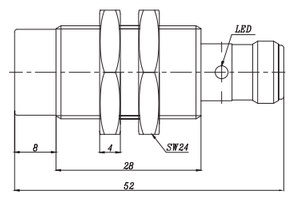


Fig.4



Metal Barrel-M18

Description:

Brass nickel-plated, threaded barrel, DC 4-wire output, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi5-M18-BP6L	5mm	Flush	PNP NO+NC	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.1
Fi5-M18-BN6L	5mm	Flush	NPN NO+NC	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.1
Ni8-M18-BP6L	8mm	Non-flush	PNP NO+NC	10...30VDC	≤200mA	500Hz	-25...70℃	2m cable	Fig.2
Ni8-M18-BN6L	8mm	Non-flush	NPN NO+NC	10...30VDC	≤200mA	500Hz	-25...70℃	2m cable	Fig.2
Fi5-M18-BP6L-Q12	5mm	Flush	PNP NO+NC	10...30VDC	≤200mA	800Hz	-25...70℃	M12 Connector	Fig.3
Fi5-M18-BN6L-Q12	5mm	Flush	NPN NO+NC	10...30VDC	≤200mA	800Hz	-25...70℃	M12 Connector	Fig.3
Ni8-M18-BP6L-Q12	8mm	Non-flush	PNP NO+NC	10...30VDC	≤200mA	500Hz	-25...70℃	M12 Connector	Fig.4
Ni8-M18-BN6L-Q12	8mm	Non-flush	NPN NO+NC	10...30VDC	≤200mA	500Hz	-25...70℃	M12 Connector	Fig.4

Dimensions:

Fig.1

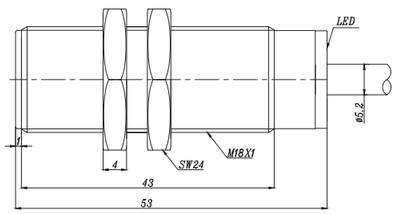


Fig.2

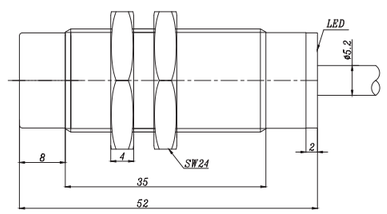


Fig.3

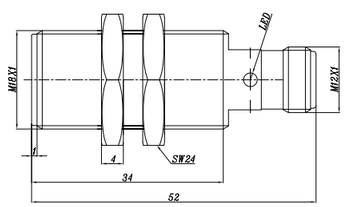
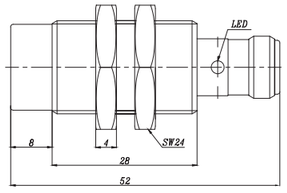


Fig.4



Metal Barrel-M18

Description:

Brass nickel-plated, threaded barrel, AC 2-wire output, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi5-M18-OSA3L	5mm	Flush	AC NO	20...250VAC	≤200mA	40Hz	-25...70℃	2m cable	Fig.1
Fi5-M18-CSA3L	5mm	Flush	AC NC	20...250VAC	≤200mA	40Hz	-25...70℃	2m cable	Fig.1
Ni8-M18-OSA3L	8mm	Non-flush	AC NO	20...250VAC	≤200mA	40Hz	-25...70℃	2m cable	Fig.2
Ni8-M18-CSA3L	8mm	Non-flush	AC NC	20...250VAC	≤200mA	40Hz	-25...70℃	2m cable	Fig.2
Fi5-M18-OSA3L-Q12	5mm	Flush	AC NO	20...250VAC	≤200mA	40Hz	-25...70℃	M12 Connector	Fig.3
Fi5-M18-CSA3L-Q12	5mm	Flush	AC NC	20...250VAC	≤200mA	40Hz	-25...70℃	M12 Connector	Fig.3
Ni8-M18-OSA3L-Q12	8mm	Non-flush	AC NO	20...250VAC	≤200mA	40Hz	-25...70℃	M12 Connector	Fig.4
Ni8-M18-CSA3L-Q12	8mm	Non-flush	AC NC	20...250VAC	≤200mA	40Hz	-25...70℃	M12 Connector	Fig.4

Dimensions:

Fig.1

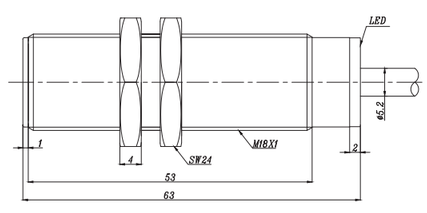


Fig.2

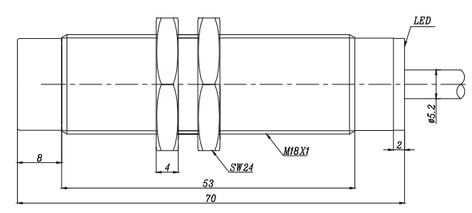


Fig.3

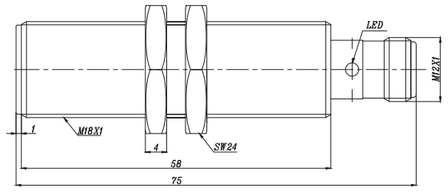
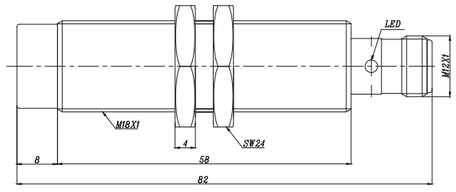


Fig.4



Metal Barrel-M18

Description:

Brass nickel-plated, threaded barrel, AC/DC 2-wire output,
IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi5-M18-OA41L	5mm	Flush	DC/AC NO	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-25...70℃	2m cable	Fig.1
Fi5-M18-CA41L	5mm	Flush	DC/AC NC	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-25...70℃	2m cable	Fig.1
Ni8-M18-OA41L	8mm	Non-flush	DC/AC NO	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-25...70℃	2m cable	Fig.2
Ni8-M18-CA41L	8mm	Non-flush	DC/AC NC	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-25...70℃	2m cable	Fig.2
Fi5-M18-OA41L-Q12	5mm	Flush	DC/AC NO	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-25...70℃	M12 Connector	Fig.3
Fi5-M18-CA41L-Q12	5mm	Flush	DC/AC NC	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-25...70℃	M12 Connector	Fig.3
Ni8-M18-OA41L-Q12	8mm	Non-flush	DC/AC NO	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-25...70℃	M12 Connector	Fig.4
Ni8-M18-CA41L-Q12	8mm	Non-flush	DC/AC NC	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-25...70℃	M12 Connector	Fig.4

Dimensions:

Fig.1

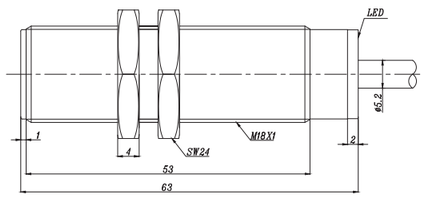


Fig.2

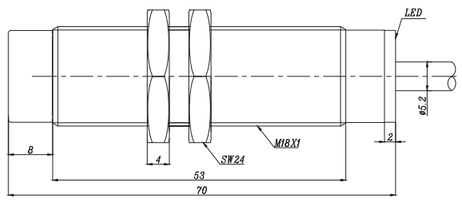


Fig.3

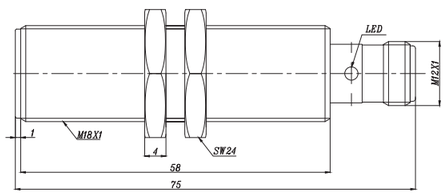
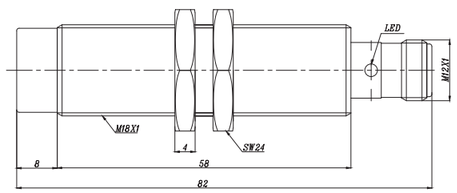


Fig.4



Metal Barrel-M18S(Short)

Description:

Brass nickel-plated, threaded barrel, DC 2-wire output, IP67
protection class, LED indicator, short size.

See the wiring diagram on page 233-234 for your reference.

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi5-M18S-OD6L	5mm	Flush	DC NO	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.1
Fi5-M18S-CD6L	5mm	Flush	DC NC	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.1
Ni8-M18S-OD6L	8mm	Non-flush	DC NO	10...30VDC	≤200mA	500Hz	-25...70℃	2m cable	Fig.2
Ni8-M18S-CD6L	8mm	Non-flush	DC NC	10...30VDC	≤200mA	500Hz	-25...70℃	2m cable	Fig.2
Fi5-M18S-OD6L-Q12	5mm	Flush	DC NO	10...30VDC	≤200mA	800Hz	-25...70℃	M12 Connector	Fig.3
Fi5-M18S-CD6L-Q12	5mm	Flush	DC NC	10...30VDC	≤200mA	800Hz	-25...70℃	M12 Connector	Fig.3
Ni8-M18S-OD6L-Q12	8mm	Non-flush	DC NO	10...30VDC	≤200mA	500Hz	-25...70℃	M12 Connector	Fig.4
Ni8-M18S-CD6L-Q12	8mm	Non-flush	DC NC	10...30VDC	≤200mA	500Hz	-25...70℃	M12 Connector	Fig.4

Dimensions:

Fig.1

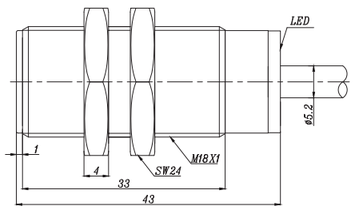


Fig.2

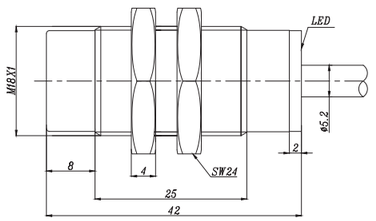


Fig.3

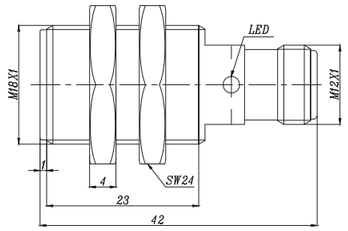
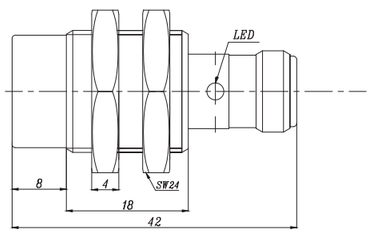


Fig.4



Metal Barrel-M18S(Short)

Description:

Brass nickel-plated, threaded barrel, DC 3-wire output, IP67 protection class, LED indicator, short size.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi5-M18S-OP6L	5mm	Flush	PNP	NO	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.1
Fi5-M18S-ON6L	5mm	Flush	NPN	NO	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.1
Fi5-M18S-CP6L	5mm	Flush	PNP	NC	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.1
Fi5-M18S-CN6L	5mm	Flush	NPN	NC	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.1
Ni8-M18S-OP6L	8mm	Non-flush	PNP	NO	10...30VDC	≤200mA	500Hz	-25...70℃	2m cable	Fig.2
Ni8-M18S-ON6L	8mm	Non-flush	NPN	NO	10...30VDC	≤200mA	500Hz	-25...70℃	2m cable	Fig.2
Ni8-M18S-CP6L	8mm	Non-flush	PNP	NC	10...30VDC	≤200mA	500Hz	-25...70℃	2m cable	Fig.2
Ni8-M18S-CN6L	8mm	Non-flush	NPN	NC	10...30VDC	≤200mA	500Hz	-25...70℃	2m cable	Fig.2
Fi5-M18S-OP6L-Q12	5mm	Flush	PNP	NO	10...30VDC	≤200mA	800Hz	-25...70℃	M12 Connector	Fig.3
Fi5-M18S-ON6L-Q12	5mm	Flush	NPN	NO	10...30VDC	≤200mA	800Hz	-25...70℃	M12 Connector	Fig.3
Fi5-M18S-CP6L-Q12	5mm	Flush	PNP	NC	10...30VDC	≤200mA	800Hz	-25...70℃	M12 Connector	Fig.3
Fi5-M18S-CN6L-Q12	5mm	Flush	NPN	NC	10...30VDC	≤200mA	800Hz	-25...70℃	M12 Connector	Fig.3
Ni8-M18S-OP6L-Q12	8mm	Non-flush	PNP	NO	10...30VDC	≤200mA	500Hz	-25...70℃	M12 Connector	Fig.4
Ni8-M18S-ON6L-Q12	8mm	Non-flush	NPN	NO	10...30VDC	≤200mA	500Hz	-25...70℃	M12 Connector	Fig.4
Ni8-M18S-CP6L-Q12	8mm	Non-flush	PNP	NC	10...30VDC	≤200mA	500Hz	-25...70℃	M12 Connector	Fig.4
Ni8-M18S-CN6L-Q12	8mm	Non-flush	NPN	NC	10...30VDC	≤200mA	500Hz	-25...70℃	M12 Connector	Fig.4

Dimensions:

Fig.1

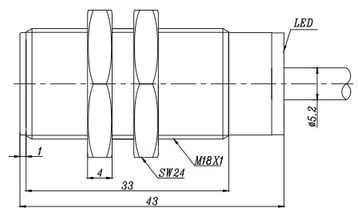


Fig.2

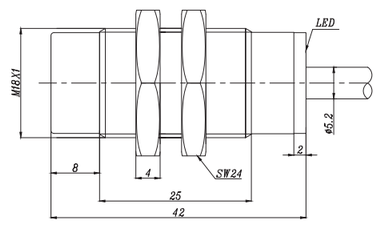


Fig.3

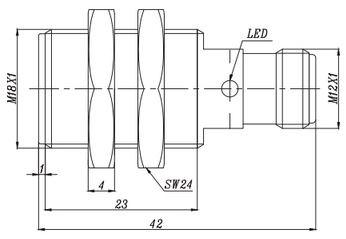
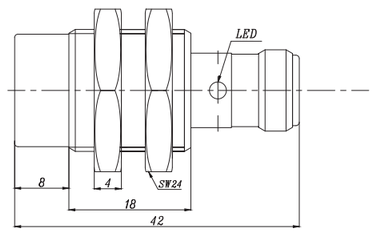


Fig.4



Metal Barrel-M18S(Short)

Description:

Brass nickel-plated, threaded barrel, DC 4-wire output, IP67 protection class, LED indicator, short size.

See the wiring diagram on page 233-234 for your reference.

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi5-M18S-BP6L	5mm	Flush	PNP	NO+NC	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.1
Fi5-M18S-BN6L	5mm	Flush	NPN	NO+NC	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.1
Ni8-M18S-BP6L	8mm	Non-flush	PNP	NO+NC	10...30VDC	≤200mA	500Hz	-25...70℃	2m cable	Fig.2
Ni8-M18S-BN6L	8mm	Non-flush	NPN	NO+NC	10...30VDC	≤200mA	500Hz	-25...70℃	2m cable	Fig.2
Fi5-M18S-BP6L-Q12	5mm	Flush	PNP	NO+NC	10...30VDC	≤200mA	800Hz	-25...70℃	M12 Connector	Fig.3
Fi5-M18S-BN6L-Q12	5mm	Flush	NPN	NO+NC	10...30VDC	≤200mA	800Hz	-25...70℃	M12 Connector	Fig.3
Ni8-M18S-BP6L-Q12	8mm	Non-flush	PNP	NO+NC	10...30VDC	≤200mA	500Hz	-25...70℃	M12 Connector	Fig.4
Ni8-M18S-BN6L-Q12	8mm	Non-flush	NPN	NO+NC	10...30VDC	≤200mA	500Hz	-25...70℃	M12 Connector	Fig.4

Dimensions:

Fig.1

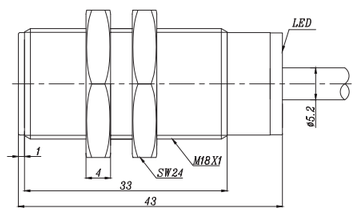


Fig.2

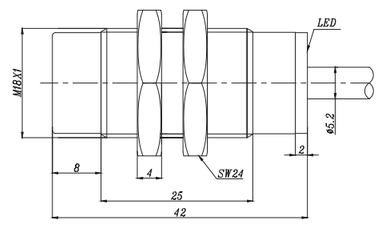


Fig.3

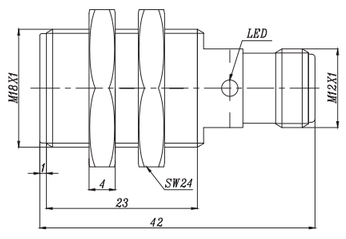
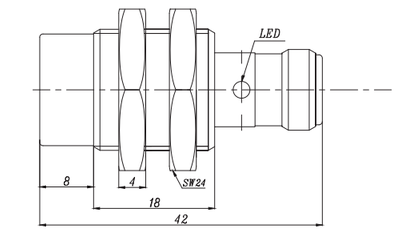


Fig.4



Metal Barrel-M18E(Extended)

Description:

Brass nickel-plated, threaded barrel, DC 2-wire output, IP67 protection class, LED indicator, long size.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi5-M18E-OD6L	5mm	Flush	DC NO	10...30VDC	≤100mA	800Hz	-25...70℃	2m cable	Fig.1
Fi5-M18E-CD6L	5mm	Flush	DC NC	10...30VDC	≤100mA	800Hz	-25...70℃	2m cable	Fig.1
Ni8-M18E-OD6L	8mm	Non-flush	DC NO	10...30VDC	≤100mA	500Hz	-25...70℃	2m cable	Fig.2
Ni8-M18E-CD6L	8mm	Non-flush	DC NC	10...30VDC	≤100mA	500Hz	-25...70℃	2m cable	Fig.2
Fi5-M18E-OD6L-Q12	5mm	Flush	DC NO	10...30VDC	≤100mA	800Hz	-25...70℃	M12 Connector	Fig.3
Fi5-M18E-CD6L-Q12	5mm	Flush	DC NC	10...30VDC	≤100mA	800Hz	-25...70℃	M12 Connector	Fig.3
Ni8-M18E-OD6L-Q12	8mm	Non-flush	DC NO	10...30VDC	≤100mA	500Hz	-25...70℃	M12 Connector	Fig.4
Ni8-M18E-CD6L-Q12	8mm	Non-flush	DC NC	10...30VDC	≤100mA	500Hz	-25...70℃	M12 Connector	Fig.4

Dimensions:

Fig.1

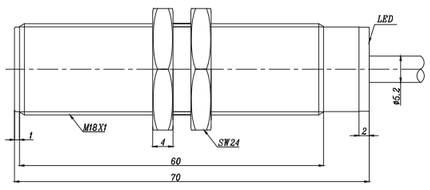


Fig.2

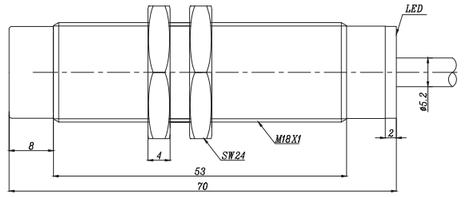


Fig.3

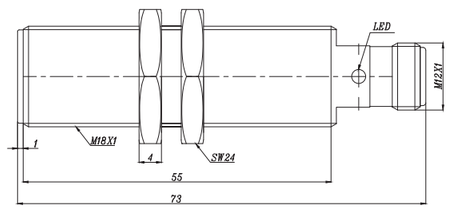
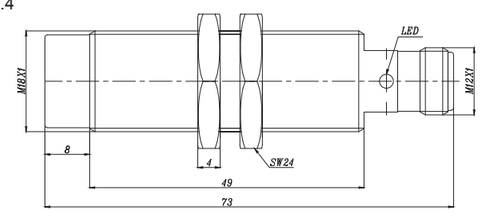


Fig.4



Metal Barrel-M18E(Extended)

Description:

Brass nickel-plated, threaded barrel, DC 3-wire output, IP67 protection class, LED indicator, long size.

See the wiring diagram on page 233-234 for your reference.

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi5-M18E-OP6L	5mm	Flush	PNP NO	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.1
Fi5-M18E-ON6L	5mm	Flush	NPN NO	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.1
Fi5-M18E-CP6L	5mm	Flush	PNP NC	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.1
Fi5-M18E-CN6L	5mm	Flush	NPN NC	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.1
Ni8-M18E-OP6L	8mm	Non-flush	PNP NO	10...30VDC	≤200mA	500Hz	-25...70℃	2m cable	Fig.2
Ni8-M18E-ON6L	8mm	Non-flush	NPN NO	10...30VDC	≤200mA	500Hz	-25...70℃	2m cable	Fig.2
Ni8-M18E-CP6L	8mm	Non-flush	PNP NC	10...30VDC	≤200mA	500Hz	-25...70℃	2m cable	Fig.2
Ni8-M18E-CN6L	8mm	Non-flush	NPN NC	10...30VDC	≤200mA	500Hz	-25...70℃	2m cable	Fig.2
Fi5-M18E-OP6L-Q12	5mm	Flush	PNP NO	10...30VDC	≤200mA	800Hz	-25...70℃	M12 Connector	Fig.3
Fi5-M18E-ON6L-Q12	5mm	Flush	NPN NO	10...30VDC	≤200mA	800Hz	-25...70℃	M12 Connector	Fig.3
Fi5-M18E-CP6L-Q12	5mm	Flush	PNP NC	10...30VDC	≤200mA	800Hz	-25...70℃	M12 Connector	Fig.3
Fi5-M18E-CN6L-Q12	5mm	Flush	NPN NC	10...30VDC	≤200mA	800Hz	-25...70℃	M12 Connector	Fig.3
Ni8-M18E-OP6L-Q12	8mm	Non-flush	PNP NO	10...30VDC	≤200mA	500Hz	-25...70℃	M12 Connector	Fig.4
Ni8-M18E-ON6L-Q12	8mm	Non-flush	NPN NO	10...30VDC	≤200mA	500Hz	-25...70℃	M12 Connector	Fig.4
Ni8-M18E-CP6L-Q12	8mm	Non-flush	PNP NC	10...30VDC	≤200mA	500Hz	-25...70℃	M12 Connector	Fig.4
Ni8-M18E-CN6L-Q12	8mm	Non-flush	NPN NC	10...30VDC	≤200mA	500Hz	-25...70℃	M12 Connector	Fig.4

Dimensions:

Fig.1

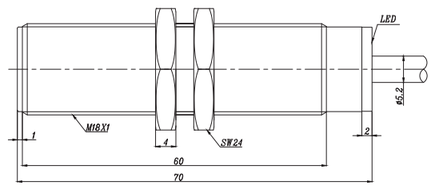


Fig.2

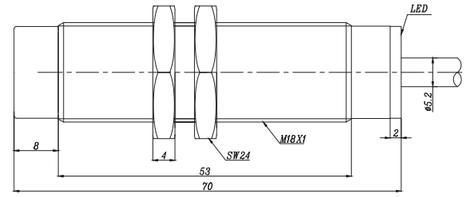


Fig.3

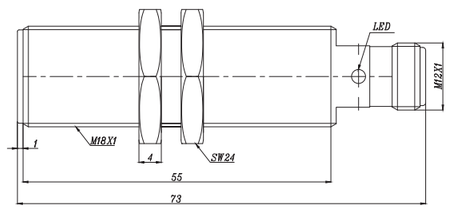
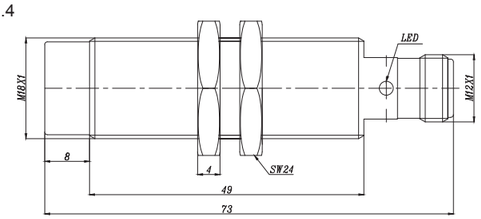


Fig.4



Metal Barrel-M18E(Extended)

Description:

Brass nickel-plated, threaded barrel, DC 4-wire output, IP67 protection class, LED indicator, long size.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi5-M18E-BP6L	5mm	Flush	PNP NO+NC	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.1
Fi5-M18E-BN6L	5mm	Flush	NPN NO+NC	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.1
Ni8-M18E-BP6L	8mm	Non-flush	PNP NO+NC	10...30VDC	≤200mA	500Hz	-25...70℃	2m cable	Fig.2
Ni8-M18E-BN6L	8mm	Non-flush	NPN NO+NC	10...30VDC	≤200mA	500Hz	-25...70℃	2m cable	Fig.2
Fi5-M18E-BP6L-Q12	5mm	Flush	PNP NO+NC	10...30VDC	≤200mA	800Hz	-25...70℃	M12 Connector	Fig.3
Fi5-M18E-BN6L-Q12	5mm	Flush	NPN NO+NC	10...30VDC	≤200mA	800Hz	-25...70℃	M12 Connector	Fig.3
Ni8-M18E-BP6L-Q12	8mm	Non-flush	PNP NO+NC	10...30VDC	≤200mA	500Hz	-25...70℃	M12 Connector	Fig.4
Ni8-M18E-BN6L-Q12	8mm	Non-flush	NPN NO+NC	10...30VDC	≤200mA	500Hz	-25...70℃	M12 Connector	Fig.4

Dimensions:

Fig.1

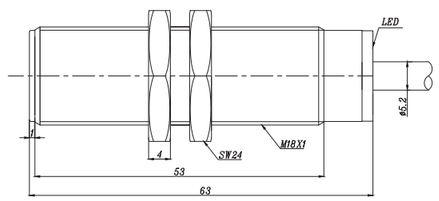


Fig.2

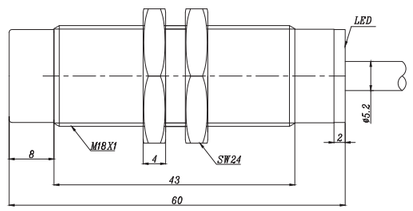


Fig.3

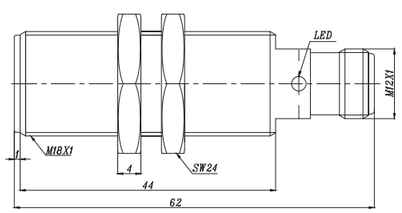
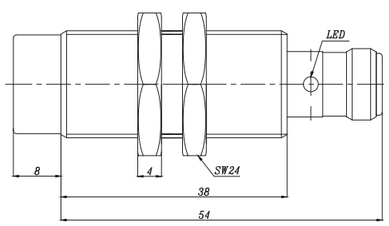


Fig.4



Metal Barrel-M18E(Extended)

Description:

Brass nickel-plated, threaded barrel, AC 2-wire output, IP67 protection class, LED indicator, long size.

See the wiring diagram on page 233-234 for your reference.

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi5-M18E-OSA3L	5mm	Flush	AC NO	20...250VAC	≤200mA	40Hz	-25...70℃	2m cable	Fig.1
Fi5-M18E-CSA3L	5mm	Flush	AC NC	20...250VAC	≤200mA	40Hz	-25...70℃	2m cable	Fig.1
Ni8-M18E-OSA3L	8mm	Non-flush	AC NO	20...250VAC	≤200mA	40Hz	-25...70℃	2m cable	Fig.2
Ni8-M18E-CSA3L	8mm	Non-flush	AC NC	20...250VAC	≤200mA	40Hz	-25...70℃	2m cable	Fig.2
Fi5-M18E-OSA3L-Q12	5mm	Flush	AC NO	20...250VAC	≤200mA	40Hz	-25...70℃	M12 Connector	Fig.3
Fi5-M18E-CSA3L-Q12	5mm	Flush	AC NC	20...250VAC	≤200mA	40Hz	-25...70℃	M12 Connector	Fig.3
Ni8-M18E-OSA3L-Q12	8mm	Non-flush	AC NO	20...250VAC	≤200mA	40Hz	-25...70℃	M12 Connector	Fig.4
Ni8-M18E-CSA3L-Q12	8mm	Non-flush	AC NC	20...250VAC	≤200mA	40Hz	-25...70℃	M12 Connector	Fig.4

Dimensions:

Fig.1

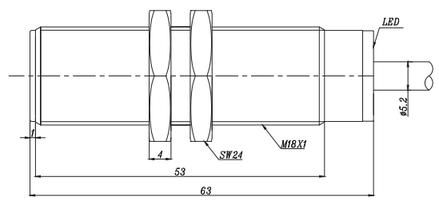


Fig.2

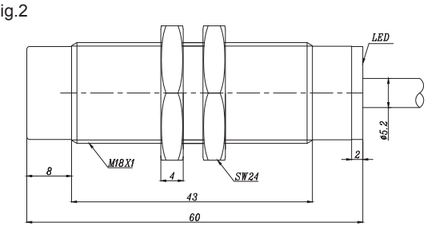


Fig.3

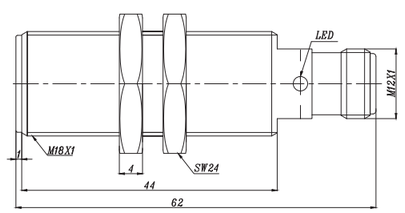
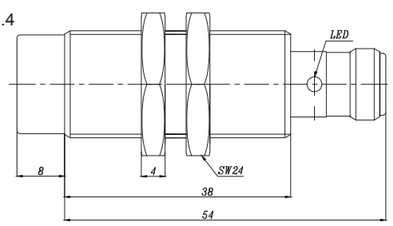


Fig.4



Metal Barrel-M18E(Extended)

Description:

Brass nickel-plated, threaded barrel, AC/DC 2-wire output, IP67 protection class, LED indicator, long size.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi5-M18E-OA41L	5mm	Flush	DC/AC NO	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-25...70℃	2m cable	Fig.1
Fi5-M18E-CA41L	5mm	Flush	DC/AC NC	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-25...70℃	2m cable	Fig.1
Ni8-M18E-OA41L	8mm	Non-flush	DC/AC NO	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-25...70℃	2m cable	Fig.2
Ni8-M18E-CA41L	8mm	Non-flush	DC/AC NC	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-25...70℃	2m cable	Fig.2
Fi5-M18E-OA41L-Q12	5mm	Flush	DC/AC NO	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-25...70℃	M12 Connector	Fig.3
Fi5-M18E-CA41L-Q12	5mm	Flush	DC/AC NC	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-25...70℃	M12 Connector	Fig.3
Ni8-M18E-OA41L-Q12	8mm	Non-flush	DC/AC NO	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-25...70℃	M12 Connector	Fig.4
Ni8-M18E-CA41L-Q12	8mm	Non-flush	DC/AC NC	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-25...70℃	M12 Connector	Fig.4

Dimensions:

Fig.1

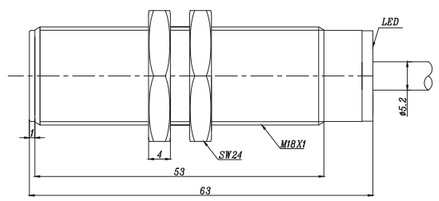


Fig.2

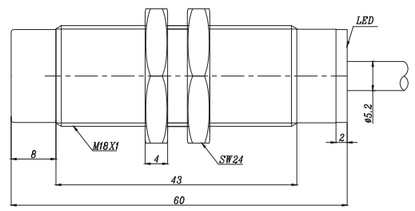


Fig.3

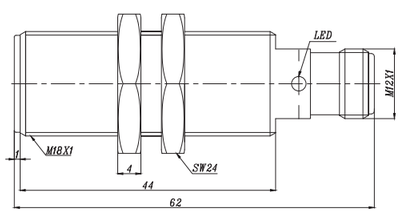
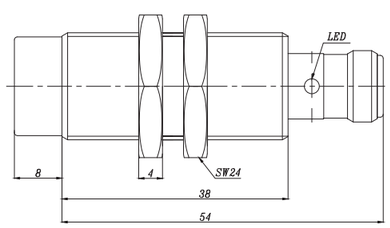


Fig.4



Metal Barrel-M30

Description:

Brass nickel-plated, threaded barrel, DC 2-wire output, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi10-M30-OD6L	10mm	Flush	DC NO	10...30VDC	≤100mA	400Hz	-25...70℃	2m cable	Fig.1
Fi10-M30-CD6L	10mm	Flush	DC NC	10...30VDC	≤100mA	400Hz	-25...70℃	2m cable	Fig.1
Ni15-M30-OD6L	15mm	Non-flush	DC NO	10...30VDC	≤100mA	200Hz	-25...70℃	2m cable	Fig.2
Ni15-M30-CD6L	15mm	Non-flush	DC NC	10...30VDC	≤100mA	200Hz	-25...70℃	2m cable	Fig.2
Fi10-M30-OD6L-Q12	10mm	Flush	DC NO	10...30VDC	≤100mA	400Hz	-25...70℃	M12 Connector	Fig.3
Fi10-M30-CD6L-Q12	10mm	Flush	DC NC	10...30VDC	≤100mA	400Hz	-25...70℃	M12 Connector	Fig.3
Ni15-M30-OD6L-Q12	15mm	Non-flush	DC NO	10...30VDC	≤100mA	200Hz	-25...70℃	M12 Connector	Fig.4
Ni15-M30-CD6L-Q12	15mm	Non-flush	DC NC	10...30VDC	≤100mA	200Hz	-25...70℃	M12 Connector	Fig.4

Dimensions:

Fig.1

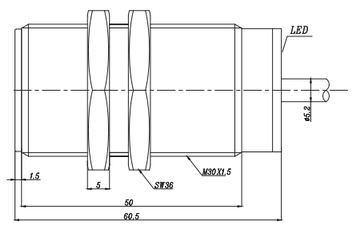


Fig.2

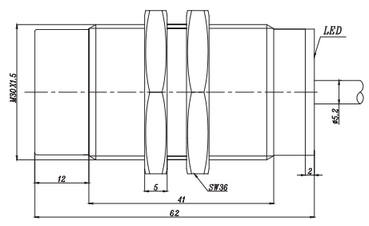


Fig.3

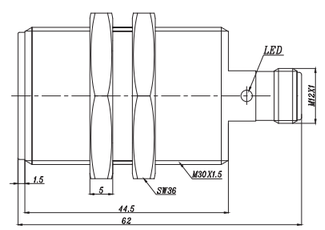
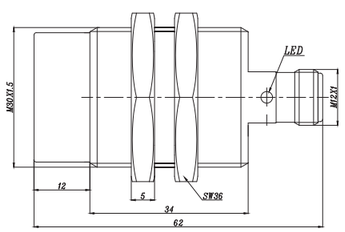


Fig.4



Metal Barrel-M30

Description:

Brass nickel-plated, threaded barrel, DC 3-wire output, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi10-M30-OP6L	10mm	Flush	PNP NO	10...30VDC	≤200mA	400Hz	-25...70˚C	2m cable	Fig.1
Fi10-M30-ON6L	10mm	Flush	NPN NO	10...30VDC	≤200mA	400Hz	-25...70˚C	2m cable	Fig.1
Fi10-M30-CP6L	10mm	Flush	PNP NC	10...30VDC	≤200mA	400Hz	-25...70˚C	2m cable	Fig.1
Fi10-M30-CN6L	10mm	Flush	NPN NC	10...30VDC	≤200mA	400Hz	-25...70˚C	2m cable	Fig.1
Ni15-M30-OP6L	15mm	Non-flush	PNP NO	10...30VDC	≤200mA	200Hz	-25...70˚C	2m cable	Fig.2
Ni15-M30-ON6L	15mm	Non-flush	NPN NO	10...30VDC	≤200mA	200Hz	-25...70˚C	2m cable	Fig.2
Ni15-M30-CP6L	15mm	Non-flush	PNP NC	10...30VDC	≤200mA	200Hz	-25...70˚C	2m cable	Fig.2
Ni15-M30-CN6L	15mm	Non-flush	NPN NC	10...30VDC	≤200mA	200Hz	-25...70˚C	2m cable	Fig.2
Fi10-M30-OP6L-Q12	10mm	Flush	PNP NO	10...30VDC	≤200mA	400Hz	-25...70˚C	M12 Connector	Fig.3
Fi10-M30-ON6L-Q12	10mm	Flush	NPN NO	10...30VDC	≤200mA	400Hz	-25...70˚C	M12 Connector	Fig.3
Fi10-M30-CP6L-Q12	10mm	Flush	PNP NC	10...30VDC	≤200mA	400Hz	-25...70˚C	M12 Connector	Fig.3
Fi10-M30-CN6L-Q12	10mm	Flush	NPN NC	10...30VDC	≤200mA	400Hz	-25...70˚C	M12 Connector	Fig.3
Ni15-M30-OP6L-Q12	15mm	Non-flush	PNP NO	10...30VDC	≤200mA	200Hz	-25...70˚C	M12 Connector	Fig.4
Ni15-M30-ON6L-Q12	15mm	Non-flush	NPN NO	10...30VDC	≤200mA	200Hz	-25...70˚C	M12 Connector	Fig.4
Ni15-M30-CP6L-Q12	15mm	Non-flush	PNP NC	10...30VDC	≤200mA	200Hz	-25...70˚C	M12 Connector	Fig.4
Ni15-M30-CN6L-Q12	15mm	Non-flush	NPN NC	10...30VDC	≤200mA	200Hz	-25...70˚C	M12 Connector	Fig.4

Dimensions:

Fig.1

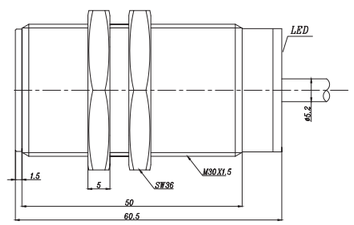


Fig.2

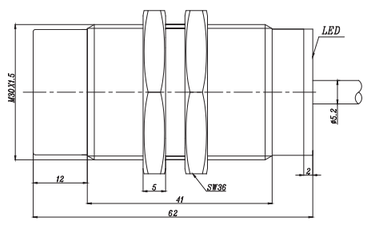


Fig.3

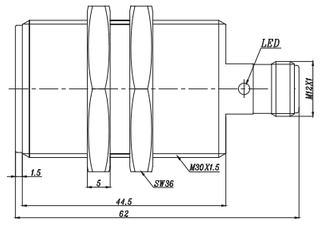
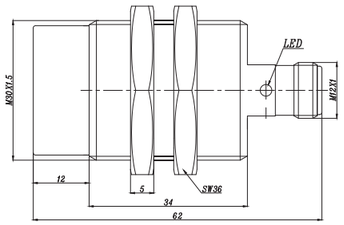


Fig.4



Metal Barrel-M30

Description:

Brass nickel-plated, threaded barrel, DC 4-wire output, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi10-M30-BP6L	10mm	Flush	PNP NO+NC	10...30VDC	≤200mA	400Hz	-25...70˚C	2m cable	Fig.1
Fi10-M30-BN6L	10mm	Flush	NPN NO+NC	10...30VDC	≤200mA	400Hz	-25...70˚C	2m cable	Fig.1
Ni15-M30-BP6L	15mm	Non-flush	PNP NO+NC	10...30VDC	≤200mA	200Hz	-25...70˚C	2m cable	Fig.2
Ni15-M30-BN6L	15mm	Non-flush	NPN NO+NC	10...30VDC	≤200mA	200Hz	-25...70˚C	2m cable	Fig.2
Fi10-M30-BP6L-Q12	10mm	Flush	PNP NO+NC	10...30VDC	≤200mA	400Hz	-25...70˚C	M12 Connector	Fig.3
Fi10-M30-BN6L-Q12	10mm	Flush	NPN NO+NC	10...30VDC	≤200mA	400Hz	-25...70˚C	M12 Connector	Fig.3
Ni15-M30-BP6L-Q12	15mm	Non-flush	PNP NO+NC	10...30VDC	≤200mA	200Hz	-25...70˚C	M12 Connector	Fig.4
Ni15-M30-BN6L-Q12	15mm	Non-flush	NPN NO+NC	10...30VDC	≤200mA	200Hz	-25...70˚C	M12 Connector	Fig.4

Dimensions:

Fig.1

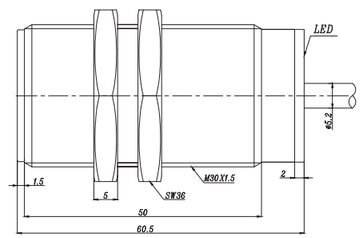


Fig.2

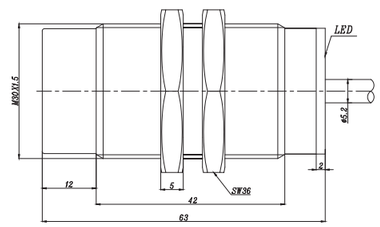


Fig.3

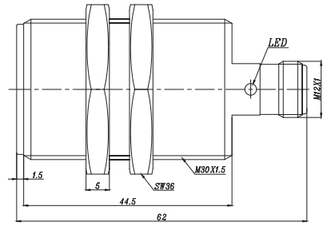
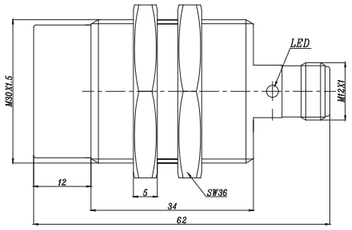


Fig.4



Metal Barrel-M30

Description:

Brass nickel-plated, threaded barrel, AC 2-wire output, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi10-M30-OSA3L	10mm	Flush	AC NO	20...250VAC	≤200mA	40Hz	-25...70°C	2m cable	Fig.1
Fi10-M30-CSA3L	10mm	Flush	AC NC	20...250VAC	≤200mA	40Hz	-25...70°C	2m cable	Fig.1
Ni15-M30-OSA3L	15mm	Non-flush	AC NO	20...250VAC	≤200mA	40Hz	-25...70°C	2m cable	Fig.2
Ni15-M30-CSA3L	15mm	Non-flush	AC NC	20...250VAC	≤200mA	40Hz	-25...70°C	2m cable	Fig.2
Fi10-M30-OSA3L-Q12	10mm	Flush	AC NO	20...250VAC	≤200mA	40Hz	-25...70°C	M12 Connector	Fig.3
Fi10-M30-CSA3L-Q12	10mm	Flush	AC NC	20...250VAC	≤200mA	40Hz	-25...70°C	M12 Connector	Fig.3
Ni15-M30-OSA3L-Q12	15mm	Non-flush	AC NO	20...250VAC	≤200mA	40Hz	-25...70°C	M12 Connector	Fig.4
Ni15-M30-CSA3L-Q12	15mm	Non-flush	AC NC	20...250VAC	≤200mA	40Hz	-25...70°C	M12 Connector	Fig.4

Dimensions:

Fig.1

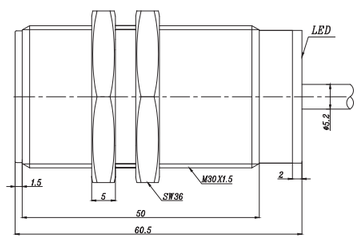


Fig.2

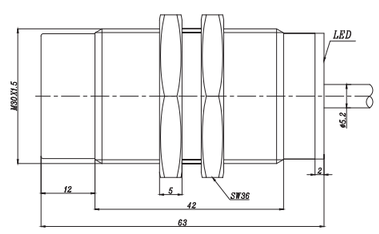


Fig.3

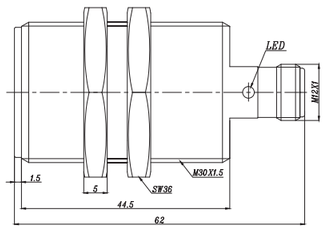
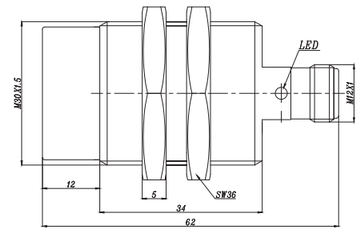


Fig.4



Metal Barrel-M30

Description:

Brass nickel-plated, threaded barrel, AC/DC 2-wire output, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi10-M30-OA41L	10mm	Flush	DC/AC NO	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-25...70°C	2m cable	Fig.1
Fi10-M30-CA41L	10mm	Flush	DC/AC NC	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-25...70°C	2m cable	Fig.1
Ni15-M30-OA41L	15mm	Non-flush	DC/AC NO	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-25...70°C	2m cable	Fig.2
Ni15-M30-CA41L	15mm	Non-flush	DC/AC NC	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-25...70°C	2m cable	Fig.2
Fi10-M30-OA41L-Q12	10mm	Flush	DC/AC NO	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-25...70°C	M12 Connector	Fig.3
Fi10-M30-CA41L-Q12	10mm	Flush	DC/AC NC	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-25...70°C	M12 Connector	Fig.3
Ni15-M30-OA41L-Q12	15mm	Non-flush	DC/AC NO	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-25...70°C	M12 Connector	Fig.4
Ni15-M30-CA41L-Q12	15mm	Non-flush	DC/AC NC	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-25...70°C	M12 Connector	Fig.4

Dimensions:

Fig.1

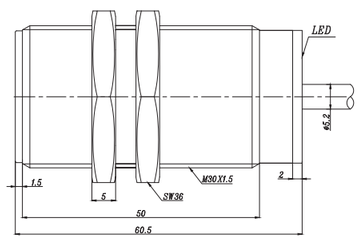


Fig.2

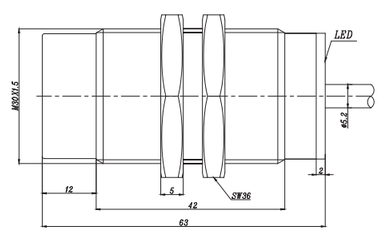


Fig.3

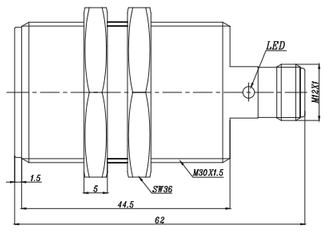
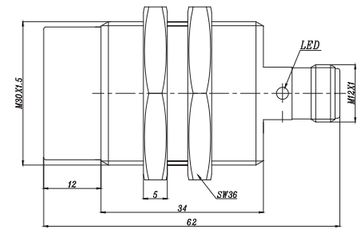


Fig.4



Metal Barrel-M30S(Short)

Description:

Brass nickel-plated, threaded barrel, DC 2-wire output, IP67 protection class, LED indicator, short size.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi10-M30S-OD6L	10mm	Flush	DC NO	10...30VDC	≤100mA	400Hz	-25...70℃	2m cable	Fig.1
Fi10-M30S-CD6L	10mm	Flush	DC NC	10...30VDC	≤100mA	400Hz	-25...70℃	2m cable	Fig.1
Ni15-M30S-OD6L	15mm	Non-flush	DC NO	10...30VDC	≤100mA	200Hz	-25...70℃	2m cable	Fig.2
Ni15-M30S-CD6L	15mm	Non-flush	DC NC	10...30VDC	≤100mA	200Hz	-25...70℃	2m cable	Fig.2
Fi10-M30S-OD6L-Q12	10mm	Flush	DC NO	10...30VDC	≤100mA	400Hz	-25...70℃	M12 Connector	Fig.3
Fi10-M30S-CD6L-Q12	10mm	Flush	DC NC	10...30VDC	≤100mA	400Hz	-25...70℃	M12 Connector	Fig.3
Ni15-M30S-OD6L-Q12	15mm	Non-flush	DC NO	10...30VDC	≤100mA	200Hz	-25...70℃	M12 Connector	Fig.4
Ni15-M30S-CD6L-Q12	15mm	Non-flush	DC NC	10...30VDC	≤100mA	200Hz	-25...70℃	M12 Connector	Fig.4

Dimensions:

Fig.1

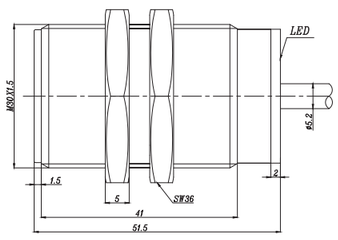


Fig.2

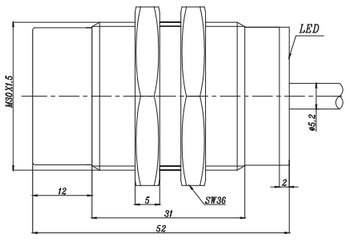


Fig.3

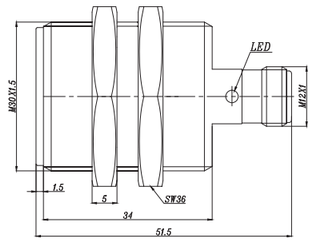
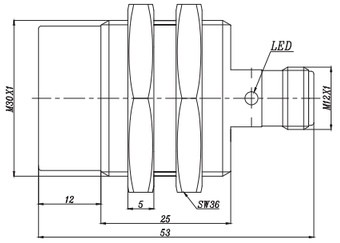


Fig.4



Metal Barrel-M30S(Short)

Description:

Brass nickel-plated, threaded barrel, DC 3-wire output, IP67 protection class, LED indicator, short size.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi10-M30S-OP6L	10mm	Flush	PNP NO	10...30VDC	≤200mA	400Hz	-25...70℃	2m cable	Fig.1
Fi10-M30S-ON6L	10mm	Flush	NPN NO	10...30VDC	≤200mA	400Hz	-25...70℃	2m cable	Fig.1
Fi10-M30S-CP6L	10mm	Flush	PNP NC	10...30VDC	≤200mA	400Hz	-25...70℃	2m cable	Fig.1
Fi10-M30S-CN6L	10mm	Flush	NPN NC	10...30VDC	≤200mA	400Hz	-25...70℃	2m cable	Fig.1
Ni15-M30S-OP6L	15mm	Non-flush	PNP NO	10...30VDC	≤200mA	200Hz	-25...70℃	2m cable	Fig.2
Ni15-M30S-ON6L	15mm	Non-flush	NPN NO	10...30VDC	≤200mA	200Hz	-25...70℃	2m cable	Fig.2
Ni15-M30S-CP6L	15mm	Non-flush	PNP NC	10...30VDC	≤200mA	200Hz	-25...70℃	2m cable	Fig.2
Ni15-M30S-CN6L	15mm	Non-flush	NPN NC	10...30VDC	≤200mA	200Hz	-25...70℃	2m cable	Fig.2
Fi10-M30S-OP6L-Q12	10mm	Flush	PNP NO	10...30VDC	≤200mA	400Hz	-25...70℃	M12 Connector	Fig.3
Fi10-M30S-ON6L-Q12	10mm	Flush	NPN NO	10...30VDC	≤200mA	400Hz	-25...70℃	M12 Connector	Fig.3
Fi10-M30S-CP6L-Q12	10mm	Flush	PNP NC	10...30VDC	≤200mA	400Hz	-25...70℃	M12 Connector	Fig.3
Fi10-M30S-CN6L-Q12	10mm	Flush	NPN NC	10...30VDC	≤200mA	400Hz	-25...70℃	M12 Connector	Fig.3
Ni15-M30S-OP6L-Q12	15mm	Non-flush	PNP NO	10...30VDC	≤200mA	200Hz	-25...70℃	M12 Connector	Fig.4
Ni15-M30S-ON6L-Q12	15mm	Non-flush	NPN NO	10...30VDC	≤200mA	200Hz	-25...70℃	M12 Connector	Fig.4
Ni15-M30S-CP6L-Q12	15mm	Non-flush	PNP NC	10...30VDC	≤200mA	200Hz	-25...70℃	M12 Connector	Fig.4
Ni15-M30S-CN6L-Q12	15mm	Non-flush	NPN NC	10...30VDC	≤200mA	200Hz	-25...70℃	M12 Connector	Fig.4

Dimensions:

Fig.1

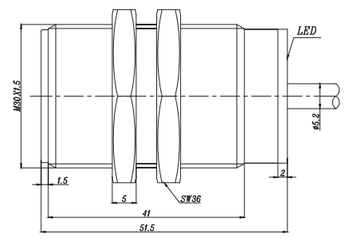


Fig.2

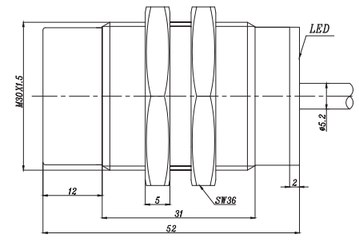


Fig.3

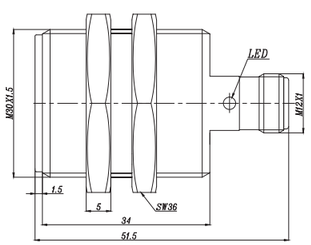
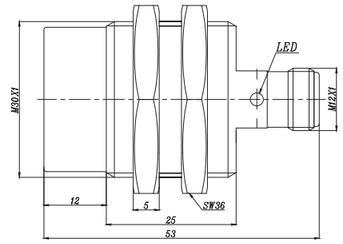


Fig.4



Metal Barrel-M30S(Short)

Description:

Brass nickel-plated, threaded barrel, DC 4-wire output, IP67 protection class, LED indicator, short size.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi10-M30S-BP6L	10mm	Flush	PNP	NO+NC	10...30VDC	≤200mA	400Hz	-25...70℃	2m cable	Fig.1
Fi10-M30S-BN6L	10mm	Flush	NPN	NO+NC	10...30VDC	≤200mA	400Hz	-25...70℃	2m cable	Fig.1
Ni15-M30S-BP6L	15mm	Non-flush	PNP	NO+NC	10...30VDC	≤200mA	200Hz	-25...70℃	2m cable	Fig.2
Ni15-M30S-BN6L	15mm	Non-flush	NPN	NO+NC	10...30VDC	≤200mA	200Hz	-25...70℃	2m cable	Fig.2
Fi10-M30S-BP6L-Q12	10mm	Flush	PNP	NO+NC	10...30VDC	≤200mA	400Hz	-25...70℃	M12 Connector	Fig.3
Fi10-M30S-BN6L-Q12	10mm	Flush	NPN	NO+NC	10...30VDC	≤200mA	400Hz	-25...70℃	M12 Connector	Fig.3
Ni15-M30S-BP6L-Q12	15mm	Non-flush	PNP	NO+NC	10...30VDC	≤200mA	200Hz	-25...70℃	M12 Connector	Fig.4
Ni15-M30S-BN6L-Q12	15mm	Non-flush	NPN	NO+NC	10...30VDC	≤200mA	200Hz	-25...70℃	M12 Connector	Fig.4

Dimensions:

Fig.1

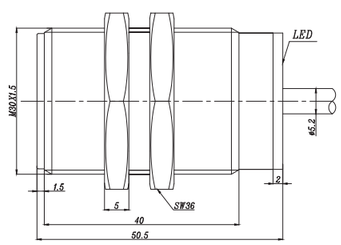


Fig.2

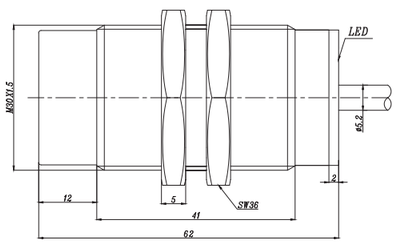


Fig.3

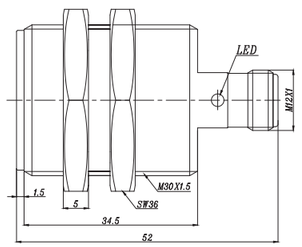
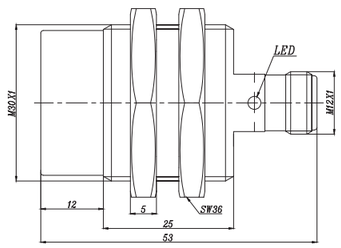


Fig.4



Metal Barrel-M30S(Short)

Description:

Brass nickel-plated, threaded barrel, AC 2-wire output, IP67 protection class, LED indicator, short size.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi10-M30S-OSA3L	10mm	Flush	AC	NO	20...250VAC	≤200mA	40Hz	-25...70℃	2m cable	Fig.1
Fi10-M30S-CSA3L	10mm	Flush	AC	NC	20...250VAC	≤200mA	40Hz	-25...70℃	2m cable	Fig.1
Ni15-M30S-OSA3L	15mm	Non-flush	AC	NO	20...250VAC	≤200mA	40Hz	-25...70℃	2m cable	Fig.2
Ni15-M30S-CSA3L	15mm	Non-flush	AC	NC	20...250VAC	≤200mA	40Hz	-25...70℃	2m cable	Fig.2
Fi10-M30S-OSA3L-Q12	10mm	Flush	AC	NO	20...250VAC	≤200mA	40Hz	-25...70℃	M12 Connector	Fig.3
Fi10-M30S-CSA3L-Q12	10mm	Flush	AC	NC	20...250VAC	≤200mA	40Hz	-25...70℃	M12 Connector	Fig.3
Ni15-M30S-OSA3L-Q12	15mm	Non-flush	AC	NO	20...250VAC	≤200mA	40Hz	-25...70℃	M12 Connector	Fig.4
Ni15-M30S-CSA3L-Q12	15mm	Non-flush	AC	NC	20...250VAC	≤200mA	40Hz	-25...70℃	M12 Connector	Fig.4

Dimensions:

Fig.1

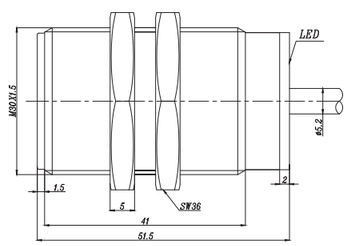


Fig.2

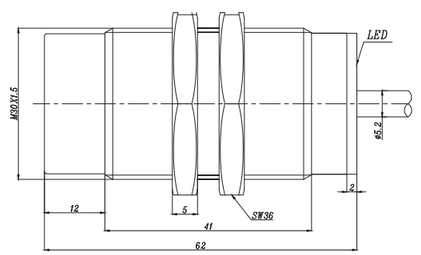


Fig.3

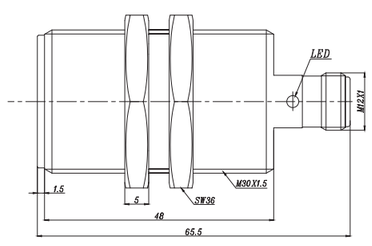
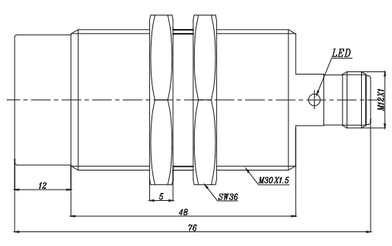


Fig.4



Metal Barrel-M30S(Short)

Description:

Brass nickel-plated, threaded barrel, AC/DC 2-wire output,
IP67 protection class, LED indicator, short size.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi10-M30S-OA41L	10mm	Flush	DC/AC	NO	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-25...70˚C	2m cable	Fig.1
Fi10-M30S-CA41L	10mm	Flush	DC/AC	NC	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-25...70˚C	2m cable	Fig.1
Ni15-M30S-OA41L	15mm	Non-flush	DC/AC	NO	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-25...70˚C	2m cable	Fig.2
Ni15-M30S-CA41L	15mm	Non-flush	DC/AC	NC	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-25...70˚C	2m cable	Fig.2
Fi10-M30S-OA41L-Q12	10mm	Flush	DC/AC	NO	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-25...70˚C	M12 Connector	Fig.3
Fi10-M30S-CA41L-Q12	10mm	Flush	DC/AC	NC	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-25...70˚C	M12 Connector	Fig.3
Ni15-M30S-OA41L-Q12	15mm	Non-flush	DC/AC	NO	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-25...70˚C	M12 Connector	Fig.4
Ni15-M30S-CA41L-Q12	15mm	Non-flush	DC/AC	NC	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-25...70˚C	M12 Connector	Fig.4

Dimensions:

Fig.1

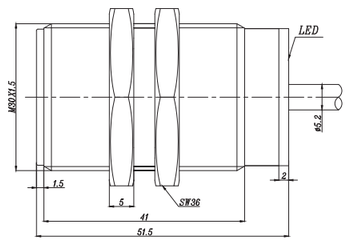


Fig.2

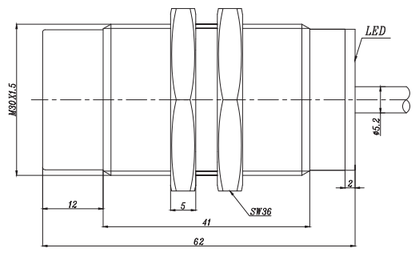


Fig.3

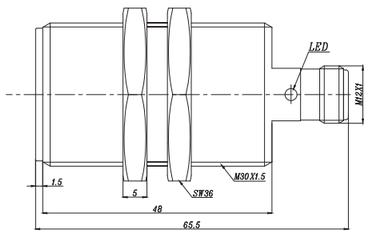
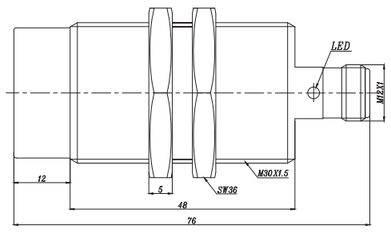


Fig.4



Long-Sensing Metal Barrel-M8

Description:

Brass nickel-plated, threaded barrel, extended operating distance, DC 3-wire output, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Ni4-M08-OP6L	4mm	Non-flush	PNP NO	10...30VDC	≤200mA	750Hz	-25...70˚C	2m cable	Fig.1
Ni4-M08-ON6L	4mm	Non-flush	NPN NO	10...30VDC	≤200mA	750Hz	-25...70˚C	2m cable	Fig.1
Ni4-M08-CP6L	4mm	Non-flush	PNP NC	10...30VDC	≤200mA	750Hz	-25...70˚C	2m cable	Fig.1
Ni4-M08-CN6L	4mm	Non-flush	NPN NC	10...30VDC	≤200mA	750Hz	-25...70˚C	2m cable	Fig.1
Ni4-M08-OP6L-Q8	4mm	Non-flush	PNP NO	10...30VDC	≤200mA	750Hz	-25...70˚C	M8 Connector	Fig.2
Ni4-M08-ON6L-Q8	4mm	Non-flush	NPN NO	10...30VDC	≤200mA	750Hz	-25...70˚C	M8 Connector	Fig.2
Ni4-M08-CP6L-Q8	4mm	Non-flush	PNP NC	10...30VDC	≤200mA	750Hz	-25...70˚C	M8 Connector	Fig.2
Ni4-M08-CN6L-Q8	4mm	Non-flush	NPN NC	10...30VDC	≤200mA	750Hz	-25...70˚C	M8 Connector	Fig.2
Ni4-M08-OP6L-Q12	4mm	Non-flush	PNP NO	10...30VDC	≤200mA	750Hz	-25...70˚C	M12 Connector	Fig.3
Ni4-M08-ON6L-Q12	4mm	Non-flush	NPN NO	10...30VDC	≤200mA	750Hz	-25...70˚C	M12 Connector	Fig.3
Ni4-M08-CP6L-Q12	4mm	Non-flush	PNP NC	10...30VDC	≤200mA	750Hz	-25...70˚C	M12 Connector	Fig.3
Ni4-M08-CN6L-Q12	4mm	Non-flush	NPN NC	10...30VDC	≤200mA	750Hz	-25...70˚C	M12 Connector	Fig.3

Dimensions:

Fig.1

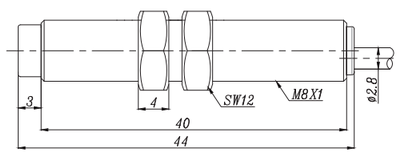


Fig.2

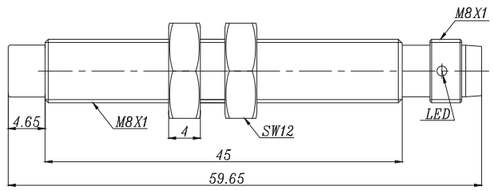
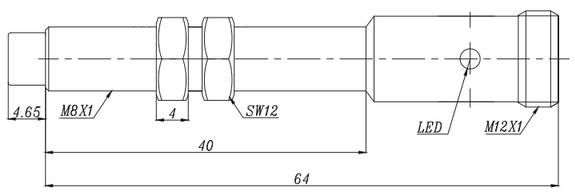


Fig.3



Long-Sensing Metal Barrel-M8

Description:

Brass nickel-plated, threaded barrel, extended operating distance, DC 2-wire output, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Ni4-M08-OD6L	4mm	Non-flush	DC NO	10...30VDC	≤100mA	600Hz	-25...70˚C	2m cable	Fig.1
Ni4-M08-CD6L	4mm	Non-flush	DC NC	10...30VDC	≤100mA	600Hz	-25...70˚C	2m cable	Fig.1
Ni4-M08-OD6L-Q8	4mm	Non-flush	DC NO	10...30VDC	≤100mA	750Hz	-25...70˚C	M8 Connector	Fig.2
Ni4-M08-CD6L-Q8	4mm	Non-flush	DC NC	10...30VDC	≤100mA	750Hz	-25...70˚C	M8 Connector	Fig.2
Ni4-M08-OD6L-Q12	4mm	Non-flush	DC NO	10...30VDC	≤100mA	750Hz	-25...70˚C	M12 Connector	Fig.3
Ni4-M08-CD6L-Q12	4mm	Non-flush	DC NC	10...30VDC	≤100mA	750Hz	-25...70˚C	M12 Connector	Fig.3

Dimensions:

Fig.1

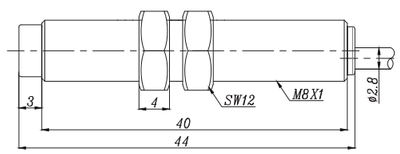


Fig.2

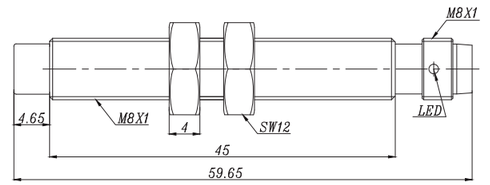
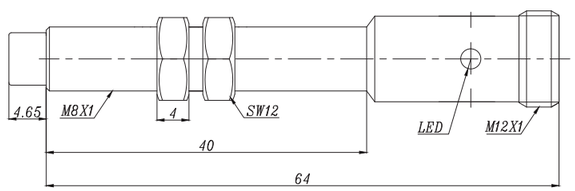


Fig.3



Long-Sensing Metal Barrel-M12

Description:

Brass nickel-plated, threaded barrel, extended operating distance, DC 2-wire output, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi4-M12-OD6L	4mm	Flush	DC NO	10...30VDC	≤100mA	650Hz	-25...70℃	2m cable	Fig.1
Fi4-M12-CD6L	4mm	Flush	DC NC	10...30VDC	≤100mA	650Hz	-25...70℃	2m cable	Fig.1
Ni8-M12-OD6L	8mm	Non-flush	DC NO	10...30VDC	≤100mA	500Hz	-25...70℃	2m cable	Fig.2
Ni8-M12-CD6L	8mm	Non-flush	DC NC	10...30VDC	≤100mA	500Hz	-25...70℃	2m cable	Fig.2
Fi4-M12-OD6L-Q12	4mm	Flush	DC NO	10...30VDC	≤100mA	650Hz	-25...70℃	M12 Connector	Fig.3
Fi4-M12-CD6L-Q12	4mm	Flush	DC NC	10...30VDC	≤100mA	650Hz	-25...70℃	M12 Connector	Fig.3
Ni8-M12-OD6L-Q12	8mm	Non-flush	DC NO	10...30VDC	≤100mA	500Hz	-25...70℃	M12 Connector	Fig.4
Ni8-M12-CD6L-Q12	8mm	Non-flush	DC NC	10...30VDC	≤100mA	500Hz	-25...70℃	M12 Connector	Fig.4

Dimensions:

Fig.1

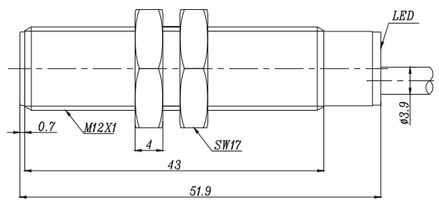


Fig.2

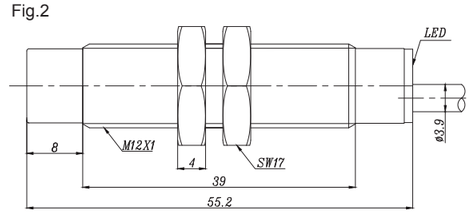


Fig.3

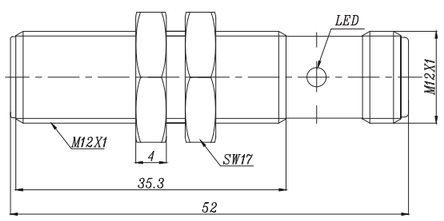
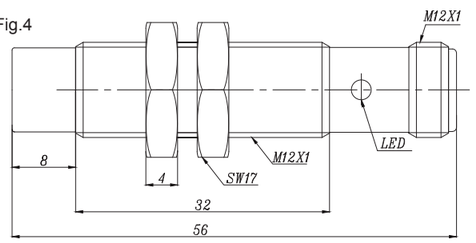


Fig.4



Long-Sensing Metal Barrel-M12

Description:

Brass nickel-plated, threaded barrel, extended operating distance, DC 2-wire output, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi4-M12-OP6L	4mm	Flush	PNP NO	10...30VDC	≤200mA	650Hz	-25...70℃	2m cable	Fig.1
Fi4-M12-ON6L	4mm	Flush	NPN NO	10...30VDC	≤200mA	650Hz	-25...70℃	2m cable	Fig.1
Fi4-M12-CP6L	4mm	Flush	PNP NC	10...30VDC	≤200mA	650Hz	-25...70℃	2m cable	Fig.1
Fi4-M12-CN6L	4mm	Flush	NPN NC	10...30VDC	≤200mA	650Hz	-25...70℃	2m cable	Fig.1
Ni8-M12-OP6L	8mm	Non-flush	PNP NO	10...30VDC	≤200mA	500Hz	-25...70℃	2m cable	Fig.2
Ni8-M12-ON6L	8mm	Non-flush	NPN NO	10...30VDC	≤200mA	500Hz	-25...70℃	2m cable	Fig.2
Ni8-M12-CP6L	8mm	Non-flush	PNP NC	10...30VDC	≤200mA	500Hz	-25...70℃	2m cable	Fig.2
Ni8-M12-CN6L	8mm	Non-flush	NPN NC	10...30VDC	≤200mA	500Hz	-25...70℃	2m cable	Fig.2
Fi4-M12-OP6L-Q12	4mm	Flush	PNP NO	10...30VDC	≤200mA	650Hz	-25...70℃	M12 Connector	Fig.3
Fi4-M12-ON6L-Q12	4mm	Flush	NPN NO	10...30VDC	≤200mA	650Hz	-25...70℃	M12 Connector	Fig.3
Fi4-M12-CP6L-Q12	4mm	Flush	PNP NC	10...30VDC	≤200mA	650Hz	-25...70℃	M12 Connector	Fig.3
Fi4-M12-CN6L-Q12	4mm	Flush	NPN NC	10...30VDC	≤200mA	650Hz	-25...70℃	M12 Connector	Fig.3
Ni8-M12-OP6L-Q12	8mm	Non-flush	PNP NO	10...30VDC	≤200mA	500Hz	-25...70℃	M12 Connector	Fig.4
Ni8-M12-ON6L-Q12	8mm	Non-flush	NPN NO	10...30VDC	≤200mA	500Hz	-25...70℃	M12 Connector	Fig.4
Ni8-M12-CP6L-Q12	8mm	Non-flush	PNP NC	10...30VDC	≤200mA	500Hz	-25...70℃	M12 Connector	Fig.4
Ni8-M12-CN6L-Q12	8mm	Non-flush	NPN NC	10...30VDC	≤200mA	500Hz	-25...70℃	M12 Connector	Fig.4

Dimensions:

Fig.1

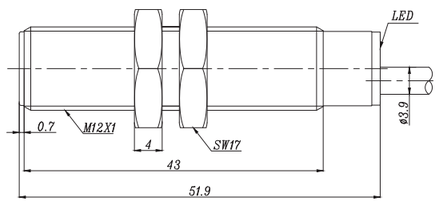


Fig.2

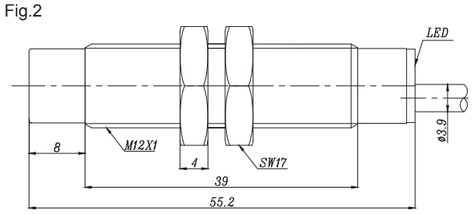


Fig.3

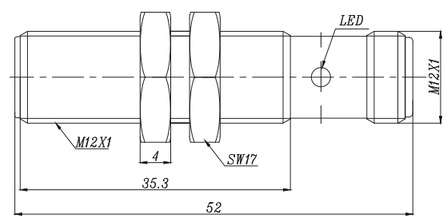
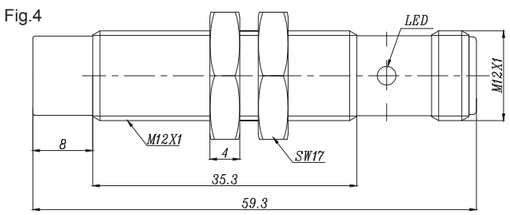


Fig.4



Long-Sensing Metal Barrel-M12

Description:

Brass nickel-plated, threaded barrel, extended operating distance,

DC 4-wire output, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi4-M12-BP6L	4mm	Flush	NO+NC PNP	10...30VDC	≤200mA	650Hz	-25...70℃	2m cable	Fig.1
Fi4-M12-BN6L	4mm	Flush	NO+NC NPN	10...30VDC	≤200mA	650Hz	-25...70℃	2m cable	Fig.1
Ni8-M12-BP6L	8mm	Non-flush	NO+NC PNP	10...30VDC	≤200mA	500Hz	-25...70℃	2m cable	Fig.2
Ni8-M12-BN6L	8mm	Non-flush	NO+NC NPN	10...30VDC	≤200mA	500Hz	-25...70℃	2m cable	Fig.2
Fi4-M12-BP6L-Q12	4mm	Flush	NO+NC PNP	10...30VDC	≤200mA	650Hz	-25...70℃	M12 Connector	Fig.3
Fi4-M12-BN6L-Q12	4mm	Flush	NO+NC NPN	10...30VDC	≤200mA	650Hz	-25...70℃	M12 Connector	Fig.3
Ni8-M12-BP6L-Q12	8mm	Non-flush	NO+NC PNP	10...30VDC	≤200mA	500Hz	-25...70℃	M12 Connector	Fig.4
Ni8-M12-BN6L-Q12	8mm	Non-flush	NO+NC NPN	10...30VDC	≤200mA	500Hz	-25...70℃	M12 Connector	Fig.4

Dimensions:

Fig.1

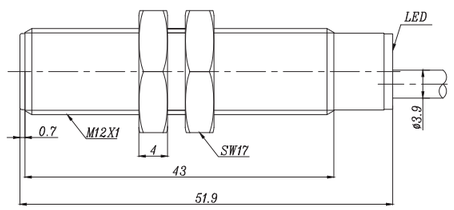


Fig.2

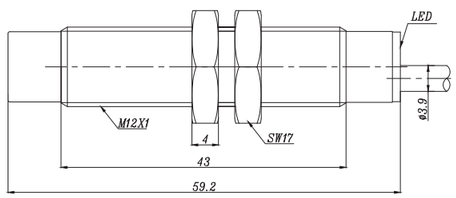


Fig.3

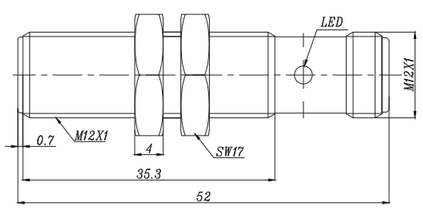
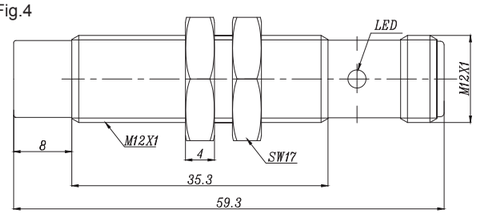


Fig.4



Long-Sensing Metal Barrel-M12

Description:

Brass nickel-plated, threaded barrel, extended operating distance,

AC 2-wire output, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi4-M12-OSA3L	4mm	Flush	NO AC	20...250VAC	≤200mA	40Hz	-25...70℃	2m cable	Fig.1
Fi4-M12-CSA3L	4mm	Flush	NC AC	20...250VAC	≤200mA	40Hz	-25...70℃	2m cable	Fig.1
Ni8-M12-OSA3L	8mm	Non-flush	NO AC	20...250VAC	≤200mA	40Hz	-25...70℃	2m cable	Fig.2
Ni8-M12-CSA3L	8mm	Non-flush	NC AC	20...250VAC	≤200mA	40Hz	-25...70℃	2m cable	Fig.2
Fi4-M12-OSA3L-Q12	4mm	Flush	NO AC	20...250VAC	≤200mA	40Hz	-25...70℃	M12 Connector	Fig.3
Fi4-M12-CSA3L-Q12	4mm	Flush	NC AC	20...250VAC	≤200mA	40Hz	-25...70℃	M12 Connector	Fig.3
Ni8-M12-OSA3L-Q12	8mm	Non-flush	NO AC	20...250VAC	≤200mA	40Hz	-25...70℃	M12 Connector	Fig.4
Ni8-M12-CSA3L-Q12	8mm	Non-flush	NC AC	20...250VAC	≤200mA	40Hz	-25...70℃	M12 Connector	Fig.4

Dimensions:

Fig.1

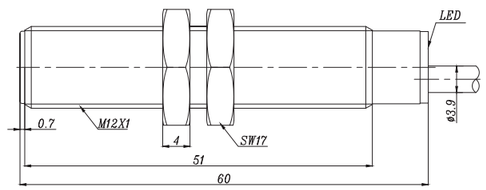


Fig.2

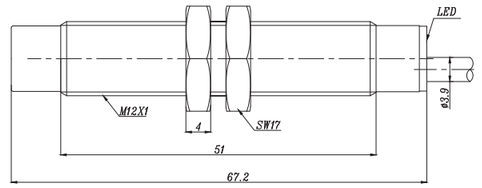


Fig.3

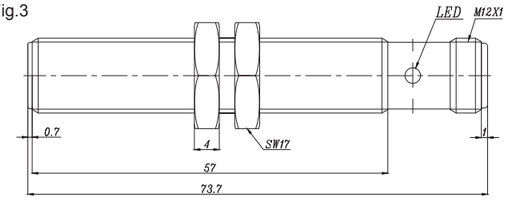
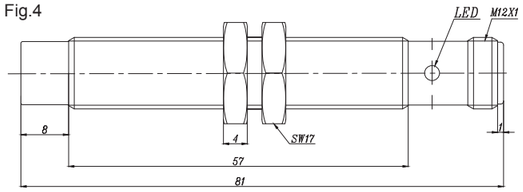


Fig.4



Long-Sensing Metal Barrel-M12

Description:

Brass nickel-plated, threaded barrel, extended operating distance,
AC/DC 2-wire output, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi4-M12-OA41L	4mm	Flush	NO DC/AC	20...250VAC/DC	DC≤100mA/AC≤200mA	20/650Hz	-25...70℃	2m cable	Fig.1
Fi4-M12-CA41L	4mm	Flush	NC DC/AC	20...250VAC/DC	DC≤100mA/AC≤200mA	20/650Hz	-25...70℃	2m cable	Fig.1
Ni8-M12-OA41L	8mm	Non-flush	NO DC/AC	20...250VAC/DC	DC≤100mA/AC≤200mA	20/500Hz	-25...70℃	2m cable	Fig.2
Ni8-M12-CA41L	8mm	Non-flush	NC DC/AC	20...250VAC/DC	DC≤100mA/AC≤200mA	20/500Hz	-25...70℃	2m cable	Fig.2
Fi4-M12-OA41L-Q12	4mm	Flush	NO DC/AC	20...250VAC/DC	DC≤100mA/AC≤200mA	20/650Hz	-25...70℃	M12 Connector	Fig.3
Fi4-M12-CA41L-Q12	4mm	Flush	NC DC/AC	20...250VAC/DC	DC≤100mA/AC≤200mA	20/650Hz	-25...70℃	M12 Connector	Fig.3
Ni8-M12-OA41L-Q12	8mm	Non-flush	NO DC/AC	20...250VAC/DC	DC≤100mA/AC≤200mA	20/500Hz	-25...70℃	M12 Connector	Fig.4
Ni8-M12-CA41L-Q12	8mm	Non-flush	NC DC/AC	20...250VAC/DC	DC≤100mA/AC≤200mA	20/500Hz	-25...70℃	M12 Connector	Fig.4

Dimensions:

Fig.1

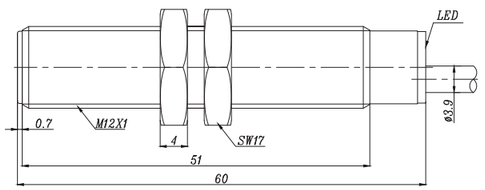


Fig.2

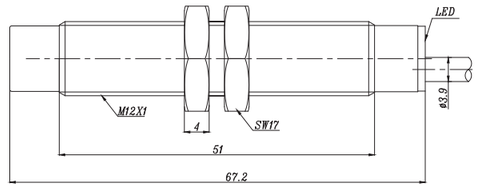


Fig.3

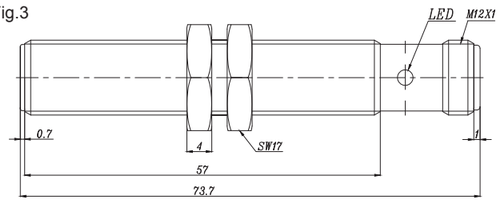
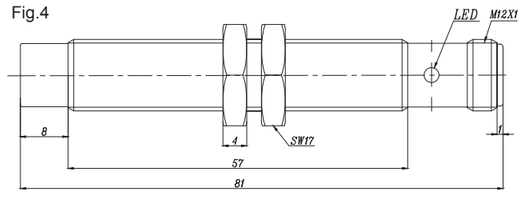


Fig.4



Long-Sensing Metal Barrel-M18

Description:

Brass nickel-plated, threaded barrel, extended operating distance,
DC 2-wire output, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi8-M18-OD6L	8mm	Flush	NO DC	10...30VDC	≤100mA	500Hz	-25...70℃	2m cable	Fig.1
Fi8-M18-CD6L	8mm	Flush	NC DC	10...30VDC	≤100mA	500Hz	-25...70℃	2m cable	Fig.1
Ni12-M18-OD6L	12mm	Non-flush	NO DC	10...30VDC	≤100mA	350Hz	-25...70℃	2m cable	Fig.2
Ni12-M18-CD6L	12mm	Non-flush	NC DC	10...30VDC	≤100mA	350Hz	-25...70℃	2m cable	Fig.2
Fi8-M18-OD6L-Q12	8mm	Flush	NO DC	10...30VDC	≤100mA	500Hz	-25...70℃	M12 Connector	Fig.3
Fi8-M18-CD6L-Q12	8mm	Flush	NC DC	10...30VDC	≤100mA	500Hz	-25...70℃	M12 Connector	Fig.3
Ni12-M18-OD6L-Q12	12mm	Non-flush	NO DC	10...30VDC	≤100mA	350Hz	-25...70℃	M12 Connector	Fig.4
Ni12-M18-CD6L-Q12	12mm	Non-flush	NC DC	10...30VDC	≤100mA	350Hz	-25...70℃	M12 Connector	Fig.4

Dimensions:

Fig.1

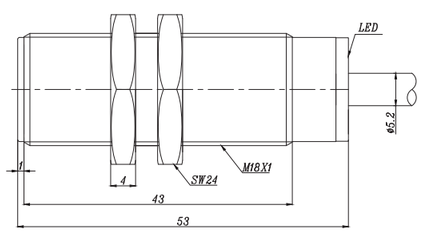


Fig.2

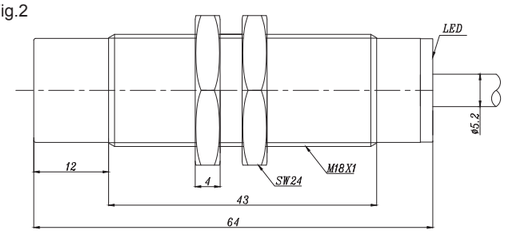


Fig.3

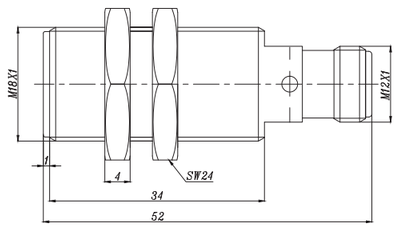
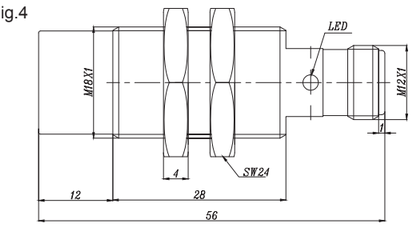


Fig.4



Long-Sensing Metal Barrel-M18

Description:

Brass nickel-plated, threaded barrel, extended operating distance, DC 3-wire output, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi8-M18-OP6L	8mm	Flush	NO	PNP	10...30VDC	≤200mA	500Hz	-25...70°C	2m cable	Fig.1
Fi8-M18-ON6L	8mm	Flush	NO	NPN	10...30VDC	≤200mA	500Hz	-25...70°C	2m cable	Fig.1
Fi8-M18-CP6L	8mm	Flush	NC	PNP	10...30VDC	≤200mA	500Hz	-25...70°C	2m cable	Fig.1
Fi8-M18-CN6L	8mm	Flush	NC	NPN	10...30VDC	≤200mA	500Hz	-25...70°C	2m cable	Fig.1
Ni12-M18-OP6L	12mm	Non-flush	NO	PNP	10...30VDC	≤200mA	350Hz	-25...70°C	2m cable	Fig.2
Ni12-M18-ON6L	12mm	Non-flush	NO	NPN	10...30VDC	≤200mA	350Hz	-25...70°C	2m cable	Fig.2
Ni12-M18-CP6L	12mm	Non-flush	NC	PNP	10...30VDC	≤200mA	350Hz	-25...70°C	2m cable	Fig.2
Ni12-M18-CN6L	12mm	Non-flush	NC	NPN	10...30VDC	≤200mA	350Hz	-25...70°C	2m cable	Fig.2
Fi8-M18-OP6L-Q12	8mm	Flush	NO	PNP	10...30VDC	≤200mA	500Hz	-25...70°C	M12 Connector	Fig.3
Fi8-M18-ON6L-Q12	8mm	Flush	NO	NPN	10...30VDC	≤200mA	500Hz	-25...70°C	M12 Connector	Fig.3
Fi8-M18-CP6L-Q12	8mm	Flush	NC	PNP	10...30VDC	≤200mA	500Hz	-25...70°C	M12 Connector	Fig.3
Fi8-M18-CN6L-Q12	8mm	Flush	NC	NPN	10...30VDC	≤200mA	500Hz	-25...70°C	M12 Connector	Fig.3
Ni12-M18-OP6L-Q12	12mm	Non-flush	NO	PNP	10...30VDC	≤200mA	350Hz	-25...70°C	M12 Connector	Fig.4
Ni12-M18-ON6L-Q12	12mm	Non-flush	NO	NPN	10...30VDC	≤200mA	350Hz	-25...70°C	M12 Connector	Fig.4
Ni12-M18-CP6L-Q12	12mm	Non-flush	NC	PNP	10...30VDC	≤200mA	350Hz	-25...70°C	M12 Connector	Fig.4
Ni12-M18-CN6L-Q12	12mm	Non-flush	NC	NPN	10...30VDC	≤200mA	350Hz	-25...70°C	M12 Connector	Fig.4

Dimensions:

Fig.1

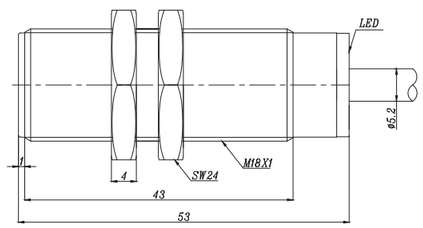


Fig.2

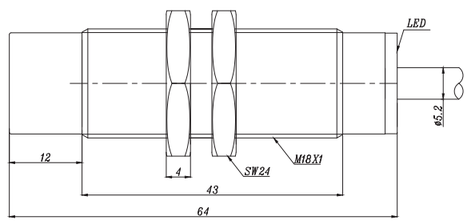


Fig.3

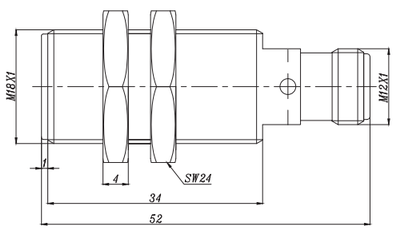
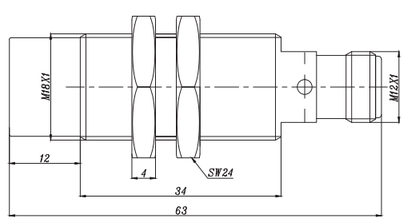


Fig.4



Long-Sensing Metal Barrel-M18

Description:

Brass nickel-plated, threaded barrel, extended operating distance, DC 3-wire output, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi8-M18-BP6L	8mm	Flush	NO+NC	PNP	10...30VDC	≤200mA	500Hz	-25...70°C	2m cable	Fig.1
Fi8-M18-BN6L	8mm	Flush	NO+NC	NPN	10...30VDC	≤200mA	500Hz	-25...70°C	2m cable	Fig.1
Ni12-M18-BP6L	12mm	Non-flush	NO+NC	PNP	10...30VDC	≤200mA	350Hz	-25...70°C	2m cable	Fig.2
Ni12-M18-BN6L	12mm	Non-flush	NO+NC	NPN	10...30VDC	≤200mA	350Hz	-25...70°C	2m cable	Fig.2
Fi8-M18-BP6L-Q12	8mm	Flush	NO+NC	PNP	10...30VDC	≤200mA	500Hz	-25...70°C	M12 Connector	Fig.3
Fi8-M18-BN6L-Q12	8mm	Flush	NO+NC	NPN	10...30VDC	≤200mA	500Hz	-25...70°C	M12 Connector	Fig.3
Ni12-M18-BP6L-Q12	12mm	Non-flush	NO+NC	PNP	10...30VDC	≤200mA	350Hz	-25...70°C	M12 Connector	Fig.4
Ni12-M18-BN6L-Q12	12mm	Non-flush	NO+NC	NPN	10...30VDC	≤200mA	350Hz	-25...70°C	M12 Connector	Fig.4

Dimensions:

Fig.1

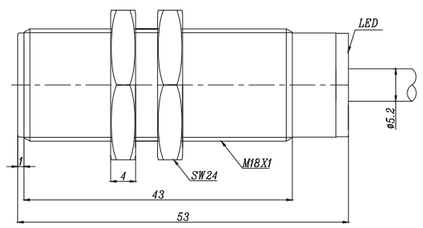


Fig.2

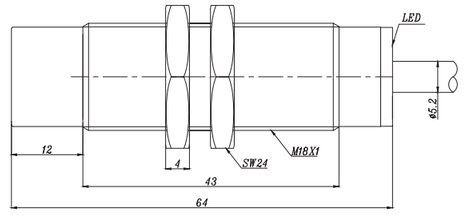


Fig.3

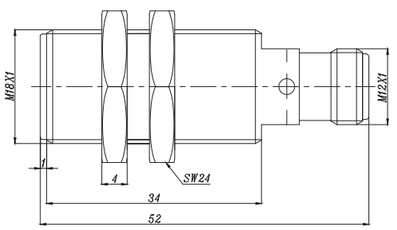
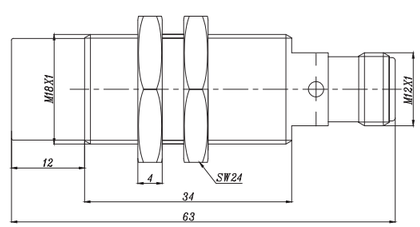


Fig.4



Long-Sensing Metal Barrel-M18

Description:

Brass nickel-plated, threaded barrel, extended operating distance,

AC 2-wire output, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi8-M18-OSA3L	8mm	Flush	NO AC	20...250VAC	≤200mA	40Hz	-25...70˚C	2m cable	Fig.1
Fi8-M18-CSA3L	8mm	Flush	NC AC	20...250VAC	≤200mA	40Hz	-25...70˚C	2m cable	Fig.1
Ni12-M18-OSA3L	12mm	Non-flush	NO AC	20...250VAC	≤200mA	40Hz	-25...70˚C	2m cable	Fig.2
Ni12-M18-CSA3L	12mm	Non-flush	NC AC	20...250VAC	≤200mA	40Hz	-25...70˚C	2m cable	Fig.2
Fi8-M18-OSA3L-Q12	8mm	Flush	NO AC	20...250VAC	≤200mA	40Hz	-25...70˚C	M12 Connector	Fig.3
Fi8-M18-CSA3L-Q12	8mm	Flush	NC AC	20...250VAC	≤200mA	40Hz	-25...70˚C	M12 Connector	Fig.3
Ni12-M18-OSA3L-Q12	12mm	Non-flush	NO AC	20...250VAC	≤200mA	40Hz	-25...70˚C	M12 Connector	Fig.4
Ni12-M18-CSA3L-Q12	12mm	Non-flush	NC AC	20...250VAC	≤200mA	40Hz	-25...70˚C	M12 Connector	Fig.4

Dimensions:

Fig.1

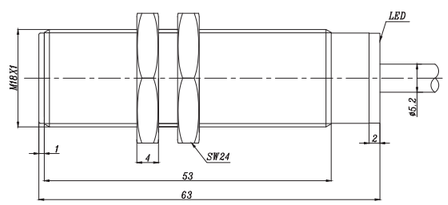


Fig.2

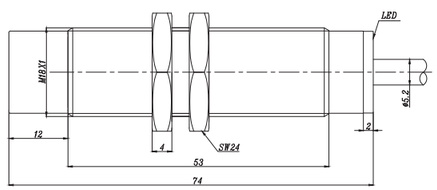


Fig.3

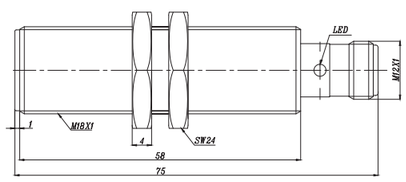
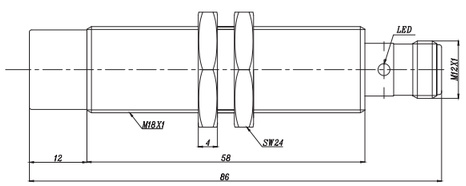


Fig.4



Long-Sensing Metal Barrel-M18

Description:

Brass nickel-plated, threaded barrel, extended operating distance,

AC 2-wire output, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi8-M18-OA41L	8mm	Flush	NO DC/AC	20...250VAC/DC	DC≤100mA/AC≤200mA	20/500Hz	-25...70˚C	2m cable	Fig.1
Fi8-M18-CA41L	8mm	Flush	NC DC/AC	20...250VAC/DC	DC≤100mA/AC≤200mA	20/500Hz	-25...70˚C	2m cable	Fig.1
Ni12-M18-OA41L	12mm	Non-flush	NO DC/AC	20...250VAC/DC	DC≤100mA/AC≤200mA	20/350Hz	-25...70˚C	2m cable	Fig.2
Ni12-M18-CA41L	12mm	Non-flush	NC DC/AC	20...250VAC/DC	DC≤100mA/AC≤200mA	20/350Hz	-25...70˚C	2m cable	Fig.2
Fi8-M18-OA41L-Q12	8mm	Flush	NO DC/AC	20...250VAC/DC	DC≤100mA/AC≤200mA	20/500Hz	-25...70˚C	M12 Connector	Fig.3
Fi8-M18-CA41L-Q12	8mm	Flush	NC DC/AC	20...250VAC/DC	DC≤100mA/AC≤200mA	20/500Hz	-25...70˚C	M12 Connector	Fig.3
Ni12-M18-OA41L-Q12	12mm	Non-flush	NO DC/AC	20...250VAC/DC	DC≤100mA/AC≤200mA	20/350Hz	-25...70˚C	M12 Connector	Fig.4
Ni12-M18-CA41L-Q12	12mm	Non-flush	NC DC/AC	20...250VAC/DC	DC≤100mA/AC≤200mA	20/350Hz	-25...70˚C	M12 Connector	Fig.4

Dimensions:

Fig.1

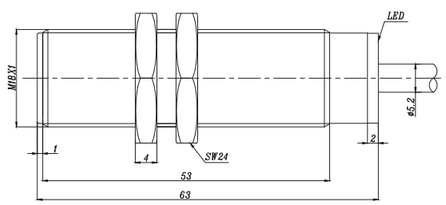


Fig.2

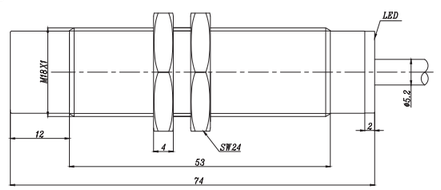


Fig.3

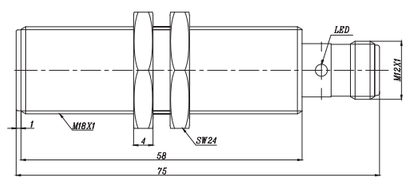
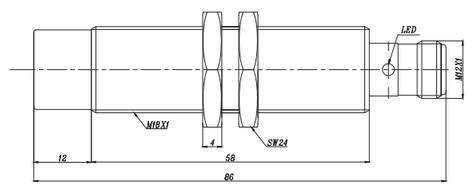


Fig.4



Long-Sensing Metal Barrel-M30

Description:

Brass nickel-plated, threaded barrel, extended operating distance,
DC 2-wire output, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi15-M30-OD6L	15mm	Flush	NO DC	10...30VDC	≤100mA	350Hz	-25...70˚C	2m cable	Fig.1
Fi15-M30-CD6L	15mm	Flush	NC DC	10...30VDC	≤100mA	350Hz	-25...70˚C	2m cable	Fig.1
Ni22-M30-OD6L	22mm	Non-flush	NO DC	10...30VDC	≤100mA	200Hz	-25...70˚C	2m cable	Fig.2
Ni22-M30-CD6L	22mm	Non-flush	NC DC	10...30VDC	≤100mA	200Hz	-25...70˚C	2m cable	Fig.2
Fi15-M30-OD6L-Q12	15mm	Flush	NO DC	10...30VDC	≤100mA	350Hz	-25...70˚C	M12 Connector	Fig.3
Fi15-M30-CD6L-Q12	15mm	Flush	NC DC	10...30VDC	≤100mA	350Hz	-25...70˚C	M12 Connector	Fig.3
Ni22-M30-OD6L-Q12	22mm	Non-flush	NO DC	10...30VDC	≤100mA	200Hz	-25...70˚C	M12 Connector	Fig.4
Ni22-M30-CD6L-Q12	22mm	Non-flush	NC DC	10...30VDC	≤100mA	200Hz	-25...70˚C	M12 Connector	Fig.4

Dimensions:

Fig.1

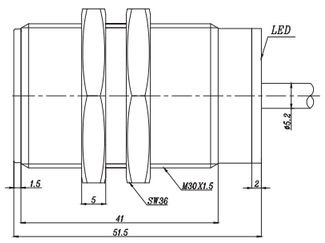


Fig.2

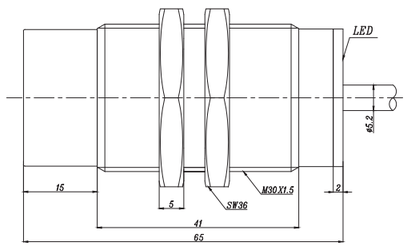


Fig.3

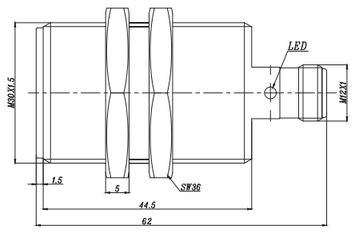
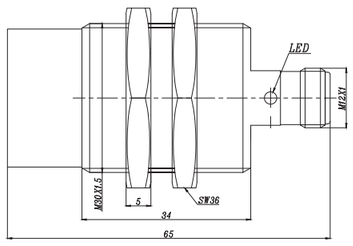


Fig.4



Long-Sensing Metal Barrel-M30

Description:

Brass nickel-plated, threaded barrel, extended operating distance,
DC 3-wire output, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi15-M30-OP6L	15mm	Flush	NO PNP	10...30VDC	≤200mA	350Hz	-25...70˚C	2m cable	Fig.1
Fi15-M30-ON6L	15mm	Flush	NO NPN	10...30VDC	≤200mA	350Hz	-25...70˚C	2m cable	Fig.1
Fi15-M30-CP6L	15mm	Flush	NC PNP	10...30VDC	≤200mA	350Hz	-25...70˚C	2m cable	Fig.1
Fi15-M30-CN6L	15mm	Flush	NC NPN	10...30VDC	≤200mA	350Hz	-25...70˚C	2m cable	Fig.1
Ni22-M30-OP6L	22mm	Non-flush	NO PNP	10...30VDC	≤200mA	200Hz	-25...70˚C	2m cable	Fig.2
Ni22-M30-ON6L	22mm	Non-flush	NO NPN	10...30VDC	≤200mA	200Hz	-25...70˚C	2m cable	Fig.2
Ni22-M30-CP6L	22mm	Non-flush	NC PNP	10...30VDC	≤200mA	200Hz	-25...70˚C	2m cable	Fig.2
Ni22-M30-CN6L	22mm	Non-flush	NC NPN	10...30VDC	≤200mA	200Hz	-25...70˚C	2m cable	Fig.2
Fi15-M30-OP6L-Q12	15mm	Flush	NO PNP	10...30VDC	≤200mA	350Hz	-25...70˚C	M12 Connector	Fig.3
Fi15-M30-ON6L-Q12	15mm	Flush	NO NPN	10...30VDC	≤200mA	350Hz	-25...70˚C	M12 Connector	Fig.3
Fi15-M30-CP6L-Q12	15mm	Flush	NC PNP	10...30VDC	≤200mA	350Hz	-25...70˚C	M12 Connector	Fig.3
Fi15-M30-CN6L-Q12	15mm	Flush	NC NPN	10...30VDC	≤200mA	350Hz	-25...70˚C	M12 Connector	Fig.3
Ni22-M30-OP6L-Q12	22mm	Non-flush	NO PNP	10...30VDC	≤200mA	200Hz	-25...70˚C	M12 Connector	Fig.4
Ni22-M30-ON6L-Q12	22mm	Non-flush	NO NPN	10...30VDC	≤200mA	200Hz	-25...70˚C	M12 Connector	Fig.4
Ni22-M30-CP6L-Q12	22mm	Non-flush	NC PNP	10...30VDC	≤200mA	200Hz	-25...70˚C	M12 Connector	Fig.4
Ni22-M30-CN6L-Q12	22mm	Non-flush	NC NPN	10...30VDC	≤200mA	200Hz	-25...70˚C	M12 Connector	Fig.4

Dimensions:

Fig.1

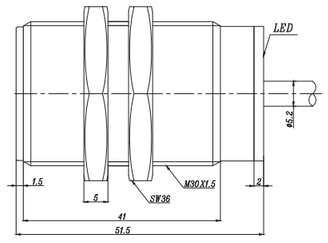


Fig.2

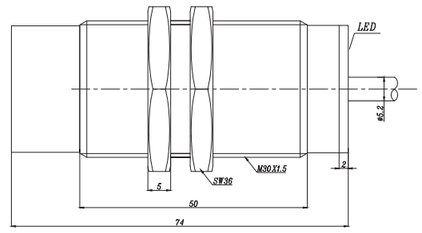


Fig.3

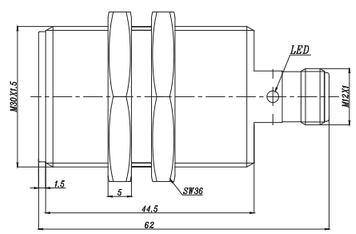
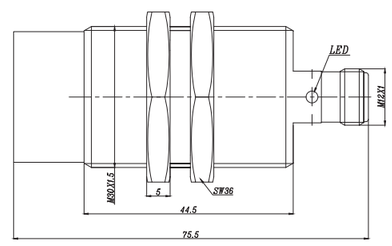


Fig.4



Long-Sensing Metal Barrel-M30

Description:

Brass nickel-plated, threaded barrel, extended operating distance,
DC 4-wire output, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi15-M30-BP6L	15mm	Flush	NO+NC PNP	10...30VDC	≤200mA	350Hz	-25...70℃	2m cable	Fig.1
Fi15-M30-BN6L	15mm	Flush	NO+NC NPN	10...30VDC	≤200mA	350Hz	-25...70℃	2m cable	Fig.1
Ni22-M30-BP6L	22mm	Non-flush	NO+NC PNP	10...30VDC	≤200mA	200Hz	-25...70℃	2m cable	Fig.2
Ni22-M30-BN6L	22mm	Non-flush	NO+NC NPN	10...30VDC	≤200mA	200Hz	-25...70℃	2m cable	Fig.2
Fi15-M30-BP6L-Q12	15mm	Flush	NO+NC PNP	10...30VDC	≤200mA	350Hz	-25...70℃	M12 Connector	Fig.3
Fi15-M30-BN6L-Q12	15mm	Flush	NO+NC NPN	10...30VDC	≤200mA	350Hz	-25...70℃	M12 Connector	Fig.3
Ni22-M30-BP6L-Q12	22mm	Non-flush	NO+NC PNP	10...30VDC	≤200mA	200Hz	-25...70℃	M12 Connector	Fig.4
Ni22-M30-BN6L-Q12	22mm	Non-flush	NO+NC NPN	10...30VDC	≤200mA	200Hz	-25...70℃	M12 Connector	Fig.4

Dimensions:

Fig.1

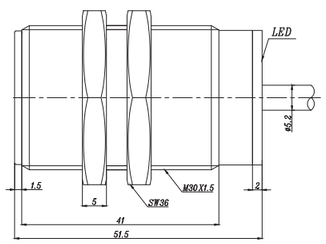


Fig.2

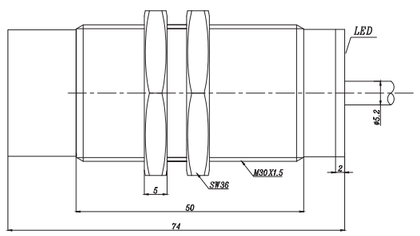


Fig.3

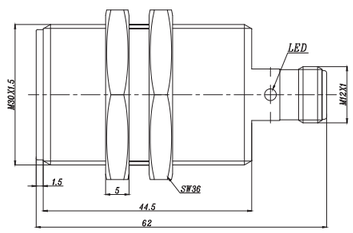
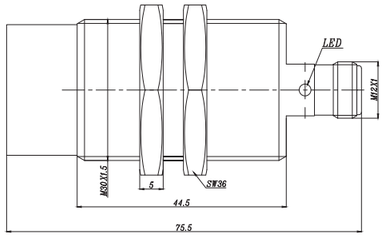


Fig.4



Long-Sensing Metal Barrel-M30

Description:

Brass nickel-plated, threaded barrel, extended operating distance,
AC 2-wire output, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi15-M30-OSA3L	15mm	Flush	NO AC	20...250VAC	≤200mA	40Hz	-25...70℃	2m cable	Fig.1
Fi15-M30-CSA3L	15mm	Flush	NC AC	20...250VAC	≤200mA	40Hz	-25...70℃	2m cable	Fig.1
Ni22-M30-OSA3L	22mm	Non-flush	NO AC	20...250VAC	≤200mA	40Hz	-25...70℃	2m cable	Fig.2
Ni22-M30-CSA3L	22mm	Non-flush	NC AC	20...250VAC	≤200mA	40Hz	-25...70℃	2m cable	Fig.2
Fi15-M30-OSA3L-Q12	15mm	Flush	NO AC	20...250VAC	≤200mA	40Hz	-25...70℃	M12 Connector	Fig.3
Fi15-M30-CSA3L-Q12	15mm	Flush	NC AC	20...250VAC	≤200mA	40Hz	-25...70℃	M12 Connector	Fig.3
Ni22-M30-OSA3L-Q12	22mm	Non-flush	NO AC	20...250VAC	≤200mA	40Hz	-25...70℃	M12 Connector	Fig.4
Ni22-M30-CSA3L-Q12	22mm	Non-flush	NC AC	20...250VAC	≤200mA	40Hz	-25...70℃	M12 Connector	Fig.4

Dimensions:

Fig.1

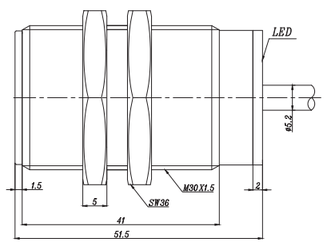


Fig.2

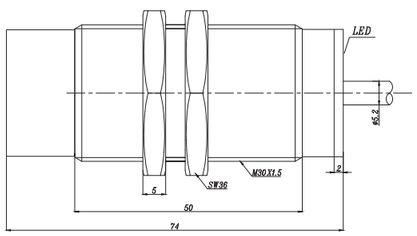


Fig.3

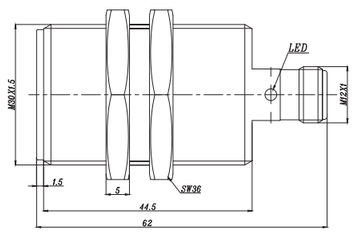
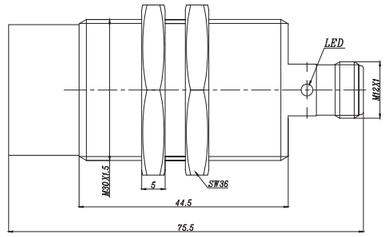


Fig.4



Long-Sensing Metal Barrel-M30

Description:

Brass nickel-plated, threaded barrel, extended operating distance, AC/DC 2-wire output, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi15-M30-OA41L	15mm	Flush	NO	DC/AC	20...250VAC/DC	DC≤100mA/AC≤200mA	20/350Hz	-25...70℃	2m cable	Fig.1
Fi15-M30-CA41L	15mm	Flush	NC	DC/AC	20...250VAC/DC	DC≤100mA/AC≤200mA	20/350Hz	-25...70℃	2m cable	Fig.1
Ni22-M30-OA41L	22mm	Non-flush	NO	DC/AC	20...250VAC/DC	DC≤100mA/AC≤200mA	20/200Hz	-25...70℃	2m cable	Fig.2
Ni22-M30-CA41L	22mm	Non-flush	NC	DC/AC	20...250VAC/DC	DC≤100mA/AC≤200mA	20/200Hz	-25...70℃	2m cable	Fig.2

Dimensions:

Fig.1

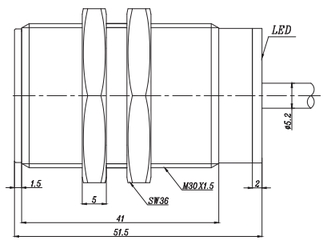
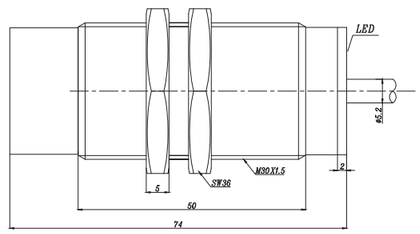


Fig.2



Metal Barrel-G-series

Description:

Brass nickel-plated, threaded barrel, extended operating distance, DC 2-wire output, IP68 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi2-G08-OD6L	2mm	Flush	DC NO	10...30VDC	≤100mA	800Hz	-30...85℃	2m cable	Fig.1
Fi2-G08-CD6L	2mm	Flush	DC NC	10...30VDC	≤100mA	800Hz	-30...85℃	2m cable	Fig.1
Ni4-G08-OD6L	4mm	Non-flush	DC NO	10...30VDC	≤100mA	600Hz	-30...85℃	2m cable	Fig.2
Ni4-G08-CD6L	4mm	Non-flush	DC NC	10...30VDC	≤100mA	600Hz	-30...85℃	2m cable	Fig.2

Dimensions:

Fig.1

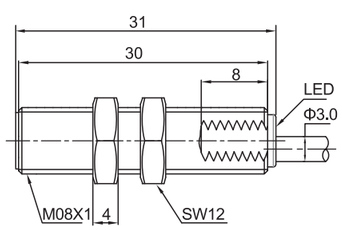
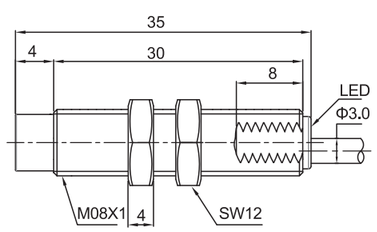


Fig.2



Metal Barrel-G-series

Description:

Brass nickel-plated, threaded barrel, extended operating distance, DC 2-wire output, AC/DC 2-wire output, IP68 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi4-G12-OD6L	4mm	Flush	DC	NO	10...30VDC	≤100mA	650Hz	-30...85℃	2m cable	Fig.1
Fi4-G12-CD6L	4mm	Flush	DC	NC	10...30VDC	≤100mA	650Hz	-30...85℃	2m cable	Fig.1
Fi4-G12-OA41L	4mm	Flush	AC/DC	NO	20...250VAC/DC	DC≤100mA/AC≤200mA	20/650Hz	-30...85℃	2m cable	Fig.2
Fi4-G12-CA41L	4mm	Flush	AC/DC	NC	20...250VAC/DC	DC≤100mA/AC≤200mA	20/650Hz	-30...85℃	2m cable	Fig.2
Ni6-G12-OD6L	6mm	Non-flush	DC	NO	10...30VDC	≤100mA	600Hz	-30...85℃	2m cable	Fig.3
Ni6-G12-CD6L	6mm	Non-flush	DC	NC	10...30VDC	≤100mA	600Hz	-30...85℃	2m cable	Fig.3
Ni8-G12-OD6L	8mm	Non-flush	DC	NO	10...30VDC	≤100mA	500Hz	-30...85℃	2m cable	Fig.3
Ni8-G12-CD6L	8mm	Non-flush	DC	NC	10...30VDC	≤100mA	500Hz	-30...85℃	2m cable	Fig.3
Ni6-G12-OA41L	6mm	Non-flush	AC/DC	NO	20...250VAC/DC	DC≤100mA/AC≤200mA	20/600Hz	-30...85℃	2m cable	Fig.4
Ni8-G12-OA41L	8mm	Non-flush	AC/DC	NO	20...250VAC/DC	DC≤100mA/AC≤200mA	20/500Hz	-30...85℃	2m cable	Fig.4
Ni8-G12-CA41L	8mm	Non-flush	AC/DC	NC	20...250VAC/DC	DC≤100mA/AC≤200mA	20/500Hz	-30...85℃	2m cable	Fig.4

Dimensions:

Fig.1

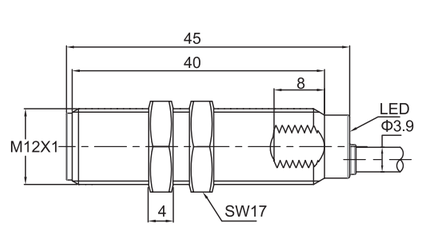


Fig.2

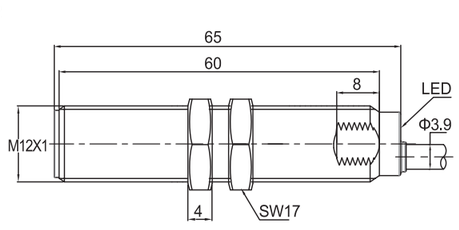


Fig.3

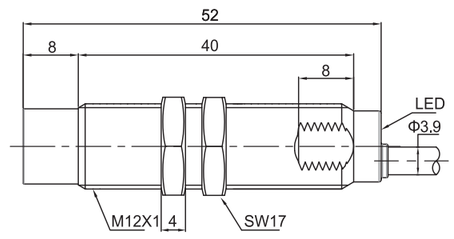
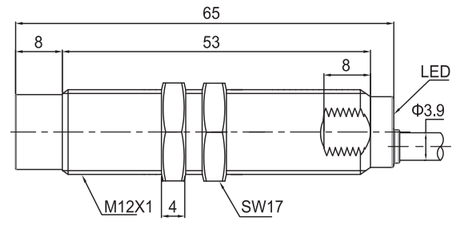


Fig.4



Metal Barrel-G-series

Description:

Brass nickel-plated, threaded barrel, extended operating distance, DC 2-wire output, AC/DC 2-wire output, IP68 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi8-G18-OD6L	8mm	Flush	DC	NO	10...30VDC	≤100mA	500Hz	-30...85˚C	2m cable	Fig.1
Fi8-G18-CD6L	8mm	Flush	DC	NC	10...30VDC	≤100mA	500Hz	-30...85˚C	2m cable	Fig.1
Fi8-G18-OA41L	8mm	Flush	AC/DC	NO	20...250VAC/DC	DC≤100mA/AC≤200mA	20/500Hz	-30...85˚C	2m cable	Fig.2
Fi8-G18-CA41L	8mm	Flush	AC/DC	NC	20...250VAC/DC	DC≤100mA/AC≤200mA	20/500Hz	-30...85˚C	2m cable	Fig.2
Ni12-G18-OD6L	12mm	Non-flush	DC	NO	10...30VDC	≤100mA	350Hz	-30...85˚C	2m cable	Fig.3
Ni12-G18-CD6L	12mm	Non-flush	DC	NC	10...30VDC	≤100mA	350Hz	-30...85˚C	2m cable	Fig.3
Ni16-G18-OD6L	16mm	Non-flush	DC	NO	10...30VDC	≤100mA	250Hz	-30...85˚C	2m cable	Fig.3
Ni16-G18-CD6L	16mm	Non-flush	DC	NC	10...30VDC	≤100mA	250Hz	-30...85˚C	2m cable	Fig.3
Ni12-G18-OA41L	12mm	Non-flush	AC/DC	NO	20...250VAC/DC	DC≤100mA/AC≤200mA	20/350Hz	-30...85˚C	2m cable	Fig.4
Ni16-G18-CA41L	16mm	Non-flush	AC/DC	NC	20...250VAC/DC	DC≤100mA/AC≤200mA	20/350Hz	-30...85˚C	2m cable	Fig.4
Ni16-G18-OA41L	16mm	Non-flush	AC/DC	NO	20...250VAC/DC	DC≤100mA/AC≤200mA	20/250Hz	-30...85˚C	2m cable	Fig.4
Ni16-G18-CA41L	16mm	Non-flush	AC/DC	NC	20...250VAC/DC	DC≤100mA/AC≤200mA	20/250Hz	-30...85˚C	2m cable	Fig.4

Dimensions:

Fig.1

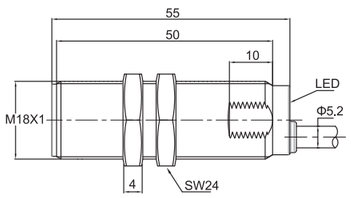


Fig.2

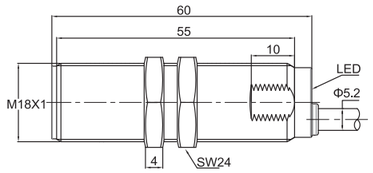


Fig.3

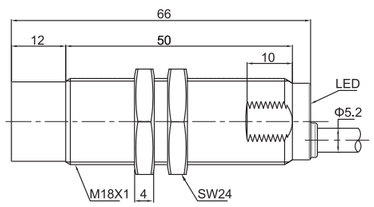
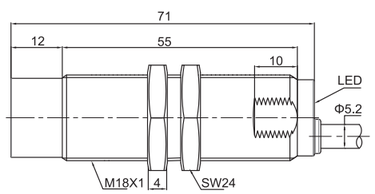


Fig.4



Metal Barrel-G-series

Description:

Brass nickel-plated, threaded barrel, extended operating distance, DC 2-wire output, AC/DC 2-wire output, IP68 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi15-G30-OD6L	15mm	Flush	DC	NO	10...30VDC	≤100mA	350Hz	-30...85˚C	2m cable	Fig.1
Fi15-G30-CD6L	15mm	Flush	DC	NC	10...30VDC	≤100mA	350Hz	-30...85˚C	2m cable	Fig.1
Fi15-G30-OA41L	15mm	Flush	AC/DC	NO	20...250VAC/DC	DC≤100mA/AC≤200mA	20/350Hz	-30...85˚C	2m cable	Fig.2
Fi15-G30-CA41L	15mm	Flush	AC/DC	NC	20...250VAC/DC	DC≤100mA/AC≤200mA	20/350Hz	-30...85˚C	2m cable	Fig.2
Ni22-G30-OD6L	22mm	Non-flush	DC	NO	10...30VDC	≤100mA	200Hz	-30...85˚C	2m cable	Fig.3
Ni22-G30-CD6L	22mm	Non-flush	DC	NC	10...30VDC	≤100mA	200Hz	-30...85˚C	2m cable	Fig.3
Ni30-G30-OD6L	30mm	Non-flush	DC	NO	10...30VDC	≤100mA	75Hz	-30...85˚C	2m cable	Fig.3
Ni30-G30-CD6L	30mm	Non-flush	DC	NC	10...30VDC	≤100mA	75Hz	-30...85˚C	2m cable	Fig.3
Ni22-G30-OA41L	22mm	Non-flush	AC/DC	NO	20...250VAC/DC	DC≤100mA/AC≤200mA	20/200Hz	-30...85˚C	2m cable	Fig.4
Ni30-G30-OA41L	30mm	Non-flush	AC/DC	NO	20...250VAC/DC	DC≤100mA/AC≤200mA	20/75Hz	-30...85˚C	2m cable	Fig.4
Ni30-G30-CA41L	30mm	Non-flush	AC/DC	NC	20...250VAV/DC	DC≤100mA/AC≤200mA	20/75Hz	-30...85˚C	2m cable	Fig.4

Dimensions:

Fig.1

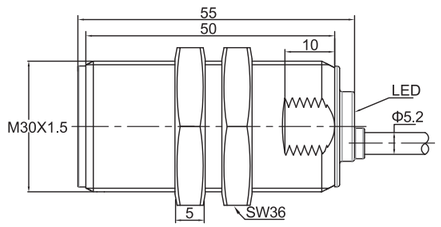


Fig.2

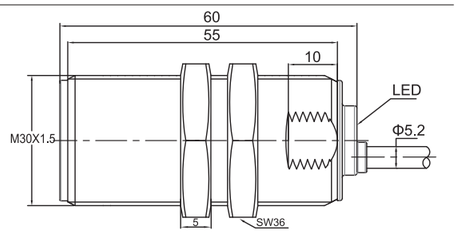


Fig.3

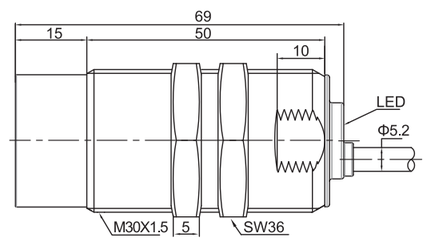
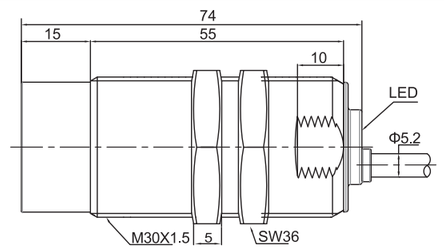


Fig.4



Metal Barrel-G-series

Description:

Brass nickel-plated, threaded barrel, extended operating distance, DC 2-wire output, IP68 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi2-G08-OD6L-Q8	2mm	Flush	DC NO	10...30VDC	≤100mA	1200Hz	-30...85℃	M8 Connector	Fig.1
Fi2-G08-CD6L-Q8	2mm	Flush	DC NC	10...30VDC	≤100mA	1200Hz	-30...85℃	M8 Connector	Fig.1
Ni4-G08-OD6L-Q8	4mm	Non-flush	DC NO	10...30VDC	≤100mA	750Hz	-30...85℃	M8 Connector	Fig.2
Ni4-G08-CD6L-Q8	4mm	Non-flush	DC NC	10...30VDC	≤100mA	750Hz	-30...85℃	M8 Connector	Fig.2

Dimensions:

Fig.1

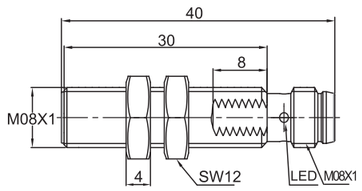
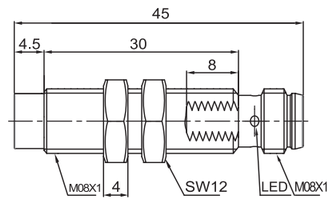


Fig.2



Metal Barrel-G-series

Description:

Brass nickel-plated, threaded barrel, extended operating distance, DC 2-wire output, AC/DC 2-wire output, IP68 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi4-G12-OD6L-Q12	4mm	Flush	DC NO	10...30VDC	≤100mA	650Hz	-30...85℃	M12 Connector	Fig.1
Fi4-G12-CD6L-Q12	4mm	Flush	DC NC	10...30VDC	≤100mA	650Hz	-30...85℃	M12 Connector	Fig.1
Fi4-G12-OA41L-Q12	4mm	Flush	AC/DC NO	20...250VAC/DC	DC≤100mA/AC≤200mA	20/650Hz	-30...85℃	M12 Connector	Fig.2
Fi4-G12-CA41L-Q12	4mm	Flush	AC/DC NC	20...250VAC/DC	DC≤100mA/AC≤200mA	20/650Hz	-30...85℃	M12 Connector	Fig.2
Ni6-G12-OD6L-Q12	6mm	Non-flush	DC NO	10...30VDC	≤100mA	600Hz	-30...85℃	M12 Connector	Fig.3
Ni6-G12-CD6L-Q12	6mm	Non-flush	DC NC	10...30VDC	≤100mA	600Hz	-30...85℃	M12 Connector	Fig.3
Ni8-G12-OD6L-Q12	8mm	Non-flush	DC NO	10...30VDC	≤100mA	500Hz	-30...85℃	M12 Connector	Fig.3
Ni8-G12-CD6L-Q12	8mm	Non-flush	DC NC	10...30VDC	≤100mA	500Hz	-30...85℃	M12 Connector	Fig.3
Ni6-G12-OA41L-Q12	6mm	Non-flush	AC/DC NO	20...250VAC/DC	DC≤100mA/AC≤200mA	20/600Hz	-30...85℃	M12 Connector	Fig.4
Ni6-G12-CA41L-Q12	6mm	Non-flush	AC/DC NC	20...250VAC/DC	DC≤100mA/AC≤200mA	20/600Hz	-30...85℃	M12 Connector	Fig.4
Ni8-G12-OA41L-Q12	8mm	Non-flush	AC/DC NO	20...250VAC/DC	DC≤100mA/AC≤200mA	20/500Hz	-30...85℃	M12 Connector	Fig.4
Ni8-G12-CA41L-Q12	8mm	Non-flush	AC/DC NC	20...250VAC/DC	DC≤100mA/AC≤200mA	20/500Hz	-30...85℃	M12 Connector	Fig.4

Dimensions:

Fig.1

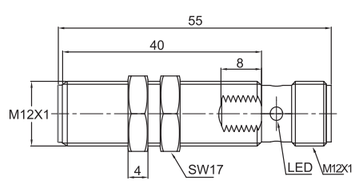


Fig.2

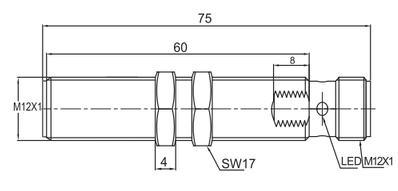


Fig.3

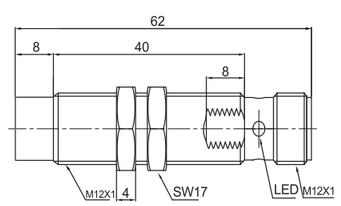
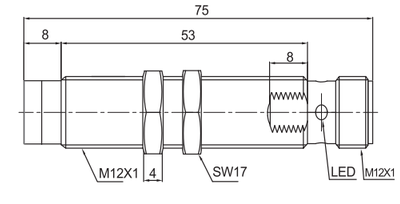


Fig.4



Metal Barrel-G series

Description:

Brass nickel-plated, threaded barrel, extended operating distance, DC 2-wire output, AC/DC 2-wire output, IP68 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi8-G18-OD6L-Q12	8mm	Flush	DC	NO	10...30VDC	≤100mA	500Hz	-30...85°C	M12 Connector	Fig.1
Fi8-G18-CD6L-Q12	8mm	Flush	DC	NC	10...30VDC	≤100mA	500Hz	-30...85°C	M12 Connector	Fig.1
Fi8-G18-OA41L-Q12	8mm	Flush	AC/DC	NO	20...250VAC/DC	DC≤100mA/AC≤200mA	20/500Hz	-30...85°C	M12 Connector	Fig.2
Fi8-G18-CA41L-Q12	8mm	Flush	AC/DC	NC	20...250VAC/DC	DC≤100mA/AC≤200mA	20/500Hz	-30...85°C	M12 Connector	Fig.2
Ni12-G18-OD6L-Q12	12mm	Non-flush	DC	NO	10...30VDC	≤100mA	350Hz	-30...85°C	M12 Connector	Fig.3
Ni12-G18-CD6L-Q12	12mm	Non-flush	DC	NC	10...30VDC	≤100mA	350Hz	-30...85°C	M12 Connector	Fig.3
Ni16-G18-OD6L-Q12	16mm	Non-flush	DC	NO	10...30VDC	≤100mA	250Hz	-30...85°C	M12 Connector	Fig.3
Ni16-G18-CD6L-Q12	16mm	Non-flush	DC	NC	10...30VDC	≤100mA	250Hz	-30...85°C	M12 Connector	Fig.3
Ni12-G18-OA41L-Q12	12mm	Non-flush	AC/DC	NO	20...250VAC/DC	DC≤100mA/AC≤200mA	20/350Hz	-30...85°C	M12 Connector	Fig.4
Ni16-G18-CA41L-Q12	16mm	Non-flush	AC/DC	NO	20...250VAC/DC	DC≤100mA/AC≤200mA	20/250Hz	-30...85°C	M12 Connector	Fig.4
Ni16-G18-CA41L-Q12	16mm	Non-flush	AC/DC	NC	20...250VAC/DC	DC≤100mA/AC≤200mA	20/250Hz	-30...85°C	M12 Connector	Fig.4

Dimensions:

Fig.1

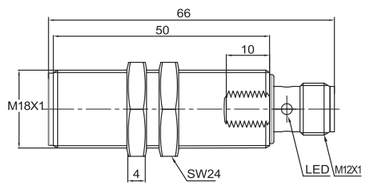


Fig.2

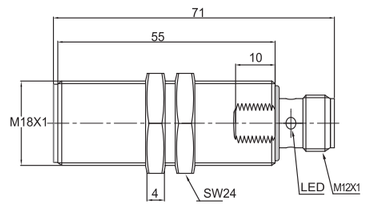


Fig.3

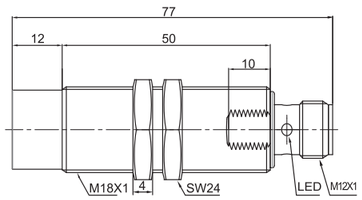
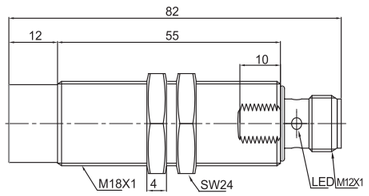


Fig.4



Metal Barrel-G series

Description:

Brass nickel-plated, threaded barrel, extended operating distance, DC 2-wire output, AC/DC 2-wire output, IP68 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi15-G30-OD6L-Q12	15mm	Flush	DC	NO	10...30VDC	≤100mA	350Hz	-30...85°C	M12 Connector	Fig.1
Fi15-G30-CD6L-Q12	15mm	Flush	DC	NC	10...30VDC	≤100mA	350Hz	-30...85°C	M12 Connector	Fig.1
Fi15-G30-OA41L-Q12	15mm	Flush	AC/DC	NO	20...250VAC/DC	DC≤100mA/AC≤200mA	20/350Hz	-30...85°C	M12 Connector	Fig.2
Fi15-G30-CA41L-Q12	15mm	Flush	AC/DC	NC	20...250VAC/DC	DC≤100mA/AC≤200mA	20/350Hz	-30...85°C	M12 Connector	Fig.2
Ni22-G30-OD6L-Q12	22mm	Non-flush	DC	NO	10...30VDC	≤100mA	200Hz	-30...85°C	M12 Connector	Fig.3
Ni22-G30-CD6L-Q12	22mm	Non-flush	DC	NC	10...30VDC	≤100mA	200Hz	-30...85°C	M12 Connector	Fig.3
Ni30-G30-OD6L-Q12	30mm	Non-flush	DC	NO	10...30VDC	≤100mA	75Hz	-30...85°C	M12 Connector	Fig.3
Ni30-G30-CD6L-Q12	30mm	Non-flush	DC	NC	10...30VDC	≤100mA	75Hz	-30...85°C	M12 Connector	Fig.3
Ni22-G30-OA41L-Q12	22mm	Non-flush	AC/DC	NO	20...250VAC/DC	DC≤100mA/AC≤200mA	20/200Hz	-30...85°C	M12 Connector	Fig.4
Ni30-G30-OA41L-Q12	30mm	Non-flush	AC/DC	NO	20...250VAC/DC	DC≤100mA/AC≤200mA	20/75Hz	-30...85°C	M12 Connector	Fig.4
Ni30-G30-CA41L-Q12	30mm	Non-flush	AC/DC	NC	20...250VAC/DC	DC≤100mA/AC≤200mA	20/75Hz	-30...85°C	M12 Connector	Fig.4

Dimensions:

Fig.1

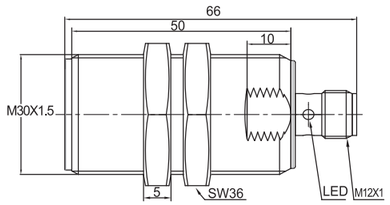


Fig.2

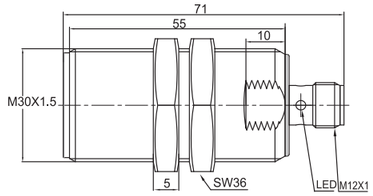


Fig.3

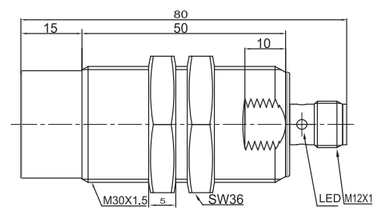
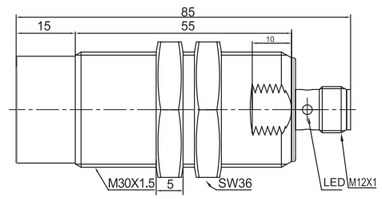


Fig.4



Metal Barrel-G series

Description:

Brass nickel-plated, threaded barrel, extended operating distance,
DC 3-wire output, IP68 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi2-G08-OP6L	2mm	Flush	PNP NO	10...30VDC	≤200mA	1400Hz	-30...85℃	2m cable	Fig.1
Fi2-G08-CP6L	2mm	Flush	PNP NC	10...30VDC	≤200mA	1400Hz	-30...85℃	2m cable	Fig.1
Fi2-G08-ON6L	2mm	Flush	NPN NO	10...30VDC	≤200mA	1400Hz	-30...85℃	2m cable	Fig.1
Fi2-G08-CN6L	2mm	Flush	NPN NC	10...30VDC	≤200mA	1400Hz	-30...85℃	2m cable	Fig.1
Ni4-G08-OP6L	4mm	Non-flush	PNP NO	10...30VDC	≤200mA	750Hz	-30...85℃	2m cable	Fig.2
Ni4-G08-CP6L	4mm	Non-flush	PNP NC	10...30VDC	≤200mA	750Hz	-30...85℃	2m cable	Fig.2
Ni4-G08-ON6L	4mm	Non-flush	NPN NO	10...30VDC	≤200mA	750Hz	-30...85℃	2m cable	Fig.2
Ni4-G08-CN6L	4mm	Non-flush	NPN NC	10...30VDC	≤200mA	750Hz	-30...85℃	2m cable	Fig.2

Dimensions:

Fig.1

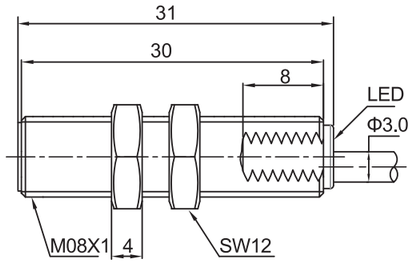
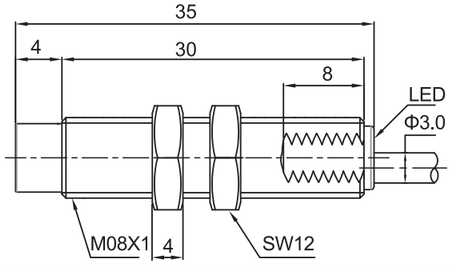


Fig.2



Metal Barrel-G series

Description:

Brass nickel-plated, threaded barrel, extended operating distance,
DC 3-wire output, IP68 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi4-G12-OP6L	4mm	Flush	PNP NO	10...30VDC	≤200mA	650Hz	-30...85℃	2m cable	Fig.1
Fi4-G12-CP6L	4mm	Flush	PNP NC	10...30VDC	≤200mA	650Hz	-30...85℃	2m cable	Fig.1
Fi4-G12-ON6L	4mm	Flush	NPN NO	10...30VDC	≤200mA	650Hz	-30...85℃	2m cable	Fig.1
Fi4-G12-CN6L	4mm	Flush	NPN NC	10...30VDC	≤200mA	650Hz	-30...85℃	2m cable	Fig.1
Ni6-G12-OP6L	6mm	Non-flush	PNP NO	10...30VDC	≤200mA	600Hz	-30...85℃	2m cable	Fig.2
Ni6-G12-CP6L	6mm	Non-flush	PNP NC	10...30VDC	≤200mA	600Hz	-30...85℃	2m cable	Fig.2
Ni6-G12-ON6L	6mm	Non-flush	NPN NO	10...30VDC	≤200mA	600Hz	-30...85℃	2m cable	Fig.2
Ni6-G12-CN6L	6mm	Non-flush	NPN NC	10...30VDC	≤200mA	600Hz	-30...85℃	2m cable	Fig.2
Ni8-G12-OP6L	8mm	Non-flush	PNP NO	10...30VDC	≤200mA	500Hz	-30...85℃	2m cable	Fig.2
Ni8-G12-CP6L	8mm	Non-flush	PNP NC	10...30VDC	≤200mA	500Hz	-30...85℃	2m cable	Fig.2
Ni8-G12-ON6L	8mm	Non-flush	NPN NO	10...30VDC	≤200mA	500Hz	-30...85℃	2m cable	Fig.2
Ni8-G12-CN6L	8mm	Non-flush	NPN NC	10...30VDC	≤200mA	500Hz	-30...85℃	2m cable	Fig.2

Dimensions:

Fig.1

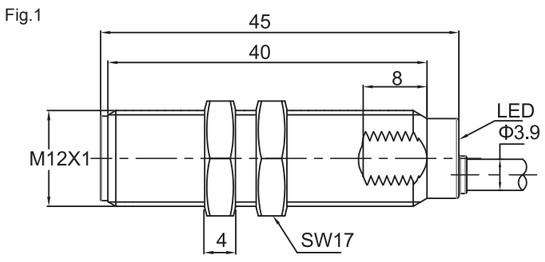
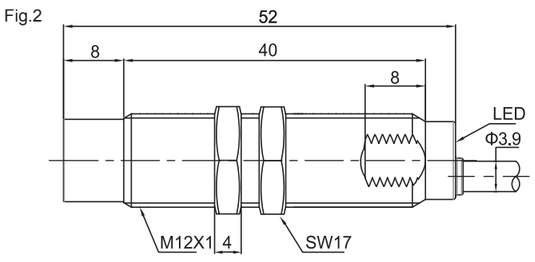


Fig.2



Metal Barrel-G series

Description:

Brass nickel-plated, threaded barrel, extended operating distance,
DC 3-wire output, IP68 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi8-G18-OP6L	8mm	Flush	PNP	NO	10...30VDC	≤200mA	500Hz	-30...85℃	2m cable	Fig.1
Fi8-G18-CP6L	8mm	Flush	PNP	NC	10...30VDC	≤200mA	500Hz	-30...85℃	2m cable	Fig.1
Fi8-G18-ON6L	8mm	Flush	NPN	NO	10...30VDC	≤200mA	500Hz	-30...85℃	2m cable	Fig.1
Fi8-G18-CN6L	8mm	Flush	NPN	NC	10...30VDC	≤200mA	500Hz	-30...85℃	2m cable	Fig.1
Ni12-G18-OP6L	12mm	Non-flush	PNP	NO	10...30VDC	≤200mA	350Hz	-30...85℃	2m cable	Fig.2
Ni12-G18-CP6L	12mm	Non-flush	PNP	NC	10...30VDC	≤200mA	350Hz	-30...85℃	2m cable	Fig.2
Ni12-G18-ON6L	12mm	Non-flush	NPN	NO	10...30VDC	≤200mA	350Hz	-30...85℃	2m cable	Fig.2
Ni12-G18-CN6L	12mm	Non-flush	NPN	NC	10...30VDC	≤200mA	350Hz	-30...85℃	2m cable	Fig.2
Ni16-G18-OP6L	16mm	Non-flush	PNP	NO	10...30VDC	≤200mA	250Hz	-30...85℃	2m cable	Fig.2
Ni16-G18-CP6L	16mm	Non-flush	PNP	NC	10...30VDC	≤200mA	250Hz	-30...85℃	2m cable	Fig.2
Ni16-G18-ON6L	16mm	Non-flush	NPN	NO	10...30VDC	≤200mA	250Hz	-30...85℃	2m cable	Fig.2
Ni16-G18-CN6L	16mm	Non-flush	NPN	NC	10...30VDC	≤200mA	250Hz	-30...85℃	2m cable	Fig.2

Dimensions:

Fig.1

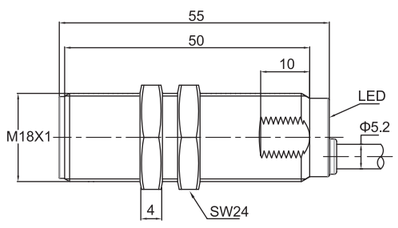
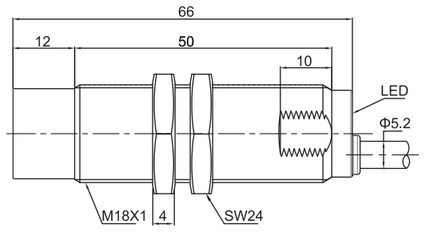


Fig.2



Metal Barrel-G series

Description:

Brass nickel-plated, threaded barrel, extended operating distance,
DC 3-wire output, IP68 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi15-G30-OP6L	15mm	Flush	PNP	NO	10...30VDC	≤200mA	350Hz	-30...85℃	2m cable	Fig.1
Fi15-G30-CP6L	15mm	Flush	PNP	NC	10...30VDC	≤200mA	350Hz	-30...85℃	2m cable	Fig.1
Fi15-G30-ON6L	15mm	Flush	NPN	NO	10...30VDC	≤200mA	350Hz	-30...85℃	2m cable	Fig.1
Fi15-G30-CN6L	15mm	Flush	NPN	NC	10...30VDC	≤200mA	350Hz	-30...85℃	2m cable	Fig.1
Ni22-G30-OP6L	22mm	Non-flush	PNP	NO	10...30VDC	≤200mA	200Hz	-30...85℃	2m cable	Fig.2
Ni22-G30-CP6L	22mm	Non-flush	PNP	NC	10...30VDC	≤200mA	200Hz	-30...85℃	2m cable	Fig.2
Ni22-G30-ON6L	22mm	Non-flush	NPN	NO	10...30VDC	≤200mA	200Hz	-30...85℃	2m cable	Fig.2
Ni22-G30-CN6L	22mm	Non-flush	NPN	NC	10...30VDC	≤200mA	200Hz	-30...85℃	2m cable	Fig.2
Ni30-G30-OP6L	30mm	Non-flush	PNP	NO	10...30VDC	≤200mA	75Hz	-30...85℃	2m cable	Fig.2
Ni30-G30-CP6L	30mm	Non-flush	PNP	NC	10...30VDC	≤200mA	75Hz	-30...85℃	2m cable	Fig.2
Ni30-G30-ON6L	30mm	Non-flush	NPN	NO	10...30VDC	≤200mA	75Hz	-30...85℃	2m cable	Fig.2
Ni30-G30-CN6L	30mm	Non-flush	NPN	NC	10...30VDC	≤200mA	75Hz	-30...85℃	2m cable	Fig.2

Dimensions:

Fig.1

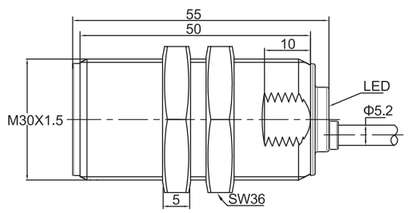
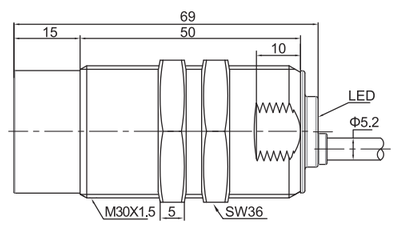


Fig.2



Metal Barrel-G series

Description:

Brass nickel-plated, threaded barrel, extended operating distance,
DC 3-wire output, IP68 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi2-G08-OP6L-Q8	2mm	Flush	PNP NO	10...30VDC	≤200mA	1400Hz	-30...85℃	M8 Connector	Fig.1
Fi2-G08-CP6L-Q8	2mm	Flush	PNP NC	10...30VDC	≤200mA	1400Hz	-30...85℃	M8 Connector	Fig.1
Fi2-G08-ON6L-Q8	2mm	Flush	NPN NO	10...30VDC	≤200mA	1400Hz	-30...85℃	M8 Connector	Fig.1
Fi2-G08-CN6L-Q8	2mm	Flush	NPN NC	10...30VDC	≤200mA	1400Hz	-30...85℃	M8 Connector	Fig.1
Ni4-G08-OP6L-Q8	4mm	Non-flush	PNP NO	10...30VDC	≤200mA	750Hz	-30...85℃	M8 Connector	Fig.2
Ni4-G08-CP6L-Q8	4mm	Non-flush	PNP NC	10...30VDC	≤200mA	750Hz	-30...85℃	M8 Connector	Fig.2
Ni4-G08-ON6L-Q8	4mm	Non-flush	NPN NO	10...30VDC	≤200mA	750Hz	-30...85℃	M8 Connector	Fig.2
Ni4-G08-CN6L-Q8	4mm	Non-flush	NPN NC	10...30VDC	≤200mA	750Hz	-30...85℃	M8 Connector	Fig.2

Dimensions:

Fig.1

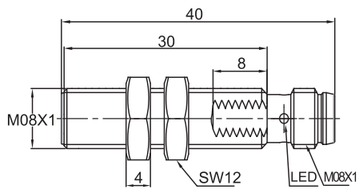
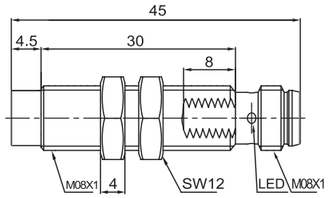


Fig.2



Metal Barrel-G series

Description:

Brass nickel-plated, threaded barrel, extended operating distance,
DC 3-wire output, IP68 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi4-G12-OP6L-Q12	4mm	Flush	PNP NO	10...30VDC	≤200mA	650Hz	-30...85℃	M12 Connector	Fig.1
Fi4-G12-CP6L-Q12	4mm	Flush	PNP NC	10...30VDC	≤200mA	650Hz	-30...85℃	M12 Connector	Fig.1
Fi4-G12-ON6L-Q12	4mm	Flush	NPN NO	10...30VDC	≤200mA	650Hz	-30...85℃	M12 Connector	Fig.1
Fi4-G12-CN6L-Q12	4mm	Flush	NPN NC	10...30VDC	≤200mA	650Hz	-30...85℃	M12 Connector	Fig.1
Ni6-G12-OP6L-Q12	6mm	Non-flush	PNP NO	10...30VDC	≤200mA	600Hz	-30...85℃	M12 Connector	Fig.2
Ni6-G12-CP6L-Q12	6mm	Non-flush	PNP NC	10...30VDC	≤200mA	600Hz	-30...85℃	M12 Connector	Fig.2
Ni6-G12-ON6L-Q12	6mm	Non-flush	NPN NO	10...30VDC	≤200mA	600Hz	-30...85℃	M12 Connector	Fig.2
Ni6-G12-CN6L-Q12	6mm	Non-flush	NPN NC	10...30VDC	≤200mA	600Hz	-30...85℃	M12 Connector	Fig.2
Ni8-G12-OP6L-Q12	8mm	Non-flush	PNP NO	10...30VDC	≤200mA	500Hz	-30...85℃	M12 Connector	Fig.2
Ni8-G12-CP6L-Q12	8mm	Non-flush	PNP NC	10...30VDC	≤200mA	500Hz	-30...85℃	M12 Connector	Fig.2
Ni8-G12-ON6L-Q12	8mm	Non-flush	NPN NO	10...30VDC	≤200mA	500Hz	-30...85℃	M12 Connector	Fig.2
Ni8-G12-CN6L-Q12	8mm	Non-flush	NPN NC	10...30VDC	≤200mA	500Hz	-30...85℃	M12 Connector	Fig.2

Dimensions:

Fig.1

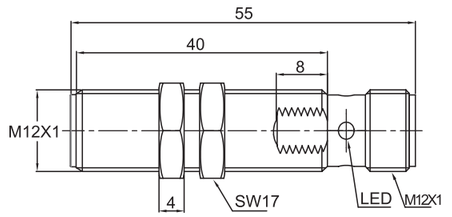
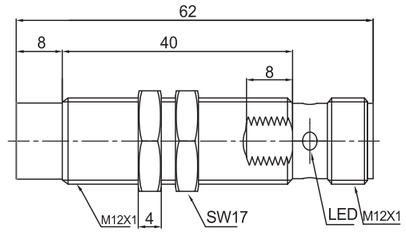


Fig.2



Metal Barrel-G series

Description:

Brass nickel-plated, threaded barrel, extended operating distance,
DC 3-wire output, IP68 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi8-G18-OP6L-Q12	8mm	Flush	PNP	NO	10...30VDC	≤200mA	500Hz	-30...85℃	M12 Connector	Fig.1
Fi8-G18-CP6L-Q12	8mm	Flush	PNP	NC	10...30VDC	≤200mA	500Hz	-30...85℃	M12 Connector	Fig.1
Fi8-G18-ON6L-Q12	8mm	Flush	NPN	NO	10...30VDC	≤200mA	500Hz	-30...85℃	M12 Connector	Fig.1
Fi8-G18-CN6L-Q12	8mm	Flush	NPN	NC	10...30VDC	≤200mA	500Hz	-30...85℃	M12 Connector	Fig.1
Ni12-G18-OP6L-Q12	12mm	Non-flush	PNP	NO	10...30VDC	≤200mA	350Hz	-30...85℃	M12 Connector	Fig.2
Ni12-G18-CP6L-Q12	12mm	Non-flush	PNP	NC	10...30VDC	≤200mA	350Hz	-30...85℃	M12 Connector	Fig.2
Ni12-G18-ON6L-Q12	12mm	Non-flush	NPN	NO	10...30VDC	≤200mA	350Hz	-30...85℃	M12 Connector	Fig.2
Ni12-G18-CN6L-Q12	12mm	Non-flush	NPN	NC	10...30VDC	≤200mA	350Hz	-30...85℃	M12 Connector	Fig.2
Ni16-G18-OP6L-Q12	16mm	Non-flush	PNP	NO	10...30VDC	≤200mA	250Hz	-30...85℃	M12 Connector	Fig.2
Ni16-G18-CP6L-Q12	16mm	Non-flush	PNP	NC	10...30VDC	≤200mA	250Hz	-30...85℃	M12 Connector	Fig.2
Ni16-G18-ON6L-Q12	16mm	Non-flush	NPN	NO	10...30VDC	≤200mA	250Hz	-30...85℃	M12 Connector	Fig.2
Ni16-G18-CN6L-Q12	16mm	Non-flush	NPN	NC	10...30VDC	≤200mA	250Hz	-30...85℃	M12 Connector	Fig.2

Dimensions:

Fig.1

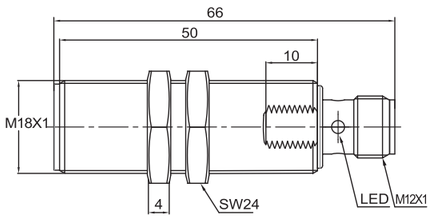
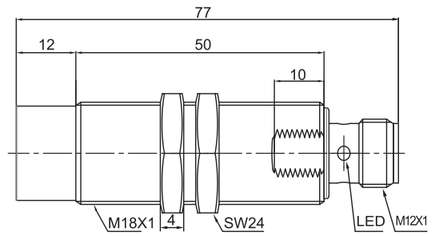


Fig.2



Metal Barrel-G series

Description:

Brass nickel-plated, threaded barrel, extended operating distance,
DC 3-wire output, IP68 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi15-G30-OP6L-Q12	15mm	Flush	PNP	NO	10...30VDC	≤200mA	350Hz	-30...85℃	M12 Connector	Fig.1
Fi15-G30-CP6L-Q12	15mm	Flush	PNP	NC	10...30VDC	≤200mA	350Hz	-30...85℃	M12 Connector	Fig.1
Fi15-G30-ON6L-Q12	15mm	Flush	NPN	NO	10...30VDC	≤200mA	350Hz	-30...85℃	M12 Connector	Fig.1
Fi15-G30-CN6L-Q12	15mm	Flush	NPN	NC	10...30VDC	≤200mA	350Hz	-30...85℃	M12 Connector	Fig.1
Ni22-G30-OP6L-Q12	22mm	Non-flush	PNP	NO	10...30VDC	≤200mA	200Hz	-30...85℃	M12 Connector	Fig.2
Ni22-G30-CP6L-Q12	22mm	Non-flush	PNP	NC	10...30VDC	≤200mA	200Hz	-30...85℃	M12 Connector	Fig.2
Ni22-G30-ON6L-Q12	22mm	Non-flush	NPN	NO	10...30VDC	≤200mA	200Hz	-30...85℃	M12 Connector	Fig.2
Ni22-G30-CN6L-Q12	22mm	Non-flush	NPN	NC	10...30VDC	≤200mA	200Hz	-30...85℃	M12 Connector	Fig.2
Ni30-G30-OP6L-Q12	30mm	Non-flush	PNP	NO	10...30VDC	≤200mA	75Hz	-30...85℃	M12 Connector	Fig.2
Ni30-G30-CP6L-Q12	30mm	Non-flush	PNP	NC	10...30VDC	≤200mA	75Hz	-30...85℃	M12 Connector	Fig.2
Ni30-G30-ON6L-Q12	30mm	Non-flush	NPN	NO	10...30VDC	≤200mA	75Hz	-30...85℃	M12 Connector	Fig.2
Ni30-G30-CN6L-Q12	30mm	Non-flush	NPN	NC	10...30VDC	≤200mA	75Hz	-30...85℃	M12 Connector	Fig.2

Dimensions:

Fig.1

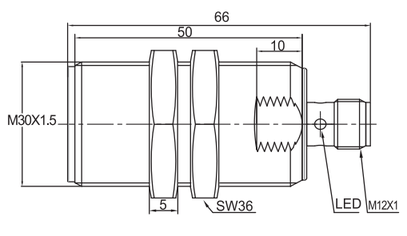
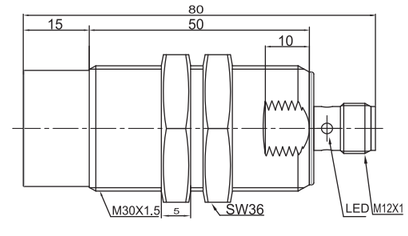
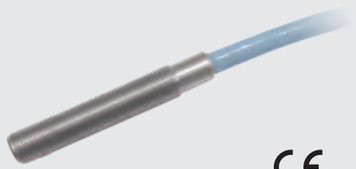


Fig.2



Metal Barrel-G3 series



Description:

Stainless steel housing, threaded barrel, extended operating distance, DC 3-wire output, IP68 protection class, LED indicator.

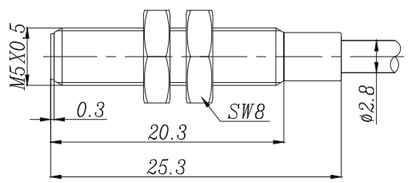
See the wiring diagram on page 233-234 for your reference.

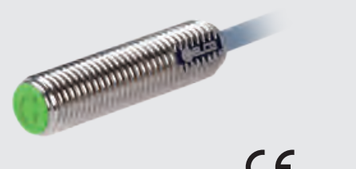
Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi1.5-G05-OP6L	1.5mm	Flush	PNP NO	10...30VDC	≤100mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi1.5-G05-CP6L	1.5mm	Flush	PNP NC	10...30VDC	≤100mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi1.5-G05-ON6L	1.5mm	Flush	NPN NO	10...30VDC	≤100mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi1.5-G05-CN6L	1.5mm	Flush	NPN NC	10...30VDC	≤100mA	1000Hz	-25...70℃	2m cable	Fig.1

Dimensions:

Fig.1





Description:

Brass nickel-plated, threaded barrel, extended operating distance, DC 3-wire output, IP68 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi3-G08-OP6L	3mm	Flush	PNP NO	10...30VDC	≤200mA	500Hz	-25...70℃	2m cable	Fig.1
Fi3-G08-CP6L	3mm	Flush	PNP NC	10...30VDC	≤200mA	500Hz	-25...70℃	2m cable	Fig.1
Fi3-G08-ON6L	3mm	Flush	NPN NO	10...30VDC	≤200mA	500Hz	-25...70℃	2m cable	Fig.1
Fi3-G08-CN6L	3mm	Flush	NPN NC	10...30VDC	≤200mA	500Hz	-25...70℃	2m cable	Fig.1
Ni6-G08-OP6L	6mm	Non-flush	PNP NO	10...30VDC	≤200mA	500Hz	-25...70℃	2m cable	Fig.2
Ni6-G08-CP6L	6mm	Non-flush	PNP NC	10...30VDC	≤200mA	500Hz	-25...70℃	2m cable	Fig.2
Ni6-G08-ON6L	6mm	Non-flush	NPN NO	10...30VDC	≤200mA	500Hz	-25...70℃	2m cable	Fig.2
Ni6-G08-CN6L	6mm	Non-flush	NPN NC	10...30VDC	≤200mA	500Hz	-25...70℃	2m cable	Fig.2

Dimensions:

Fig.1

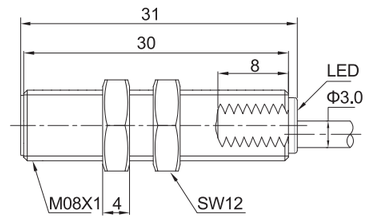
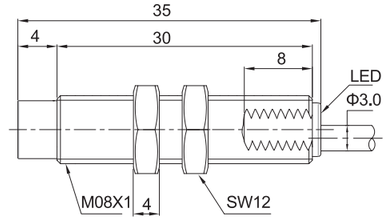


Fig.2



Metal Barrel-G3 series

Description:

Brass nickel-plated, threaded barrel, extended operating distance,
DC 3-wire output, IP68 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi6-G12-OP6L	6mm	Flush	PNP	NO	10...30VDC	≤200mA	200Hz	-25...70℃	2m cable	Fig.1
Fi6-G12-CP6L	6mm	Flush	PNP	NC	10...30VDC	≤200mA	200Hz	-25...70℃	2m cable	Fig.1
Fi6-G12-ON6L	6mm	Flush	NPN	NO	10...30VDC	≤200mA	200Hz	-25...70℃	2m cable	Fig.1
Fi6-G12-CN6L	6mm	Flush	NPN	NC	10...30VDC	≤200mA	200Hz	-25...70℃	2m cable	Fig.1
Ni10-G12-OP6L	10mm	Non-flush	PNP	NO	10...30VDC	≤200mA	200Hz	-25...70℃	2m cable	Fig.2
Ni10-G12-CP6L	10mm	Non-flush	PNP	NC	10...30VDC	≤200mA	200Hz	-25...70℃	2m cable	Fig.2
Ni10-G12-ON6L	10mm	Non-flush	NPN	NO	10...30VDC	≤200mA	200Hz	-25...70℃	2m cable	Fig.2
Ni10-G12-CN6L	10mm	Non-flush	NPN	NC	10...30VDC	≤200mA	200Hz	-25...70℃	2m cable	Fig.2

Dimensions:

Fig.1

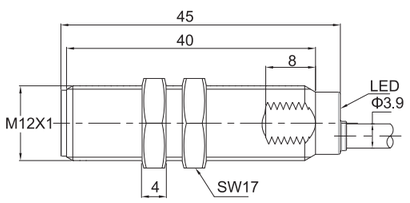
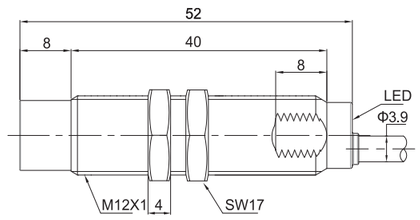


Fig.2



Metal Barrel-G3 series

Description:

Brass nickel-plated, threaded barrel, extended operating distance,
DC 3-wire output, IP68 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi12-G18-OP6L	12mm	Flush	PNP	NO	10...30VDC	≤200mA	200Hz	-25...70℃	2m cable	Fig.1
Fi12-G18-CP6L	12mm	Flush	PNP	NC	10...30VDC	≤200mA	200Hz	-25...70℃	2m cable	Fig.1
Fi12-G18-ON6L	12mm	Flush	NPN	NO	10...30VDC	≤200mA	200Hz	-25...70℃	2m cable	Fig.1
Fi12-G18-CN6L	12mm	Flush	NPN	NC	10...30VDC	≤200mA	200Hz	-25...70℃	2m cable	Fig.1
Ni20-G18-OP6L	20mm	Non-flush	PNP	NO	10...30VDC	≤200mA	200Hz	-25...70℃	2m cable	Fig.2
Ni20-G18-CP6L	20mm	Non-flush	PNP	NC	10...30VDC	≤200mA	200Hz	-25...70℃	2m cable	Fig.2
Ni20-G18-ON6L	20mm	Non-flush	NPN	NO	10...30VDC	≤200mA	200Hz	-25...70℃	2m cable	Fig.2
Ni20-G18-CN6L	20mm	Non-flush	NPN	NC	10...30VDC	≤200mA	200Hz	-25...70℃	2m cable	Fig.2

Dimensions:

Fig.1

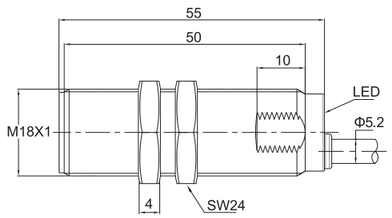
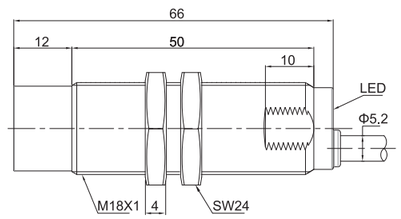


Fig.2



Metal Barrel-G3 series

Description:

Brass nickel-plated, threaded barrel, extended operating distance, DC 3-wire output, IP68 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi20-G30-OP6L	20mm	Flush	PNP	NO	10...30VDC	≤200mA	200Hz	-25...70℃	2m cable	Fig.1
Fi20-G30-CP6L	20mm	Flush	PNP	NC	10...30VDC	≤200mA	200Hz	-25...70℃	2m cable	Fig.1
Fi20-G30-ON6L	20mm	Flush	NPN	NO	10...30VDC	≤200mA	200Hz	-25...70℃	2m cable	Fig.1
Fi20-G30-CN6L	20mm	Flush	NPN	NC	10...30VDC	≤200mA	200Hz	-25...70℃	2m cable	Fig.1
Ni38-G30-OP6L	38mm	Non-flush	PNP	NO	10...30VDC	≤200mA	200Hz	-25...70℃	2m cable	Fig.2
Ni38-G30-CP6L	38mm	Non-flush	PNP	NC	10...30VDC	≤200mA	200Hz	-25...70℃	2m cable	Fig.2
Ni38-G30-ON6L	38mm	Non-flush	NPN	NO	10...30VDC	≤200mA	200Hz	-25...70℃	2m cable	Fig.2
Ni38-G30-CN6L	38mm	Non-flush	NPN	NC	10...30VDC	≤200mA	200Hz	-25...70℃	2m cable	Fig.2

Dimensions:

Fig.1

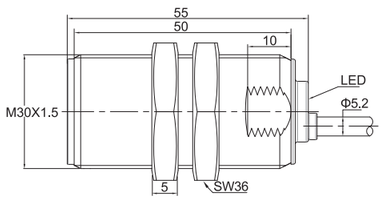
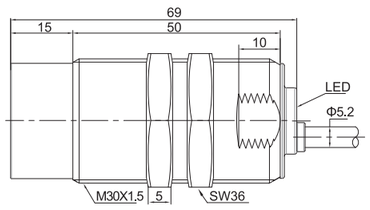


Fig.2



Metal Barrel-G3 series

Description:

Stainless steel housing, threaded barrel, extended operating distance, DC 3-wire output, IP68 protection class, LED indicator, M8 connector.

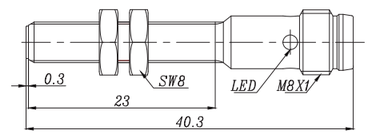
See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi1.5-G05-OP6L-Q8	1.5mm	Flush	PNP	NO	10...30VDC	≤100mA	1000Hz	-25...70℃	M8 Connector	Fig.1
Fi1.5-G05-CP6L-Q8	1.5mm	Flush	PNP	NC	10...30VDC	≤100mA	1000Hz	-25...70℃	M8 Connector	Fig.1
Fi1.5-G05-ON6L-Q8	1.5mm	Flush	NPN	NO	10...30VDC	≤100mA	1000Hz	-25...70℃	M8 Connector	Fig.1
Fi1.5-G05-CN6L-Q8	1.5mm	Flush	NPN	NC	10...30VDC	≤100mA	1000Hz	-25...70℃	M8 Connector	Fig.1

Dimensions:

Fig.1



Metal Barrel-G3 series

Description:

Brass nickel-plated, threaded barrel, extended operating distance, DC 3-wire output, IP68 protection class, LED indicator, M8 connector.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi3-G08-OP6L-Q8	3mm	Flush	PNP NO	10...30VDC	≤200mA	500Hz	-25...70℃	M8 Connector	Fig.1
Fi3-G08-CP6L-Q8	3mm	Flush	PNP NC	10...30VDC	≤200mA	500Hz	-25...70℃	M8 Connector	Fig.1
Fi3-G08-ON6L-Q8	3mm	Flush	NPN NO	10...30VDC	≤200mA	500Hz	-25...70℃	M8 Connector	Fig.1
Fi3-G08-CN6L-Q8	3mm	Flush	NPN NC	10...30VDC	≤200mA	500Hz	-25...70℃	M8 Connector	Fig.1
Ni6-G08-OP6L-Q8	6mm	Non-flush	PNP NO	10...30VDC	≤200mA	500Hz	-25...70℃	M8 Connector	Fig.2
Ni6-G08-CP6L-Q8	6mm	Non-flush	PNP NC	10...30VDC	≤200mA	500Hz	-25...70℃	M8 Connector	Fig.2
Ni6-G08-ON6L-Q8	6mm	Non-flush	NPN NO	10...30VDC	≤200mA	500Hz	-25...70℃	M8 Connector	Fig.2
Ni6-G08-CN6L-Q8	6mm	Non-flush	NPN NC	10...30VDC	≤200mA	500Hz	-25...70℃	M8 Connector	Fig.2

Dimensions:

Fig.1

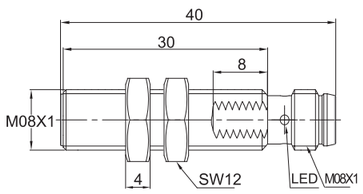
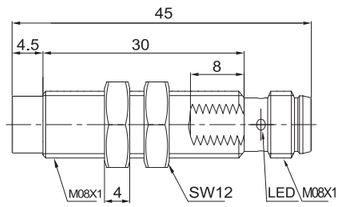


Fig.2



Metal Barrel-G3 series

Description:

Brass nickel-plated, threaded barrel, extended operating distance, DC 3-wire output, IP68 protection class, LED indicator, M12 connector.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi6-G12-OP6L-Q12	6mm	Flush	PNP NO	10...30VDC	≤200mA	500Hz	-25...70℃	M12 Connector	Fig.1
Fi6-G12-CP6L-Q12	6mm	Flush	PNP NC	10...30VDC	≤200mA	500Hz	-25...70℃	M12 Connector	Fig.1
Fi6-G12-ON6L-Q12	6mm	Flush	NPN NO	10...30VDC	≤200mA	500Hz	-25...70℃	M12 Connector	Fig.1
Fi6-G12-CN6L-Q12	6mm	Flush	NPN NC	10...30VDC	≤200mA	500Hz	-25...70℃	M12 Connector	Fig.1
Ni10-G12-OP6L-Q12	10mm	Non-flush	PNP NO	10...30VDC	≤200mA	500Hz	-25...70℃	M12 Connector	Fig.2
Ni10-G12-CP6L-Q12	10mm	Non-flush	PNP NC	10...30VDC	≤200mA	500Hz	-25...70℃	M12 Connector	Fig.2
Ni10-G12-ON6L-Q12	10mm	Non-flush	NPN NO	10...30VDC	≤200mA	500Hz	-25...70℃	M12 Connector	Fig.2
Ni10-G12-CN6L-Q12	10mm	Non-flush	NPN NC	10...30VDC	≤200mA	500Hz	-25...70℃	M12 Connector	Fig.2

Dimensions:

Fig.1

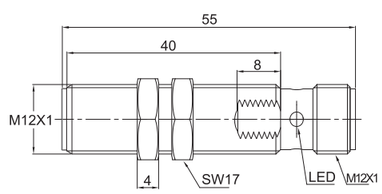
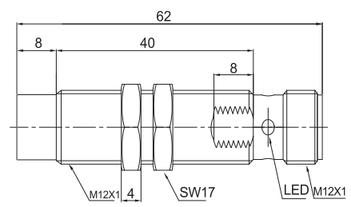
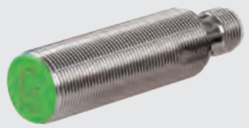


Fig.2



Metal Barrel-G3 series



Description:

Brass nickel-plated, threaded barrel, extended operating distance, DC 3-wire output, IP68 protection class, LED indicator, M12 connector.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi12-G18-OP6L-Q12	12mm	Flush	PNP NO	10...30VDC	≤200mA	200Hz	-25...70℃	M12 Connector	Fig.1
Fi12-G18-CP6L-Q12	12mm	Flush	PNP NC	10...30VDC	≤200mA	200Hz	-25...70℃	M12 Connector	Fig.1
Fi12-G18-ON6L-Q12	12mm	Flush	NPN NO	10...30VDC	≤200mA	200Hz	-25...70℃	M12 Connector	Fig.1
Fi12-G18-CN6L-Q12	12mm	Flush	NPN NC	10...30VDC	≤200mA	200Hz	-25...70℃	M12 Connector	Fig.1
Ni20-G18-OP6L-Q12	20mm	Non-flush	PNP NO	10...30VDC	≤200mA	200Hz	-25...70℃	M12 Connector	Fig.2
Ni20-G18-CP6L-Q12	20mm	Non-flush	PNP NC	10...30VDC	≤200mA	200Hz	-25...70℃	M12 Connector	Fig.2
Ni20-G18-ON6L-Q12	20mm	Non-flush	NPN NO	10...30VDC	≤200mA	200Hz	-25...70℃	M12 Connector	Fig.2
Ni20-G18-CN6L-Q12	20mm	Non-flush	NPN NC	10...30VDC	≤200mA	200Hz	-25...70℃	M12 Connector	Fig.2

Dimensions:

Fig.1

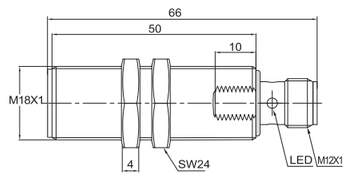
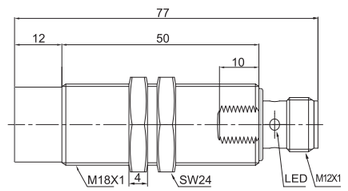


Fig.2



Metal Barrel-G3 series

Description:

Brass nickel-plated, threaded barrel, extended operating distance, DC 3-wire output, IP68 protection class, LED indicator, M12 connector.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi20-G30-OP6L-Q12	20mm	Flush	PNP NO	10...30VDC	≤200mA	200Hz	-25...70℃	M12 Connector	Fig.1
Fi20-G30-CP6L-Q12	20mm	Flush	PNP NC	10...30VDC	≤200mA	200Hz	-25...70℃	M12 Connector	Fig.1
Fi20-G30-ON6L-Q12	20mm	Flush	NPN NO	10...30VDC	≤200mA	200Hz	-25...70℃	M12 Connector	Fig.1
Fi20-G30-CN6L-Q12	20mm	Flush	NPN NC	10...30VDC	≤200mA	200Hz	-25...70℃	M12 Connector	Fig.1
Ni38-G30-OP6L-Q12	38mm	Non-flush	PNP NO	10...30VDC	≤200mA	200Hz	-25...70℃	M12 Connector	Fig.2
Ni38-G30-CP6L-Q12	38mm	Non-flush	PNP NC	10...30VDC	≤200mA	200Hz	-25...70℃	M12 Connector	Fig.2
Ni38-G30-ON6L-Q12	38mm	Non-flush	NPN NO	10...30VDC	≤200mA	200Hz	-25...70℃	M12 Connector	Fig.2
Ni38-G30-CN6L-Q12	38mm	Non-flush	NPN NC	10...30VDC	≤200mA	200Hz	-25...70℃	M12 Connector	Fig.2

Dimensions:

Fig.1

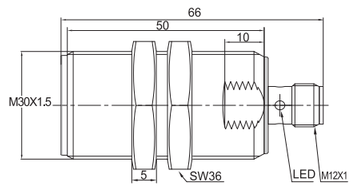
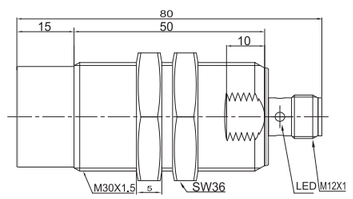


Fig.2



Plastic Rectangular-Q08

Description:

Plastic housing, compact rectangular, DC 2-wire output, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Ni2.5-Q08-OD6L	2.5mm	Non-flush	NO DC	10...30VDC	≤100mA	800Hz	-25...70℃	2m cable	Fig.1
Ni2.5-Q08-CD6L	2.5mm	Non-flush	NC DC	10...30VDC	≤100mA	800Hz	-25...70℃	2m cable	Fig.1
Ni2.5-Q08B-OD6L	2.5mm	Non-flush	NO DC	10...30VDC	≤100mA	800Hz	-25...70℃	2m cable	Fig.2
Ni2.5-Q08B-CD6L	2.5mm	Non-flush	NC DC	10...30VDC	≤100mA	800Hz	-25...70℃	2m cable	Fig.2

Dimensions:

Fig.1

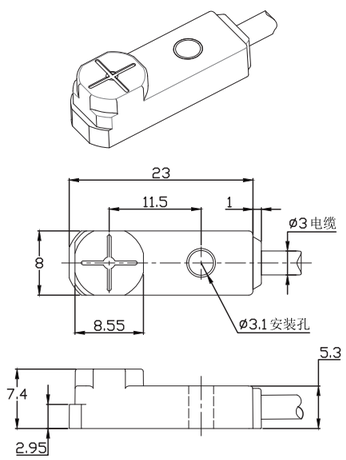
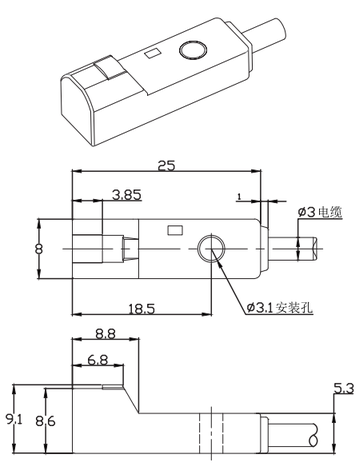


Fig.2



Plastic Rectangular-Q08

Description:

Plastic housing, compact rectangular, DC 3-wire output, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Ni2.5-Q08-OP6L	2.5mm	Non-flush	NO PNP	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.1
Ni2.5-Q08-ON6L	2.5mm	Non-flush	NO NPN	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.1
Ni2.5-Q08-CP6L	2.5mm	Non-flush	NC PNP	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.1
Ni2.5-Q08-CN6L	2.5mm	Non-flush	NC NPN	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.1
Ni2.5-Q08B-OP6L	2.5mm	Non-flush	NO PNP	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.2
Ni2.5-Q08B-ON6L	2.5mm	Non-flush	NO NPN	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.2
Ni2.5-Q08B-CP6L	2.5mm	Non-flush	NC PNP	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.2
Ni2.5-Q08B-CN6L	2.5mm	Non-flush	NC NPN	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.2

Dimensions:

Fig.1

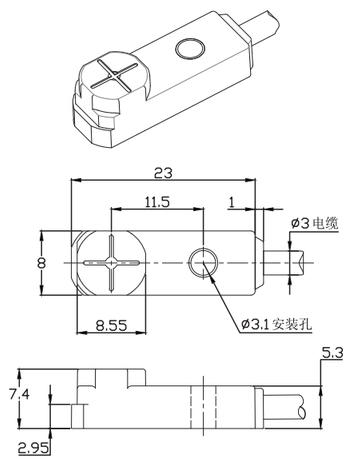
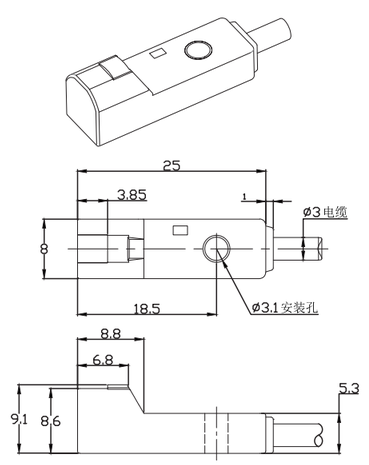


Fig.2



Plastic Rectangular-Q12

Description:

Plastic housing, compact rectangular, DC 2-wire output, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Ni4-Q12-OD6L	4mm	Non-flush	NO DC	10...30VDC	≤100mA	500Hz	-25...70℃	2m cable	Fig.1
Ni4-Q12-CD6L	4mm	Non-flush	NC DC	10...30VDC	≤100mA	500Hz	-25...70℃	2m cable	Fig.1
Ni4-Q12B-OD6L	4mm	Non-flush	NO DC	10...30VDC	≤100mA	500Hz	-25...70℃	2m cable	Fig.2
Ni4-Q12B-CD6L	4mm	Non-flush	NC DC	10...30VDC	≤100mA	500Hz	-25...70℃	2m cable	Fig.2

Dimensions:

Fig.1

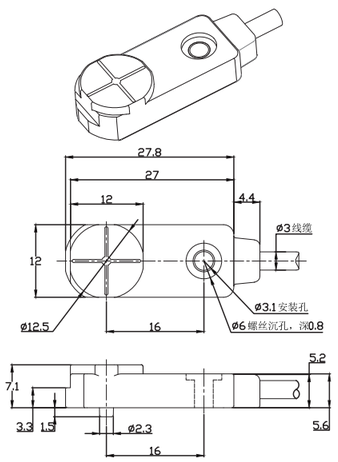
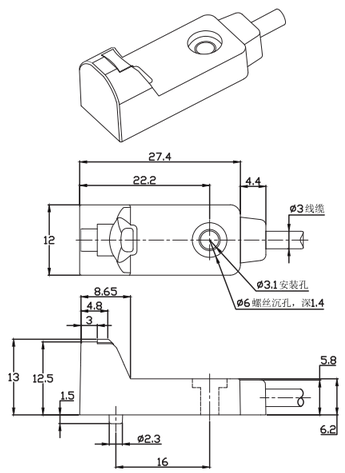


Fig.2



Plastic Rectangular-Q12

Description:

Plastic housing, compact rectangular, DC 3-wire output, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Ni4-Q12-OP6L	4mm	Non-flush	NO PNP	10...30VDC	≤200mA	500Hz	-25...70℃	2m cable	Fig.1
Ni4-Q12-ON6L	4mm	Non-flush	NO NPN	10...30VDC	≤200mA	500Hz	-25...70℃	2m cable	Fig.1
Ni4-Q12-CP6L	4mm	Non-flush	NC PNP	10...30VDC	≤200mA	500Hz	-25...70℃	2m cable	Fig.1
Ni4-Q12-CN6L	4mm	Non-flush	NC NPN	10...30VDC	≤200mA	500Hz	-25...70℃	2m cable	Fig.1
Ni4-Q12B-OP6L	4mm	Non-flush	NO PNP	10...30VDC	≤200mA	500Hz	-25...70℃	2m cable	Fig.2
Ni4-Q12B-ON6L	4mm	Non-flush	NO NPN	10...30VDC	≤200mA	500Hz	-25...70℃	2m cable	Fig.2
Ni4-Q12B-CP6L	4mm	Non-flush	NC PNP	10...30VDC	≤200mA	500Hz	-25...70℃	2m cable	Fig.2
Ni4-Q12B-CN6L	4mm	Non-flush	NC NPN	10...30VDC	≤200mA	500Hz	-25...70℃	2m cable	Fig.2

Dimensions:

Fig.1

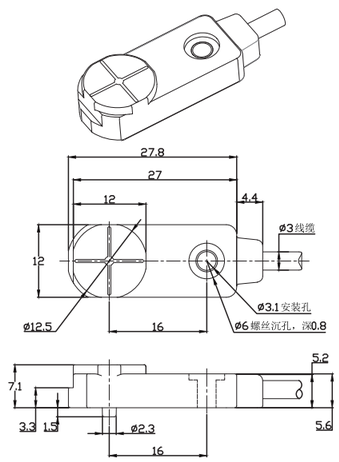
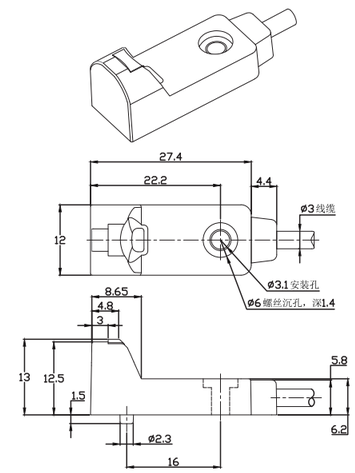
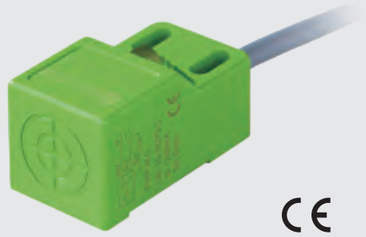


Fig.2



Plastic Rectangular-Q18



Description:

Plastic housing, miniature rectangular 18x18mm, DC 2-wire output, AC 2-wire output, AC/DC 2-wire output, IP67 protection class, LED indicator.

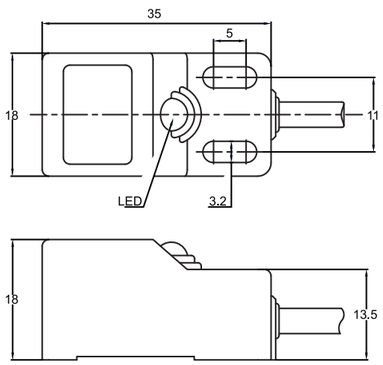
See the wiring diagram on page 233-234 for your reference.

Technical Data:

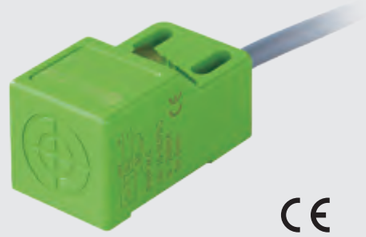
Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi5-Q18-OD6L	5mm	Flush	NO DC	10...30VDC	≤100mA	200Hz	-25...70℃	2m cable	Fig.1
Fi5-Q18-CD6L	5mm	Flush	NC DC	10...30VDC	≤100mA	200Hz	-25...70℃	2m cable	Fig.1
Fi5-Q18-OSA3L	5mm	Flush	NO AC	20...250VAC	≤200mA	300Hz	-25...70℃	2m cable	Fig.1
Fi5-Q18-CSA3L	5mm	Flush	NC AC	20...250VAC	≤200mA	300Hz	-25...70℃	2m cable	Fig.1
Ni8-Q18-OD6L	8mm	Non-flush	NO DC	10...30VDC	≤100mA	200Hz	-25...70℃	2m cable	Fig.1
Ni8-Q18-CD6L	8mm	Non-flush	NC DC	10...30VDC	≤100mA	200Hz	-25...70℃	2m cable	Fig.1
Ni8-Q18-OSA3L	8mm	Non-flush	NO AC	20...250VAC	≤200mA	300Hz	-25...70℃	2m cable	Fig.1
Ni8-Q18-CSA3L	8mm	Non-flush	NC AC	20...250VAC	≤200mA	300Hz	-25...70℃	2m cable	Fig.1
Fi5-Q18-OA41L	5mm	Flush	NO DC/AC	20...250VAC/DC	DC≤100mA/AC≤200mA	300Hz	-25...70℃	2m cable	Fig.1
Fi5-Q18-CA41L	5mm	Flush	NC DC/AC	20...250VAC/DC	DC≤100mA/AC≤200mA	300Hz	-25...70℃	2m cable	Fig.1
Ni8-Q18-OA41L	8mm	Non-flush	NO DC/AC	20...250VAC/DC	DC≤100mA/AC≤200mA	300Hz	-25...70℃	2m cable	Fig.1
Ni8-Q18-CA41L	8mm	Non-flush	NC DC/AC	20...250VAC/DC	DC≤100mA/AC≤200mA	300Hz	-25...70℃	2m cable	Fig.1

Dimensions:

Fig.1



Plastic Rectangular-Q18



Description:

Plastic housing, miniature rectangular 18x18mm, DC 3-wire output, IP67 protection class, LED indicator.

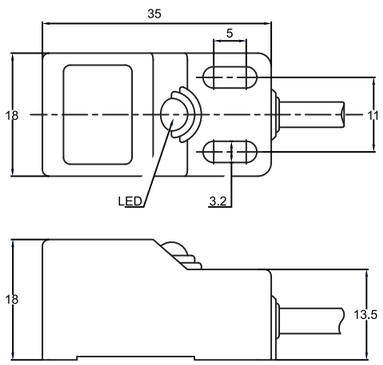
See the wiring diagram on page 233-234 for your reference.

Technical Data:

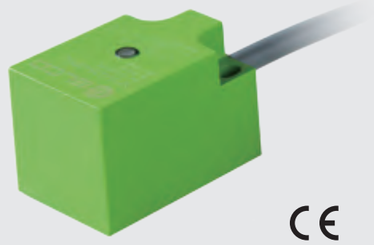
Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi5-Q18-OP6L	5mm	Flush	PNP NO	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi5-Q18-ON6L	5mm	Flush	NPN NO	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi5-Q18-CP6L	5mm	Flush	PNP NC	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi5-Q18-CN6L	5mm	Flush	NPN NC	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1
Ni8-Q18-OP6L	8mm	Non-flush	PNP NO	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1
Ni8-Q18-ON6L	8mm	Non-flush	NPN NO	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1
Ni8-Q18-CP6L	8mm	Non-flush	PNP NC	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1
Ni8-Q18-CN6L	8mm	Non-flush	NPN NC	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1

Dimensions:

Fig.1



Plastic Rectangular-Q25



Description:

Plastic housing, miniature rectangular 25x25mm, DC 2-wire output, AC 2-wire output, AC/DC 2-wire output, IP67 protection class, LED indicator.

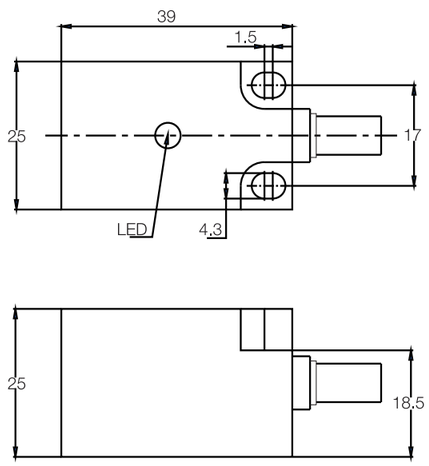
See the wiring diagram on page 233-234 for your reference.

Technical Data:

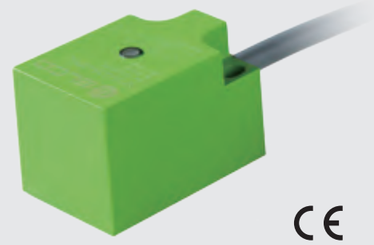
Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi7-Q25-OD6L	7mm	Flush	NO	DC	10...30VDC	≤100mA	200Hz	-25...70℃	2m cable	Fig.1
Fi7-Q25-CD6L	7mm	Flush	NC	DC	10...30VDC	≤100mA	200Hz	-25...70℃	2m cable	Fig.1
Fi7-Q25-OSA3L	7mm	Flush	NO	AC	20...250VAC	≤200mA	300Hz	-25...70℃	2m cable	Fig.1
Fi7-Q25-CSA3L	7mm	Flush	NC	AC	20...250VAC	≤200mA	300Hz	-25...70℃	2m cable	Fig.1
Ni10-Q25-OD6L	10mm	Non-flush	NO	DC	10...30VDC	≤100mA	200Hz	-25...70℃	2m cable	Fig.1
Ni10-Q25-CD6L	10mm	Non-flush	NC	DC	10...30VDC	≤100mA	200Hz	-25...70℃	2m cable	Fig.1
Ni10-Q25-OSA3L	10mm	Non-flush	NO	AC	20...250VAC	≤200mA	300Hz	-25...70℃	2m cable	Fig.1
Ni10-Q25-CSA3L	10mm	Non-flush	NC	AC	20...250VAC	≤200mA	300Hz	-25...70℃	2m cable	Fig.1
Fi7-Q25-OA41L	7mm	Flush	NO	DC/AC	20...250VAC/DC	DC≤100mA/AC≤200mA	300Hz	-25...70℃	2m cable	Fig.1
Fi7-Q25-CA41L	7mm	Flush	NC	DC/AC	20...250VAC/DC	DC≤100mA/AC≤200mA	300Hz	-25...70℃	2m cable	Fig.1
Ni10-Q25-OA41L	10mm	Non-flush	NO	DC/AC	20...250VAC/DC	DC≤100mA/AC≤200mA	300Hz	-25...70℃	2m cable	Fig.1
Ni10-Q25-CA41L	10mm	Non-flush	NC	DC/AC	20...250VAC/DC	DC≤100mA/AC≤200mA	300Hz	-25...70℃	2m cable	Fig.1

Dimensions:

Fig.1



Plastic Rectangular-Q25



Description:

Plastic housing, miniature rectangular 25x25mm, DC 3-wire output, IP67 protection class, LED indicator.

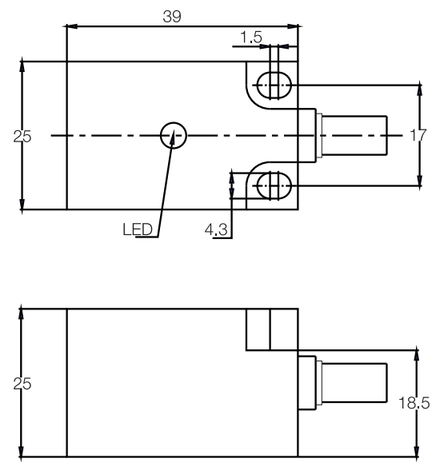
See the wiring diagram on page 233-234 for your reference.

Technical Data:

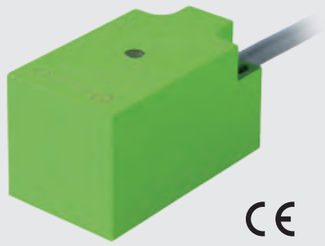
Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi7-Q25-OP6L	7mm	Flush	PNP	NO	10...30VDC	≤200mA	700Hz	-25...70℃	2m cable	Fig.1
Fi7-Q25-ON6L	7mm	Flush	NPN	NO	10...30VDC	≤200mA	700Hz	-25...70℃	2m cable	Fig.1
Fi7-Q25-CP6L	7mm	Flush	PNP	NC	10...30VDC	≤200mA	700Hz	-25...70℃	2m cable	Fig.1
Fi7-Q25-CN6L	7mm	Flush	NPN	NC	10...30VDC	≤200mA	700Hz	-25...70℃	2m cable	Fig.1
Ni10-Q25-OP6L	10mm	Non-flush	PNP	NO	10...30VDC	≤200mA	700Hz	-25...70℃	2m cable	Fig.1
Ni10-Q25-ON6L	10mm	Non-flush	NPN	NO	10...30VDC	≤200mA	700Hz	-25...70℃	2m cable	Fig.1
Ni10-Q25-CP6L	10mm	Non-flush	PNP	NC	10...30VDC	≤200mA	700Hz	-25...70℃	2m cable	Fig.1
Ni10-Q25-CN6L	10mm	Non-flush	NPN	NC	10...30VDC	≤200mA	700Hz	-25...70℃	2m cable	Fig.1

Dimensions:

Fig.1



Plastic Rectangular-Q30



Description:

Plastic housing, miniature rectangular 30x30mm, DC 2-wire output, AC 2-wire output, AC/DC 2-wire output, IP67 protection class, LED indicator.

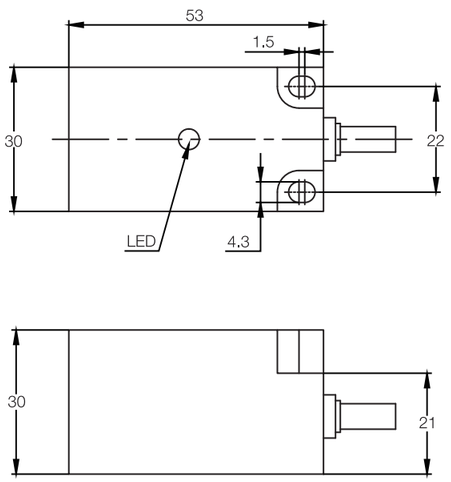
See the wiring diagram on page 233-234 for your reference.

Technical Data:

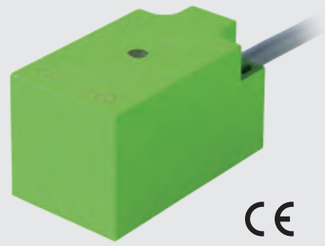
Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi10-Q30-OD6L	10mm	Flush	NO DC	10...30VDC	≤100mA	500Hz	-25...70℃	2m cable	Fig.1
Fi10-Q30-CD6L	10mm	Flush	NC DC	10...30VDC	≤100mA	500Hz	-25...70℃	2m cable	Fig.1
Fi10-Q30-OSA3L	10mm	Flush	NO AC	20...250VAC	≤200mA	20Hz	-25...70℃	2m cable	Fig.1
Fi10-Q30-CSA3L	10mm	Flush	NC AC	20...250VAC	≤200mA	20Hz	-25...70℃	2m cable	Fig.1
Ni15-Q30-OD6L	15mm	Non-flush	NO DC	10...30VDC	≤100mA	500Hz	-25...70℃	2m cable	Fig.1
Ni15-Q30-CD6L	15mm	Non-flush	NC DC	10...30VDC	≤100mA	500Hz	-25...70℃	2m cable	Fig.1
Ni15-Q30-OSA3L	15mm	Non-flush	NO AC	20...250VAC	≤200mA	20Hz	-25...70℃	2m cable	Fig.1
Ni15-Q30-CSA3L	15mm	Non-flush	NC AC	20...250VAC	≤200mA	20Hz	-25...70℃	2m cable	Fig.1
Fi10-Q30-OA41L	10mm	Flush	NO DC/AC	20...250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-25...70℃	2m cable	Fig.1
Fi10-Q30-CA41L	10mm	Flush	NC DC/AC	20...250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-25...70℃	2m cable	Fig.1
Ni15-Q30-OA41L	15mm	Non-flush	NO DC/AC	20...250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-25...70℃	2m cable	Fig.1
Ni15-Q30-CA41L	15mm	Non-flush	NC DC/AC	20...250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-25...70℃	2m cable	Fig.1

Dimensions:

Fig.1



Plastic Rectangular-Q30



Description:

Plastic housing, miniature rectangular 30x30mm, DC 2-wire output, AC 2-wire output, AC/DC 2-wire output, IP67 protection class, LED indicator.

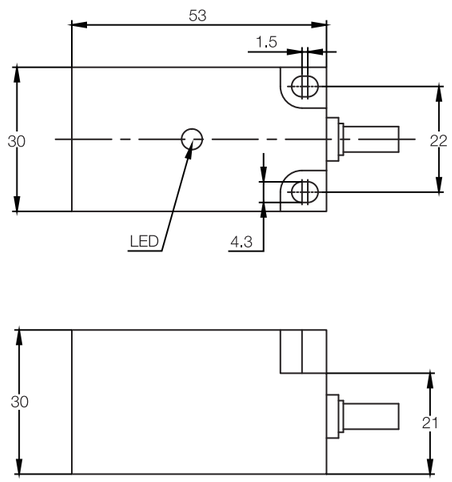
See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi10-Q30-OP6L	10mm	Flush	PNP NO	10...30VDC	≤200mA	500Hz	-25...70℃	2m cable	Fig.1
Fi10-Q30-ON6L	10mm	Flush	NPN NO	10...30VDC	≤200mA	500Hz	-25...70℃	2m cable	Fig.1
Fi10-Q30-CP6L	10mm	Flush	PNP NC	10...30VDC	≤200mA	500Hz	-25...70℃	2m cable	Fig.1
Fi10-Q30-CN6L	10mm	Flush	NPN NC	10...30VDC	≤200mA	500Hz	-25...70℃	2m cable	Fig.1
Ni15-Q30-OP6L	15mm	Non-flush	PNP NO	10...30VDC	≤200mA	500Hz	-25...70℃	2m cable	Fig.1
Ni15-Q30-ON6L	15mm	Non-flush	NPN NO	10...30VDC	≤200mA	500Hz	-25...70℃	2m cable	Fig.1
Ni15-Q30-CP6L	15mm	Non-flush	PNP NC	10...30VDC	≤200mA	500Hz	-25...70℃	2m cable	Fig.1
Ni15-Q30-CN6L	15mm	Non-flush	NPN NC	10...30VDC	≤200mA	500Hz	-25...70℃	2m cable	Fig.1

Dimensions:

Fig.1



Plastic Rectangular-W40

Description:

Plastic housing, rectangular 40x40mm, variable orientation of active face, DC 2-wire output, wide voltage range, IP67 protection class, power and action LED indicator.

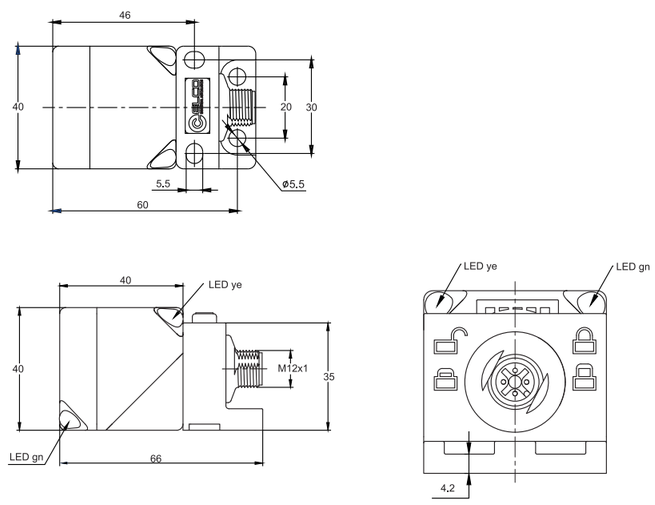
See the wiring diagram on page 233-234 for your reference.

Technical Data:

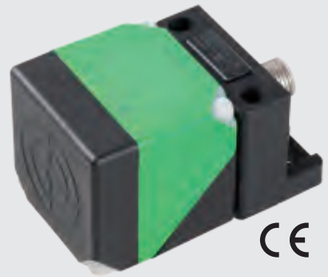
Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi20-W40-OD6L-Q12	20mm	Flush	NO DC	10...30VDC	≤100mA	150Hz	-25...70℃	M12 Connector	Fig.1
Ni30-W40-OD6L-Q12	30mm	Non-flush	NO DC	10...30VDC	≤100mA	100Hz	-25...70℃	M12 Connector	Fig.1
Fi20-W40-CD6L-Q12	20mm	Flush	NC DC	10...30VDC	≤100mA	150Hz	-25...70℃	M12 Connector	Fig.1
Ni30-W40-CD6L-Q12	30mm	Non-flush	NC DC	10...30VDC	≤100mA	100Hz	-25...70℃	M12 Connector	Fig.1
Fi20-W40-OD9L-Q12	20mm	Flush	NO DC	10...60VDC	≤100mA	150Hz	-25...70℃	M12 Connector	Fig.1
Ni30-W40-OD9L-Q12	30mm	Non-flush	NO DC	10...60VDC	≤100mA	100Hz	-25...70℃	M12 Connector	Fig.1
Fi20-W40-CD9L-Q12	20mm	Flush	NC DC	10...60VDC	≤100mA	150Hz	-25...70℃	M12 Connector	Fig.1
Ni30-W40-CD9L-Q12	30mm	Non-flush	NC DC	10...60VDC	≤100mA	100Hz	-25...70℃	M12 Connector	Fig.1

Dimensions:

Fig.1



Plastic Rectangular-W40



Description:

Plastic housing, rectangular 40x40mm, variable orientation of active face, DC 3/4-wire output, IP67 protection class, LED power and action indicator.

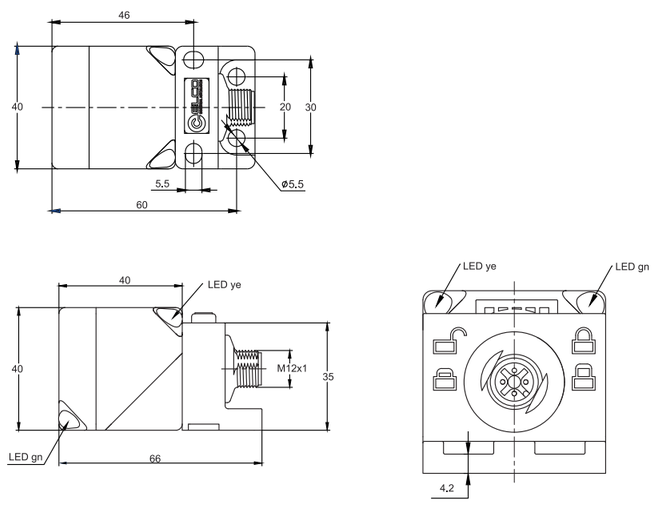
See the wiring diagram on page 233-234 for your reference.

Technical Data:

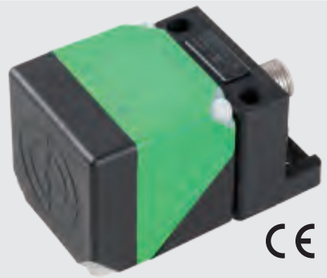
Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi20-W40-ON6L-Q12	20mm	Flush	NO	NPN	10...30VDC	≤200mA	150Hz	-25...70℃	M12 Connector	Fig.1
Fi20-W40-CN6L-Q12	20mm	Flush	NC	NPN	10...30VDC	≤200mA	150Hz	-25...70℃	M12 Connector	Fig.1
Fi20-W40-BN6L-Q12	20mm	Flush	NO+NC	NPN	10...30VDC	≤200mA	150Hz	-25...70℃	M12 Connector	Fig.1
Fi20-W40-OP6L-Q12	20mm	Flush	NO	PNP	10...30VDC	≤200mA	150Hz	-25...70℃	M12 Connector	Fig.1
Fi20-W40-CP6L-Q12	20mm	Flush	NC	PNP	10...30VDC	≤200mA	150Hz	-25...70℃	M12 Connector	Fig.1
Fi20-W40-BP6L-Q12	20mm	Flush	NO+NC	PNP	10...30VDC	≤200mA	150Hz	-25...70℃	M12 Connector	Fig.1
Ni30-W40-ON6L-Q12	30mm	Non-flush	NO	NPN	10...30VDC	≤200mA	100Hz	-25...70℃	M12 Connector	Fig.1
Ni30-W40-CN6L-Q12	30mm	Non-flush	NC	NPN	10...30VDC	≤200mA	100Hz	-25...70℃	M12 Connector	Fig.1
Ni30-W40-BN6L-Q12	30mm	Non-flush	NO+NC	NPN	10...30VDC	≤200mA	100Hz	-25...70℃	M12 Connector	Fig.1
Ni30-W40-OP6L-Q12	30mm	Non-flush	NO	PNP	10...30VDC	≤200mA	100Hz	-25...70℃	M12 Connector	Fig.1
Ni30-W40-CP6L-Q12	30mm	Non-flush	NC	PNP	10...30VDC	≤200mA	100Hz	-25...70℃	M12 Connector	Fig.1
Ni30-W40-BP6L-Q12	30mm	Non-flush	NO+NC	PNP	10...30VDC	≤200mA	100Hz	-25...70℃	M12 Connector	Fig.1

Dimensions:

Fig.1



Plastic Rectangular-W40



Description:

Plastic housing, rectangular 40x40mm, variable orientation of active face, AC/DC 2-wire output, IP67 protection class, power and action LED indicator.

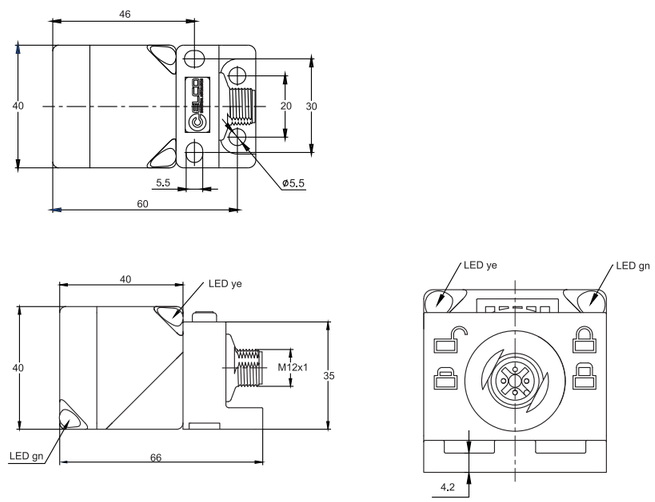
See the wiring diagram on page 233-234 for your reference.

Technical Data:

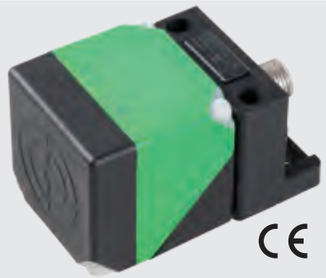
Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi20-W40-OA41L-Q12	20mm	Flush	NO DC/AC	20...250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-25...70˚C	M12 Connector	Fig.1
Ni30-W40-CA41L-Q12	30mm	Non-flush	NC DC/AC	20...250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-25...70˚C	M12 Connector	Fig.1

Dimensions:

Fig.1



Plastic Rectangular-W40



Description:

Plastic housing, rectangular 40x40mm, variable orientation of active face, long - sensing distance, DC 2-wire output, wide voltage range, IP67 protection class, LED power and action indicator.

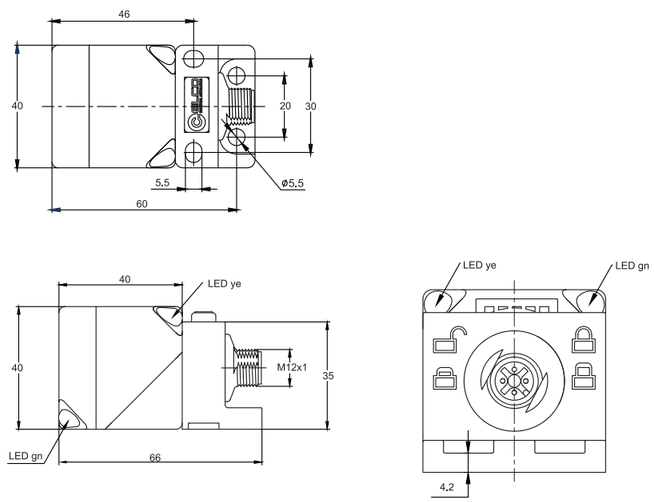
See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi25-W40-OD6L-Q12	25mm	Flush	NO DC	10...30VDC	≤100mA	100Hz	-25...70˚C	M12 Connector	Fig.1
Fi25-W40-CD6L-Q12	25mm	Non-flush	NO DC	10...30VDC	≤100mA	150Hz	-25...70˚C	M12 Connector	Fig.1
Fi25-W40-OD9L-Q12	25mm	Flush	NC DC	10...30VDC	≤100mA	100Hz	-25...70˚C	M12 Connector	Fig.1
Fi25-W40-CD9L-Q12	25mm	Non-flush	NC DC	10...30VDC	≤100mA	50Hz	-25...70˚C	M12 Connector	Fig.1
Ni40-W40-OD6L-Q12	40mm	Flush	NO DC	10...60VDC	≤100mA	100Hz	-25...70˚C	M12 Connector	Fig.1
Ni40-W40-CD6L-Q12	40mm	Non-flush	NO DC	10...60VDC	≤100mA	150Hz	-25...70˚C	M12 Connector	Fig.1
Ni40-W40-OD9L-Q12	40mm	Flush	NC DC	10...60VDC	≤100mA	100Hz	-25...70˚C	M12 Connector	Fig.1
Ni40-W40-CD9L-Q12	40mm	Non-flush	NC DC	10...60VDC	≤100mA	50Hz	-25...70˚C	M12 Connector	Fig.1

Dimensions:

Fig.1



Plastic Rectangular-W40

Description:

Plastic housing, rectangular 40x40mm, variable orientation of active face, long - sensing distance, DC 3/4-wire output, IP67 protection class, LED power and action indicator.

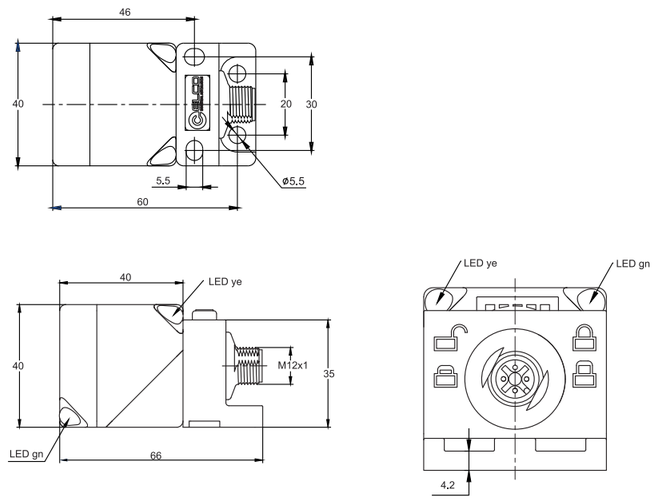
See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi25-W40-ON6L-Q12	25mm	Flush	NO	NPN	10...30VDC	≤200mA	100Hz	-25...70℃	M12 Connector	Fig.1
Fi25-W40-CN6L-Q12	25mm	Flush	NC	NPN	10...30VDC	≤200mA	100Hz	-25...70℃	M12 Connector	Fig.1
Fi25-W40-BN6L-Q12	25mm	Flush	NO+NC	NPN	10...30VDC	≤200mA	100Hz	-25...70℃	M12 Connector	Fig.1
Fi25-W40-OP6L-Q12	25mm	Flush	NO	PNP	10...30VDC	≤200mA	100Hz	-25...70℃	M12 Connector	Fig.1
Fi25-W40-CP6L-Q12	25mm	Flush	NC	PNP	10...30VDC	≤200mA	100Hz	-25...70℃	M12 Connector	Fig.1
Fi25-W40-BP6L-Q12	25mm	Flush	NO+NC	PNP	10...30VDC	≤200mA	100Hz	-25...70℃	M12 Connector	Fig.1
Ni40-W40-ON6L-Q12	40mm	Non-flush	NO	NPN	10...30VDC	≤200mA	50Hz	-25...70℃	M12 Connector	Fig.1
Ni40-W40-CN6L-Q12	40mm	Non-flush	NC	NPN	10...30VDC	≤200mA	50Hz	-25...70℃	M12 Connector	Fig.1
Ni40-W40-BN6L-Q12	40mm	Non-flush	NO+NC	NPN	10...30VDC	≤200mA	50Hz	-25...70℃	M12 Connector	Fig.1
Ni40-W40-OP6L-Q12	40mm	Non-flush	NO	PNP	10...30VDC	≤200mA	50Hz	-25...70℃	M12 Connector	Fig.1
Ni40-W40-CP6L-Q12	40mm	Non-flush	NC	PNP	10...30VDC	≤200mA	50Hz	-25...70℃	M12 Connector	Fig.1
Ni40-W40-BP6L-Q12	40mm	Non-flush	NO+NC	PNP	10...30VDC	≤200mA	50Hz	-25...70℃	M12 Connector	Fig.1

Dimensions:

Fig.1



Plastic Rectangular-W40

Description:

Plastic housing, rectangular 40x40mm, variable orientation of active face, long - sensing distance, AC/DC 2-wire output, IP67 protection class, LED power and action indicator.

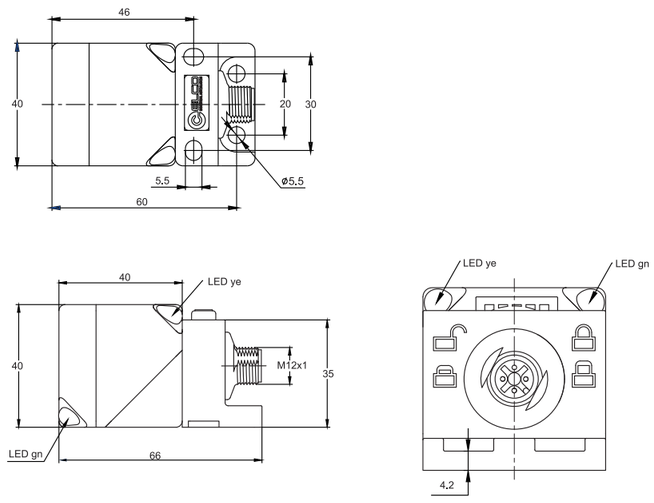
See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi25-W40-OA41L-Q12	25mm	Flush	NO	DC/AC	20...250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-25...70℃	M12 Connector	Fig.1
Fi25-W40-CA41L-Q12	25mm	Flush	NC	DC/AC	20...250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-25...70℃	M12 Connector	Fig.1
Ni40-W40-OA41L-Q12	40mm	Non-flush	NO	DC/AC	20...250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-25...70℃	M12 Connector	Fig.1
Ni40-W40-CA41L-Q12	40mm	Non-flush	NC	DC/AC	20...250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-25...70℃	M12 Connector	Fig.1

Dimensions:

Fig.1



Plastic Rectangular-WL40

Description:

Plastic housing, rectangular 40x40x118mm, DC 2-wire output, wide voltage range, IP67 protection class, power and action LED indicator.

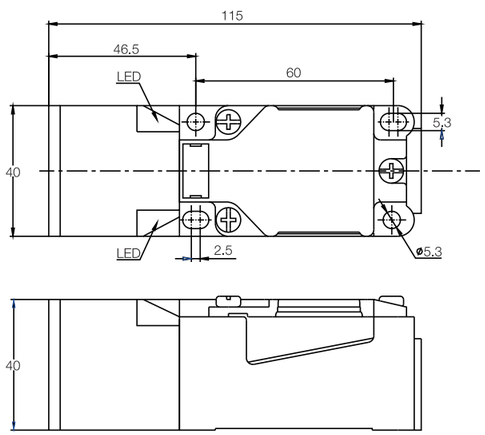
See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi15-WL40-OD6L-Q	15mm	Flush	NO DC	10...30VDC	≤100mA	150Hz	-25...70℃	Terminal	Fig.1
Ni20-WL40-OD6L-Q	20mm	Non-flush	NO DC	10...30VDC	≤100mA	150Hz	-25...70℃	Terminal	Fig.1
Fi15-WL40-CD6L-Q	15mm	Flush	NC DC	10...30VDC	≤100mA	150Hz	-25...70℃	Terminal	Fig.1
Ni20-WL40-CD6L-Q	20mm	Non-flush	NC DC	10...30VDC	≤100mA	150Hz	-25...70℃	Terminal	Fig.1
Fi15-WL40-OD9L-Q	15mm	Flush	NO DC	10...60VDC	≤100mA	150Hz	-25...70℃	Terminal	Fig.1
Ni20-WL40-OD9L-Q	20mm	Non-flush	NO DC	10...60VDC	≤100mA	150Hz	-25...70℃	Terminal	Fig.1
Fi15-WL40-CD9L-Q	15mm	Flush	NC DC	10...60VDC	≤100mA	150Hz	-25...70℃	Terminal	Fig.1
Ni20-WL40-CD9L-Q	20mm	Non-flush	NC DC	10...60VDC	≤100mA	150Hz	-25...70℃	Terminal	Fig.1

Dimensions:

Fig.1



Plastic Rectangular-WL40

Description:

Plastic housing, rectangular 40x40x118mm, DC 3/4-wire output, IP67 protection class, power and action LED indicator.

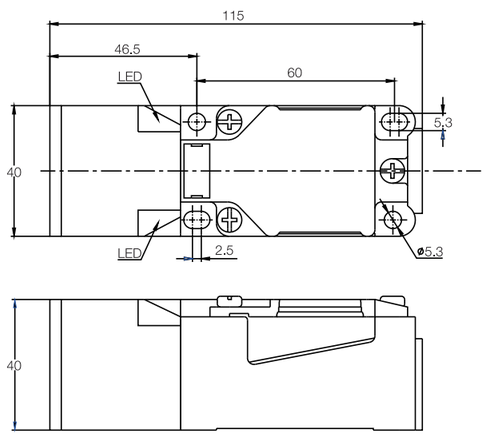
See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi15-WL40-ON6L-Q	15mm	Flush	NO	NPN	10...30VDC	≤200mA	150Hz	-25...70℃	Terminal	Fig.1
Fi15-WL40-CN6L-Q	15mm	Flush	NC	NPN	10...30VDC	≤200mA	150Hz	-25...70℃	Terminal	Fig.1
Fi15-WL40-BN6L-Q	15mm	Flush	NO+NC	NPN	10...30VDC	≤200mA	150Hz	-25...70℃	Terminal	Fig.1
Fi15-WL40-OP6L-Q	15mm	Flush	NO	PNP	10...30VDC	≤200mA	150Hz	-25...70℃	Terminal	Fig.1
Fi15-WL40-CP6L-Q	15mm	Flush	NC	PNP	10...30VDC	≤200mA	150Hz	-25...70℃	Terminal	Fig.1
Fi15-WL40-BP6L-Q	15mm	Flush	NO+NC	PNP	10...30VDC	≤200mA	150Hz	-25...70℃	Terminal	Fig.1
Ni20-WL40-ON6L-Q	20mm	Non-flush	NO	NPN	10...30VDC	≤200mA	150Hz	-25...70℃	Terminal	Fig.1
Ni20-WL40-CN6L-Q	20mm	Non-flush	NC	NPN	10...30VDC	≤200mA	150Hz	-25...70℃	Terminal	Fig.1
Ni20-WL40-BN6L-Q	20mm	Non-flush	NO+NC	NPN	10...30VDC	≤200mA	150Hz	-25...70℃	Terminal	Fig.1
Ni20-WL40-OP6L-Q	20mm	Non-flush	NO	PNP	10...30VDC	≤200mA	150Hz	-25...70℃	Terminal	Fig.1
Ni20-WL40-CP6L-Q	20mm	Non-flush	NC	PNP	10...30VDC	≤200mA	150Hz	-25...70℃	Terminal	Fig.1
Ni20-WL40-BP6L-Q	20mm	Non-flush	NO+NC	PNP	10...30VDC	≤200mA	150Hz	-25...70℃	Terminal	Fig.1

Dimensions:

Fig.1



Plastic Rectangular-WL40

Description:

Plastic housing, rectangular 40x40x118mm, DC 3/4-wire output, IP67 protection class, power and action LED indicator.

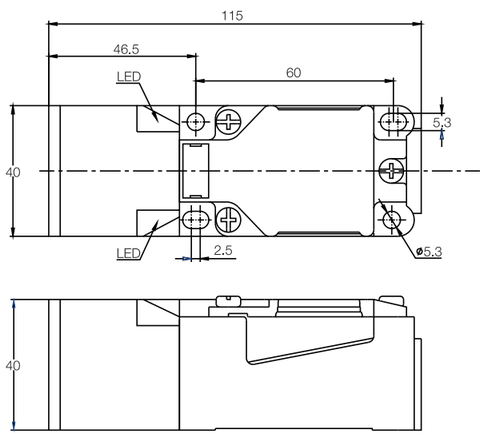
See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi15-WL40-OA41L-Q	15mm	Flush	NO	DC/AC	20...250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-25...70℃	Terminal	Fig.1
Ni20-WL40-CA41L-Q	20mm	Non-flush	NC	DC/AC	20...250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-25...70℃	Terminal	Fig.1
Fi15-WL40-VA41L-Q	15mm	Flush	NO/NC	DC/AC	20...250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-25...70℃	Terminal	Fig.1
Ni20-WL40-VA41L-Q	20mm	Non-flush	NO/NC	DC/AC	20...250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-25...70℃	Terminal	Fig.1

Dimensions:

Fig.1



Plastic Rectangular-WL40

Description:

Plastic housing, rectangular 40x40x118mm, long - sensing distance, DC 2-wire output, wide voltage range, IP67 protection class, power and action LED indicator.

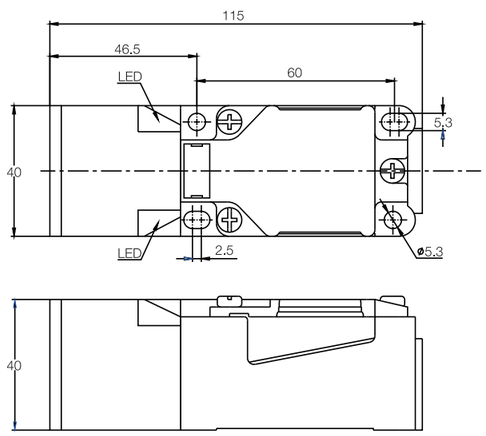
See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi25-WL40-OD6L-Q	25mm	Flush	NO	DC	10...30VDC	≤100mA	100Hz	-25...70℃	Terminal	Fig.1
Ni40-WL40-OD6L-Q	40mm	Non-flush	NO	DC	10...30VDC	≤100mA	50Hz	-25...70℃	Terminal	Fig.1
Fi25-WL40-CD6L-Q	25mm	Flush	NC	DC	10...30VDC	≤100mA	100Hz	-25...70℃	Terminal	Fig.1
Ni40-WL40-CD6L-Q	40mm	Non-flush	NC	DC	10...30VDC	≤100mA	50Hz	-25...70℃	Terminal	Fig.1
Fi25-WL40-OD9L-Q	25mm	Flush	NO	DC	10...60VDC	≤100mA	100Hz	-25...70℃	Terminal	Fig.1
Ni40-WL40-OD9L-Q	40mm	Non-flush	NO	DC	10...60VDC	≤100mA	50Hz	-25...70℃	Terminal	Fig.1
Fi25-WL40-CD9L-Q	25mm	Flush	NC	DC	10...60VDC	≤100mA	100Hz	-25...70℃	Terminal	Fig.1
Ni40-WL40-CD9L-Q	40mm	Non-flush	NC	DC	10...60VDC	≤100mA	50Hz	-25...70℃	Terminal	Fig.1

Dimensions:

Fig.1



Plastic Rectangular-WL40

Description:

Plastic housing, rectangular 40x40x118mm, long - sensing distance, DC 3/4-wire output, IP67 protection class, power and action LED indicator.

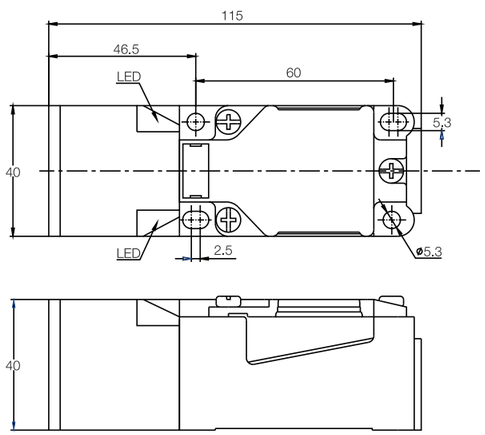
See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi25-WL40-ON6L-Q	25mm	Flush	NO	NPN	10...30VDC	≤200mA	100Hz	-25...70℃	Terminal	Fig.1
Fi25-WL40-CN6L-Q	25mm	Flush	NC	NPN	10...30VDC	≤200mA	100Hz	-25...70℃	Terminal	Fig.1
Fi25-WL40-BN6L-Q	25mm	Flush	NO+NC	NPN	10...30VDC	≤200mA	100Hz	-25...70℃	Terminal	Fig.1
Fi25-WL40-OP6L-Q	25mm	Flush	NO	PNP	10...30VDC	≤200mA	100Hz	-25...70℃	Terminal	Fig.1
Fi25-WL40-CP6L-Q	25mm	Flush	NC	PNP	10...30VDC	≤200mA	100Hz	-25...70℃	Terminal	Fig.1
Fi25-WL40-BP6L-Q	25mm	Flush	NO+NC	PNP	10...30VDC	≤200mA	100Hz	-25...70℃	Terminal	Fig.1
Ni40-WL40-ON6L-Q	40mm	Non-flush	NO	NPN	10...30VDC	≤200mA	50Hz	-25...70℃	Terminal	Fig.1
Ni40-WL40-CN6L-Q	40mm	Non-flush	NC	NPN	10...30VDC	≤200mA	50Hz	-25...70℃	Terminal	Fig.1
Ni40-WL40-BN6L-Q	40mm	Non-flush	NO+NC	NPN	10...30VDC	≤200mA	50Hz	-25...70℃	Terminal	Fig.1
Ni40-WL40-OP6L-Q	40mm	Non-flush	NO	PNP	10...30VDC	≤200mA	50Hz	-25...70℃	Terminal	Fig.1
Ni40-WL40-CP6L-Q	40mm	Non-flush	NC	PNP	10...30VDC	≤200mA	50Hz	-25...70℃	Terminal	Fig.1
Ni40-WL40-BP6L-Q	40mm	Non-flush	NO+NC	PNP	10...30VDC	≤200mA	50Hz	-25...70℃	Terminal	Fig.1

Dimensions:

Fig.1



Plastic Rectangular-WL40

Description:

Plastic housing, rectangular 40x40x118mm, long - sensing distance, AC/DC 2-wire output, IP67 protection class, power and action LED indicator.

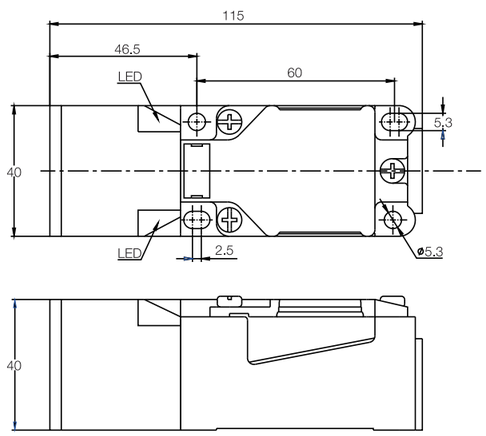
See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi25-WL40-OA41L-Q	25mm	Flush	NO	DC/AC	20...250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-25...70℃	Terminal	Fig.1
Ni40-WL40-CA41L-Q	40mm	Non-flush	NC	DC/AC	20...250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-25...70℃	Terminal	Fig.1
Fi25-WL40-VA41L-Q	25mm	Flush	NO/NC	DC/AC	20...250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-25...70℃	Terminal	Fig.1
Ni40-WL40-VA41L-Q	40mm	Non-flush	NO/NC	DC/AC	20...250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-25...70℃	Terminal	Fig.1

Dimensions:

Fig.1



Plastic Rectangular-W80

Description:

Plastic housing, rectangular 80x80mm, DC 2-wire output, wide voltage range, IP67 protection class, power and action LED indicator.

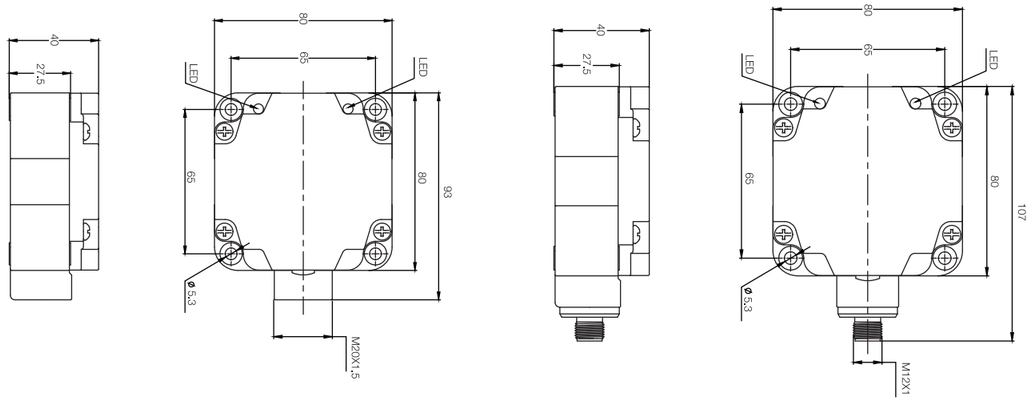
See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi40-W80-OD6L-Q	40mm	Flush	NO	DC	10...30VDC	≤100mA	50Hz	-25...70℃	Terminal	Fig.1
Ni50-W80-OD6L-Q	50mm	Non-flush	NO	DC	10...30VDC	≤100mA	30Hz	-25...70℃	Terminal	Fig.1
Fi40-W80-CD6L-Q	40mm	Flush	NC	DC	10...30VDC	≤100mA	50Hz	-25...70℃	Terminal	Fig.1
Ni50-W80-CD6L-Q	50mm	Non-flush	NC	DC	10...30VDC	≤100mA	30Hz	-25...70℃	Terminal	Fig.1
Fi40-W80-OD6L-Q12	40mm	Flush	NO	DC	10...30VDC	≤100mA	50Hz	-25...70℃	M12 Connector	Fig.2
Ni50-W80-OD6L-Q12	50mm	Non-flush	NO	DC	10...30VDC	≤100mA	30Hz	-25...70℃	M12 Connector	Fig.2
Fi40-W80-CD6L-Q12	40mm	Flush	NC	DC	10...30VDC	≤100mA	50Hz	-25...70℃	M12 Connector	Fig.2
Ni50-W80-CD6L-Q12	50mm	Non-flush	NC	DC	10...30VDC	≤100mA	30Hz	-25...70℃	M12 Connector	Fig.2
Fi40-W80-OD9L-Q	40mm	Flush	NO	DC	10...60VDC	≤100mA	50Hz	-25...70℃	Terminal	Fig.1
Ni50-W80-OD9L-Q	50mm	Non-flush	NO	DC	10...60VDC	≤100mA	30Hz	-25...70℃	Terminal	Fig.1
Fi40-W80-CD9L-Q	40mm	Flush	NC	DC	10...60VDC	≤100mA	50Hz	-25...70℃	Terminal	Fig.1
Ni50-W80-CD9L-Q	50mm	Non-flush	NC	DC	10...60VDC	≤100mA	30Hz	-25...70℃	Terminal	Fig.1
Fi40-W80-OD9L-Q12	40mm	Flush	NO	DC	10...60VDC	≤100mA	50Hz	-25...70℃	M12 Connector	Fig.2
Ni50-W80-OD9L-Q12	50mm	Non-flush	NO	DC	10...60VDC	≤100mA	30Hz	-25...70℃	M12 Connector	Fig.2
Fi40-W80-CD9L-Q12	40mm	Flush	NC	DC	10...60VDC	≤100mA	50Hz	-25...70℃	M12 Connector	Fig.2
Ni50-W80-CD9L-Q12	50mm	Non-flush	NC	DC	10...60VDC	≤100mA	30Hz	-25...70℃	M12 Connector	Fig.2

Dimensions:

Fig.1



Plastic Rectangular-W80

Description:

Plastic housing, rectangular 80x80mm, DC 3/4-wire output, IP67 protection class, power and action LED indicator.

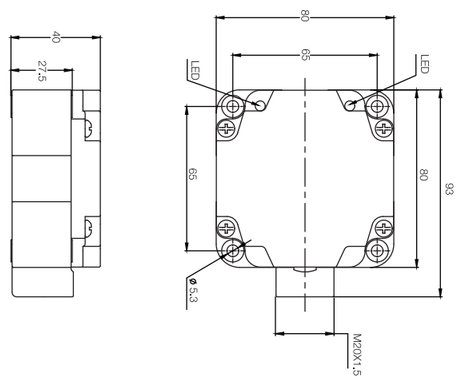
See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi40-W80-ON6L-Q	40mm	Flush	NO	NPN	10...30VDC	≤200mA	50Hz	-25...70℃	Terminal	Fig.1
Fi40-W80-CN6L-Q	40mm	Flush	NC	NPN	10...30VDC	≤200mA	50Hz	-25...70℃	Terminal	Fig.1
Fi40-W80-BN6L-Q	40mm	Flush	NO+NC	NPN	10...30VDC	≤200mA	50Hz	-25...70℃	Terminal	Fig.1
Fi40-W80-OP6L-Q	40mm	Flush	NO	PNP	10...30VDC	≤200mA	50Hz	-25...70℃	Terminal	Fig.1
Fi40-W80-CP6L-Q	40mm	Flush	NC	PNP	10...30VDC	≤200mA	50Hz	-25...70℃	Terminal	Fig.1
Fi40-W80-BP6L-Q	40mm	Flush	NO+NC	PNP	10...30VDC	≤200mA	50Hz	-25...70℃	Terminal	Fig.1
Ni50-W80-ON6L-Q	50mm	Non-flush	NO	NPN	10...30VDC	≤200mA	30Hz	-25...70℃	Terminal	Fig.1
Ni50-W80-CN6L-Q	50mm	Non-flush	NC	NPN	10...30VDC	≤200mA	30Hz	-25...70℃	Terminal	Fig.1
Ni50-W80-BN6L-Q	50mm	Non-flush	NO+NC	NPN	10...30VDC	≤200mA	30Hz	-25...70℃	Terminal	Fig.1
Ni50-W80-OP6L-Q	50mm	Non-flush	NO	PNP	10...30VDC	≤200mA	30Hz	-25...70℃	Terminal	Fig.1
Ni50-W80-CP6L-Q	50mm	Non-flush	NC	PNP	10...30VDC	≤200mA	30Hz	-25...70℃	Terminal	Fig.1
Ni50-W80-BP6L-Q	50mm	Non-flush	NO+NC	PNP	10...30VDC	≤200mA	30Hz	-25...70℃	Terminal	Fig.1

Dimensions:

Fig.1



Plastic Rectangular-W80

Description:

Plastic housing, rectangular 80x80mm, AC/DC 2-wire output, IP67 protection class, power and action LED indicator.

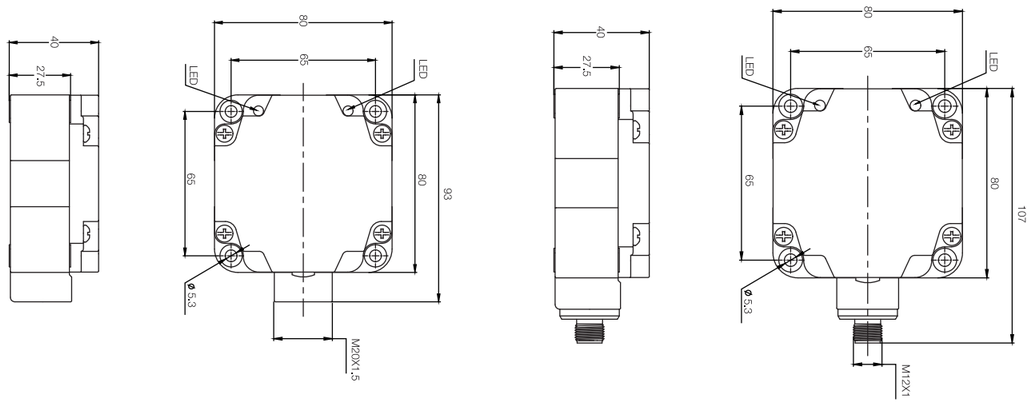
See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi40-W80-OA41L-Q	40mm	Flush	NO	DC/AC 20...250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-25...70℃	Terminal	Fig.1
Fi40-W80-VA41L-Q	40mm	Flush	NC	DC/AC 20...250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-25...70℃	Terminal	Fig.1
Ni50-W80-OA41L-Q	50mm	Non-flush	NO	DC/AC 20...250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-25...70℃	Terminal	Fig.1
Ni50-W80-VA41L-Q	50mm	Non-flush	NC	DC/AC 20...250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-25...70℃	Terminal	Fig.1
Fi40-W80-OA41L-Q12	40mm	Flush	NO/NC	DC/AC 20...250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-25...70℃	M12 Connector	Fig.2
Fi40-W80-VA41L-Q12	40mm	Flush	NO/NC	DC/AC 20...250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-25...70℃	M12 Connector	Fig.2
Ni50-W80-OA41L-Q12	50mm	Non-flush	NO/NC	DC/AC 20...250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-25...70℃	M12 Connector	Fig.2
Ni50-W80-VA41L-Q12	50mm	Non-flush	NO/NC	DC/AC 20...250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-25...70℃	M12 Connector	Fig.2

Dimensions:

Fig.1



Description:

Plastic housing, rectangular 80x80mm, long - sensing distance, DC 2-wire output, wide voltage range, IP67 protection class, power and action LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi50-W80-OD6L-Q	50mm	Flush	NO DC	10...30VDC	≤100mA	50Hz	-25...70℃	Terminal	Fig.1
Ni70-W80-OD6L-Q	70mm	Non-flush	NO DC	10...30VDC	≤100mA	30Hz	-25...70℃	Terminal	Fig.1
Fi50-W80-CD6L-Q	50mm	Flush	NC DC	10...30VDC	≤100mA	50Hz	-25...70℃	Terminal	Fig.1
Ni70-W80-CD6L-Q	70mm	Non-flush	NC DC	10...30VDC	≤100mA	30Hz	-25...70℃	Terminal	Fig.1
Fi50-W80-OD6L-Q12	50mm	Flush	NO DC	10...30VDC	≤100mA	50Hz	-25...70℃	M12 Connector	Fig.2
Ni70-W80-OD6L-Q12	70mm	Non-flush	NO DC	10...30VDC	≤100mA	30Hz	-25...70℃	M12 Connector	Fig.2
Fi50-W80-CD6L-Q12	50mm	Flush	NC DC	10...30VDC	≤100mA	50Hz	-25...70℃	M12 Connector	Fig.2
Ni70-W80-CD6L-Q12	70mm	Non-flush	NC DC	10...30VDC	≤100mA	30Hz	-25...70℃	M12 Connector	Fig.2
Fi50-W80-OD9L-Q	50mm	Flush	NO DC	10...60VDC	≤100mA	50Hz	-25...70℃	Terminal	Fig.1
Ni70-W80-OD9L-Q	70mm	Non-flush	NO DC	10...60VDC	≤100mA	30Hz	-25...70℃	Terminal	Fig.1
Fi50-W80-CD9L-Q	50mm	Flush	NC DC	10...60VDC	≤100mA	50Hz	-25...70℃	Terminal	Fig.1
Ni70-W80-CD9L-Q	70mm	Non-flush	NC DC	10...60VDC	≤100mA	30Hz	-25...70℃	Terminal	Fig.1
Fi50-W80-OD9L-Q12	50mm	Flush	NO DC	10...60VDC	≤100mA	50Hz	-25...70℃	M12 Connector	Fig.2
Ni70-W80-OD9L-Q12	70mm	Non-flush	NO DC	10...60VDC	≤100mA	30Hz	-25...70℃	M12 Connector	Fig.2
Fi50-W80-CD9L-Q12	50mm	Flush	NC DC	10...60VDC	≤100mA	50Hz	-25...70℃	M12 Connector	Fig.2
Ni70-W80-CD9L-Q12	70mm	Non-flush	NC DC	10...60VDC	≤100mA	30Hz	-25...70℃	M12 Connector	Fig.2

Dimensions:

Fig.1

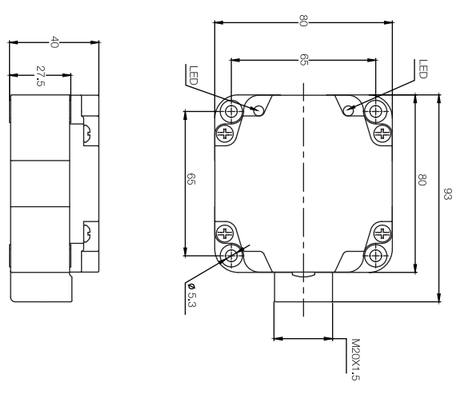
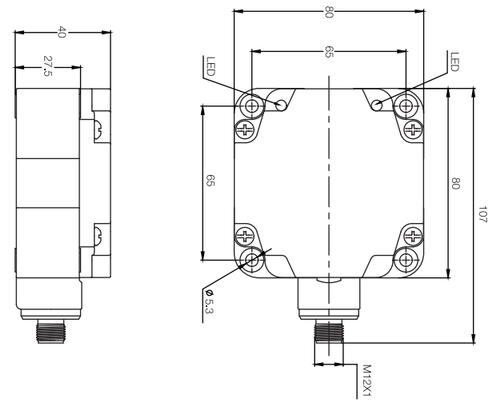


Fig.2



Plastic Rectangular-W80

Description:

Plastic housing, rectangular 80x80mm, DC 3/4-wire output, IP67 protection class, power and action LED indicator.

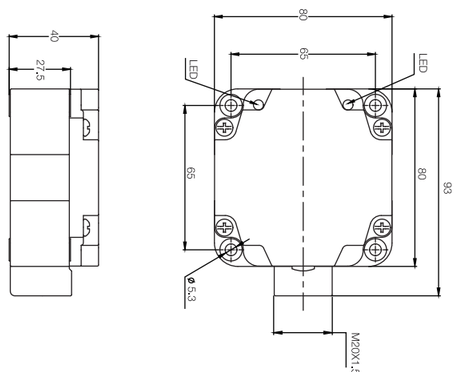
See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi50-W80-ON6L-Q12	50mm	Flush	NO	NPN	10...30VDC	≤200mA	50Hz	-25...70℃	M12 Connector	Fig.1
Fi50-W80-CN6L-Q12	50mm	Flush	NC	NPN	10...30VDC	≤200mA	50Hz	-25...70℃	M12 Connector	Fig.1
Fi50-W80-BN6L-Q12	50mm	Flush	NO+NC	NPN	10...30VDC	≤200mA	50Hz	-25...70℃	M12 Connector	Fig.1
Fi50-W80-OP6L-Q12	50mm	Flush	NO	PNP	10...30VDC	≤200mA	50Hz	-25...70℃	M12 Connector	Fig.1
Fi50-W80-CP6L-Q12	50mm	Flush	NC	PNP	10...30VDC	≤200mA	50Hz	-25...70℃	M12 Connector	Fig.1
Fi50-W80-BP6L-Q12	50mm	Flush	NO+NC	PNP	10...30VDC	≤200mA	50Hz	-25...70℃	M12 Connector	Fig.1
Ni70-W80-ON6L-Q12	70mm	Non-flush	NO	NPN	10...30VDC	≤200mA	30Hz	-25...70℃	M12 Connector	Fig.1
Ni70-W80-CN6L-Q12	70mm	Non-flush	NC	NPN	10...30VDC	≤200mA	30Hz	-25...70℃	M12 Connector	Fig.1
Ni70-W80-BN6L-Q12	70mm	Non-flush	NO+NC	NPN	10...30VDC	≤200mA	30Hz	-25...70℃	M12 Connector	Fig.1
Ni70-W80-OP6L-Q12	70mm	Non-flush	NO	PNP	10...30VDC	≤200mA	30Hz	-25...70℃	M12 Connector	Fig.1
Ni70-W80-CP6L-Q12	70mm	Non-flush	NC	PNP	10...30VDC	≤200mA	30Hz	-25...70℃	M12 Connector	Fig.1
Ni70-W80-BP6L-Q12	70mm	Non-flush	NO+NC	PNP	10...30VDC	≤200mA	30Hz	-25...70℃	M12 Connector	Fig.1

Dimensions:

Fig.1



Plastic Rectangular-W80

Description:

Plastic housing, rectangular 80x80mm, long - sensing distance, AC/DC 2-wire output, IP67 protection class, power and action LED indicator.

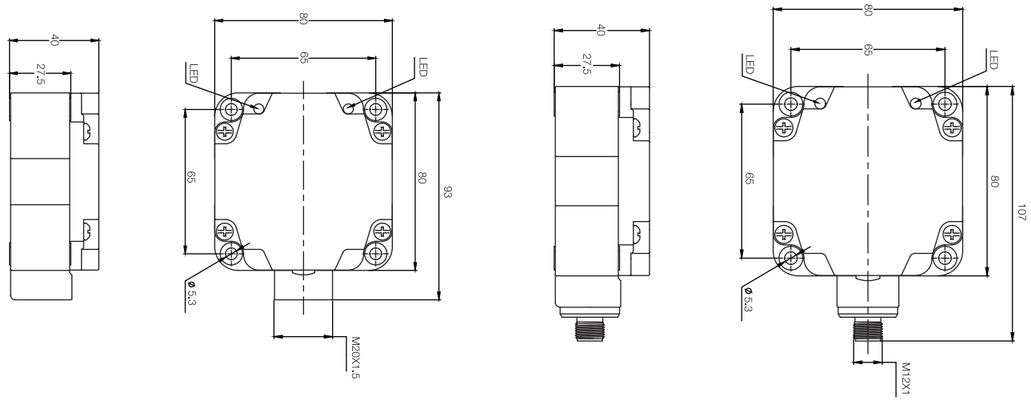
See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi50-W80-OA41L-Q	50mm	Flush	NO	DC/AC	20...250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-25...70℃	Terminal	Fig.1
Fi50-W80-VA41L-Q	50mm	Flush	NC	DC/AC	20...250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-25...70℃	Terminal	Fig.1
Ni70-W80-OA41L-Q	70mm	Non-flush	NO	DC/AC	20...250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-25...70℃	Terminal	Fig.1
Ni70-W80-VA41L-Q	70mm	Non-flush	NC	DC/AC	20...250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-25...70℃	Terminal	Fig.1
Fi50-W80-OA41L-Q12	50mm	Flush	NO/NC	DC/AC	20...250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-25...70℃	M12 Connector	Fig.2
Fi50-W80-VA41L-Q12	50mm	Flush	NO/NC	DC/AC	20...250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-25...70℃	M12 Connector	Fig.2
Ni70-W80-OA41L-Q12	70mm	Non-flush	NO/NC	DC/AC	20...250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-25...70℃	M12 Connector	Fig.2
Ni70-W80-VA41L-Q12	70mm	Non-flush	NO/NC	DC/AC	20...250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-25...70℃	M12 Connector	Fig.2

Dimensions:

Fig.1



All-Metal Inductive Sensor-M08

Description:

Integrated stainless steel housing, threaded barrel, DC 2-wire output, IP67 protection class, LED indicator, PUR cable.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
FI1-AM08-OD6L	1mm	Flush	NO DC	10...30VDC	≤100mA	200Hz	-25...70℃	2m cable	Fig.1
FI1-AM08-CD6L	1mm	Flush	NC DC	10...30VDC	≤100mA	200Hz	-25...70℃	2m cable	Fig.1
NI2-AM08-OD6L	2mm	Non-flush	NO DC	10...30VDC	≤100mA	200Hz	-25...70℃	2m cable	Fig.2
NI2-AM08-CD6L	2mm	Non-flush	NC DC	10...30VDC	≤100mA	200Hz	-25...70℃	2m cable	Fig.2

Dimensions:

Fig.1

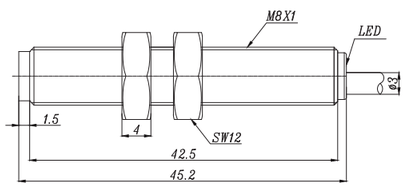
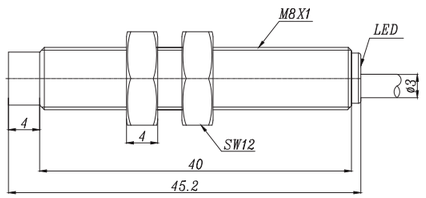


Fig.2



All-Metal Inductive Sensor-M08

Description:

Integrated stainless steel housing, threaded barrel, DC 3-wire output, IP67 protection class, LED indicator, PUR cable.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
FI1-AM08-ON6L	1mm	Flush	NO NPN	10...30VDC	≤200mA	200Hz	-25...70℃	2m cable	Fig.1
FI1-AM08-CN6L	1mm	Flush	NC NPN	10...30VDC	≤200mA	200Hz	-25...70℃	2m cable	Fig.1
FI1-AM08-OP6L	1mm	Flush	NO PNP	10...30VDC	≤200mA	200Hz	-25...70℃	2m cable	Fig.1
FI1-AM08-CP6L	1mm	Flush	NC PNP	10...30VDC	≤200mA	200Hz	-25...70℃	2m cable	Fig.1
NI2-AM08-ON6L	2mm	Non-flush	NO NPN	10...30VDC	≤200mA	200Hz	-25...70℃	2m cable	Fig.2
NI2-AM08-CN6L	2mm	Non-flush	NC NPN	10...30VDC	≤200mA	200Hz	-25...70℃	2m cable	Fig.2
NI2-AM08-OP6L	2mm	Non-flush	NO PNP	10...30VDC	≤200mA	200Hz	-25...70℃	2m cable	Fig.2
NI2-AM08-CP6L	2mm	Non-flush	NC PNP	10...30VDC	≤200mA	200Hz	-25...70℃	2m cable	Fig.2

Dimensions:

Fig.1

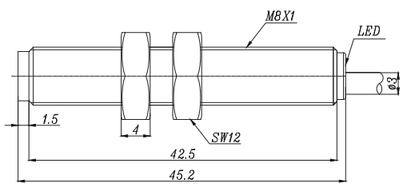
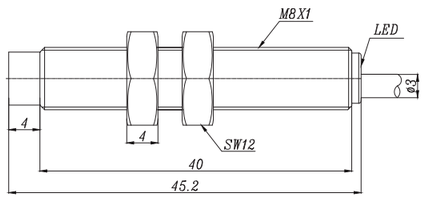


Fig.2



All-Metal Inductive Sensor-M12

Description:

Integrated stainless steel housing, threaded barrel, DC 2-wire output, IP67 protection class, LED indicator, PUR cable.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
FI2-AM12-ON6L	2mm	Flush	NO	NPN	10...30VDC	≤200mA	200Hz	-25...70℃	2m cable	Fig.1
FI2-AM12-CN6L	2mm	Flush	NC	NPN	10...30VDC	≤200mA	200Hz	-25...70℃	2m cable	Fig.1
FI2-AM12-OP6L	2mm	Flush	NO	PNP	10...30VDC	≤200mA	200Hz	-25...70℃	2m cable	Fig.1
FI2-AM12-CP6L	2mm	Flush	NC	PNP	10...30VDC	≤200mA	200Hz	-25...70℃	2m cable	Fig.1
NI4-AM12-ON6L	4mm	Non-flush	NO	NPN	10...30VDC	≤200mA	200Hz	-25...70℃	2m cable	Fig.2
NI4-AM12-CN6L	4mm	Non-flush	NC	NPN	10...30VDC	≤200mA	200Hz	-25...70℃	2m cable	Fig.2
NI4-AM12-OP6L	4mm	Non-flush	NO	PNP	10...30VDC	≤200mA	200Hz	-25...70℃	2m cable	Fig.2
NI4-AM12-CP6L	4mm	Non-flush	NC	PNP	10...30VDC	≤200mA	200Hz	-25...70℃	2m cable	Fig.2
FI2-AM12-ON6L-Q12	2mm	Flush	NO	NPN	10...30VDC	≤200mA	200Hz	-25...70℃	M12 Connector	Fig.3
FI2-AM12-CN6L-Q12	2mm	Flush	NC	NPN	10...30VDC	≤200mA	200Hz	-25...70℃	M12 Connector	Fig.3
FI2-AM12-OP6L-Q12	2mm	Flush	NO	PNP	10...30VDC	≤200mA	200Hz	-25...70℃	M12 Connector	Fig.3
FI2-AM12-CP6L-Q12	2mm	Flush	NC	PNP	10...30VDC	≤200mA	200Hz	-25...70℃	M12 Connector	Fig.3
NI4-AM12-ON6L-Q12	4mm	Non-flush	NO	NPN	10...30VDC	≤200mA	200Hz	-25...70℃	M12 Connector	Fig.4
NI4-AM12-CN6L-Q12	4mm	Non-flush	NC	NPN	10...30VDC	≤200mA	200Hz	-25...70℃	M12 Connector	Fig.4
NI4-AM12-OP6L-Q12	4mm	Non-flush	NO	PNP	10...30VDC	≤200mA	200Hz	-25...70℃	M12 Connector	Fig.4
NI4-AM12-CP6L-Q12	4mm	Non-flush	NC	PNP	10...30VDC	≤200mA	200Hz	-25...70℃	M12 Connector	Fig.4

Dimensions:

Fig.1

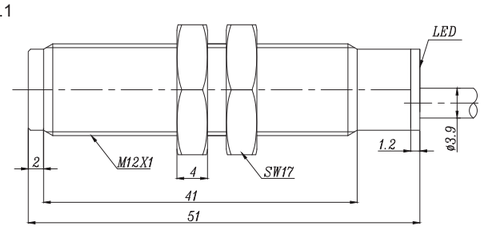


Fig.2

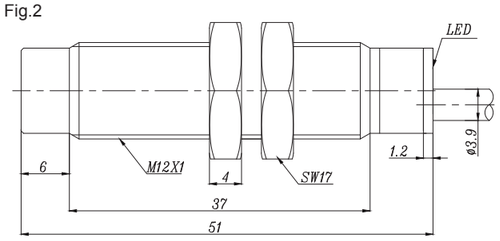


Fig.3

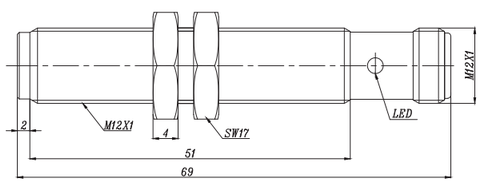
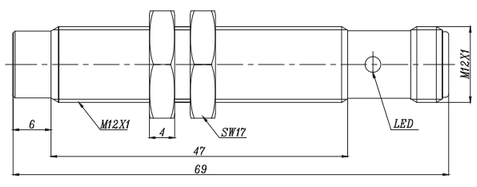


Fig.4



All-Metal Inductive Sensor-M12

Description:

Integrated stainless steel housing, threaded barrel, DC 3-wire output, IP67 protection class, LED indicator, PUR cable.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
FI2-AM12-OD6L	2mm	Flush	NO	DC	10...30VDC	≤100mA	200Hz	-25...70℃	2m cable	Fig.1
FI2-AM12-CD6L	2mm	Flush	NC	DC	10...30VDC	≤100mA	200Hz	-25...70℃	2m cable	Fig.1
NI4-AM12-OD6L	4mm	Non-flush	NO	DC	10...30VDC	≤100mA	200Hz	-25...70℃	2m cable	Fig.2
NI4-AM12-CD6L	4mm	Non-flush	NC	DC	10...30VDC	≤100mA	200Hz	-25...70℃	2m cable	Fig.2
FI2-AM12-OD6L-Q12	2mm	Flush	NO	DC	10...30VDC	≤100mA	200Hz	-25...70℃	M12 Connector	Fig.3
FI2-AM12-CD6L-Q12	2mm	Flush	NC	DC	10...30VDC	≤100mA	200Hz	-25...70℃	M12 Connector	Fig.3
NI4-AM12-OD6L-Q12	4mm	Non-flush	NO	DC	10...30VDC	≤100mA	200Hz	-25...70℃	M12 Connector	Fig.4
NI4-AM12-CD6L-Q12	4mm	Non-flush	NC	DC	10...30VDC	≤100mA	200Hz	-25...70℃	M12 Connector	Fig.4

Dimensions:

Fig.1

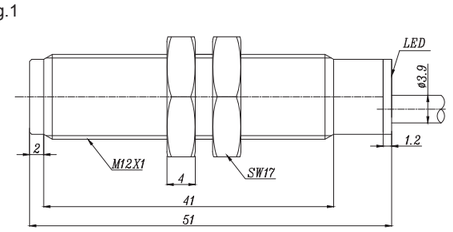


Fig.2

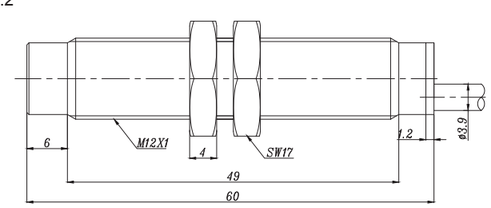


Fig.3

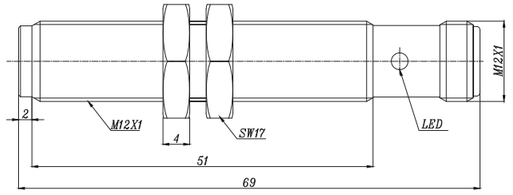
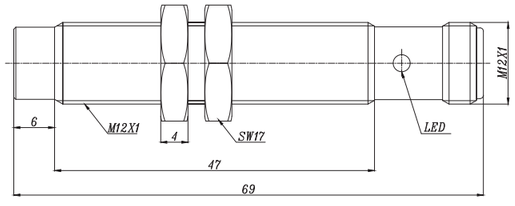


Fig.4



All-Metal Inductive Sensor-M12

Description:

Integrated stainless steel housing, threaded barrel, AC 2-wire output, IP67 protection class, LED indicator, PUR cable.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
FI2-AM12-OSA3L	2mm	Flush	NO	AC	20...250VAC	≤200mA	40Hz	-25...70℃	2m cable	Fig.1
FI2-AM12-CSA3L	2mm	Flush	NC	AC	20...250VAC	≤200mA	40Hz	-25...70℃	2m cable	Fig.1
NI4-AM12-OSA3L	4mm	Non-flush	NO	AC	20...250VAC	≤200mA	40Hz	-25...70℃	2m cable	Fig.2
NI4-AM12-CSA3L	4mm	Non-flush	NC	AC	20...250VAC	≤200mA	40Hz	-25...70℃	2m cable	Fig.2
FI2-AM12-OSA3L-Q12	2mm	Flush	NO	AC	20...250VAC	≤200mA	40Hz	-25...70℃	M12 Connector	Fig.3
FI2-AM12-CSA3L-Q12	2mm	Flush	NC	AC	20...250VAC	≤200mA	40Hz	-25...70℃	M12 Connector	Fig.3
NI4-AM12-OSA3L-Q12	4mm	Non-flush	NO	AC	20...250VAC	≤200mA	40Hz	-25...70℃	M12 Connector	Fig.4
NI4-AM12-CSA3L-Q12	4mm	Non-flush	NC	AC	20...250VAC	≤200mA	40Hz	-25...70℃	M12 Connector	Fig.4

Dimensions:

Fig.1

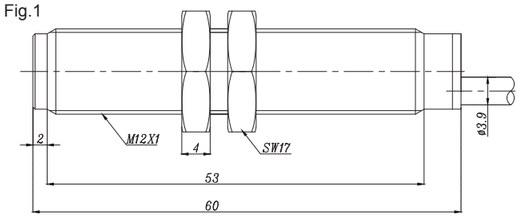


Fig.2

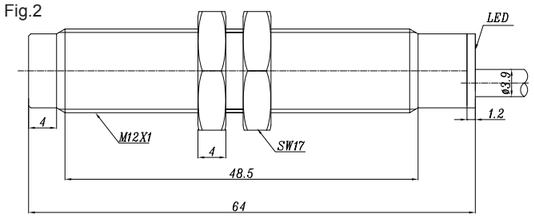


Fig.3

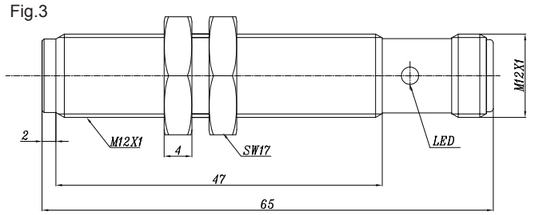
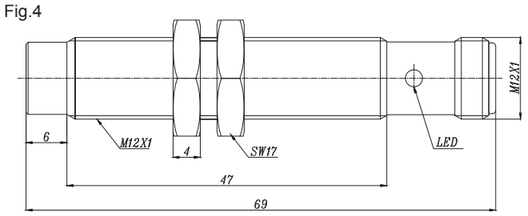
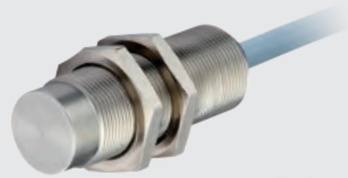


Fig.4



All-Metal Inductive Sensor-M18



Description:

Integrated stainless steel housing, threaded barrel, DC 2-wire output, IP67 protection class, LED indicator, PUR cable.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
FI5-AM18-OD6L	5mm	Flush	NO	DC	10...30VDC	≤100mA	800Hz	-25...70℃	2m cable	Fig.1
FI5-AM18-CD6L	5mm	Flush	NC	DC	10...30VDC	≤100mA	800Hz	-25...70℃	2m cable	Fig.1
NI8-AM18-OD6L	8mm	Non-flush	NO	DC	10...30VDC	≤100mA	500Hz	-25...70℃	2m cable	Fig.2
NI8-AM18-CD6L	8mm	Non-flush	NC	DC	10...30VDC	≤100mA	500Hz	-25...70℃	2m cable	Fig.2
FI5-AM18-OD6L-Q12	5mm	Flush	NO	DC	10...30VDC	≤100mA	800Hz	-25...70℃	M12 Connector	Fig.3
FI5-AM18-CD6L-Q12	5mm	Flush	NC	DC	10...30VDC	≤100mA	800Hz	-25...70℃	M12 Connector	Fig.3
NI8-AM18-OD6L-Q12	8mm	Non-flush	NO	DC	10...30VDC	≤100mA	500Hz	-25...70℃	M12 Connector	Fig.4
NI8-AM18-CD6L-Q12	8mm	Non-flush	NC	DC	10...30VDC	≤100mA	500Hz	-25...70℃	M12 Connector	Fig.4

Dimensions:

Fig.1

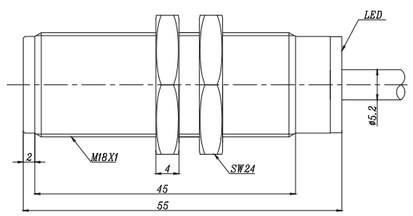


Fig.2

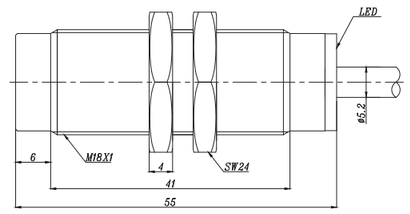


Fig.3

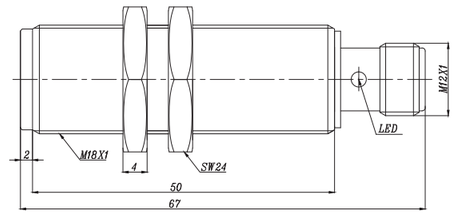
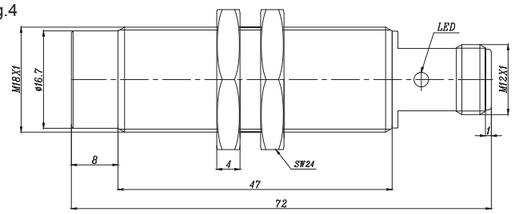
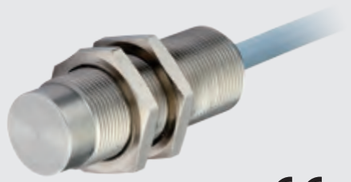


Fig.4



All-Metal Inductive Sensor-M18



Description:

Integrated stainless steel housing, threaded barrel, DC 3-wire output, IP67 protection class, LED indicator, PUR cable.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
FI5-AM18-ON6L	5mm	Flush	NO NPN	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.1
FI5-AM18-CN6L	5mm	Flush	NC NPN	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.1
FI5-AM18-OP6L	5mm	Flush	NO PNP	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.1
FI5-AM18-CP6L	5mm	Flush	NC PNP	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.1
NI8-AM18-ON6L	8mm	Flush	NO NPN	10...30VDC	≤200mA	500Hz	-25...70℃	2m cable	Fig.2
NI8-AM18-CN6L	8mm	Flush	NC NPN	10...30VDC	≤200mA	500Hz	-25...70℃	2m cable	Fig.2
NI8-AM18-OP6L	8mm	Flush	NO PNP	10...30VDC	≤200mA	500Hz	-25...70℃	2m cable	Fig.2
NI8-AM18-CP6L	8mm	Flush	NC PNP	10...30VDC	≤200mA	500Hz	-25...70℃	2m cable	Fig.2
FI5-AM18-ON6L-Q12	5mm	Non-flush	NO NPN	10...30VDC	≤200mA	800Hz	-25...70℃	M12 Connector	Fig.3
FI5-AM18-CN6L-Q12	5mm	Non-flush	NC NPN	10...30VDC	≤200mA	800Hz	-25...70℃	M12 Connector	Fig.3
FI5-AM18-OP6L-Q12	5mm	Non-flush	NO PNP	10...30VDC	≤200mA	800Hz	-25...70℃	M12 Connector	Fig.3
FI5-AM18-CP6L-Q12	5mm	Non-flush	NC PNP	10...30VDC	≤200mA	800Hz	-25...70℃	M12 Connector	Fig.3
NI8-AM18-ON6L-Q12	8mm	Non-flush	NO NPN	10...30VDC	≤200mA	500Hz	-25...70℃	M12 Connector	Fig.4
NI8-AM18-CN6L-Q12	8mm	Non-flush	NC NPN	10...30VDC	≤200mA	500Hz	-25...70℃	M12 Connector	Fig.4
NI8-AM18-OP6L-Q12	8mm	Non-flush	NO PNP	10...30VDC	≤200mA	500Hz	-25...70℃	M12 Connector	Fig.4
NI8-AM18-CP6L-Q12	8mm	Non-flush	NC PNP	10...30VDC	≤200mA	500Hz	-25...70℃	M12 Connector	Fig.4

Dimensions:

Fig.1

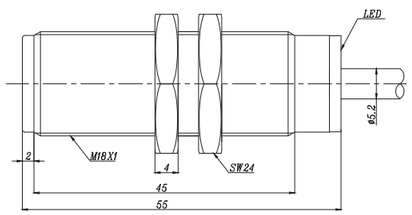


Fig.2

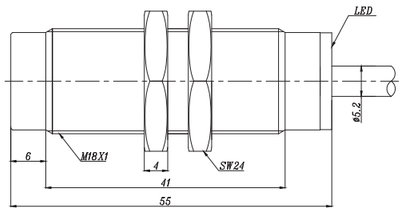


Fig.3

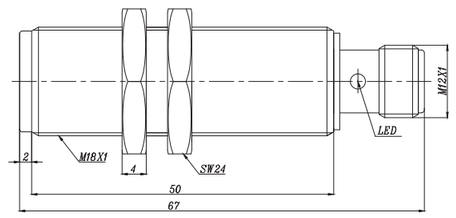
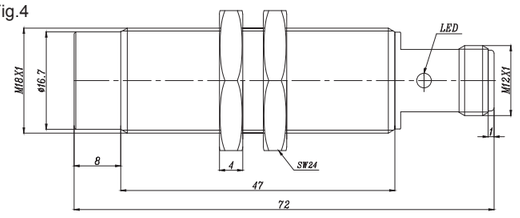
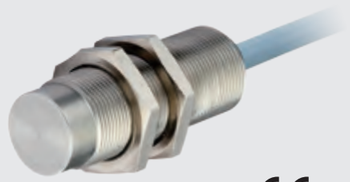


Fig.4



All-Metal Inductive Sensor-M18



Description:

Integrated stainless steel housing, threaded barrel, AC 2-wire output, IP67 protection class, LED indicator, PUR cable.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
FI5-AM18-OSA3L	5mm	Flush	NO AC	20...250VAC	≤200mA	40Hz	-25...70℃	2m cable	Fig.1
FI5-AM18-CSA3L	5mm	Flush	NC AC	20...250VAC	≤200mA	40Hz	-25...70℃	2m cable	Fig.1
NI8-AM18-OSA3L	8mm	Non-flush	NO AC	20...250VAC	≤200mA	40Hz	-25...70℃	2m cable	Fig.2
NI8-AM18-CSA3L	8mm	Non-flush	NC AC	20...250VAC	≤200mA	40Hz	-25...70℃	2m cable	Fig.2
FI5-AM18-OSA3L-Q12	5mm	Flush	NO AC	20...250VAC	≤200mA	40Hz	-25...70℃	M12 Connector	Fig.3
FI5-AM18-CSA3L-Q12	5mm	Flush	NC AC	20...250VAC	≤200mA	40Hz	-25...70℃	M12 Connector	Fig.3
NI8-AM18-OSA3L-Q12	8mm	Non-flush	NO AC	20...250VAC	≤200mA	40Hz	-25...70℃	M12 Connector	Fig.4
NI8-AM18-CSA3L-Q12	8mm	Non-flush	NC AC	20...250VAC	≤200mA	40Hz	-25...70℃	M12 Connector	Fig.4

Dimensions:

Fig.1

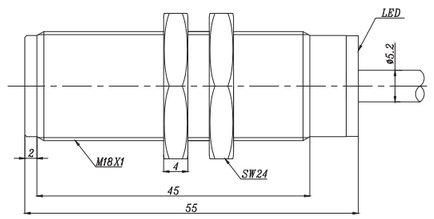


Fig.2

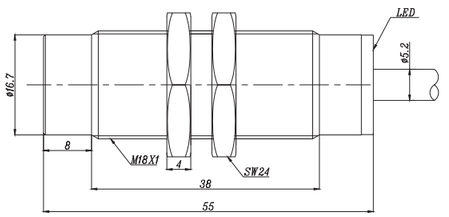


Fig.3

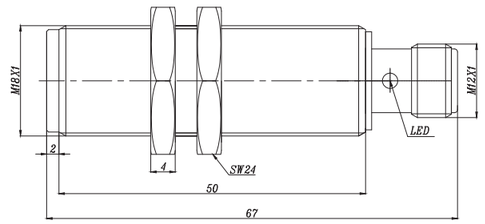
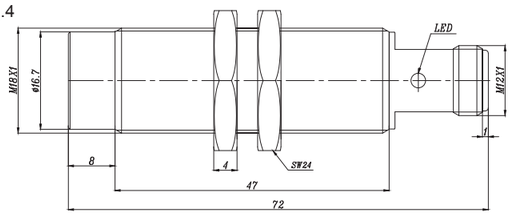


Fig.4



All-Metal Inductive Sensor-M30

Description:

Integrated stainless steel housing, threaded barrel, DC 2-wire output, IP67 protection class, LED indicator, PUR cable.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
FI10-AM30-OD6L	10mm	Flush	NO DC	10...30VDC	≤100mA	400Hz	-25...70˚C	2m cable	Fig.1
FI10-AM30-CD6L	10mm	Flush	NC DC	10...30VDC	≤100mA	400Hz	-25...70˚C	2m cable	Fig.1
NI15-AM30-OD6L	15mm	Non-flush	NO DC	10...30VDC	≤100mA	200Hz	-25...70˚C	2m cable	Fig.2
NI15-AM30-CD6L	15mm	Non-flush	NC DC	10...30VDC	≤100mA	200Hz	-25...70˚C	2m cable	Fig.2
FI10-AM30-OD6L-Q12	10mm	Flush	NO DC	10...30VDC	≤100mA	400Hz	-25...70˚C	M12 Connector	Fig.3
FI10-AM30-CD6L-Q12	10mm	Flush	NC DC	10...30VDC	≤100mA	400Hz	-25...70˚C	M12 Connector	Fig.3
NI15-AM30-OD6L-Q12	15mm	Non-flush	NO DC	10...30VDC	≤100mA	200Hz	-25...70˚C	M12 Connector	Fig.4
NI15-AM30-CD6L-Q12	15mm	Non-flush	NC DC	10...30VDC	≤100mA	200Hz	-25...70˚C	M12 Connector	Fig.4

Dimensions:

Fig.1

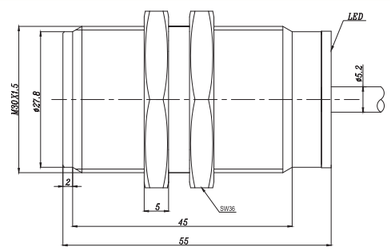


Fig.2

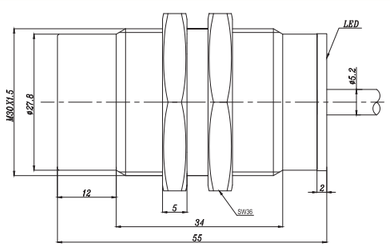


Fig.3

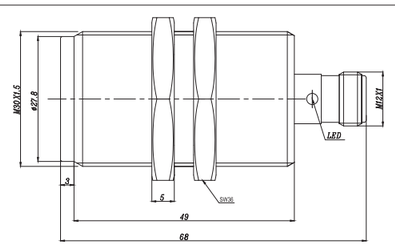
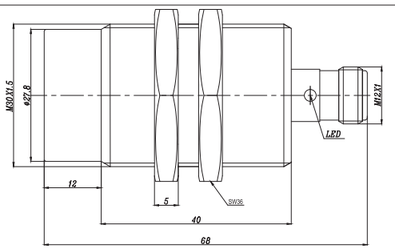


Fig.4



All-Metal Inductive Sensor-M30

Description:

Integrated stainless steel housing, threaded barrel, DC 3-wire output, IP67 protection class, LED indicator, PUR cable.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
FI10-AM30-ON6L	10mm	Flush	NO NPN	10...30VDC	≤200mA	400Hz	-25...70˚C	2m cable	Fig.1
FI10-AM30-CN6L	10mm	Flush	NC NPN	10...30VDC	≤200mA	400Hz	-25...70˚C	2m cable	Fig.1
FI10-AM30-OP6L	10mm	Flush	NO PNP	10...30VDC	≤200mA	400Hz	-25...70˚C	2m cable	Fig.1
FI10-AM30-CP6L	10mm	Flush	NC PNP	10...30VDC	≤200mA	400Hz	-25...70˚C	2m cable	Fig.1
NI15-AM30-ON6L	15mm	Flush	NO NPN	10...30VDC	≤200mA	200Hz	-25...70˚C	2m cable	Fig.2
NI15-AM30-CN6L	15mm	Flush	NC NPN	10...30VDC	≤200mA	200Hz	-25...70˚C	2m cable	Fig.2
NI15-AM30-OP6L	15mm	Flush	NO PNP	10...30VDC	≤200mA	200Hz	-25...70˚C	2m cable	Fig.2
NI15-AM30-CP6L	15mm	Flush	NC PNP	10...30VDC	≤200mA	200Hz	-25...70˚C	2m cable	Fig.2
FI10-AM30-ON6L-Q12	10mm	Non-flush	NO NPN	10...30VDC	≤200mA	400Hz	-25...70˚C	M12 Connector	Fig.3
FI10-AM30-CN6L-Q12	10mm	Non-flush	NC NPN	10...30VDC	≤200mA	400Hz	-25...70˚C	M12 Connector	Fig.3
FI10-AM30-OP6L-Q12	10mm	Non-flush	NO PNP	10...30VDC	≤200mA	400Hz	-25...70˚C	M12 Connector	Fig.3
FI10-AM30-CP6L-Q12	10mm	Non-flush	NC PNP	10...30VDC	≤200mA	400Hz	-25...70˚C	M12 Connector	Fig.3
NI15-AM30-ON6L-Q12	15mm	Non-flush	NO NPN	10...30VDC	≤200mA	200Hz	-25...70˚C	M12 Connector	Fig.4
NI15-AM30-CN6L-Q12	15mm	Non-flush	NC NPN	10...30VDC	≤200mA	200Hz	-25...70˚C	M12 Connector	Fig.4
NI15-AM30-OP6L-Q12	15mm	Non-flush	NO PNP	10...30VDC	≤200mA	200Hz	-25...70˚C	M12 Connector	Fig.4
NI15-AM30-CP6L-Q12	15mm	Non-flush	NC PNP	10...30VDC	≤200mA	200Hz	-25...70˚C	M12 Connector	Fig.4

Dimensions:

Fig.1

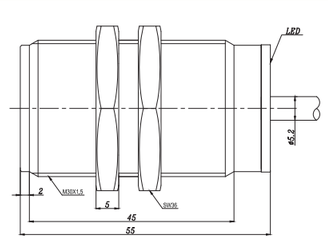


Fig.2

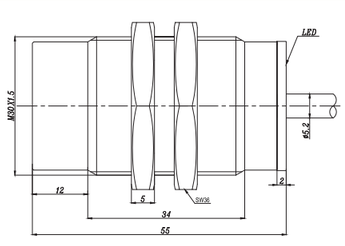


Fig.3

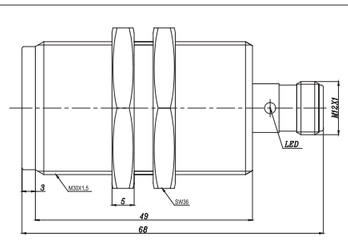
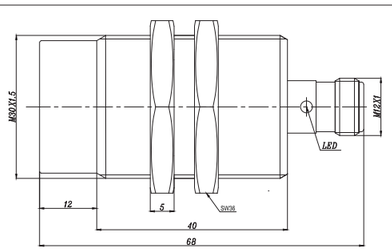


Fig.4



All-Metal Inductive Sensor-M30

Description:

Integrated stainless steel housing, threaded barrel, AC 2-wire output, IP67 protection class, LED indicator, PUR cable.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
FI10-AM30-OSA3L	10mm	Flush	NO AC	20...250VAC	≤200mA	40Hz	-25...70℃	2m cable	Fig.1
FI10-AM30-CSA3L	10mm	Flush	NC AC	20...250VAC	≤200mA	40Hz	-25...70℃	2m cable	Fig.1
NI15-AM30-OSA3L	15mm	Non-flush	NO AC	20...250VAC	≤200mA	40Hz	-25...70℃	2m cable	Fig.2
NI15-AM30-CSA3L	15mm	Non-flush	NC AC	20...250VAC	≤200mA	40Hz	-25...70℃	2m cable	Fig.2
FI10-AM30-OSA3L-Q12	10mm	Flush	NO AC	20...250VAC	≤200mA	40Hz	-25...70℃	M12 Connector	Fig.3
FI10-AM30-CSA3L-Q12	10mm	Flush	NC AC	20...250VAC	≤200mA	40Hz	-25...70℃	M12 Connector	Fig.3
NI15-AM30-OSA3L-Q12	15mm	Non-flush	NO AC	20...250VAC	≤200mA	40Hz	-25...70℃	M12 Connector	Fig.4
NI15-AM30-CSA3L-Q12	15mm	Non-flush	NC AC	20...250VAC	≤200mA	40Hz	-25...70℃	M12 Connector	Fig.4

Dimensions:

Fig.1

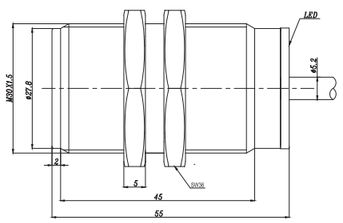


Fig.2

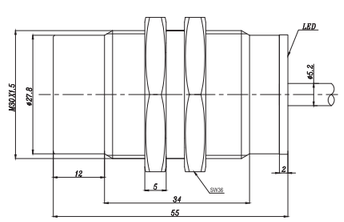


Fig.3

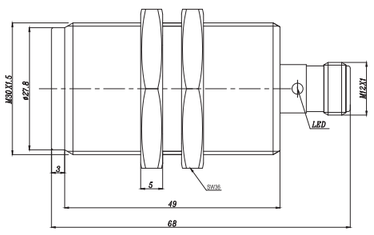
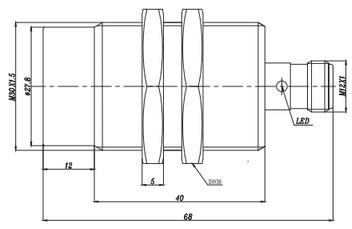


Fig.4



High Pressure Resistant

Description:

Stainless steel housing, threaded barrel, DC 3-wire output, IP68 protection class, pressure range max. 500 bar, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi1.5D-KM12-OP6L	1.5mm	Flush	NO PNP	10...30V DC	≤200mA	1000Hz	-25...70°C	2m cable	Fig.1
Fi1.5D-KM12-ON6L	1.5mm	Flush	NO NPN	10...30V DC	≤200mA	1000Hz	-25...70°C	2m cable	Fig.1
Fi1.5D-KM12-CP6L	1.5mm	Flush	NC PNP	10...30V DC	≤200mA	1000Hz	-25...70°C	2m cable	Fig.1
Fi1.5D-KM12-CN6L	1.5mm	Flush	NC NPN	10...30V DC	≤200mA	1000Hz	-25...70°C	2m cable	Fig.1
Fi1.5D-KM12-OP6L-Q12	1.5mm	Flush	NO PNP	10...30V DC	≤200mA	1000Hz	-25...70°C	M12 Connector	Fig.2
Fi1.5D-KM12-ON6L-Q12	1.5mm	Flush	NO NPN	10...30V DC	≤200mA	1000Hz	-25...70°C	M12 Connector	Fig.2
Fi1.5D-KM12-CP6L-Q12	1.5mm	Flush	NC PNP	10...30V DC	≤200mA	1000Hz	-25...70°C	M12 Connector	Fig.2
Fi1.5D-KM12-CN6L-Q12	1.5mm	Flush	NC NPN	10...30V DC	≤200mA	1000Hz	-25...70°C	M12 Connector	Fig.2

Dimensions:

Fig.1

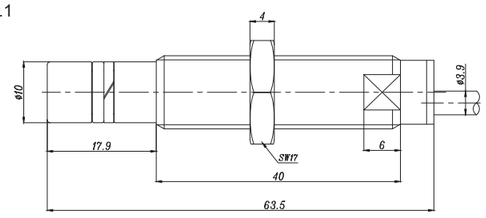
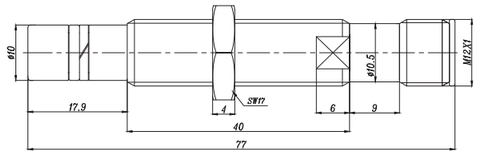


Fig.2



High Pressure Resistant

Description:

Stainless steel housing, threaded barrel, DC 3-wire output, IP68 protection class, pressure range max. 500 bar, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi3D-KM18-OP6L	3mm	Flush	NO PNP	10...30VDC	≤200mA	1000Hz	-25...70°C	2m cable	Fig.1
Fi3D-KM18-ON6L	3mm	Flush	NO NPN	10...30VDC	≤200mA	1000Hz	-25...70°C	2m cable	Fig.1
Fi3D-KM18-CP6L	3mm	Flush	NC PNP	10...30VDC	≤200mA	1000Hz	-25...70°C	2m cable	Fig.1
Fi3D-KM18-CN6L	3mm	Flush	NC NPN	10...30VDC	≤200mA	1000Hz	-25...70°C	2m cable	Fig.1
Fi3D-KM18-OP6L-Q12	3mm	Flush	NO PNP	10...30VDC	≤200mA	1000Hz	-25...70°C	M12 Connector	Fig.2
Fi3D-KM18-ON6L-Q12	3mm	Flush	NO NPN	10...30VDC	≤200mA	1000Hz	-25...70°C	M12 Connector	Fig.2
Fi3D-KM18-CP6L-Q12	3mm	Flush	NC PNP	10...30VDC	≤200mA	1000Hz	-25...70°C	M12 Connector	Fig.2
Fi3D-KM18-CN6L-Q12	3mm	Flush	NC NPN	10...30VDC	≤200mA	1000Hz	-25...70°C	M12 Connector	Fig.2

Dimensions:

Fig.1

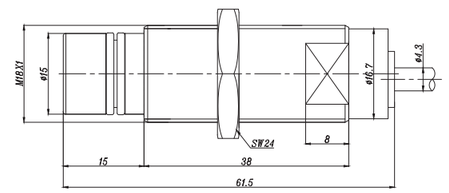
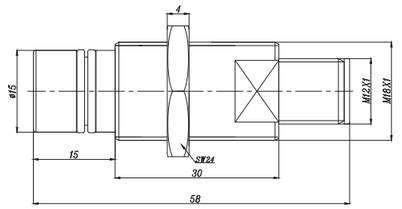
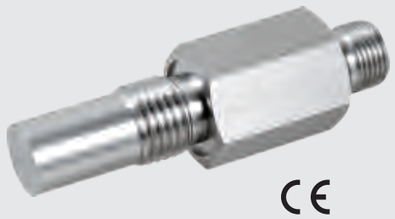


Fig.2



High Pressure Resistant



Description:

Steel housing, threaded barrel, DC 3-wire output, IP68 protection class, pressure range max. 500 bar, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi2D-KM14H1-OP6L-Q12	2mm	Flush	NO	PNP	10...30VDC	≤200mA	1000Hz	-25...70℃	M12 Connector	Fig.1
Fi2D-KM14H1-ON6L-Q12	2mm	Flush	NO	NPN	10...30VDC	≤200mA	1000Hz	-25...70℃	M12 Connector	Fig.1
Fi2D-KM14H1-CP6L-Q12	2mm	Flush	NC	PNP	10...30VDC	≤200mA	1000Hz	-25...70℃	M12 Connector	Fig.1
Fi2D-KM14H1-CN6L-Q12	2mm	Flush	NC	NPN	10...30VDC	≤200mA	1000Hz	-25...70℃	M12 Connector	Fig.1
Fi2D-KM14H2-OP6L-Q12	2mm	Flush	NO	PNP	10...30VDC	≤200mA	1000Hz	-25...70℃	M12 Connector	Fig.2
Fi2D-KM14H2-ON6L-Q12	2mm	Flush	NO	NPN	10...30VDC	≤200mA	1000Hz	-25...70℃	M12 Connector	Fig.2
Fi2D-KM14H2-CP6L-Q12	2mm	Flush	NC	PNP	10...30VDC	≤200mA	1000Hz	-25...70℃	M12 Connector	Fig.2
Fi2D-KM14H2-CN6L-Q12	2mm	Flush	NC	NPN	10...30VDC	≤200mA	1000Hz	-25...70℃	M12 Connector	Fig.2

Dimensions:

Fig.1

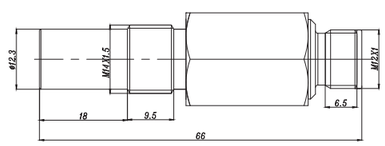
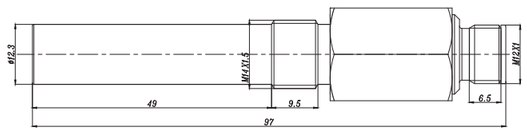
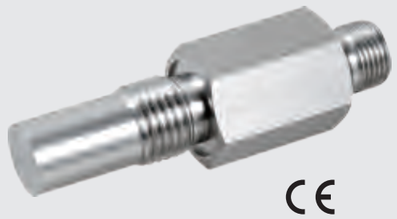


Fig.2



High Pressure Resistant



Description:

Integrated stainless steel housing, threaded barrel, DC 3-wire output, IP68 protection class, pressure range max. 500 bar, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi2D-AM14H1-OP6L-Q12	2mm	Flush	NO	PNP	10...30VDC	≤200mA	1000Hz	-25...70℃	M12 Connector	Fig.1
Fi2D-AM14H1-ON6L-Q12	2mm	Flush	NO	NPN	10...30VDC	≤200mA	1000Hz	-25...70℃	M12 Connector	Fig.1
Fi2D-AM14H1-CP6L-Q12	2mm	Flush	NC	PNP	10...30VDC	≤200mA	1000Hz	-25...70℃	M12 Connector	Fig.1
Fi2D-AM14H1-CN6L-Q12	2mm	Flush	NC	NPN	10...30VDC	≤200mA	1000Hz	-25...70℃	M12 Connector	Fig.1
Fi2D-AM14H2-OP6L-Q12	2mm	Flush	NO	PNP	10...30VDC	≤200mA	1000Hz	-25...70℃	M12 Connector	Fig.2
Fi2D-AM14H2-ON6L-Q12	2mm	Flush	NO	NPN	10...30VDC	≤200mA	1000Hz	-25...70℃	M12 Connector	Fig.2
Fi2D-AM14H2-CP6L-Q12	2mm	Flush	NC	PNP	10...30VDC	≤200mA	1000Hz	-25...70℃	M12 Connector	Fig.2
Fi2D-AM14H2-CN6L-Q12	2mm	Flush	NC	NPN	10...30VDC	≤200mA	1000Hz	-25...70℃	M12 Connector	Fig.2

Dimensions:

Fig.1

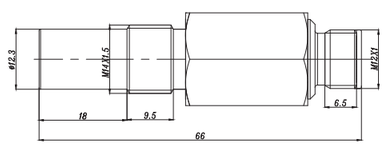
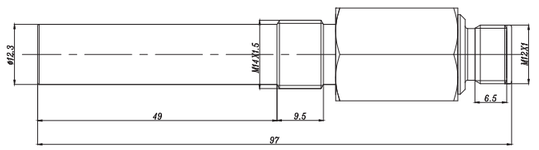


Fig.2



NAMUR

Description:

Metal housing, standard operating voltage for explosion-proof applications, configured safety barrier (recommended ELCO ECXI series), IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi1.5-KM08S-NE	1.5mm	Flush	NAMUR	7.7…9VDC	≥2.2mA (Not trigger) ≤1mA (Trigger)	1000Hz	-25...70˚C	2m cable	Fig.1
Ni2-KM08S-NE	2mm	Non-flush	NAMUR	7.7…9VDC	≥2.2mA (Not trigger) ≤1mA (Trigger)	800Hz	-25...70˚C	2m cable	Fig.2
Fi2-M12S-NE	2mm	Flush	NAMUR	7.7…9VDC	≥2.2mA (Not trigger) ≤1mA (Trigger)	1000Hz	-25...70˚C	2m cable	Fig.3
Ni4-M12S-NE	4mm	Non-flush	NAMUR	7.7…9VDC	≥2.2mA (Not trigger) ≤1mA (Trigger)	800Hz	-25...70˚C	2m cable	Fig.4

Dimensions:

Fig.1

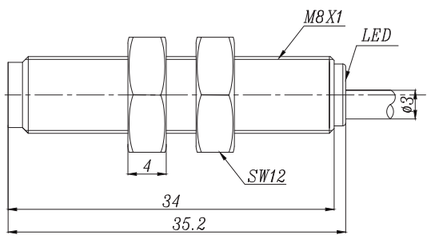


Fig.2

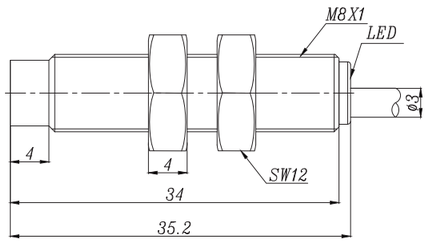


Fig.3

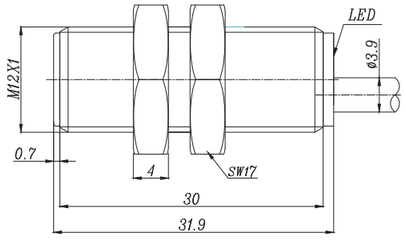
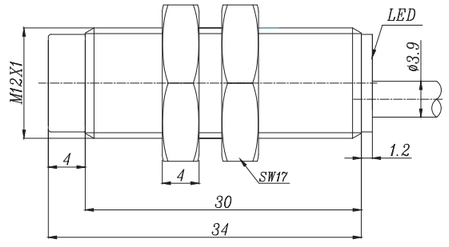


Fig.4



NAMUR

Description:

Brass nickel-plated, standard operating voltage for explosion-proof applications, configured safety barrier (recommended ELCO ECXI series), IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi5-M18S-NE	5mm	Flush	NAMUR	7.7…9VDC	≥2.2mA (Not trigger) ≤1mA (Trigger)	800Hz	-25...70˚C	2m cable	Fig.1
Ni8-M18S-NE	8mm	Non-flush	NAMUR	7.7…9VDC	≥2.2mA (Not trigger) ≤1mA (Trigger)	500Hz	-25...70˚C	2m cable	Fig.2
Fi10-M30S-NE	10mm	Flush	NAMUR	7.7…9VDC	≥2.2mA (Not trigger) ≤1mA (Trigger)	400Hz	-25...70˚C	2m cable	Fig.3
Ni15-M30S-NE	15mm	Non-flush	NAMUR	7.7…9VDC	≥2.2mA (Not trigger) ≤1mA (Trigger)	200Hz	-25...70˚C	2m cable	Fig.4

Dimensions:

Fig.1

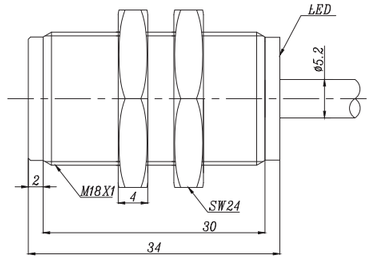


Fig.2

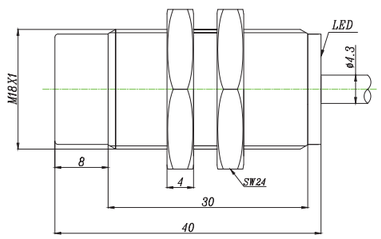


Fig.3

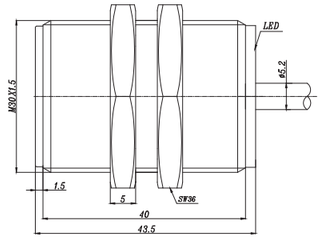
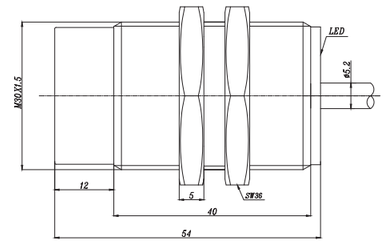


Fig.4



NAMUR

Description:

Stainless steel housing, standard operating voltage for explosion-proof applications, configured safety barrier (recommended ELCO ECXI series), IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi1-KM05-NE	1mm	Flush	NAMUR	7.7…9VDC	≥2.2mA (Not trigger) ≤1mA (Trigger)	1500Hz	-25...70℃	2m cable	Fig.1
Ni1.5-KH6.5S-NE	1.5mm	Flush	NAMUR	7.7…9VDC	≥2.2mA (Not trigger) ≤1mA (Trigger)	1000Hz	-25...70℃	2m cable	Fig.2

Dimensions:

Fig.1

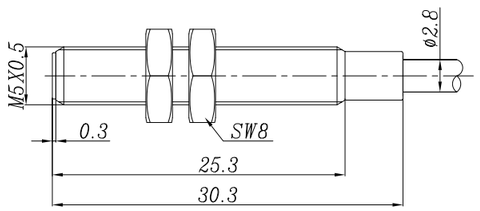
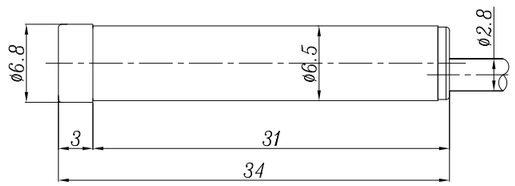


Fig.2



NAMUR

Description:

Plastic housing, standard operating voltage for explosion-proof applications, configured safety barrier (recommended ELCO ECXI series), IP67 protection class, LED indicator.

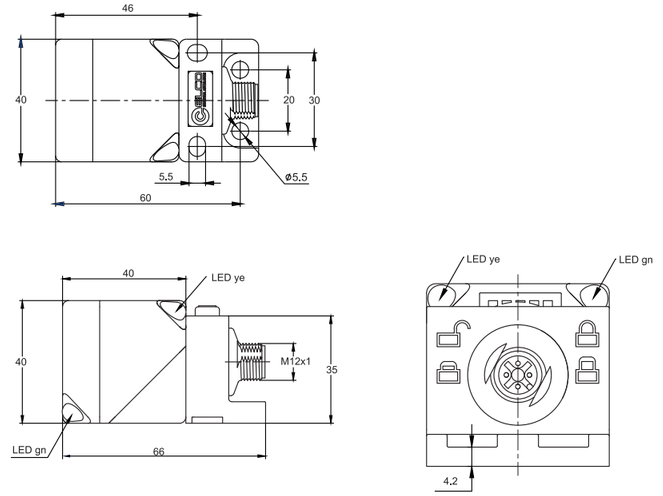
See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi20-C40-NE-Q12	20mm	Flush	NAMUR	7.7…9VDC	≥2.2mA (Not trigger) ≤1mA (Trigger)	150Hz	-25...70℃	M12 Connector	Fig.1
Ni40-C40-NE-Q12	40mm	Non-flush	NAMUR	7.7…9VDC	≥2.2mA (Not trigger) ≤1mA (Trigger)	150Hz	-25...70℃	M12 Connector	Fig.1

Dimensions:

Fig.1



NAMUR

Description:

Plastic housing, standard operating voltage for explosion-proof applications,configured safety barrier (recommended ELCO ECXI series), IP67 protection class, LED indicator.

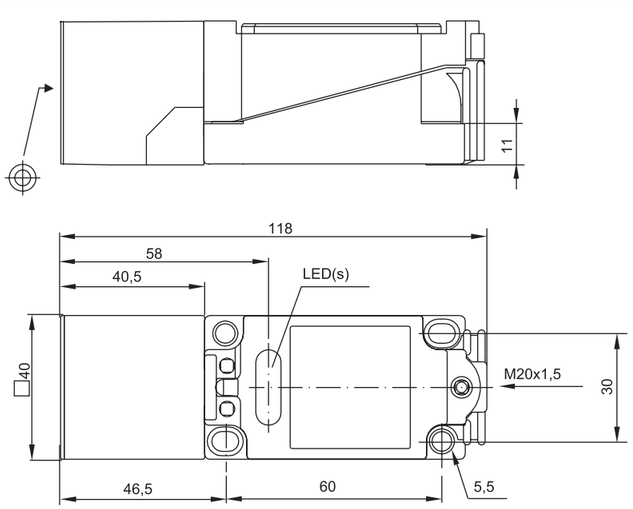
See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Ni15-CL40-NE	15mm	Flush	NAMUR	7.7…9VDC	≥2.2mA (Not trigger) ≤1mA (Trigger)	250Hz	-25...70˚C	2m cable	Fig.1
Ni20-CL40-NE	20mm	Non-flush	NAMUR	7.7…9VDC	≥2.2mA (Not trigger) ≤1mA (Trigger)	250Hz	-25...70˚C	2m cable	Fig.1

Dimensions:

Fig.1



Description:

Plastic housing, standard operating voltage for explosion-proof applications,configured safety barrier (recommended ELCO ECXI series), IP67 protection class, LED indicator.

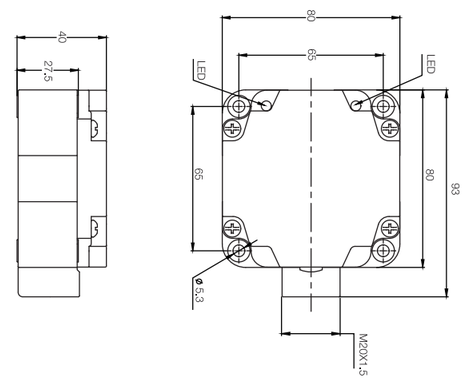
See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi40-C80-NE	40mm	Flush	NAMUR	7.7…9VDC	≥2.2mA (Not trigger) ≤1mA (Trigger)	80Hz	-25...70˚C	2m cable	Fig.1
Ni50-C80-NE	50mm	Non-flush	NAMUR	7.7…9VDC	≥2.2mA (Not trigger) ≤1mA (Trigger)	100Hz	-25...70˚C	2m cable	Fig.1

Dimensions:

Fig.1



Wide Temperature Range - M12

Description:

Brass nickel-plated, threaded barrel, DC 3-wire output, temperature range-30...100℃, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi2H-M12-OP6L	2mm	Flush	NO	PNP	10...30VDC	≤200mA	1000Hz	-30...100℃	2m cable	Fig.1
Fi2H-M12-ON6L	2mm	Flush	NO	NPN	10...30VDC	≤200mA	1000Hz	-30...100℃	2m cable	Fig.1
Fi2H-M12-CP6L	2mm	Flush	NC	PNP	10...30VDC	≤200mA	1000Hz	-30...100℃	2m cable	Fig.1
Fi2H-M12-CN6L	2mm	Flush	NC	NPN	10...30VDC	≤200mA	1000Hz	-30...100℃	2m cable	Fig.1
Ni4H-M12-OP6L	4mm	Non-flush	NO	PNP	10...30VDC	≤200mA	800Hz	-30...100℃	2m cable	Fig.2
Ni4H-M12-ON6L	4mm	Non-flush	NO	NPN	10...30VDC	≤200mA	800Hz	-30...100℃	2m cable	Fig.2
Ni4H-M12-CP6L	4mm	Non-flush	NC	PNP	10...30VDC	≤200mA	800Hz	-30...100℃	2m cable	Fig.2
Ni4H-M12-CN6L	4mm	Non-flush	NC	NPN	10...30VDC	≤200mA	800Hz	-30...100℃	2m cable	Fig.2
Fi2H-M12-OP6L-Q12	2mm	Flush	NO	PNP	10...30VDC	≤200mA	1000Hz	-30...100℃	M12 Connector	Fig.3
Fi2H-M12-ON6L-Q12	2mm	Flush	NO	NPN	10...30VDC	≤200mA	1000Hz	-30...100℃	M12 Connector	Fig.3
Fi2H-M12-CP6L-Q12	2mm	Flush	NC	PNP	10...30VDC	≤200mA	1000Hz	-30...100℃	M12 Connector	Fig.3
Fi2H-M12-CN6L-Q12	2mm	Flush	NC	NPN	10...30VDC	≤200mA	1000Hz	-30...100℃	M12 Connector	Fig.3
Ni4H-M12-OP6L-Q12	4mm	Non-flush	NO	PNP	10...30VDC	≤200mA	800Hz	-30...100℃	M12 Connector	Fig.4
Ni4H-M12-ON6L-Q12	4mm	Non-flush	NO	NPN	10...30VDC	≤200mA	800Hz	-30...100℃	M12 Connector	Fig.4
Ni4H-M12-CP6L-Q12	4mm	Non-flush	NC	PNP	10...30VDC	≤200mA	800Hz	-30...100℃	M12 Connector	Fig.4
Ni4H-M12-CN6L-Q12	4mm	Non-flush	NC	NPN	10...30VDC	≤200mA	800Hz	-30...100℃	M12 Connector	Fig.4

Dimensions:

Fig.1

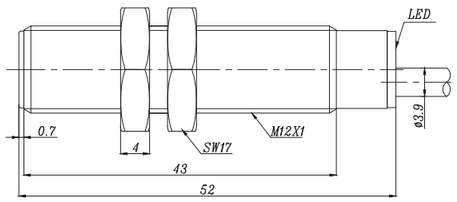


Fig.2

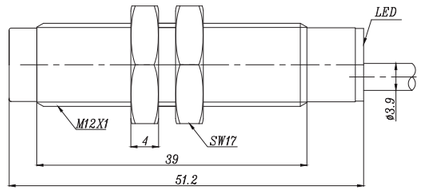


Fig.3

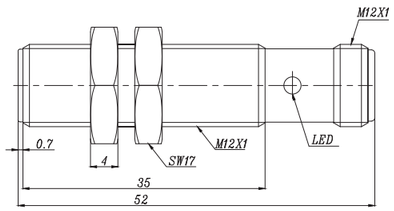
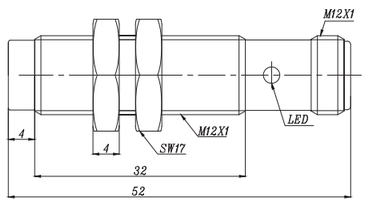


Fig.4



Wide Temperature Range - M18

Description:

Brass nickel-plated, threaded barrel, DC 3-wire output, temperature range-30...100℃, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi5H-M18-OP6L	5mm	Flush	NO	PNP	10...30VDC	≤200mA	800Hz	-30...100℃	2m cable	Fig.1
Fi5H-M18-ON6L	5mm	Flush	NO	NPN	10...30VDC	≤200mA	800Hz	-30...100℃	2m cable	Fig.1
Fi5H-M18-CP6L	5mm	Flush	NC	PNP	10...30VDC	≤200mA	800Hz	-30...100℃	2m cable	Fig.1
Fi5H-M18-CN6L	5mm	Flush	NC	NPN	10...30VDC	≤200mA	800Hz	-30...100℃	2m cable	Fig.1
Ni8H-M18-OP6L	8mm	Non-flush	NO	PNP	10...30VDC	≤200mA	500Hz	-30...100℃	2m cable	Fig.2
Ni8H-M18-ON6L	8mm	Non-flush	NO	NPN	10...30VDC	≤200mA	500Hz	-30...100℃	2m cable	Fig.2
Ni8H-M18-CP6L	8mm	Non-flush	NC	PNP	10...30VDC	≤200mA	500Hz	-30...100℃	2m cable	Fig.2
Ni8H-M18-CN6L	8mm	Non-flush	NC	NPN	10...30VDC	≤200mA	500Hz	-30...100℃	2m cable	Fig.2
Fi5H-M18-OP6L-Q12	5mm	Flush	NO	PNP	10...30VDC	≤200mA	800Hz	-30...100℃	M12 Connector	Fig.3
Fi5H-M18-ON6L-Q12	5mm	Flush	NO	NPN	10...30VDC	≤200mA	800Hz	-30...100℃	M12 Connector	Fig.3
Fi5H-M18-CP6L-Q12	5mm	Flush	NC	PNP	10...30VDC	≤200mA	800Hz	-30...100℃	M12 Connector	Fig.3
Fi5H-M18-CN6L-Q12	5mm	Flush	NC	NPN	10...30VDC	≤200mA	800Hz	-30...100℃	M12 Connector	Fig.3
Ni8H-M18-OP6L-Q12	8mm	Non-flush	NO	PNP	10...30VDC	≤200mA	500Hz	-30...100℃	M12 Connector	Fig.4
Ni8H-M18-ON6L-Q12	8mm	Non-flush	NO	NPN	10...30VDC	≤200mA	500Hz	-30...100℃	M12 Connector	Fig.4
Ni8H-M18-CP6L-Q12	8mm	Non-flush	NC	PNP	10...30VDC	≤200mA	500Hz	-30...100℃	M12 Connector	Fig.4
Ni8H-M18-CN6L-Q12	8mm	Non-flush	NC	NPN	10...30VDC	≤200mA	500Hz	-30...100℃	M12 Connector	Fig.4

Dimensions:

Fig.1

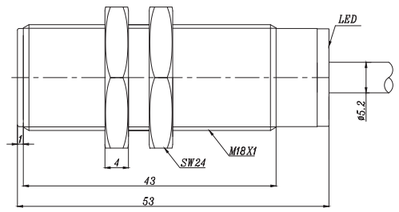


Fig.2

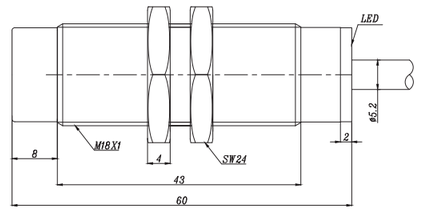


Fig.3

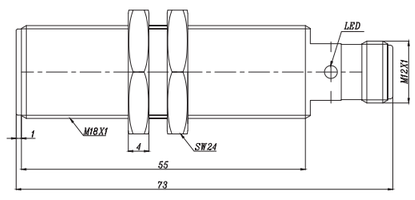
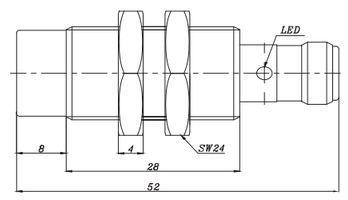


Fig.4



Wide Temperature Range - M30

Description:

Brass nickel-plated, threaded barrel, DC 3-wire output, temperature range-30...100℃, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi10H-M30-OP6L	10mm	Flush	NO PNP	10...30VDC	≤200mA	400Hz	-30...100℃	2m cable	Fig.1
Fi10H-M30-ON6L	10mm	Flush	NO NPN	10...30VDC	≤200mA	400Hz	-30...100℃	2m cable	Fig.1
Fi10H-M30-CP6L	10mm	Flush	NC PNP	10...30VDC	≤200mA	400Hz	-30...100℃	2m cable	Fig.1
Fi10H-M30-CN6L	10mm	Flush	NC NPN	10...30VDC	≤200mA	400Hz	-30...100℃	2m cable	Fig.1
Ni15H-M30-OP6L	15mm	Non-flush	NO PNP	10...30VDC	≤200mA	200Hz	-30...100℃	2m cable	Fig.2
Ni15H-M30-ON6L	15mm	Non-flush	NO NPN	10...30VDC	≤200mA	200Hz	-30...100℃	2m cable	Fig.2
Ni15H-M30-CP6L	15mm	Non-flush	NC PNP	10...30VDC	≤200mA	200Hz	-30...100℃	2m cable	Fig.2
Ni15H-M30-CN6L	15mm	Non-flush	NC NPN	10...30VDC	≤200mA	200Hz	-30...100℃	2m cable	Fig.2
Fi10H-M30-OP6L-Q12	10mm	Flush	NO PNP	10...30VDC	≤200mA	400Hz	-30...100℃	M12 Connector	Fig.3
Fi10H-M30-ON6L-Q12	10mm	Flush	NO NPN	10...30VDC	≤200mA	400Hz	-30...100℃	M12 Connector	Fig.3
Fi10H-M30-CP6L-Q12	10mm	Flush	NC PNP	10...30VDC	≤200mA	400Hz	-30...100℃	M12 Connector	Fig.3
Fi10H-M30-CN6L-Q12	10mm	Flush	NC NPN	10...30VDC	≤200mA	400Hz	-30...100℃	M12 Connector	Fig.3
Ni15H-M30-OP6L-Q12	15mm	Non-flush	NO PNP	10...30VDC	≤200mA	200Hz	-30...100℃	M12 Connector	Fig.4
Ni15H-M30-ON6L-Q12	15mm	Non-flush	NO NPN	10...30VDC	≤200mA	200Hz	-30...100℃	M12 Connector	Fig.4
Ni15H-M30-CP6L-Q12	15mm	Non-flush	NC PNP	10...30VDC	≤200mA	200Hz	-30...100℃	M12 Connector	Fig.4
Ni15H-M30-CN6L-Q12	15mm	Non-flush	NC NPN	10...30VDC	≤200mA	200Hz	-30...100℃	M12 Connector	Fig.4

Dimensions:

Fig.1

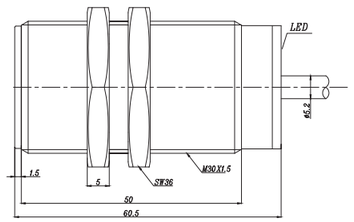


Fig.2

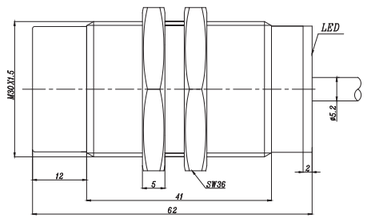


Fig.3

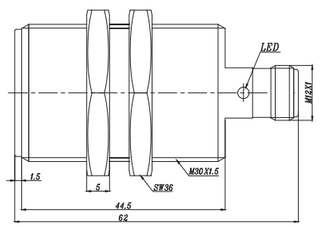
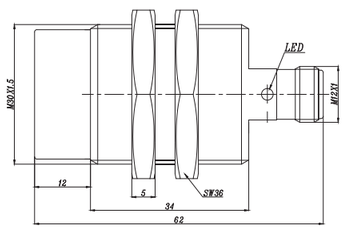


Fig.4



Temperature Extension - High Temperature-M08

Description:

Brass nickel-plated, threaded barrel, DC 2-wire output,
temperature range up to 120℃, IP67 protection class,
LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi2-M08-OD6L/T120	2mm	Flush	DC NO	10...30VDC	≤100mA	1000Hz	-25...120℃	2m cable	Fig.1
Fi2-M08-CD6L/T120	2mm	Flush	DC NC	10...30VDC	≤100mA	1000Hz	-25...120℃	2m cable	Fig.1
Ni4-M08-OD6L/T120	4mm	Non-flush	DC NO	10...30VDC	≤100mA	800Hz	-25...120℃	2m cable	Fig.2
Ni4-M08-CD6L/T120	4mm	Non-flush	DC NC	10...30VDC	≤100mA	800Hz	-25...120℃	2m cable	Fig.2

Dimensions:

Fig.1

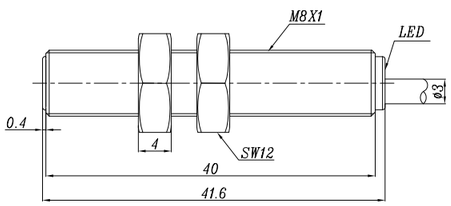
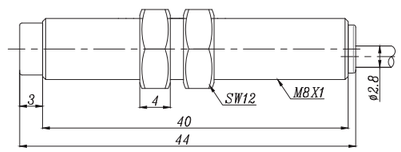


Fig.2



Temperature Extension - High Temperature-M08

Description:

Brass nickel-plated, threaded barrel, DC 3-wire output,
temperature range up to 120℃, IP67 protection class,
LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi2-M08-OP6L/T120	2mm	Flush	PNP NO	10...30VDC	≤100mA	1000Hz	-25...120℃	2m cable	Fig.1
Fi2-M08-ON6L/T120	2mm	Flush	NPN NO	10...30VDC	≤100mA	1000Hz	-25...120℃	2m cable	Fig.1
Fi2-M08-CP6L/T120	2mm	Flush	PNP NC	10...30VDC	≤100mA	1000Hz	-25...120℃	2m cable	Fig.1
Fi2-M08-CN6L/T120	2mm	Flush	NPN NC	10...30VDC	≤100mA	1000Hz	-25...120℃	2m cable	Fig.1
Ni4-M08-OP6L/T120	4mm	Non-flush	PNP NO	10...30VDC	≤100mA	800Hz	-25...120℃	2m cable	Fig.2
Ni4-M08-ON6L/T120	4mm	Non-flush	NPN NO	10...30VDC	≤100mA	800Hz	-25...120℃	2m cable	Fig.2
Ni4-M08-CP6L/T120	4mm	Non-flush	PNP NC	10...30VDC	≤100mA	800Hz	-25...120℃	2m cable	Fig.2
Ni4-M08-CN6L/T120	4mm	Non-flush	NPN NC	10...30VDC	≤100mA	800Hz	-25...120℃	2m cable	Fig.2

Dimensions:

Fig.1

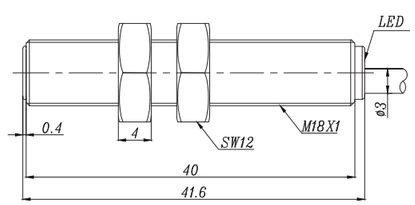
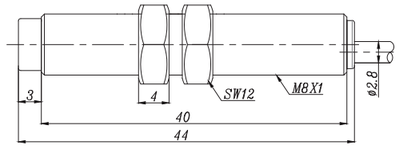


Fig.2



Temperature Extension - High Temperature-M12

Description:

Brass nickel-plated, threaded barrel, DC 2-wire output, temperature range up to 120℃, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi2-M12-OD6L/T120	2mm	Flush	DC NO	10...30VDC	≤100mA	1000Hz	-25...120℃	2m cable	Fig.1
Fi2-M12-CD6L/T120	2mm	Flush	DC NC	10...30VDC	≤100mA	1000Hz	-25...120℃	2m cable	Fig.1
Ni4-M12-OD6L/T120	4mm	Non-flush	DC NO	10...30VDC	≤100mA	800Hz	-25...120℃	2m cable	Fig.2
Ni4-M12-CD6L/T120	4mm	Non-flush	DC NC	10...30VDC	≤100mA	800Hz	-25...120℃	2m cable	Fig.2

Dimensions:

Fig.1

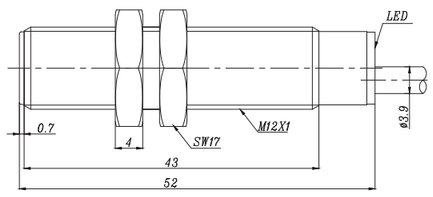
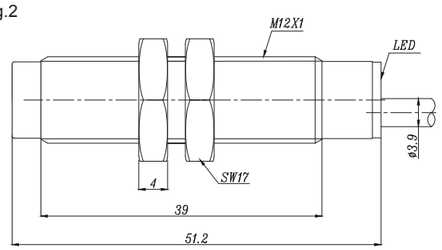


Fig.2



Temperature Extension - High Temperature-M12

Description:

Brass nickel-plated, threaded barrel, DC 3-wire output, temperature range up to 120℃, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi2-M12-OP6L/T120	2mm	Flush	PNP NO	10...30VDC	≤100mA	1000Hz	-25...120℃	2m cable	Fig.1
Fi2-M12-ON6L/T120	2mm	Flush	NPN NO	10...30VDC	≤100mA	1000Hz	-25...120℃	2m cable	Fig.1
Fi2-M12-CP6L/T120	2mm	Flush	PNP NC	10...30VDC	≤100mA	1000Hz	-25...120℃	2m cable	Fig.1
Fi2-M12-CN6L/T120	2mm	Flush	NPN NC	10...30VDC	≤100mA	1000Hz	-25...120℃	2m cable	Fig.1
Ni4-M12-OP6L/T120	4mm	Non-flush	PNP NO	10...30VDC	≤100mA	800Hz	-25...120℃	2m cable	Fig.2
Ni4-M12-ON6L/T120	4mm	Non-flush	NPN NO	10...30VDC	≤100mA	800Hz	-25...120℃	2m cable	Fig.2
Ni4-M12-CP6L/T120	4mm	Non-flush	PNP NC	10...30VDC	≤100mA	800Hz	-25...120℃	2m cable	Fig.2
Ni4-M12-CN6L/T120	4mm	Non-flush	NPN NC	10...30VDC	≤100mA	800Hz	-25...120℃	2m cable	Fig.2

Dimensions:

Fig.1

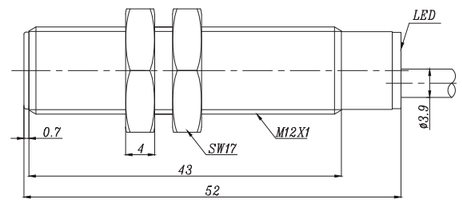
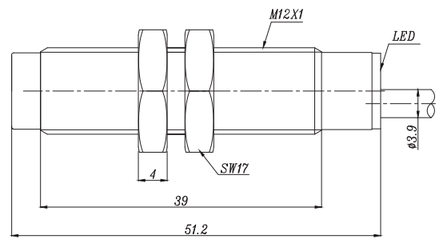


Fig.2



Temperature Extension - High Temperature-M12

Description:

Brass nickel-plated, threaded barrel, AC/DC 2-wire output, temperature range up to 120℃, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi2-M12-OA41L/T120	2mm	Flush	DC/AC NO	20...250VAC/DC	≤300mA	40Hz	-25...120℃	2m cable	Fig.1
Fi2-M12-CA41L/T120	2mm	Flush	DC/AC NC	20...250VAC/DC	≤300mA	40Hz	-25...120℃	2m cable	Fig.1
Ni4-M12-OA41L/T120	4mm	Non-flush	DC/AC NO	20...250VAC/DC	≤300mA	40Hz	-25...120℃	2m cable	Fig.2
Ni4-M12-CA41L/T120	4mm	Non-flush	DC/AC NC	20...250VAC/DC	≤300mA	40Hz	-25...120℃	2m cable	Fig.2

Dimensions:

Fig.1

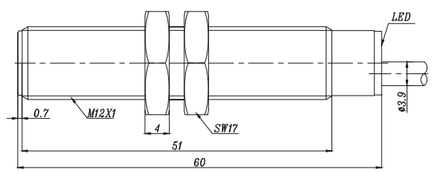
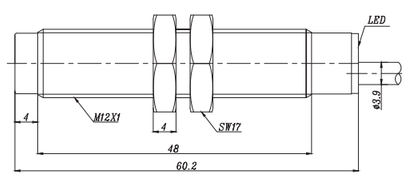


Fig.2



Temperature Extension - High Temperature-M18

Description:

Brass nickel-plated, threaded barrel, DC 2-wire output, temperature range up to 120℃, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi5-M18-OD6L/T120	5mm	Flush	DC NO	10...30VDC	≤100mA	800Hz	-25...120℃	2m cable	Fig.1
Fi5-M18-CD6L/T120	5mm	Flush	DC NC	10...30VDC	≤100mA	800Hz	-25...120℃	2m cable	Fig.1
Ni8-M18-OD6L/T120	8mm	Non-flush	DC NO	10...30VDC	≤100mA	500Hz	-25...120℃	2m cable	Fig.2
Ni8-M18-CD6L/T120	8mm	Non-flush	DC NC	10...30VDC	≤100mA	500Hz	-25...120℃	2m cable	Fig.2

Dimensions:

Fig.1

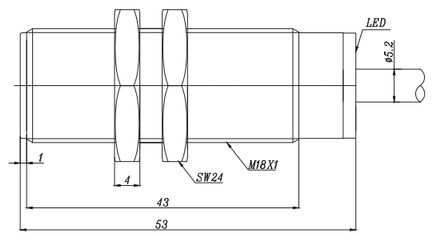
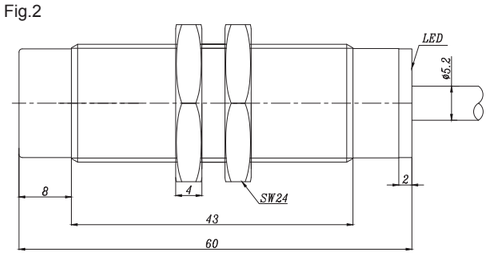


Fig.2



Temperature Extension - High Temperature-M18

Description:

Brass nickel-plated, threaded barrel, DC 3-wire output,
temperature range up to 120℃, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi5-M18-OP6L/T120	5mm	Flush	PNP NO	10...30VDC	≤100mA	800Hz	-25...120℃	2m cable	Fig.1
Fi5-M18-ON6L/T120	5mm	Flush	NPN NO	10...30VDC	≤100mA	800Hz	-25...120℃	2m cable	Fig.1
Fi5-M18-CP6L/T120	5mm	Flush	PNP NC	10...30VDC	≤100mA	800Hz	-25...120℃	2m cable	Fig.1
Fi5-M18-CN6L/T120	5mm	Flush	NPN NC	10...30VDC	≤100mA	800Hz	-25...120℃	2m cable	Fig.1
Ni8-M18-OP6L/T120	8mm	Non-flush	PNP NO	10...30VDC	≤100mA	500Hz	-25...120℃	2m cable	Fig.2
Ni8-M18-ON6L/T120	8mm	Non-flush	NPN NO	10...30VDC	≤100mA	500Hz	-25...120℃	2m cable	Fig.2
Ni8-M18-CP6L/T120	8mm	Non-flush	PNP NC	10...30VDC	≤100mA	500Hz	-25...120℃	2m cable	Fig.2
Ni8-M18-CN6L/T120	8mm	Non-flush	NPN NC	10...30VDC	≤100mA	500Hz	-25...120℃	2m cable	Fig.2

Dimensions:

Fig.1

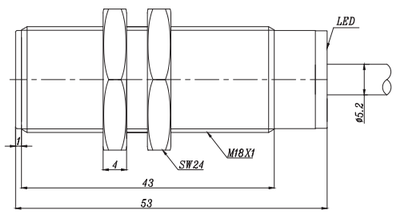
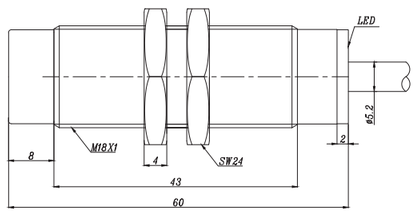


Fig.2



Temperature Extension - High Temperature-M18

Description:

Brass nickel-plated, threaded barrel, AC/DC 2-wire output,
temperature range up to 120℃, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi5-M18-OA41L/T120	5mm	Flush	DC/AC NO	20...250VAC/DC	≤300mA	40Hz	-25...120℃	2m cable	Fig.1
Fi5-M18-CA41L/T120	5mm	Flush	DC/AC NC	20...250VAC/DC	≤300mA	40Hz	-25...120℃	2m cable	Fig.1
Ni8-M18-OA41L/T120	8mm	Non-flush	DC/AC NO	20...250VAC/DC	≤300mA	40Hz	-25...120℃	2m cable	Fig.2
Ni8-M18-CA41L/T120	8mm	Non-flush	DC/AC NC	20...250VAC/DC	≤300mA	40Hz	-25...120℃	2m cable	Fig.2

Dimensions:

Fig.1

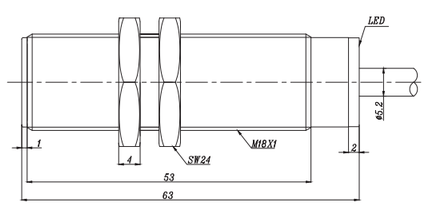
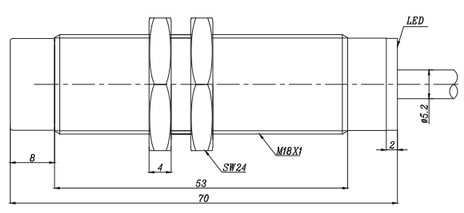


Fig.2



Temperature Extension - High Temperature-M30

Description:

Brass nickel-plated, threaded barrel, DC 2-wire output, temperature range up to 120℃, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi10-M30-OD6L/T120	10mm	Flush	DC/AC NO	20...250VAC/DC	≤100mA	40Hz	-25...120℃	2m cable	Fig.1
Fi10-M30-CD6L/T120	10mm	Flush	DC/AC NC	20...250VAC/DC	≤100mA	40Hz	-25...120℃	2m cable	Fig.1
Ni15-M30-OD6L/T120	15mm	Non-flush	DC/AC NO	20...250VAC/DC	≤100mA	40Hz	-25...120℃	2m cable	Fig.2
Ni15-M30-CD6L/T120	15mm	Non-flush	DC/AC NC	20...250VAC/DC	≤100mA	40Hz	-25...120℃	2m cable	Fig.2

Dimensions:

Fig.1

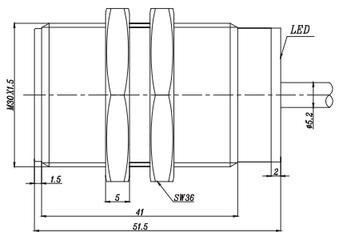
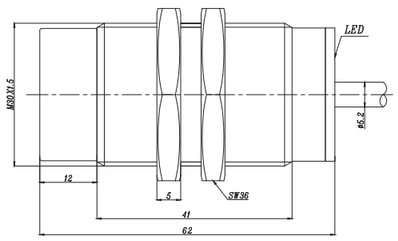


Fig.2



Description:

Brass nickel-plated, threaded barrel, DC 3-wire output, temperature range up to 120℃, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi2-KG08-OP6L/T140	2mm	Flush	PNP NO	10...30VDC	≤100mA	1000Hz	-25...140℃	2m cable	Fig.1
Fi3-KG12-OP6L/T150	3mm	Flush	PNP NO	10...30VDC	≤100mA	1000Hz	-25...150℃	2m cable	Fig.2
Ni4-KG12-OP6L/T150	4mm	Non-flush	PNP NO	10...30VDC	≤100mA	800Hz	-25...150℃	2m cable	Fig.3
Fi5-KG18-OP6L/T180	5mm	Flush	PNP NO	10...30VDC	≤100mA	800Hz	-25...180℃	2m cable	Fig.4
Ni8-KG18-OP6L/T180	8mm	Non-flush	PNP NO	10...30VDC	≤100mA	500Hz	-25...180℃	2m cable	Fig.5

Dimensions:

Fig.1

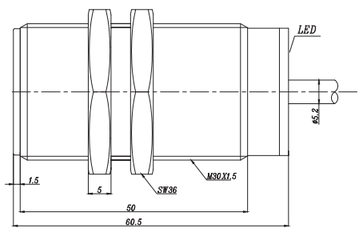
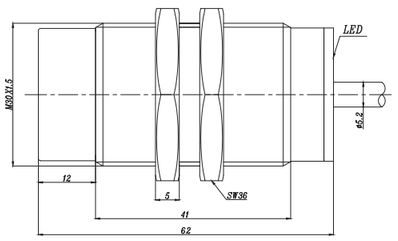


Fig.2



Temperature Extension - High Temperature-M30

Description:

Brass nickel-plated, threaded barrel, AC/DC 2-wire output, temperature range up to 120℃, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi10-M30-OA41L/T120	10mm	Flush	DC/AC NO	20...250VAC/DC	≤300mA	40Hz	-25...120℃	2m cable	Fig.1
Fi10-M30-CA41L/T120	10mm	Flush	DC/AC NC	20...250VAC/DC	≤300mA	40Hz	-25...120℃	2m cable	Fig.1
Ni15-M30-OA41L/T120	15mm	Non-flush	DC/AC NO	20...250VAC/DC	≤300mA	40Hz	-25...120℃	2m cable	Fig.2
Ni15-M30-CA41L/T120	15mm	Non-flush	DC/AC NC	20...250VAC/DC	≤300mA	40Hz	-25...120℃	2m cable	Fig.2

Dimensions:

Fig.1

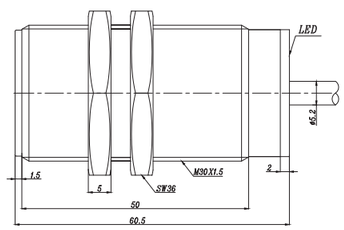
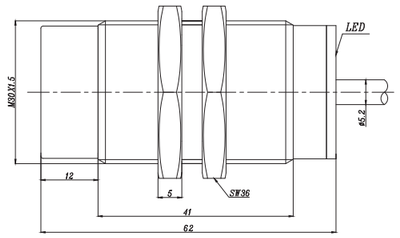


Fig.2



Temperature Extension-Low Temperature-M08

Description:

Brass nickel-plated, threaded barrel, DC 2-wire output, temperature range down to -40˚C, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi2-M08-OD6L/TB40	2mm	Flush	DC NO	10...30VDC	≤100mA	1000Hz	-40...70˚C	2m cable	Fig.1
Fi2-M08-CD6L/TB40	2mm	Flush	DC NC	10...30VDC	≤100mA	1000Hz	-40...70˚C	2m cable	Fig.1
Ni4-M08-OD6L/TB40	4mm	Non-flush	DC NO	10...30VDC	≤100mA	800Hz	-40...70˚C	2m cable	Fig.2
Ni4-M08-CD6L/TB40	4mm	Non-flush	DC NC	10...30VDC	≤100mA	800Hz	-40...70˚C	2m cable	Fig.2
Fi2-M08-OD6L-Q12/TB40	2mm	Flush	DC NO	10...30VDC	≤100mA	1000Hz	-40...70˚C	M12 Connector	Fig.3
Fi2-M08-CD6L-Q12/TB40	2mm	Flush	DC NC	10...30VDC	≤100mA	1000Hz	-40...70˚C	M12 Connector	Fig.3
Ni4-M08-OD6L-Q12/TB40	4mm	Non-flush	DC NO	10...30VDC	≤100mA	800Hz	-40...70˚C	M12 Connector	Fig.4
Ni4-M08-CD6L-Q12/TB40	4mm	Non-flush	DC NC	10...30VDC	≤100mA	800Hz	-40...70˚C	M12 Connector	Fig.4

Dimensions:

Fig.1

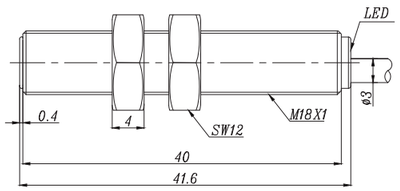


Fig.2

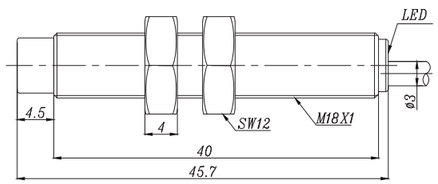


Fig.3

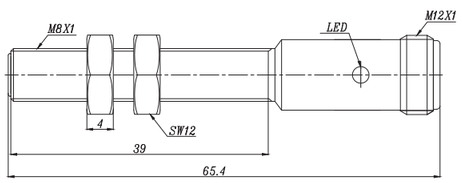
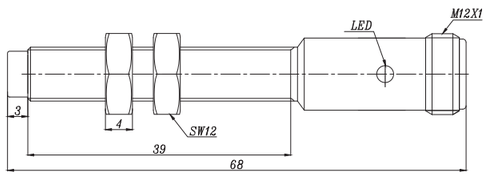


Fig.4



Temperature Extension-Low Temperature-M08

Description:

Brass nickel-plated, threaded barrel, DC 3-wire output, temperature range down to -40˚C, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi2-M08-OP6L/TB40	2mm	Flush	PNP NO	10...30VDC	≤200mA	1000Hz	-40...70˚C	2m cable	Fig.1
Fi2-M08-ON6L/TB40	2mm	Flush	NPN NO	10...30VDC	≤200mA	1000Hz	-40...70˚C	2m cable	Fig.1
Fi2-M08-CP6L/TB40	2mm	Flush	PNP NC	10...30VDC	≤200mA	1000Hz	-40...70˚C	2m cable	Fig.1
Fi2-M08-CN6L/TB40	2mm	Flush	NPN NC	10...30VDC	≤200mA	1000Hz	-40...70˚C	2m cable	Fig.1
Ni4-M08-OP6L/TB40	4mm	Non-flush	PNP NO	10...30VDC	≤200mA	800Hz	-40...70˚C	2m cable	Fig.2
Ni4-M08-ON6L/TB40	4mm	Non-flush	NPN NO	10...30VDC	≤200mA	800Hz	-40...70˚C	2m cable	Fig.2
Ni4-M08-CP6L/TB40	4mm	Non-flush	PNP NC	10...30VDC	≤200mA	800Hz	-40...70˚C	2m cable	Fig.2
Ni4-M08-CN6L/TB40	4mm	Non-flush	NPN NC	10...30VDC	≤200mA	800Hz	-40...70˚C	2m cable	Fig.2
Fi2-M08-OP6L-Q12/TB40	2mm	Flush	PNP NO	10...30VDC	≤200mA	1000Hz	-40...70˚C	M12 Connector	Fig.3
Fi2-M08-ON6L-Q12/TB40	2mm	Flush	NPN NO	10...30VDC	≤200mA	1000Hz	-40...70˚C	M12 Connector	Fig.3
Fi2-M08-CP6L-Q12/TB40	2mm	Flush	PNP NC	10...30VDC	≤200mA	1000Hz	-40...70˚C	M12 Connector	Fig.3
Fi2-M08-CN6L-Q12/TB40	2mm	Flush	NPN NC	10...30VDC	≤200mA	1000Hz	-40...70˚C	M12 Connector	Fig.3
Ni4-M08-OP6L-Q12/TB40	4mm	Non-flush	PNP NO	10...30VDC	≤200mA	800Hz	-40...70˚C	M12 Connector	Fig.4
Ni4-M08-ON6L-Q12/TB40	4mm	Non-flush	NPN NO	10...30VDC	≤200mA	800Hz	-40...70˚C	M12 Connector	Fig.4
Ni4-M08-CP6L-Q12/TB40	4mm	Non-flush	PNP NC	10...30VDC	≤200mA	800Hz	-40...70˚C	M12 Connector	Fig.4
Ni4-M08-CN6L-Q12/TB40	4mm	Non-flush	NPN NC	10...30VDC	≤200mA	800Hz	-40...70˚C	M12 Connector	Fig.4

Dimensions:

Fig.1

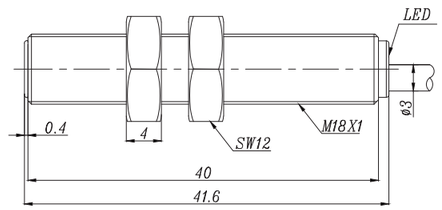


Fig.2

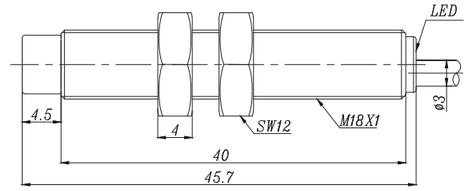


Fig.3

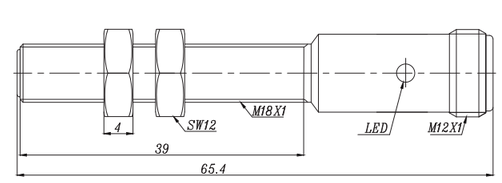
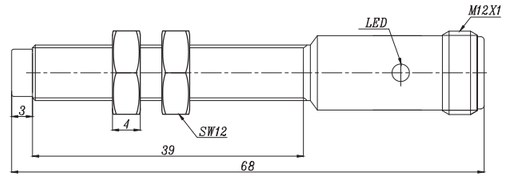


Fig.4



Temperature Extension-Low Temperature-M12

Description:

Brass nickel-plated, threaded barrel, DC 2-wire output, temperature range down to -40˚C, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi2-M12-OD6L/TB40	2mm	Flush	DC NO	10...30VDC	≤100mA	1000Hz	-40...70˚C	2m cable	Fig.1
Fi2-M12-CD6L/TB40	2mm	Flush	DC NC	10...30VDC	≤100mA	1000Hz	-40...70˚C	2m cable	Fig.1
Ni4-M12-OD6L/TB40	4mm	Non-flush	DC NO	10...30VDC	≤100mA	800Hz	-40...70˚C	2m cable	Fig.2
Ni4-M12-CD6L/TB40	4mm	Non-flush	DC NC	10...30VDC	≤100mA	800Hz	-40...70˚C	2m cable	Fig.2
Fi2-M12-OD6L-Q12/TB40	2mm	Flush	DC NO	10...30VDC	≤100mA	1000Hz	-40...70˚C	M12 Connector	Fig.3
Fi2-M12-CD6L-Q12/TB40	2mm	Flush	DC NC	10...30VDC	≤100mA	1000Hz	-40...70˚C	M12 Connector	Fig.3
Ni4-M12-OD6L-Q12/TB40	4mm	Non-flush	DC NO	10...30VDC	≤100mA	800Hz	-40...70˚C	M12 Connector	Fig.4
Ni4-M12-CD6L-Q12/TB40	4mm	Non-flush	DC NC	10...30VDC	≤100mA	800Hz	-40...70˚C	M12 Connector	Fig.4

Dimensions:

Fig.1

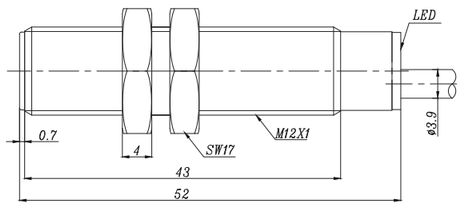


Fig.2

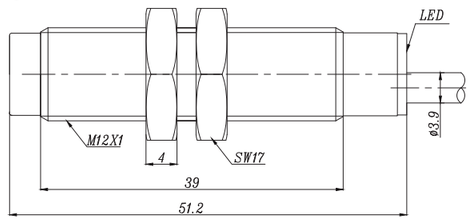


Fig.3

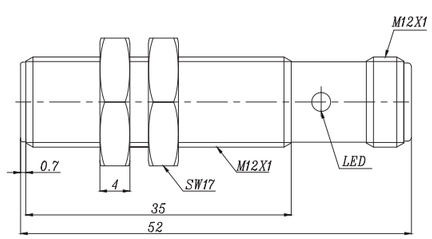
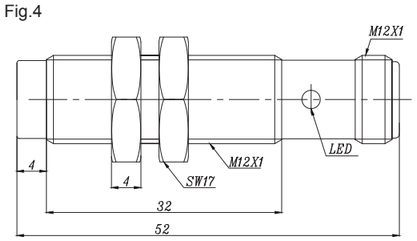


Fig.4



Temperature Extension-Low Temperature-M12

Description:

Brass nickel-plated, threaded barrel, DC 3-wire output, temperature range down to -40˚C, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi2-M12-OP6L/TB40	2mm	Flush	PNP NO	10...30VDC	≤200mA	1000Hz	-40...70˚C	2m cable	Fig.1
Fi2-M12-ON6L/TB40	2mm	Flush	NPN NO	10...30VDC	≤200mA	1000Hz	-40...70˚C	2m cable	Fig.1
Fi2-M12-CP6L/TB40	2mm	Flush	PNP NC	10...30VDC	≤200mA	1000Hz	-40...70˚C	2m cable	Fig.1
Fi2-M12-CN6L/TB40	2mm	Flush	NPN NC	10...30VDC	≤200mA	1000Hz	-40...70˚C	2m cable	Fig.1
Ni4-M12-OP6L/TB40	4mm	Non-flush	PNP NO	10...30VDC	≤200mA	800Hz	-40...70˚C	2m cable	Fig.2
Ni4-M12-ON6L/TB40	4mm	Non-flush	NPN NO	10...30VDC	≤200mA	800Hz	-40...70˚C	2m cable	Fig.2
Ni4-M12-CP6L/TB40	4mm	Non-flush	PNP NC	10...30VDC	≤200mA	800Hz	-40...70˚C	2m cable	Fig.2
Ni4-M12-CN6L/TB40	4mm	Non-flush	NPN NC	10...30VDC	≤200mA	800Hz	-40...70˚C	2m cable	Fig.2
Fi2-M12-OP6L-Q12/TB40	2mm	Flush	PNP NO	10...30VDC	≤200mA	1000Hz	-40...70˚C	M12 Connector	Fig.3
Fi2-M12-ON6L-Q12/TB40	2mm	Flush	NPN NO	10...30VDC	≤200mA	1000Hz	-40...70˚C	M12 Connector	Fig.3
Fi2-M12-CP6L-Q12/TB40	2mm	Flush	PNP NC	10...30VDC	≤200mA	1000Hz	-40...70˚C	M12 Connector	Fig.3
Fi2-M12-CN6L-Q12/TB40	2mm	Flush	NPN NC	10...30VDC	≤200mA	1000Hz	-40...70˚C	M12 Connector	Fig.3
Ni4-M12-OP6L-Q12/TB40	4mm	Non-flush	PNP NO	10...30VDC	≤200mA	800Hz	-40...70˚C	M12 Connector	Fig.4
Ni4-M12-ON6L-Q12/TB40	4mm	Non-flush	NPN NO	10...30VDC	≤200mA	800Hz	-40...70˚C	M12 Connector	Fig.4
Ni4-M12-CP6L-Q12/TB40	4mm	Non-flush	PNP NC	10...30VDC	≤200mA	800Hz	-40...70˚C	M12 Connector	Fig.4
Ni4-M12-CN6L-Q12/TB40	4mm	Non-flush	NPN NC	10...30VDC	≤200mA	800Hz	-40...70˚C	M12 Connector	Fig.4

Dimensions:

Fig.1

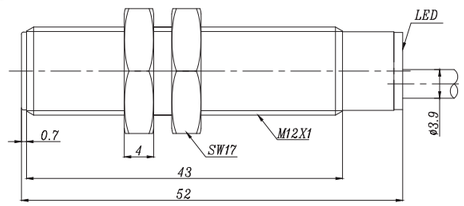


Fig.2

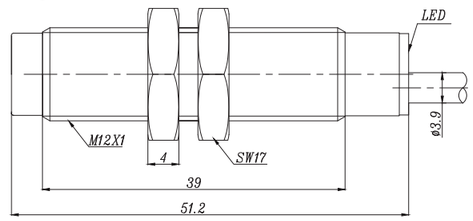


Fig.3

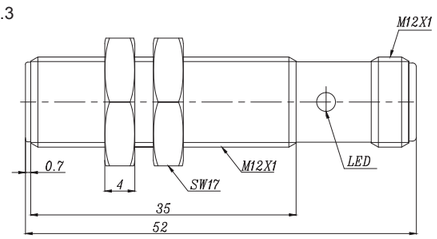
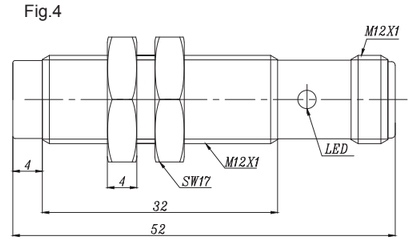


Fig.4



Temperature Extension-Low Temperature-M12

Description:

Brass nickel-plated, threaded barrel, AC/DC 2-wire output, temperature range down to -40˚C, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi2-M12-OA41L/TB40	2mm	Flush	DC/AC NO	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-40...70˚C	2m cable	Fig.1
Fi2-M12-CA41L/TB40	2mm	Flush	DC/AC NC	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-40...70˚C	2m cable	Fig.1
Ni4-M12-OA41L/TB40	4mm	Non-flush	DC/AC NO	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-40...70˚C	2m cable	Fig.2
Ni4-M12-CA41L/TB40	4mm	Non-flush	DC/AC NC	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-40...70˚C	2m cable	Fig.2
Fi2-M12-OA41L-Q12/TB40	2mm	Flush	DC/AC NO	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-40...70˚C	M12 Connector	Fig.3
Fi2-M12-CA41L-Q12/TB40	2mm	Flush	DC/AC NC	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-40...70˚C	M12 Connector	Fig.3
Ni4-M12-OA41L-Q12/TB40	4mm	Non-flush	DC/AC NO	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-40...70˚C	M12 Connector	Fig.4
Ni4-M12-CA41L-Q12/TB40	4mm	Non-flush	DC/AC NC	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-40...70˚C	M12 Connector	Fig.4

Dimensions:

Fig.1

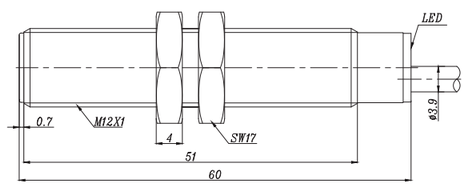


Fig.2

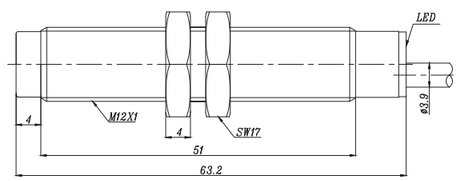


Fig.3

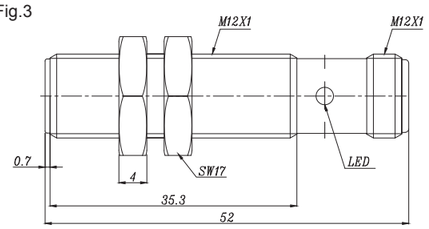
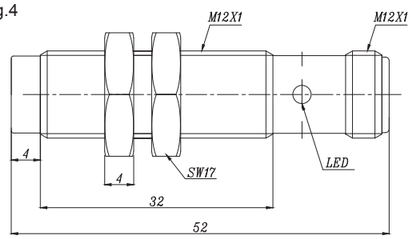


Fig.4



Temperature Extension-Low Temperature-M18

Description:

Brass nickel-plated, threaded barrel, DC 2-wire output, temperature range down to -40˚C, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi5-M18-OD6L/TB40	5mm	Flush	DC NO	10...30VDC	≤100mA	800Hz	-40...70˚C	2m cable	Fig.1
Fi5-M18-CD6L/TB40	5mm	Flush	DC NC	10...30VDC	≤100mA	800Hz	-40...70˚C	2m cable	Fig.1
Ni8-M18-OD6L/TB40	8mm	Non-flush	DC NO	10...30VDC	≤100mA	500Hz	-40...70˚C	2m cable	Fig.2
Ni8-M18-CD6L/TB40	8mm	Non-flush	DC NC	10...30VDC	≤100mA	500Hz	-40...70˚C	2m cable	Fig.2
Fi5-M18-OD6L-Q12/TB40	5mm	Flush	DC NO	10...30VDC	≤100mA	800Hz	-40...70˚C	M12 Connector	Fig.3
Fi5-M18-CD6L-Q12/TB40	5mm	Flush	DC NC	10...30VDC	≤100mA	800Hz	-40...70˚C	M12 Connector	Fig.3
Ni8-M18-OD6L-Q12/TB40	8mm	Non-flush	DC NO	10...30VDC	≤100mA	500Hz	-40...70˚C	M12 Connector	Fig.4
Ni8-M18-CD6L-Q12/TB40	8mm	Non-flush	DC NC	10...30VDC	≤100mA	500Hz	-40...70˚C	M12 Connector	Fig.4

Dimensions:

Fig.1

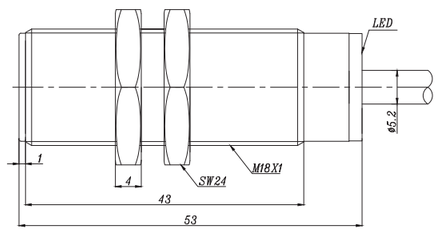


Fig.2

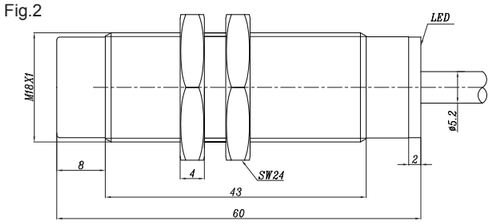


Fig.3

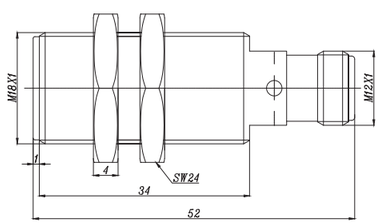
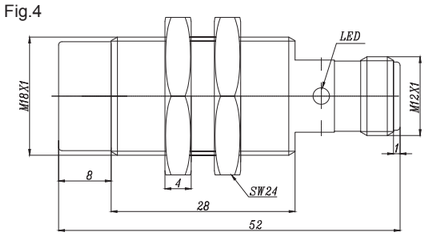


Fig.4



Temperature Extension-Low Temperature-M18

Description:

Brass nickel-plated, threaded barrel, DC 3-wire output,
temperature range down to -40˚C, IP67 protection class,
LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi5-M18-OP6L/TB40	5mm	Flush	PNP NO	10...30VDC	≤200mA	800Hz	-40...70˚C	2m cable	Fig.1
Fi5-M18-ON6L/TB40	5mm	Flush	NPN NO	10...30VDC	≤200mA	800Hz	-40...70˚C	2m cable	Fig.1
Fi5-M18-CP6L/TB40	5mm	Flush	PNP NC	10...30VDC	≤200mA	800Hz	-40...70˚C	2m cable	Fig.1
Fi5-M18-CN6L/TB40	5mm	Flush	NPN NC	10...30VDC	≤200mA	800Hz	-40...70˚C	2m cable	Fig.1
Ni8-M18-OP6L/TB40	8mm	Non-flush	PNP NO	10...30VDC	≤200mA	500Hz	-40...70˚C	2m cable	Fig.2
Ni8-M18-ON6L/TB40	8mm	Non-flush	NPN NO	10...30VDC	≤200mA	500Hz	-40...70˚C	2m cable	Fig.2
Ni8-M18-CP6L/TB40	8mm	Non-flush	PNP NC	10...30VDC	≤200mA	500Hz	-40...70˚C	2m cable	Fig.2
Ni8-M18-CN6L/TB40	8mm	Non-flush	NPN NC	10...30VDC	≤200mA	500Hz	-40...70˚C	2m cable	Fig.2
Fi5-M18-OP6L-Q12/TB40	5mm	Flush	PNP NO	10...30VDC	≤200mA	800Hz	-40...70˚C	M12 Connector	Fig.3
Fi5-M18-ON6L-Q12/TB40	5mm	Flush	NPN NO	10...30VDC	≤200mA	800Hz	-40...70˚C	M12 Connector	Fig.3
Fi5-M18-CP6L-Q12/TB40	5mm	Flush	PNP NC	10...30VDC	≤200mA	800Hz	-40...70˚C	M12 Connector	Fig.3
Fi5-M18-CN6L-Q12/TB40	5mm	Flush	NPN NC	10...30VDC	≤200mA	800Hz	-40...70˚C	M12 Connector	Fig.3
Ni8-M18-OP6L-Q12/TB40	8mm	Non-flush	PNP NO	10...30VDC	≤200mA	500Hz	-40...70˚C	M12 Connector	Fig.4
Ni8-M18-ON6L-Q12/TB40	8mm	Non-flush	NPN NO	10...30VDC	≤200mA	500Hz	-40...70˚C	M12 Connector	Fig.4
Ni8-M18-CP6L-Q12/TB40	8mm	Non-flush	PNP NC	10...30VDC	≤200mA	500Hz	-40...70˚C	M12 Connector	Fig.4
Ni8-M18-CN6L-Q12/TB40	8mm	Non-flush	NPN NC	10...30VDC	≤200mA	500Hz	-40...70˚C	M12 Connector	Fig.4

Dimensions:

Fig.1

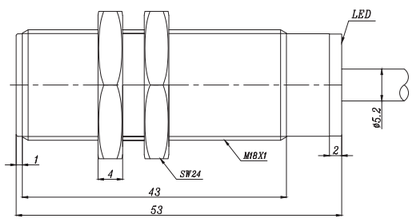


Fig.2

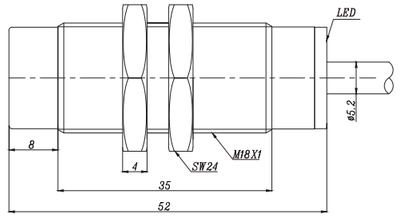


Fig.3

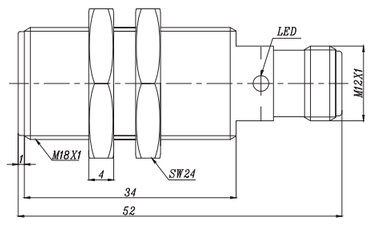
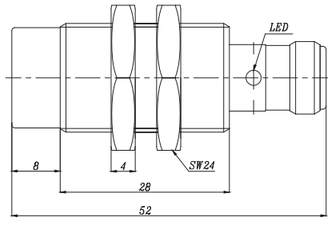


Fig.4



Temperature Extension-Low Temperature-M18

Description:

Brass nickel-plated, threaded barrel, AC/DC 2-wire output,
temperature range down to -40˚C, IP67 protection class,
LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi5-M18-OA41L/TB40	5mm	Flush	DC/AC NO	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-40...70˚C	2m cable	Fig.1
Fi5-M18-CA41L/TB40	5mm	Flush	DC/AC NC	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-40...70˚C	2m cable	Fig.1
Ni8-M18-OA41L/TB40	8mm	Non-flush	DC/AC NO	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-40...70˚C	2m cable	Fig.2
Ni8-M18-CA41L/TB40	8mm	Non-flush	DC/AC NC	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-40...70˚C	2m cable	Fig.2
Fi5-M18-OA41L-Q12/TB40	5mm	Flush	DC/AC NO	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-40...70˚C	M12 Connector	Fig.3
Fi5-M18-CA41L-Q12/TB40	5mm	Flush	DC/AC NC	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-40...70˚C	M12 Connector	Fig.3
Ni8-M18-OA41L-Q12/TB40	8mm	Non-flush	DC/AC NO	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-40...70˚C	M12 Connector	Fig.4
Ni8-M18-CA41L-Q12/TB40	8mm	Non-flush	DC/AC NC	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-40...70˚C	M12 Connector	Fig.4

Dimensions:

Fig.1

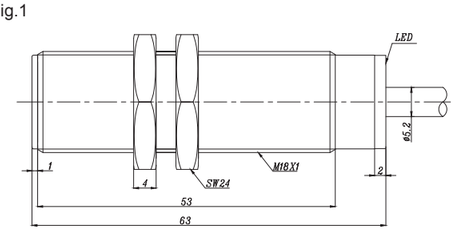


Fig.2

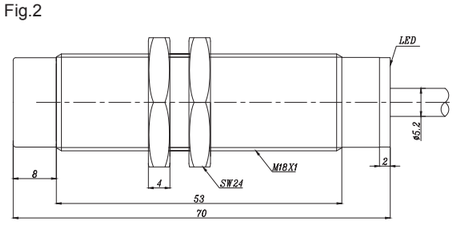


Fig.3

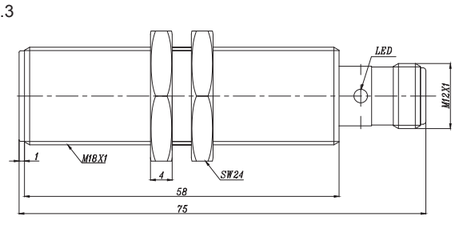
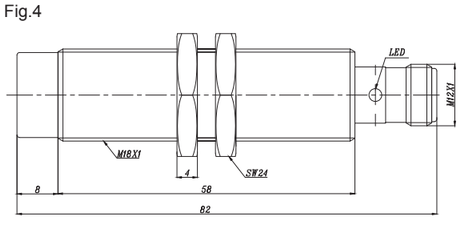


Fig.4



Temperature Extension-Low Temperature-M30

Description:

Brass nickel-plated, threaded barrel, DC 2-wire output,
temperature range down to -40˚C, IP67 protection class,
LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi10-M30-OD6L/TB40	10mm	Flush	DC NO	10...30VDC	≤100mA	400Hz	-40...70˚C	2m cable	Fig.1
Fi10-M30-CD6L/TB40	10mm	Flush	DC NC	10...30VDC	≤100mA	400Hz	-40...70˚C	2m cable	Fig.1
Ni15-M30-OD6L/TB40	15mm	Non-flush	DC NO	10...30VDC	≤100mA	200Hz	-40...70˚C	2m cable	Fig.2
Ni15-M30-CD6L/TB40	15mm	Non-flush	DC NC	10...30VDC	≤100mA	200Hz	-40...70˚C	2m cable	Fig.2
Fi10-M30-OD6L-Q12/TB40	10mm	Flush	DC NO	10...30VDC	≤100mA	400Hz	-40...70˚C	M12 Connector	Fig.3
Fi10-M30-CD6L-Q12/TB40	10mm	Flush	DC NC	10...30VDC	≤100mA	400Hz	-40...70˚C	M12 Connector	Fig.3
Ni15-M30-OD6L-Q12/TB40	15mm	Non-flush	DC NO	10...30VDC	≤100mA	200Hz	-40...70˚C	M12 Connector	Fig.4
Ni15-M30-CD6L-Q12/TB40	15mm	Non-flush	DC NC	10...30VDC	≤100mA	200Hz	-40...70˚C	M12 Connector	Fig.4

Dimensions:

Fig.1

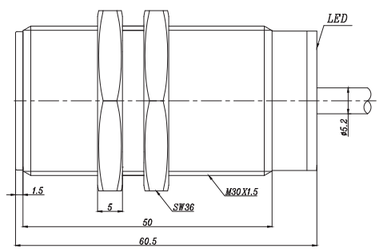


Fig.2

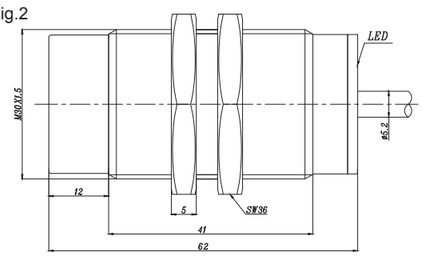


Fig.3

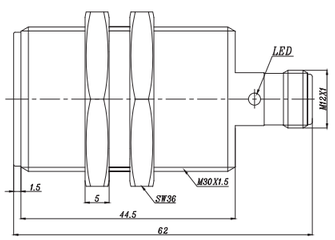
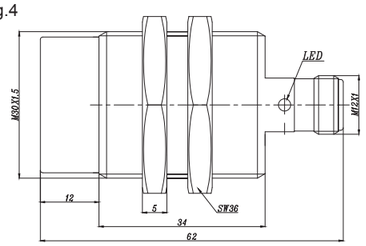


Fig.4



Temperature Extension-Low Temperature-M30

Description:

Brass nickel-plated, threaded barrel, DC 3-wire output,
temperature range down to -40˚C, IP67 protection class,
LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi10-M30-OP6L/TB40	10mm	Flush	PNP NO	10...30VDC	≤200mA	400Hz	-40...70˚C	2m cable	Fig.1
Fi10-M30-ON6L/TB40	10mm	Flush	NPN NO	10...30VDC	≤200mA	400Hz	-40...70˚C	2m cable	Fig.1
Fi10-M30-CP6L/TB40	10mm	Flush	PNP NC	10...30VDC	≤200mA	400Hz	-40...70˚C	2m cable	Fig.1
Fi10-M30-CN6L/TB40	10mm	Flush	NPN NC	10...30VDC	≤200mA	400Hz	-40...70˚C	2m cable	Fig.1
Ni15-M30-OP6L/TB40	15mm	Non-flush	PNP NO	10...30VDC	≤200mA	200Hz	-40...70˚C	2m cable	Fig.2
Ni15-M30-ON6L/TB40	15mm	Non-flush	NPN NO	10...30VDC	≤200mA	200Hz	-40...70˚C	2m cable	Fig.2
Ni15-M30-CP6L/TB40	15mm	Non-flush	PNP NC	10...30VDC	≤200mA	200Hz	-40...70˚C	2m cable	Fig.2
Ni15-M30-CN6L/TB40	15mm	Non-flush	NPN NC	10...30VDC	≤200mA	200Hz	-40...70˚C	2m cable	Fig.2
Fi10-M30-OP6L-Q12/TB40	10mm	Flush	PNP NO	10...30VDC	≤200mA	400Hz	-40...70˚C	M12 Connector	Fig.3
Fi10-M30-ON6L-Q12/TB40	10mm	Flush	NPN NO	10...30VDC	≤200mA	400Hz	-40...70˚C	M12 Connector	Fig.3
Fi10-M30-CP6L-Q12/TB40	10mm	Flush	PNP NC	10...30VDC	≤200mA	400Hz	-40...70˚C	M12 Connector	Fig.3
Fi10-M30-CN6L-Q12/TB40	10mm	Flush	NPN NC	10...30VDC	≤200mA	400Hz	-40...70˚C	M12 Connector	Fig.3
Ni15-M30-OP6L-Q12/TB40	15mm	Non-flush	PNP NO	10...30VDC	≤200mA	200Hz	-40...70˚C	M12 Connector	Fig.4
Ni15-M30-ON6L-Q12/TB40	15mm	Non-flush	NPN NO	10...30VDC	≤200mA	200Hz	-40...70˚C	M12 Connector	Fig.4
Ni15-M30-CP6L-Q12/TB40	15mm	Non-flush	PNP NC	10...30VDC	≤200mA	200Hz	-40...70˚C	M12 Connector	Fig.4
Ni15-M30-CN6L-Q12/TB40	15mm	Non-flush	NPN NC	10...30VDC	≤200mA	200Hz	-40...70˚C	M12 Connector	Fig.4

Dimensions:

Fig.1

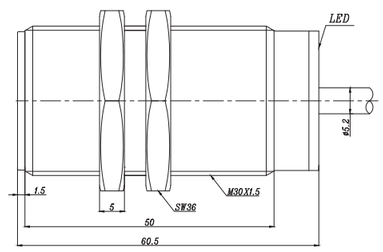


Fig.2

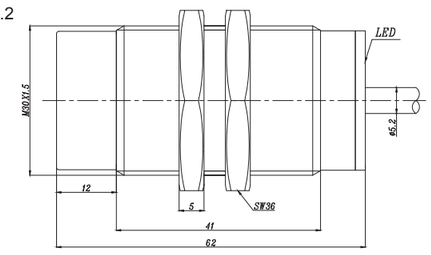


Fig.3

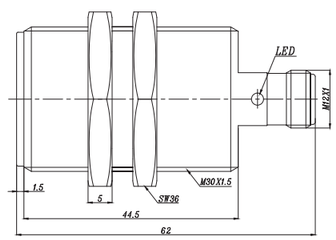
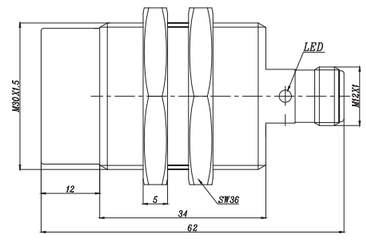


Fig.4



Temperature Extension-Low Temperature-M30

Description:

Brass nickel-plated, threaded barrel, AC/DC 2-wire output, temperature range down to -40˚C, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi10-M30-OA41L/TB40	10mm	Flush	DC/AC NO	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-40...70˚C	2m cable	Fig.1
Fi10-M30-CA41L/TB40	10mm	Flush	DC/AC NC	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-40...70˚C	2m cable	Fig.1
Ni15-M30-OA41L/TB40	15mm	Non-flush	DC/AC NO	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-40...70˚C	2m cable	Fig.2
Ni15-M30-CA41L/TB40	15mm	Non-flush	DC/AC NC	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-40...70˚C	2m cable	Fig.2
Fi10-M30-OA41L-Q12/TB40	10mm	Flush	DC/AC NO	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-40...70˚C	M12 Connector	Fig.3
Fi10-M30-CA41L-Q12/TB40	10mm	Flush	DC/AC NC	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-40...70˚C	M12 Connector	Fig.3
Ni15-M30-OA41L-Q12/TB40	15mm	Non-flush	DC/AC NO	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-40...70˚C	M12 Connector	Fig.4
Ni15-M30-CA41L-Q12/TB40	15mm	Non-flush	DC/AC NC	20...250VAC/DC	DC≤100mA/AC≤200mA	40Hz	-40...70˚C	M12 Connector	Fig.4

Dimensions:

Fig.1

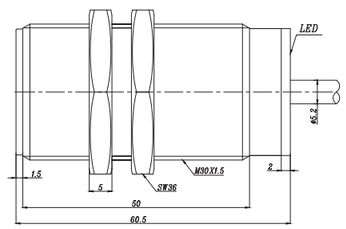


Fig.2

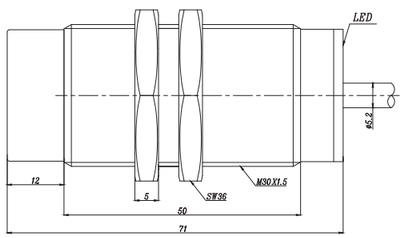


Fig.3

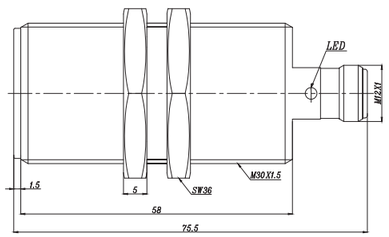
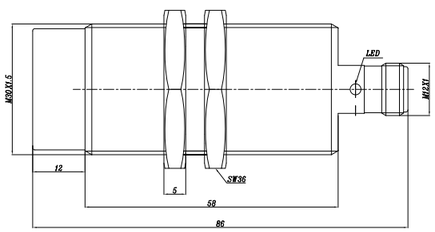
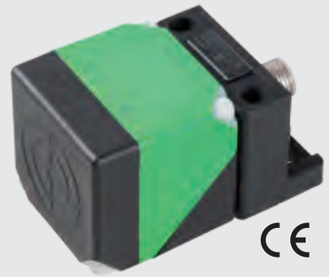


Fig.4



Temperature Extension-Low Temperature-W40



Description:

Plastic housing, rectangular 40x40mm, variable orientation of active face, DC 2-wire output, temperature range down to -40˚C, IP67 protection class, power and action LED indicator.

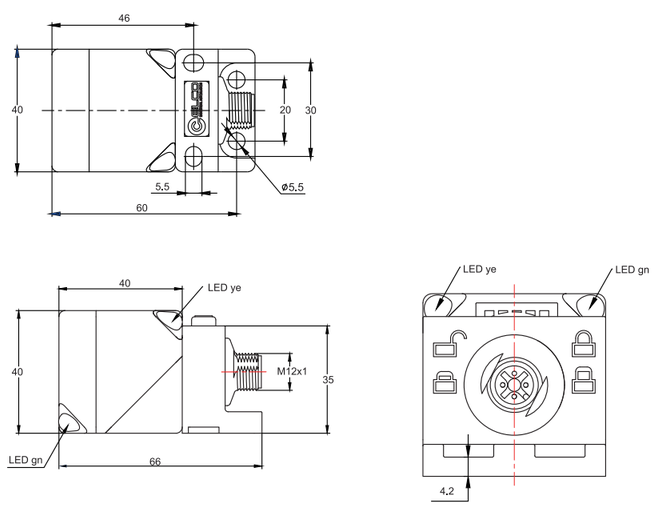
See the wiring diagram on page 233-234 for your reference.

Technical Data:

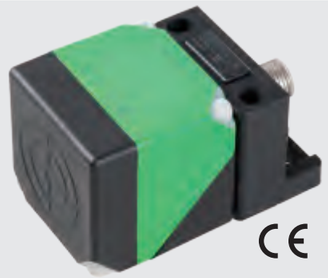
Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi20-W40-OD6L-Q12/TB40	20mm	Flush	DC NO	10...30VDC	≤100mA	100Hz	-40...70˚C	M12 Connector	Fig.1
Fi20-W40-OD9L-Q12/TB40	20mm	Flush	DC NC	10...30VDC	≤100mA	100Hz	-40...70˚C	M12 Connector	Fig.1
Fi20-W40-CD9L-Q12/TB40	20mm	Flush	DC NO	10...30VDC	≤100mA	100Hz	-40...70˚C	M12 Connector	Fig.1
Fi20-W40-CD6L-Q12/TB40	20mm	Flush	DC NC	10...30VDC	≤100mA	100Hz	-40...70˚C	M12 Connector	Fig.1
Ni30-W40-CD6L-Q12/TB40	30mm	Non-flush	DC NO	10...30VDC	≤100mA	150Hz	-40...70˚C	M12 Connector	Fig.1
Ni30-W40-OD6L-Q12/TB40	30mm	Non-flush	DC NC	10...30VDC	≤100mA	150Hz	-40...70˚C	M12 Connector	Fig.1
Ni30-W40-CD9L-Q12/TB40	30mm	Non-flush	DC NO	10...30VDC	≤100mA	150Hz	-40...70˚C	M12 Connector	Fig.1
Ni30-W40-OD9L-Q12/TB40	30mm	Non-flush	DC NC	10...30VDC	≤100mA	150Hz	-40...70˚C	M12 Connector	Fig.1

Dimensions:

Fig.1



Temperature Extension-Low Temperature-W40



Description:

Plastic housing, rectangular 40x40mm, variable orientation of active face, DC 3/4-wire output, temperature range down to -40˚C, IP67 protection class, power and action LED indicator.

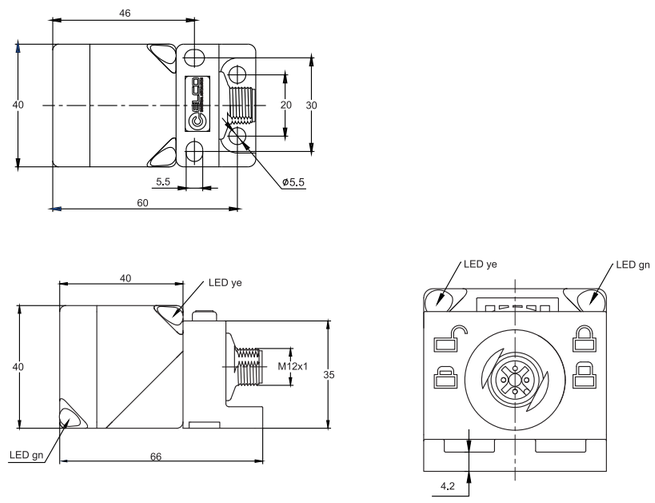
See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi20-W40-ON6L-Q12/TB40	20mm	Flush	NPN	NO	10...30VDC	≤200mA	150Hz	-40...70˚C	M12 Connector	Fig.1
Fi20-W40-CN6L-Q12/TB40	20mm	Flush	NPN	NC	10...30VDC	≤200mA	150Hz	-40...70˚C	M12 Connector	Fig.1
Fi20-W40-BN6L-Q12/TB40	20mm	Flush	NPN	NO+NC	10...30VDC	≤200mA	150Hz	-40...70˚C	M12 Connector	Fig.1
Fi20-W40-OP6L-Q12/TB40	20mm	Flush	PNP	NO	10...30VDC	≤200mA	150Hz	-40...70˚C	M12 Connector	Fig.1
Fi20-W40-CP6L-Q12/TB40	20mm	Flush	PNP	NC	10...30VDC	≤200mA	150Hz	-40...70˚C	M12 Connector	Fig.1
Fi20-W40-BP6L-Q12/TB40	20mm	Flush	PNP	NO+NC	10...30VDC	≤200mA	150Hz	-40...70˚C	M12 Connector	Fig.1
Ni30-W40-ON6L-Q12/TB40	30mm	Non-flush	NPN	NO	10...30VDC	≤200mA	100Hz	-40...70˚C	M12 Connector	Fig.1
Ni30-W40-CN6L-Q12/TB40	30mm	Non-flush	NPN	NC	10...30VDC	≤200mA	100Hz	-40...70˚C	M12 Connector	Fig.1
Ni30-W40-BN6L-Q12/TB40	30mm	Non-flush	NPN	NO+NC	10...30VDC	≤200mA	100Hz	-40...70˚C	M12 Connector	Fig.1
Ni30-W40-OP6L-Q12/TB40	30mm	Non-flush	PNP	NO	10...30VDC	≤200mA	100Hz	-40...70˚C	M12 Connector	Fig.1
Ni30-W40-CP6L-Q12/TB40	30mm	Non-flush	PNP	NC	10...30VDC	≤200mA	100Hz	-40...70˚C	M12 Connector	Fig.1
Ni30-W40-BP6L-Q12/TB40	30mm	Non-flush	PNP	NO+NC	10...30VDC	≤200mA	100Hz	-40...70˚C	M12 Connector	Fig.1

Dimensions:

Fig.1



Temperature Extension-Low Temperature-W40

Description:

Plastic housing, rectangular 40x40mm, variable orientation of active face, AC/DC 2-wire output, temperature range down to -40˚C, IP67 protection class, power and action LED indicator.

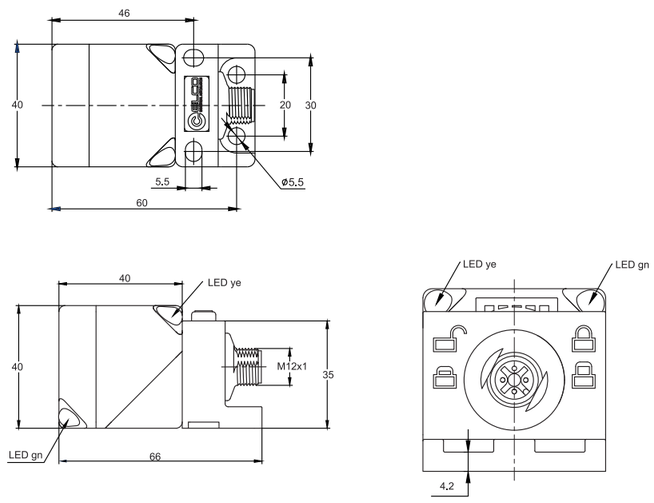
See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi20-W40-OA41L-Q12/TB40	20mm	Flush	DC/AC	NO	20...250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-40...70˚C	M12 Connector	Fig.1
Fi20-W40-CA41L-Q12/TB40	20mm	Flush	DC/AC	NO	20...250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-40...70˚C	M12 Connector	Fig.1
Ni30-W40-OA41L-Q12/TB40	30mm	Non-flush	DC/AC	NC	20...250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-40...70˚C	M12 Connector	Fig.1
Ni30-W40-CA41L-Q12/TB40	30mm	Non-flush	DC/AC	NC	20...250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-40...70˚C	M12 Connector	Fig.1

Dimensions:

Fig.1



Temperature Extension-Low Temperature-WL40

Description:

Plastic housing, rectangular 40x40x118mm, variable orientation of active face, DC 2-wire output, temperature range down to -40˚C, IP67 protection class, power and action LED indicator.

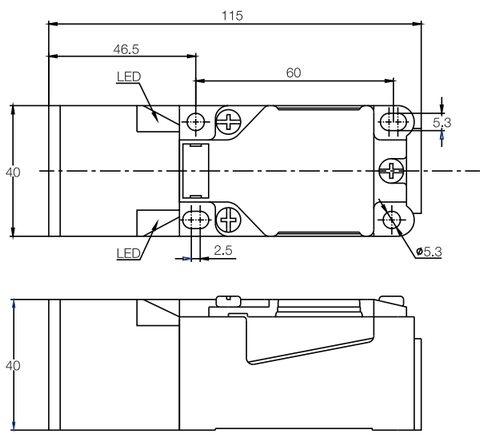
See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi15-WL40-OD6L-Q/TB40	15mm	Flush	DC NO	10...30VDC	≤100mA	150Hz	-40...70˚C	Terminal	Fig.1
Ni20-WL40-OD6L-Q/TB40	20mm	Non-flush	DC NO	10...30VDC	≤100mA	150Hz	-40...70˚C	Terminal	Fig.1
Fi15-WL40-CD6L-Q/TB40	15mm	Flush	DC NC	10...30VDC	≤100mA	150Hz	-40...70˚C	Terminal	Fig.1
Ni20-WL40-CD6L-Q/TB40	20mm	Non-flush	DC NC	10...30VDC	≤100mA	150Hz	-40...70˚C	Terminal	Fig.1
Fi15-WL40-OD9L-Q/TB40	15mm	Flush	DC NO	10...60VDC	≤100mA	150Hz	-40...70˚C	Terminal	Fig.1
Ni20-WL40-OD9L-Q/TB40	20mm	Non-flush	DC NO	10...60VDC	≤100mA	150Hz	-40...70˚C	Terminal	Fig.1
Fi15-WL40-CD9L-Q/TB40	15mm	Flush	DC NC	10...60VDC	≤100mA	150Hz	-40...70˚C	Terminal	Fig.1
Ni20-WL40-CD9L-Q/TB40	20mm	Non-flush	DC NC	10...60VDC	≤100mA	150Hz	-40...70˚C	Terminal	Fig.1

Dimensions:

Fig.1



Temperature Extension-Low Temperature-WL40

Description:

Plastic housing, rectangular 40x40x118mmmm, variable orientation of active face, DC 3/4-wire output, temperature range down to -40˚C, IP67 protection class, power and action LED indicator.

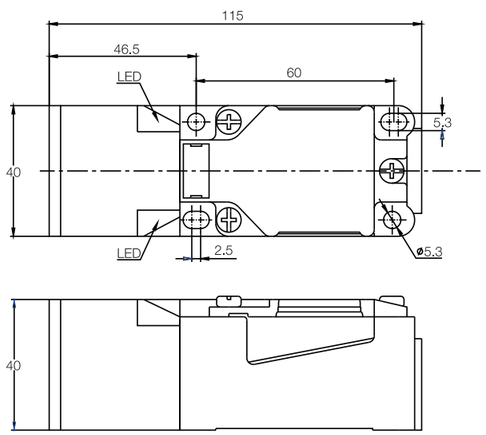
See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi15-WL40-ON6L-Q/TB40	15mm	Flush	NPN	NO	10...30VDC	≤200mA	150Hz	-40...70˚C	Terminal	Fig.1
Fi15-WL40-CN6L-Q/TB40	15mm	Flush	NPN	NC	10...30VDC	≤200mA	150Hz	-40...70˚C	Terminal	Fig.1
Fi15-WL40-BN6L-Q/TB40	15mm	Flush	NPN	NO+NC	10...30VDC	≤200mA	150Hz	-40...70˚C	Terminal	Fig.1
Fi15-WL40-OP6L-Q/TB40	15mm	Flush	PNP	NO	10...30VDC	≤200mA	150Hz	-40...70˚C	Terminal	Fig.1
Fi15-WL40-CP6L-Q/TB40	15mm	Flush	PNP	NC	10...30VDC	≤200mA	150Hz	-40...70˚C	Terminal	Fig.1
Fi15-WL40-BP6L-Q/TB40	15mm	Flush	PNP	NO+NC	10...30VDC	≤200mA	150Hz	-40...70˚C	Terminal	Fig.1
Ni20-WL40-ON6L-Q/TB40	20mm	Non-flush	NPN	NO	10...30VDC	≤200mA	150Hz	-40...70˚C	Terminal	Fig.1
Ni20-WL40-CN6L-Q/TB40	20mm	Non-flush	NPN	NC	10...30VDC	≤200mA	150Hz	-40...70˚C	Terminal	Fig.1
Ni20-WL40-BN6L-Q/TB40	20mm	Non-flush	NPN	NO+NC	10...30VDC	≤200mA	150Hz	-40...70˚C	Terminal	Fig.1
Ni20-WL40-OP6L-Q/TB40	20mm	Non-flush	PNP	NO	10...30VDC	≤200mA	150Hz	-40...70˚C	Terminal	Fig.1
Ni20-WL40-CP6L-Q/TB40	20mm	Non-flush	PNP	NC	10...30VDC	≤200mA	150Hz	-40...70˚C	Terminal	Fig.1
Ni20-WL40-BP6L-Q/TB40	20mm	Non-flush	PNP	NO+NC	10...30VDC	≤200mA	150Hz	-40...70˚C	Terminal	Fig.1

Dimensions:

Fig.1



Temperature Extension-Low Temperature-WL40

Description:

Plastic housing, rectangular 40x40x118mm, variable orientation of active face, AC/DC 2-wire output, temperature range down to -40˚C, IP67 protection class, power and action LED indicator.

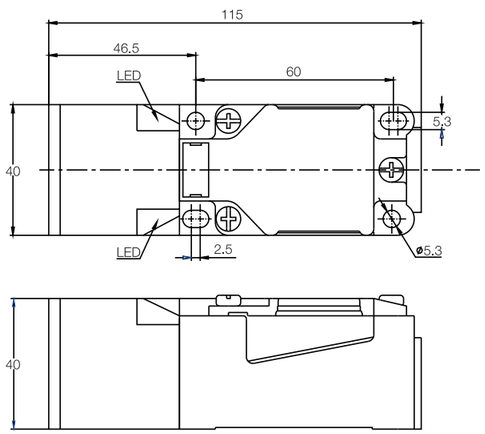
See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi15-WL40-OA41L-Q/TB40	15mm	Flush	DC/AC	NO	20...250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-40...70˚C	Terminal	Fig.1
Ni20-WL40-OA41L-Q/TB40	20mm	Non-flush	DC/AC	NC	20...250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-40...70˚C	Terminal	Fig.1
Fi15-WL40-VA41L-Q/TB40	15mm	Flush	DC/AC	NO/NC	20...250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-40...70˚C	Terminal	Fig.1
Ni20-WL40-VA41L-Q/TB40	20mm	Non-flush	DC/AC	NO/NC	20...250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-40...70˚C	Terminal	Fig.1

Dimensions:

Fig.1



Temperature Extension-Low Temperature-W80

Description:

Plastic housing, rectangular 80x80mm, DC 2-wire output, wide voltage range, temperature range down to -40˚C, IP67 protection class, power and action LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi40-W80-OD6L-Q/TB40	40mm	Flush	DC	NO	10...30VDC	≤100mA	50Hz	-40...70˚C	Terminal	Fig.1
Ni50-W80-OD6L-Q/TB40	50mm	Non-flush	DC	NO	10...30VDC	≤100mA	30Hz	-40...70˚C	Terminal	Fig.1
Fi40-W80-CD6L-Q/TB40	40mm	Flush	DC	NC	10...30VDC	≤100mA	50Hz	-40...70˚C	Terminal	Fig.1
Ni50-W80-CD6L-Q/TB40	50mm	Non-flush	DC	NC	10...30VDC	≤100mA	30Hz	-40...70˚C	Terminal	Fig.1
Fi40-W80-OD6L-Q12/TB40	40mm	Flush	DC	NO	10...30VDC	≤100mA	50Hz	-40...70˚C	M12 Connector	Fig.2
Ni50-W80-OD6L-Q12/TB40	50mm	Non-flush	DC	NO	10...30VDC	≤100mA	30Hz	-40...70˚C	M12 Connector	Fig.2
Fi40-W80-CD6L-Q12/TB40	40mm	Flush	DC	NC	10...30VDC	≤100mA	50Hz	-40...70˚C	M12 Connector	Fig.2
Ni50-W80-CD6L-Q12/TB40	50mm	Non-flush	DC	NC	10...30VDC	≤100mA	30Hz	-40...70˚C	M12 Connector	Fig.2
Fi40-W80-OD9L-Q/TB40	40mm	Flush	DC	NO	10...60VDC	≤100mA	50Hz	-40...70˚C	Terminal	Fig.1
Ni50-W80-OD9L-Q/TB40	50mm	Non-flush	DC	NO	10...60VDC	≤100mA	30Hz	-40...70˚C	Terminal	Fig.1
Fi40-W80-CD9L-Q/TB40	40mm	Flush	DC	NC	10...60VDC	≤100mA	50Hz	-40...70˚C	Terminal	Fig.1
Ni50-W80-CD9L-Q/TB40	50mm	Non-flush	DC	NC	10...60VDC	≤100mA	30Hz	-40...70˚C	Terminal	Fig.1
Fi40-W80-OD9L-Q12/TB40	40mm	Flush	DC	NO	10...60VDC	≤100mA	50Hz	-40...70˚C	M12 Connector	Fig.2
Ni50-W80-OD9L-Q12/TB40	50mm	Non-flush	DC	NO	10...60VDC	≤100mA	30Hz	-40...70˚C	M12 Connector	Fig.2
Fi40-W80-CD9L-Q12/TB40	40mm	Flush	DC	NC	10...60VDC	≤100mA	50Hz	-40...70˚C	M12 Connector	Fig.2
Ni50-W80-CD9L-Q12/TB40	50mm	Non-flush	DC	NC	10...60VDC	≤100mA	30Hz	-40...70˚C	M12 Connector	Fig.2

Dimensions:

Fig.1

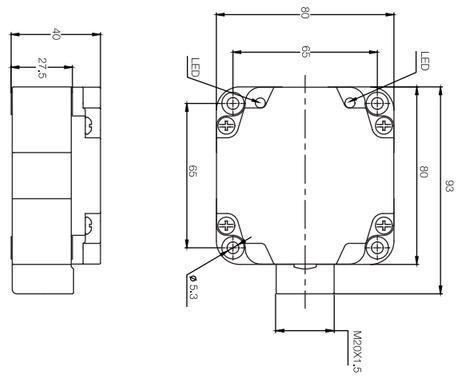
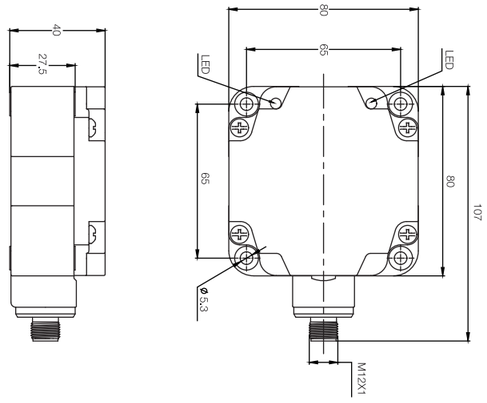


Fig.2



Temperature Extension-Low Temperature-W80

Description:

Plastic housing, rectangular 80x80mm, DC 3/4-wire output, temperature range down to -40˚C, IP67 protection class, power and action LED indicator.

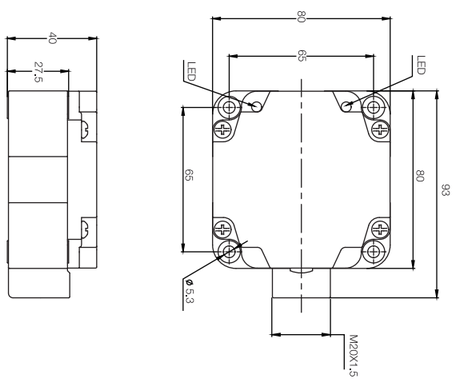
See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi40-W80-ON6L-Q/TB40	40mm	Flush	NPN	NO	10...30VDC	≤200mA	50Hz	-40...70˚C	Terminal	Fig.1
Fi40-W80-CN6L-Q/TB40	40mm	Flush	NPN	NC	10...30VDC	≤200mA	50Hz	-40...70˚C	Terminal	Fig.1
Fi40-W80-BN6L-Q/TB40	40mm	Flush	NPN	NO+NC	10...30VDC	≤200mA	50Hz	-40...70˚C	Terminal	Fig.1
Fi40-W80-OP6L-Q/TB40	40mm	Flush	PNP	NO	10...30VDC	≤200mA	50Hz	-40...70˚C	Terminal	Fig.1
Fi40-W80-CP6L-Q/TB40	40mm	Flush	PNP	NC	10...30VDC	≤200mA	50Hz	-40...70˚C	Terminal	Fig.1
Fi40-W80-BP6L-Q/TB40	40mm	Flush	PNP	NO+NC	10...30VDC	≤200mA	50Hz	-40...70˚C	Terminal	Fig.1
Ni50-W80-ON6L-Q/TB40	50mm	Non-flush	NPN	NO	10...30VDC	≤200mA	30Hz	-40...70˚C	Terminal	Fig.1
Ni50-W80-CN6L-Q/TB40	50mm	Non-flush	NPN	NC	10...30VDC	≤200mA	30Hz	-40...70˚C	Terminal	Fig.1
Ni50-W80-BN6L-Q/TB40	50mm	Non-flush	NPN	NO+NC	10...30VDC	≤200mA	30Hz	-40...70˚C	Terminal	Fig.1
Ni50-W80-OP6L-Q/TB40	50mm	Non-flush	PNP	NO	10...30VDC	≤200mA	30Hz	-40...70˚C	Terminal	Fig.1
Ni50-W80-CP6L-Q/TB40	50mm	Non-flush	PNP	NC	10...30VDC	≤200mA	30Hz	-40...70˚C	Terminal	Fig.1
Ni50-W80-BP6L-Q/TB40	50mm	Non-flush	PNP	NO+NC	10...30VDC	≤200mA	30Hz	-40...70˚C	Terminal	Fig.1

Dimensions:

Fig.1



Temperature Extension-Low Temperature-W80

Description:

Plastic housing, rectangular 80x80mm, DC 3/4-wire output, temperature range down to -40˚C, IP67 protection class, power and action LED indicator.

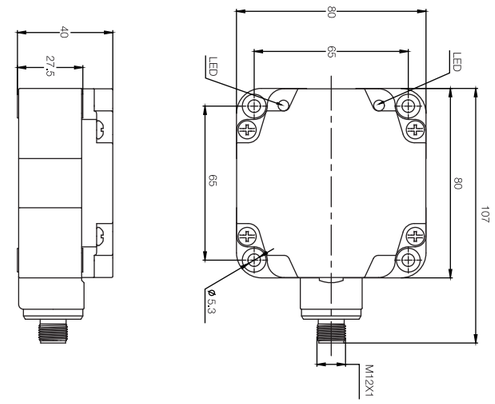
See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi40-W80-ON6L-Q12/TB40	40mm	Flush	NPN	NO	10...30VDC	≤200mA	50Hz	-40...70˚C	Terminal	Fig.1
Fi40-W80-CN6L-Q12/TB40	40mm	Flush	NPN	NC	10...30VDC	≤200mA	50Hz	-40...70˚C	Terminal	Fig.1
Fi40-W80-BN6L-Q12/TB40	40mm	Flush	NPN	NO+NC	10...30VDC	≤200mA	50Hz	-40...70˚C	Terminal	Fig.1
Fi40-W80-OP6L-Q12/TB40	40mm	Flush	PNP	NO	10...30VDC	≤200mA	50Hz	-40...70˚C	Terminal	Fig.1
Fi40-W80-CP6L-Q12/TB40	40mm	Flush	PNP	NC	10...30VDC	≤200mA	50Hz	-40...70˚C	Terminal	Fig.1
Fi40-W80-BP6L-Q12/TB40	40mm	Flush	PNP	NO+NC	10...30VDC	≤200mA	50Hz	-40...70˚C	Terminal	Fig.1
Ni50-W80-ON6L-Q12/TB40	50mm	Non-flush	NPN	NO	10...30VDC	≤200mA	30Hz	-40...70˚C	Terminal	Fig.1
Ni50-W80-CN6L-Q12/TB40	50mm	Non-flush	NPN	NC	10...30VDC	≤200mA	30Hz	-40...70˚C	Terminal	Fig.1
Ni50-W80-BN6L-Q12/TB40	50mm	Non-flush	NPN	NO+NC	10...30VDC	≤200mA	30Hz	-40...70˚C	Terminal	Fig.1
Ni50-W80-OP6L-Q12/TB40	50mm	Non-flush	PNP	NO	10...30VDC	≤200mA	30Hz	-40...70˚C	Terminal	Fig.1
Ni50-W80-CP6L-Q12/TB40	50mm	Non-flush	PNP	NC	10...30VDC	≤200mA	30Hz	-40...70˚C	Terminal	Fig.1
Ni50-W80-BP6L-Q12/TB40	50mm	Non-flush	PNP	NO+NC	10...30VDC	≤200mA	30Hz	-40...70˚C	Terminal	Fig.1

Dimensions:

Fig.1



Temperature Extension-Low Temperature-W80

Description:

Plastic housing, rectangular 80x80mm, AC/DC 2-wire output, temperature range down to -40˚C, IP67 protection class, power and action LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi40-W80-OA41L-Q/TB40	40mm	Flush	DC/AC	NO	20...250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-40...70˚C	Terminal	Fig.1
Fi40-W80-CA41L-Q/TB40	40mm	Flush	DC/AC	NC	20...250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-40...70˚C	Terminal	Fig.1
Fi40-W80-VA41L-Q/TB40	40mm	Flush	DC/AC	NO+NC	20...250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-40...70˚C	Terminal	Fig.1
Ni50-W80-OA41L-Q/TB40	50mm	Non-flush	DC/AC	NO	20...250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-40...70˚C	Terminal	Fig.1
Ni50-W80-CA41L-Q/TB40	50mm	Non-flush	DC/AC	NC	20...250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-40...70˚C	Terminal	Fig.1
Ni50-W80-VA41L-Q/TB40	50mm	Non-flush	DC/AC	NO+NC	20...250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-40...70˚C	Terminal	Fig.1
Fi40-W80-OA41L-Q12/TB40	40mm	Flush	DC/AC	NO	20...250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-40...70˚C	M12 Connector	Fig.2
Fi40-W80-CA41L-Q12/TB40	40mm	Flush	DC/AC	NC	20...250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-40...70˚C	M12 Connector	Fig.2
Fi40-W80-VA41L-Q12/TB40	40mm	Flush	DC/AC	NO+NC	20...250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-40...70˚C	M12 Connector	Fig.2
Ni50-W80-OA41L-Q12/TB40	50mm	Non-flush	DC/AC	NO	20...250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-40...70˚C	M12 Connector	Fig.2
Ni50-W80-CA41L-Q12/TB40	50mm	Non-flush	DC/AC	NC	20...250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-40...70˚C	M12 Connector	Fig.2
Ni50-W80-VA41L-Q12/TB40	50mm	Non-flush	DC/AC	NO+NC	20...250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-40...70˚C	M12 Connector	Fig.2

Dimensions:

Fig.1

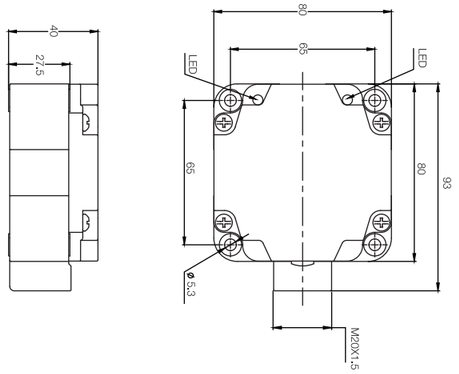
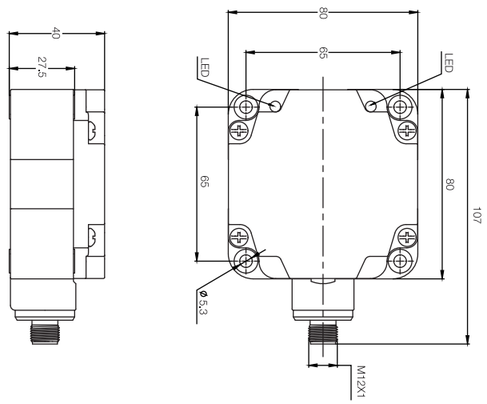


Fig.2



Temperature Extension-Low Temperature-W80

Description:

Plastic housing, rectangular 80x80mm, DC 2-wire output, wide voltage range, temperature range down to -40˚C, IP67 protection class, power and action LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi50-W80-OD6L-Q/TB40	50mm	Flush	DC	NO	10...30VDC	≤100mA	50Hz	-40...70˚C	Terminal	Fig.1
Ni70-W80-OD6L-Q/TB40	70mm	Non-flush	DC	NO	10...30VDC	≤100mA	30Hz	-40...70˚C	Terminal	Fig.1
Fi50-W80-CD6L-Q/TB40	50mm	Flush	DC	NC	10...30VDC	≤100mA	50Hz	-40...70˚C	Terminal	Fig.1
Ni70-W80-CD6L-Q/TB40	70mm	Non-flush	DC	NC	10...30VDC	≤100mA	30Hz	-40...70˚C	Terminal	Fig.1
Fi50-W80-OD6L-Q12/TB40	50mm	Flush	DC	NO	10...30VDC	≤100mA	50Hz	-40...70˚C	M12 Connector	Fig.2
Ni70-W80-OD6L-Q12/TB40	70mm	Non-flush	DC	NO	10...30VDC	≤100mA	30Hz	-40...70˚C	M12 Connector	Fig.2
Fi50-W80-CD6L-Q12/TB40	50mm	Flush	DC	NC	10...30VDC	≤100mA	50Hz	-40...70˚C	M12 Connector	Fig.2
Ni70-W80-CD6L-Q12/TB40	70mm	Non-flush	DC	NC	10...30VDC	≤100mA	30Hz	-40...70˚C	M12 Connector	Fig.2
Fi50-W80-OD9L-Q/TB40	50mm	Flush	DC	NO	10...60VDC	≤100mA	50Hz	-40...70˚C	Terminal	Fig.1
Ni70-W80-OD9L-Q/TB40	70mm	Non-flush	DC	NO	10...60VDC	≤100mA	30Hz	-40...70˚C	Terminal	Fig.1
Fi50-W80-CD9L-Q/TB40	50mm	Flush	DC	NC	10...60VDC	≤100mA	50Hz	-40...70˚C	Terminal	Fig.1
Ni70-W80-CD9L-Q/TB40	70mm	Non-flush	DC	NC	10...60VDC	≤100mA	30Hz	-40...70˚C	Terminal	Fig.1
Fi50-W80-OD9L-Q12/TB40	50mm	Flush	DC	NO	10...60VDC	≤100mA	50Hz	-40...70˚C	M12 Connector	Fig.2
Ni70-W80-OD9L-Q12/TB40	70mm	Non-flush	DC	NO	10...60VDC	≤100mA	30Hz	-40...70˚C	M12 Connector	Fig.2
Fi50-W80-CD9L-Q12/TB40	50mm	Flush	DC	NC	10...60VDC	≤100mA	50Hz	-40...70˚C	M12 Connector	Fig.2
Ni70-W80-CD9L-Q12/TB40	70mm	Non-flush	DC	NC	10...60VDC	≤100mA	30Hz	-40...70˚C	M12 Connector	Fig.2

Dimensions:

Fig.1

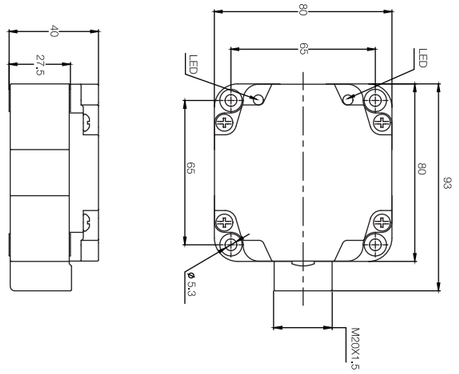
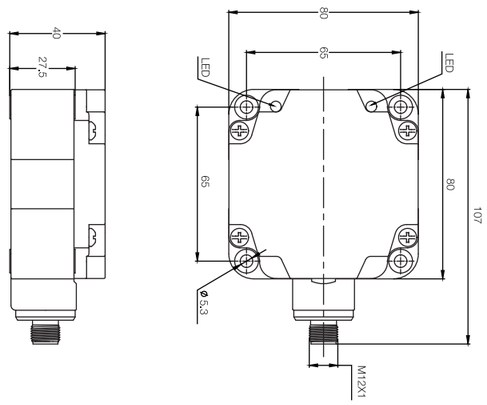


Fig.2



Temperature Extension-Low Temperature-W80

Description:

Plastic housing, rectangular 80x80mm, DC 3/4-wire output, temperature range down to -40˚C, IP67 protection class, power and action LED indicator.

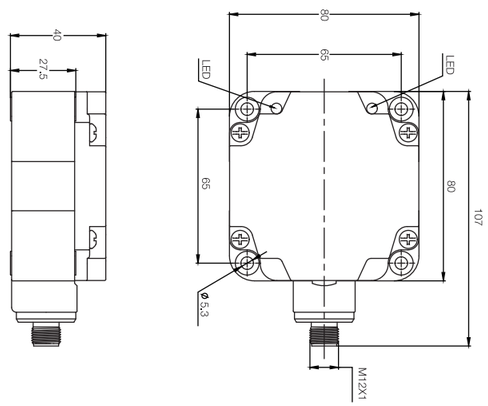
See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi50-W80-ON6L-Q12/TB40	50mm	Flush	NPN	NO	10...30VDC	≤200mA	50Hz	-40...70˚C	M12 Connector	Fig.1
Fi50-W80-CN6L-Q12/TB40	50mm	Flush	NPN	NC	10...30VDC	≤200mA	50Hz	-40...70˚C	M12 Connector	Fig.1
Fi50-W80-BN6L-Q12/TB40	50mm	Flush	NPN	NO+NC	10...30VDC	≤200mA	50Hz	-40...70˚C	M12 Connector	Fig.1
Fi50-W80-OP6L-Q12/TB40	50mm	Flush	PNP	NO	10...30VDC	≤200mA	50Hz	-40...70˚C	M12 Connector	Fig.1
Fi50-W80-CP6L-Q12/TB40	50mm	Flush	PNP	NC	10...30VDC	≤200mA	50Hz	-40...70˚C	M12 Connector	Fig.1
Fi50-W80-BP6L-Q12/TB40	50mm	Flush	PNP	NO+NC	10...30VDC	≤200mA	50Hz	-40...70˚C	M12 Connector	Fig.1
Ni70-W80-ON6L-Q12/TB40	70mm	Non-flush	NPN	NO	10...30VDC	≤200mA	30Hz	-40...70˚C	M12 Connector	Fig.1
Ni70-W80-CN6L-Q12/TB40	70mm	Non-flush	NPN	NC	10...30VDC	≤200mA	30Hz	-40...70˚C	M12 Connector	Fig.1
Ni70-W80-BN6L-Q12/TB40	70mm	Non-flush	NPN	NO+NC	10...30VDC	≤200mA	30Hz	-40...70˚C	M12 Connector	Fig.1
Ni70-W80-OP6L-Q12/TB40	70mm	Non-flush	PNP	NO	10...30VDC	≤200mA	30Hz	-40...70˚C	M12 Connector	Fig.1
Ni70-W80-CP6L-Q12/TB40	70mm	Non-flush	PNP	NC	10...30VDC	≤200mA	30Hz	-40...70˚C	M12 Connector	Fig.1
Ni70-W80-BP6L-Q12/TB40	70mm	Non-flush	PNP	NO+NC	10...30VDC	≤200mA	30Hz	-40...70˚C	M12 Connector	Fig.1

Dimensions:

Fig.1



Temperature Extension-Low Temperature-W80

Description:

Plastic housing, rectangular 80x80mm, AC/DC 2-wire output, wide voltage range, temperature range down to -40˚C, IP67 protection class, power and action LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi50-W80-OA41L-Q/TB40	50mm	Flush	DC/AC	NO	20..250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-40...70˚C	Terminal	Fig.1
Fi50-W80-VA41L-Q/TB40	70mm	Flush	DC/AC	NC	20..250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-40...70˚C	Terminal	Fig.1
Ni70-W80-OA41L-Q/TB40	50mm	Non-flush	DC/AC	NO/NC	20..250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-40...70˚C	Terminal	Fig.1
Ni70-W80-VA41L-Q/TB40	70mm	Non-flush	DC/AC	NO/NC	20..250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-40...70˚C	Terminal	Fig.1
Fi50-W80-OA41L-Q12/TB40	50mm	Flush	DC/AC	NO	20..250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-40...70˚C	M12 Connector	Fig.2
Fi50-W80-VA41L-Q12/TB40	70mm	Flush	DC/AC	NC	20..250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-40...70˚C	M12 Connector	Fig.2
Ni70-W80-OA41L-Q12/TB40	50mm	Non-flush	DC/AC	NO/NC	20..250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-40...70˚C	M12 Connector	Fig.2
Ni70-W80-VA41L-Q12/TB40	70mm	Non-flush	DC/AC	NO/NC	20..250VAC/DC	DC≤100mA/AC≤200mA	20Hz	-40...70˚C	M12 Connector	Fig.2

Dimensions:

Fig.1

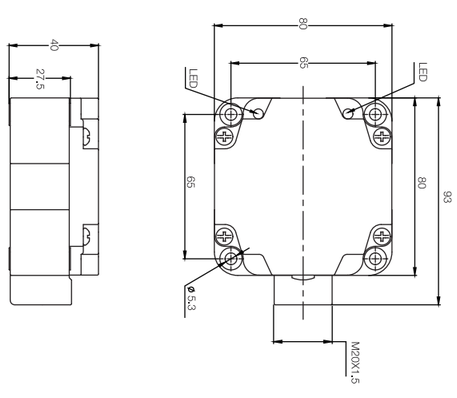
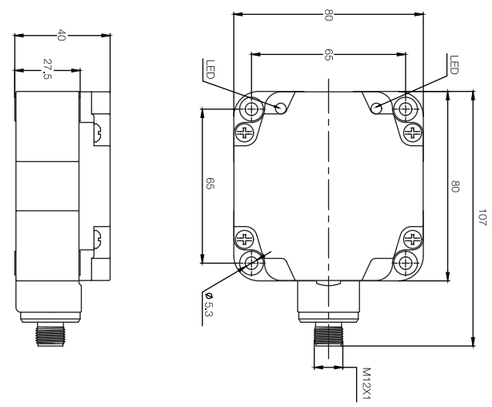


Fig.2



Magnetic Field Immune Metal Barrel-M12

Description:

Brass nickel-plated, threaded barrel, DC 3-wire output,

IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi2A-M12-OP6L	2mm	Flush	PNP NO	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi2A-M12-CP6L	2mm	Flush	PNP NC	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi2A-M12-ON6L	2mm	Flush	NPN NO	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi2A-M12-CN6L	2mm	Flush	NPN NC	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi2A-M12-OP6L-Q12	2mm	Flush	PNP NO	10...30VDC	≤200mA	1000Hz	-25...70℃	M12 Connector	Fig.2
Fi2A-M12-CP6L-Q12	2mm	Flush	PNP NC	10...30VDC	≤200mA	1000Hz	-25...70℃	M12 Connector	Fig.2
Fi2A-M12-ON6L-Q12	2mm	Flush	NPN NO	10...30VDC	≤200mA	1000Hz	-25...70℃	M12 Connector	Fig.2
Fi2A-M12-CN6L-Q12	2mm	Flush	NPN NC	10...30VDC	≤200mA	1000Hz	-25...70℃	M12 Connector	Fig.2

Dimensions:

Fig.1

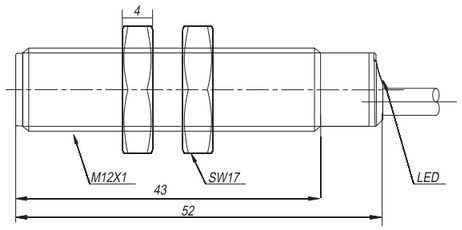
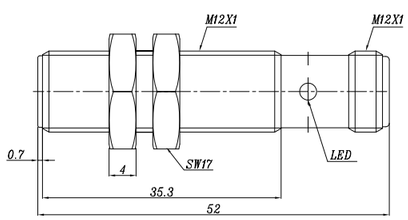


Fig.2



Magnetic Field Immune Metal Barrel-M18

Description:

Brass nickel-plated, threaded barrel, DC 3-wire output,

IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi5A-M18-OP6L	5mm	Flush	PNP NO	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi5A-M18-CP6L	5mm	Flush	PNP NC	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi5A-M18-ON6L	5mm	Flush	NPN NO	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi5A-M18-CN6L	5mm	Flush	NPN NC	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi5A-M18-OP6L-Q12	5mm	Flush	PNP NO	10...30VDC	≤200mA	1000Hz	-25...70℃	M12 Connector	Fig.2
Fi5A-M18-CP6L-Q12	5mm	Flush	PNP NC	10...30VDC	≤200mA	1000Hz	-25...70℃	M12 Connector	Fig.2
Fi5A-M18-ON6L-Q12	5mm	Flush	NPN NO	10...30VDC	≤200mA	1000Hz	-25...70℃	M12 Connector	Fig.2
Fi5A-M18-CN6L-Q12	5mm	Flush	NPN NC	10...30VDC	≤200mA	1000Hz	-25...70℃	M12 Connector	Fig.2

Dimensions:

Fig.1

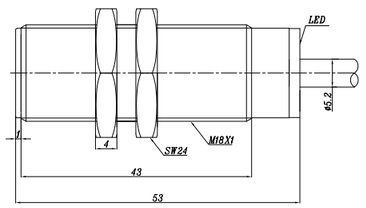
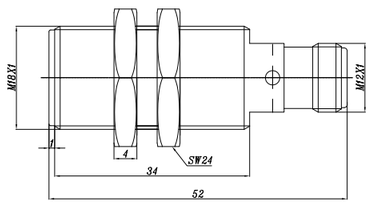


Fig.2



Magnetic Field Immune Metal Barrel-M30

Description:

Brass nickel-plated, threaded barrel, DC 3-wire output,

IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output		Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi10A-M30-OP6L	10mm	Flush	PNP	NO	10...30VDC	≤200mA	400Hz	-25...70℃	2m cable	Fig.1
Fi10A-M30-CP6L	10mm	Flush	PNP	NC	10...30VDC	≤200mA	400Hz	-25...70℃	2m cable	Fig.1
Fi10A-M30-ON6L	10mm	Flush	NPN	NO	10...30VDC	≤200mA	400Hz	-25...70℃	2m cable	Fig.1
Fi10A-M30-CN6L	10mm	Flush	NPN	NC	10...30VDC	≤200mA	400Hz	-25...70℃	2m cable	Fig.1
Fi10A-M30-OP6L-Q12	10mm	Flush	PNP	NO	10...30VDC	≤200mA	400Hz	-25...70℃	M12 Connector	Fig.2
Fi10A-M30-CP6L-Q12	10mm	Flush	PNP	NC	10...30VDC	≤200mA	400Hz	-25...70℃	M12 Connector	Fig.2
Fi10A-M30-ON6L-Q12	10mm	Flush	NPN	NO	10...30VDC	≤200mA	400Hz	-25...70℃	M12 Connector	Fig.2
Fi10A-M30-CN6L-Q12	10mm	Flush	NPN	NC	10...30VDC	≤200mA	400Hz	-25...70℃	M12 Connector	Fig.2
Ni22A-M30-CN6L	22mm	Non-flush	PNP	NO	10...30VDC	≤200mA	200Hz	-25...70℃	2m cable	Fig.3
Ni22A-M30-CP6L	22mm	Non-flush	PNP	NC	10...30VDC	≤200mA	200Hz	-25...70℃	2m cable	Fig.3
Ni22A-M30-ON6L	22mm	Non-flush	NPN	NO	10...30VDC	≤200mA	200Hz	-25...70℃	2m cable	Fig.3
Ni22A-M30-OP6L	22mm	Non-flush	NPN	NC	10...30VDC	≤200mA	200Hz	-25...70℃	2m cable	Fig.3
Ni22A-M30-CN6L-Q12	22mm	Non-flush	PNP	NO	10...30VDC	≤200mA	200Hz	-25...70℃	M12 Connector	Fig.4
Ni22A-M30-CP6L-Q12	22mm	Non-flush	PNP	NC	10...30VDC	≤200mA	200Hz	-25...70℃	M12 Connector	Fig.4
Ni22A-M30-ON6L-Q12	22mm	Non-flush	NPN	NO	10...30VDC	≤200mA	200Hz	-25...70℃	M12 Connector	Fig.4
Ni22A-M30-OP6L-Q12	22mm	Non-flush	NPN	NC	10...30VDC	≤200mA	200Hz	-25...70℃	M12 Connector	Fig.4

Dimensions:

Fig.1

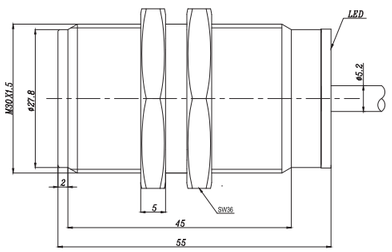


Fig.2

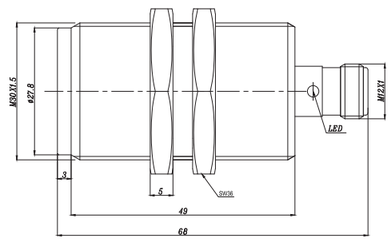


Fig.3

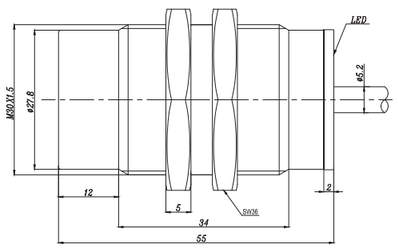
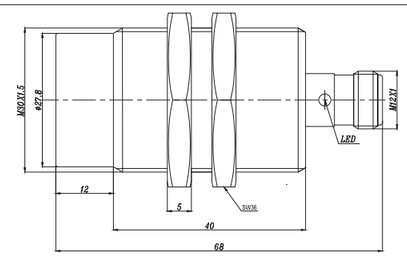


Fig.4



PTFE-Coated

Description:

Brass PTFE-coated, threaded barrel, DC 3-wire output, acid and alkali resistant, resistant against welding sparks,anti-interference, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi2-TM08-OP6L	2mm	Flush	PNP NO	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi2-TM08-ON6L	2mm	Flush	NPN NO	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi2-TM08-CP6L	2mm	Flush	PNP NC	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi2-TM08-CN6L	2mm	Flush	NPN NC	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.1
Fi2-TM08-OP6L-Q12	2mm	Flush	PNP NO	10...30VDC	≤200mA	1000Hz	-25...70℃	M12 Connector	Fig.2
Fi2-TM08-ON6L-Q12	2mm	Flush	NPN NO	10...30VDC	≤200mA	1000Hz	-25...70℃	M12 Connector	Fig.2
Fi2-TM08-CP6L-Q12	2mm	Flush	PNP NC	10...30VDC	≤200mA	1000Hz	-25...70℃	M12 Connector	Fig.2
Fi2-TM08-CN6L-Q12	2mm	Flush	NPN NC	10...30VDC	≤200mA	1000Hz	-25...70℃	M12 Connector	Fig.2
Fi3-TM12-OP6L	3mm	Flush	PNP NO	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.3
Fi3-TM12-ON6L	3mm	Flush	NPN NO	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.3
Fi3-TM12-CP6L	3mm	Flush	PNP NC	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.3
Fi3-TM12-CN6L	3mm	Flush	NPN NC	10...30VDC	≤200mA	1000Hz	-25...70℃	2m cable	Fig.3
Fi3-TM12-OP6L-Q12	3mm	Flush	PNP NO	10...30VDC	≤200mA	1000Hz	-25...70℃	M12 Connector	Fig.4
Fi3-TM12-ON6L-Q12	3mm	Flush	NPN NO	10...30VDC	≤200mA	1000Hz	-25...70℃	M12 Connector	Fig.4
Fi3-TM12-CP6L-Q12	3mm	Flush	PNP NC	10...30VDC	≤200mA	1000Hz	-25...70℃	M12 Connector	Fig.4
Fi3-TM12-CN6L-Q12	3mm	Flush	NPN NC	10...30VDC	≤200mA	1000Hz	-25...70℃	M12 Connector	Fig.4

Dimensions:

Fig.1

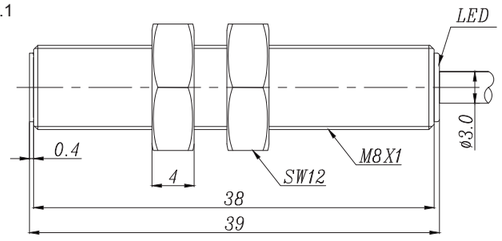


Fig.2

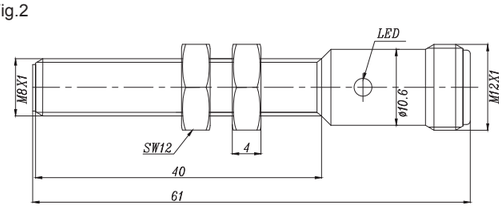


Fig.3

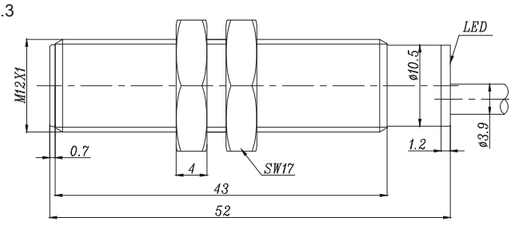
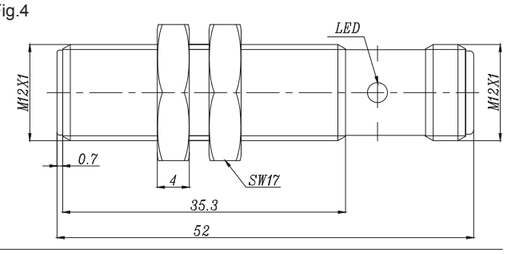


Fig.4



PTFE-Coated

Description:

Brass PTFE-coated, threaded barrel, DC 3-wire output, acid and alkali resistant, resistant against welding sparks,anti-interference, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
Fi5-TM18-OP6L	5mm	Flush	PNP NO	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.1
Fi5-TM18-ON6L	5mm	Flush	NPN NO	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.1
Fi5-TM18-CP6L	5mm	Flush	PNP NC	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.1
Fi5-TM18-CN6L	5mm	Flush	NPN NC	10...30VDC	≤200mA	800Hz	-25...70℃	2m cable	Fig.1
Fi5-TM18-OP6L-Q12	5mm	Flush	PNP NO	10...30VDC	≤200mA	800Hz	-25...70℃	M12 Connector	Fig.2
Fi5-TM18-ON6L-Q12	5mm	Flush	NPN NO	10...30VDC	≤200mA	800Hz	-25...70℃	M12 Connector	Fig.2
Fi5-TM18-CP6L-Q12	5mm	Flush	PNP NC	10...30VDC	≤200mA	800Hz	-25...70℃	M12 Connector	Fig.2
Fi5-TM18-CN6L-Q12	5mm	Flush	NPN NC	10...30VDC	≤200mA	800Hz	-25...70℃	M12 Connector	Fig.2
Fi10-TM30-OP6L	10mm	Flush	PNP NO	10...30VDC	≤200mA	400Hz	-25...70℃	2m cable	Fig.1
Fi10-TM30-ON6L	10mm	Flush	NPN NO	10...30VDC	≤200mA	400Hz	-25...70℃	2m cable	Fig.1
Fi10-TM30-CP6L	10mm	Flush	PNP NC	10...30VDC	≤200mA	400Hz	-25...70℃	2m cable	Fig.1
Fi10-TM30-CN6L	10mm	Flush	NPN NC	10...30VDC	≤200mA	400Hz	-25...70℃	2m cable	Fig.1
Fi10-TM30-OP6L-Q12	10mm	Flush	PNP NO	10...30VDC	≤200mA	400Hz	-25...70℃	M12 Connector	Fig.2
Fi10-TM30-ON6L-Q12	10mm	Flush	NPN NO	10...30VDC	≤200mA	400Hz	-25...70℃	M12 Connector	Fig.2
Fi10-TM30-CP6L-Q12	10mm	Flush	PNP NC	10...30VDC	≤200mA	400Hz	-25...70℃	M12 Connector	Fig.2
Fi10-TM30-CN6L-Q12	10mm	Flush	NPN NC	10...30VDC	≤200mA	400Hz	-25...70℃	M12 Connector	Fig.2

Dimensions:

Fig.1

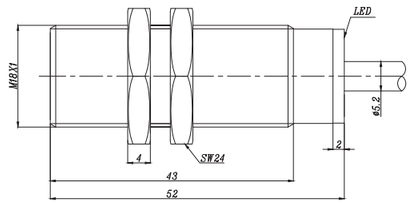


Fig.2

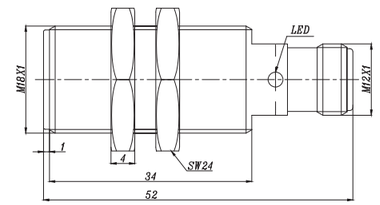


Fig.3

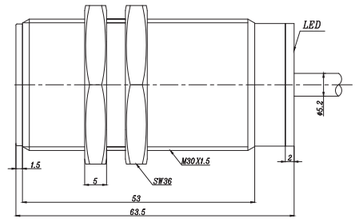
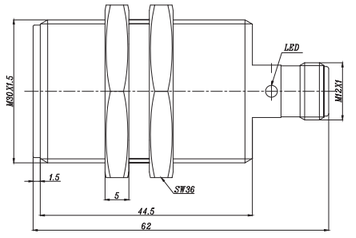


Fig.4



Analog Output Metal Barrel-M12

Description:

Brass nickel-plated, threaded barrel,current or voltage output or both, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output Type	Voltage Range U_B	Switching Frequency	Output	Linearity Error	Ambient Temperature	Connection	Fig
Fi2-M12-LIU	0.4-2mm	Flush	Voltage/Current	15...30VDC	1000HZ	0...10VDC/0...20mA	≤3%	-25...70˚C	2m cable	Fig.1
Ni4-M12-LIU	0.8-4mm	Non-flush	Voltage/Current	15...30VDC	800HZ	0...10VDC/0...20mA	≤3%	-25...70˚C	2m cable	Fig.2
Fi2-M12-LIU-Q12	0.4-2mm	Flush	Voltage/Current	15...30VDC	1000HZ	0...10VDC/0...20mA	≤3%	-25...70˚C	M12 Connector	Fig.3
Ni4-M12-LIU-Q12	0.8-4mm	Non-flush	Voltage/Current	15...30VDC	800HZ	0...10VDC/0...20mA	≤3%	-25...70˚C	M12 Connector	Fig.4

Dimensions:

Fig.1

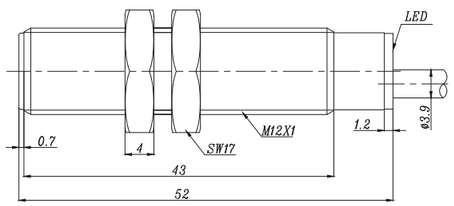


Fig.2

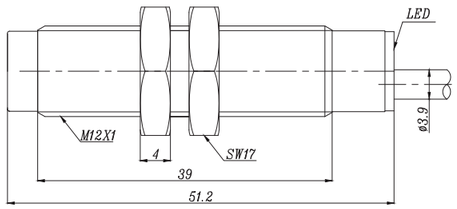


Fig.3

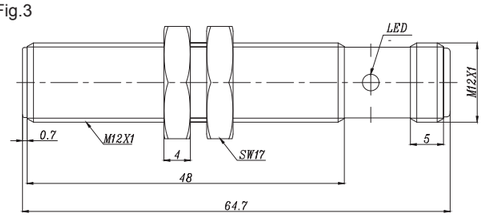
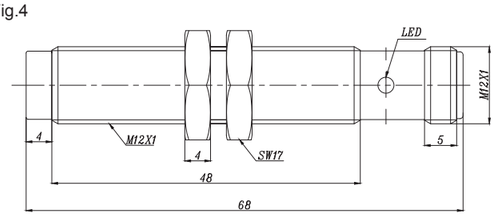


Fig.4



Analog Output Metal Barrel-M18

Description:

Brass nickel-plated, threaded barrel,current or voltage output or both, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output Type	Voltage Range U_B	Switching Frequency	Output	Linearity Error	Ambient Temperature	Connection	Fig
Fi5-M18-LIU	1-5mm	Flush	Voltage/Current	15...30VDC	800HZ	0...10VDC/0...20mA	≤3%	-25...70˚C	2m cable	Fig.1
Ni8-M18-LIU	1.6-8mm	Non-flush	Voltage/Current	15...30VDC	500HZ	0...10VDC/0...20mA	≤3%	-25...70˚C	2m cable	Fig.2
Fi5-M18-LIU-Q12	1-5mm	Flush	Voltage/Current	15...30VDC	800HZ	0...10VDC/0...20mA	≤3%	-25...70˚C	M12 Connector	Fig.3
Ni8-M18-LIU-Q12	1.6-8mm	Non-flush	Voltage/Current	15...30VDC	500HZ	0...10VDC/0...20mA	≤3%	-25...70˚C	M12 Connector	Fig.4

Dimensions:

Fig.1

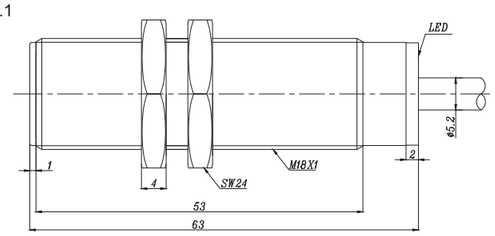


Fig.2

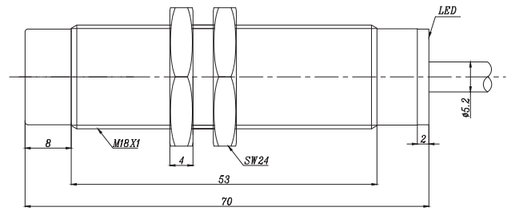


Fig.3

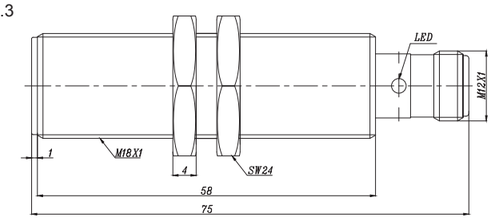
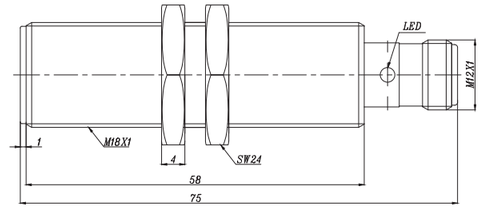


Fig.4



Analog Output Metal Barrel-M30

Description:

Brass nickel-plated, threaded barrel,current or voltage output or both, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output Type	Voltage Range U_B	Switching Frequency	Output	Linearity Error	Ambient Temperature	Connection	Fig
Fi10-M30-LIU	2-10mm	Flush	Voltage/Current	15...30VDC	400HZ	0...10VDC/0...20mA	≤3%	-25...70˚C	2m cable	Fig.1
Ni15-M30-LIU	3-15mm	Non-flush	Voltage/Current	15...30VDC	200HZ	0...10VDC/0...20mA	≤3%	-25...70˚C	2m cable	Fig.2
Fi10-M30-LIU-Q12	2-10mm	Flush	Voltage/Current	15...30VDC	400HZ	0...10VDC/0...20mA	≤3%	-25...70˚C	M12 Connector	Fig.3
Ni15-M30-LIU-Q12	3-15mm	Non-flush	Voltage/Current	15...30VDC	200HZ	0...10VDC/0...20mA	≤3%	-25...70˚C	M12 Connector	Fig.4

Dimensions:

Fig.1

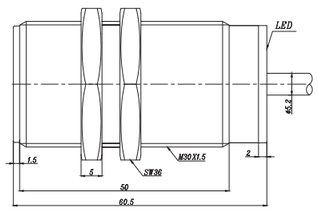


Fig.2

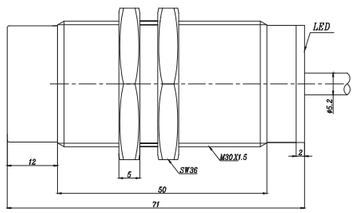


Fig.3

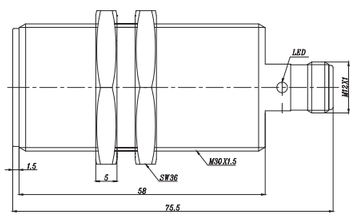
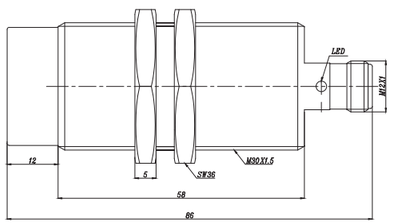


Fig.4



Analog Output -W40

Description:

Plastic housing, rectangular 40x40mm, variable orientation of active face, current or voltage output or both, IP67 protection class, LED indicator.

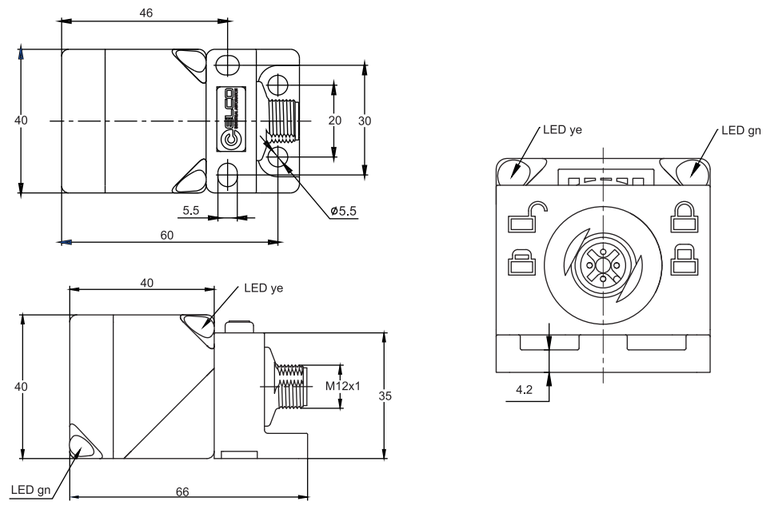
See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output Type	Voltage Range U_B	Switching Frequency	Output	Linearity Error	Ambient Temperature	Connection	Fig
Ni25-W40-LIU-Q12	5-25mm	Non-flush	Analog	Voltage/Current	15...30VDC	0...10VDC/0...20mA	≤3%	-25...70˚C	M12 Connector	Fig.1

Dimensions:

Fig.1



Inductive Power Clamp Sensor - Plastic Rectangular

Description:

Plastic housing, rectangular 40x40mm, DC 3-wire output, IP67 protection class, LED indicator, optional sensor head.

See the wiring diagram on page 233-234 for your reference.

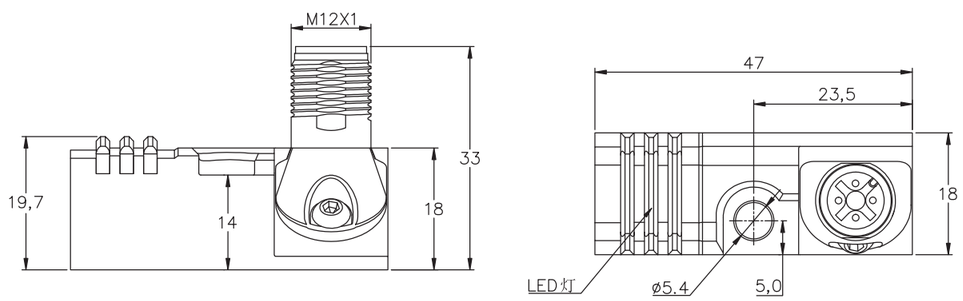
Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
NI2-QV2R1R2-OP6L-Q12	2mm	Non-flush	PNP NO	10...30VDC	≤150mA	200Hz	-25...70℃	M12 Connector	Fig.1/2/3
NI2-QV2C1-OP6L-Q12	2mm	Non-flush	PNP NO	10...30VDC	≤150mA	200Hz	-25...70℃	M12 Connector	Fig.1/4

Dimensions:

Fig.1

Processor



Dimensions:

Fig.2

Sensor head R1

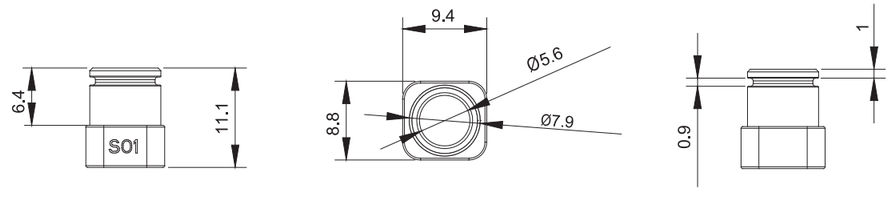


Fig.3

Sensor head R2

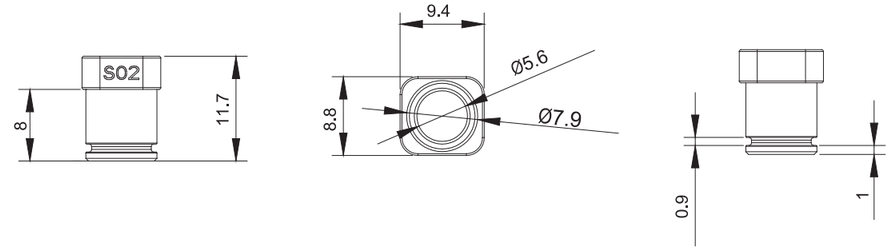
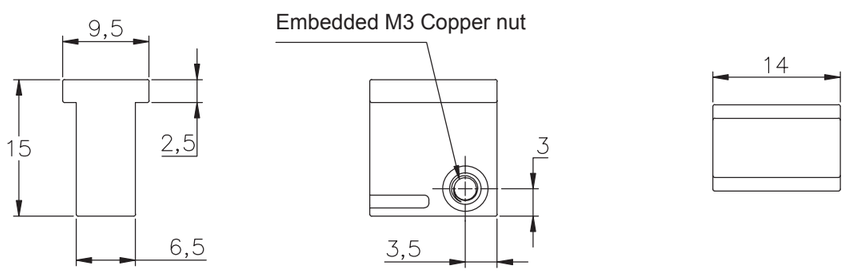


Fig.4

Sensor head C1



Capacitive Sensors

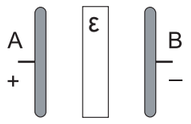
Operating Principle

The active element is formed by two metallic electrodes positioned much like an “opened” capacitor (Fig. 1). Electrodes A and B are placed in a feedback loop of a high frequency oscillator. When no target is present, the sensor’s capacitance is low, therefore the oscillation amplitude is small. When a target approaches the surface of the sensor, it increases the capacitance. This increase in capacitance results in an increased amplitude of oscillation. The amplitude of oscillation is measured by an evaluating circuit that generates a signal to turn on or off the output (Fig.2).

Switching Distance and Dielectric Constants

The switching distance of capacitive sensors is different. The maximum switching distance can be obtained by detecting metallic conductor (metal). When the metal is detected with a capacitive sensor, the attenuation coefficient for different metals is contrary to that of the inductive sensors. The switching distance of dielectric depends on the dielectric constant. The larger the dielectric constant of the object is, the longer switching distance is obtained.

The switching distance (Sr) is dependent on the dielectric constant (εr) of the target object. The maximum switching distance (100 %) is achieved with metallic objects while it is reduced with other materials in proportion to the dielectric constant of the target object.



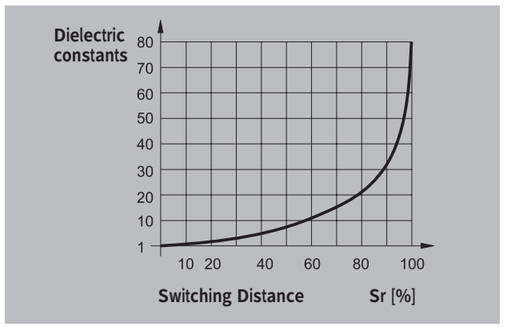


Table 1 (below) shows the dielectric constants of some important materials. As a result of the high dielectric constant value of water, wood exhibits relatively large fluctuations.Damp wood is therefore considerably better detected by capacitive sensors than dry wood.

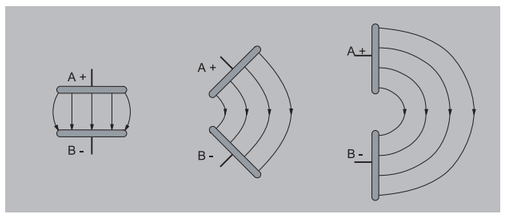


Fig. 1 Sensing Surface

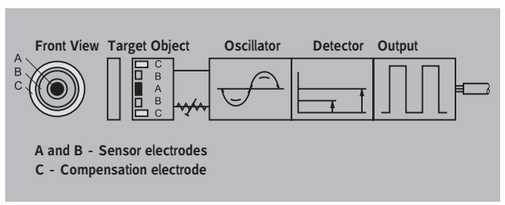


Fig. 2 Capacitive Sensors - Operating Principle

Table 1

Material	Dielectric constants
Air, vacuum	1
Teflon	2
Wood	2...7
Paraffin	2.2
Petroleum	2.2
Terpentine oil	2.2
Transformer oil	2.2
Paper	2.3
Polyethylene	2.3
Polypropylene	2.3
Cable compound	2.5
Soft rubber	2.5
Silicone rubber	2.8
PVC	2.9
Polystyrene	3
Celluloid	3
Perspex	3.6
Araldite	3.6
Bakelite	3.6
Quartz glass	3.7
Hard rubber	4
Oiled paper	4
Pressboard	4
Porcelain	4.4
Laminated paper	4.5
Quartz sand	4.5
Glass	5
Polyamide	5
Mica	6
Marble	8
Alcohol	25.8
Water	80

Housing material

Plastic and metal housing

Target Object

Capacitive sensors are used for non-contact and non-destructive detection of metals (metallic conductor) and nonmetals (dielectric).

Types of interaction

Capacitive sensors are actuated by both conductive and non-conductive objects. Objects made of conductive materials form a counter-electrode to the sensor’s active face. This forms two capacities, CA and CB connected in series, with the electrode surfaces A and B (Fig. 3). The capacity of this serial connection is always greater than the capacity of the uncovered electrodes A and B. Metals achieve the highest switching distances due to their very high conductivity. Reduction factors for differing metals – like those of inductive sensors – must be taken into account. Actuation by objects made of non-conductive materials (insulators): when one places an insulator between the electrodes of a condenser the capacity increases with the dielectric constant ε (Fig. 4) of the insulator.

The dielectric constant of all solids and liquids is greater than air (ε air = 1; see Table 2). Similarly, objects made of non-conductive materials have an effect on the active face of a capacitive sensor by increasing the coupling capacity. Materials with greater dielectric constants achieve longer switching distances. When scanning organic materials (wood, grain, etc.) it should be noted that the achievable switching distance is very strongly influenced by the water content (εwater = 80!)

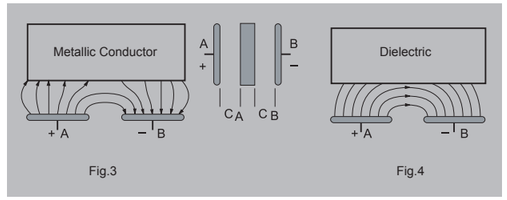
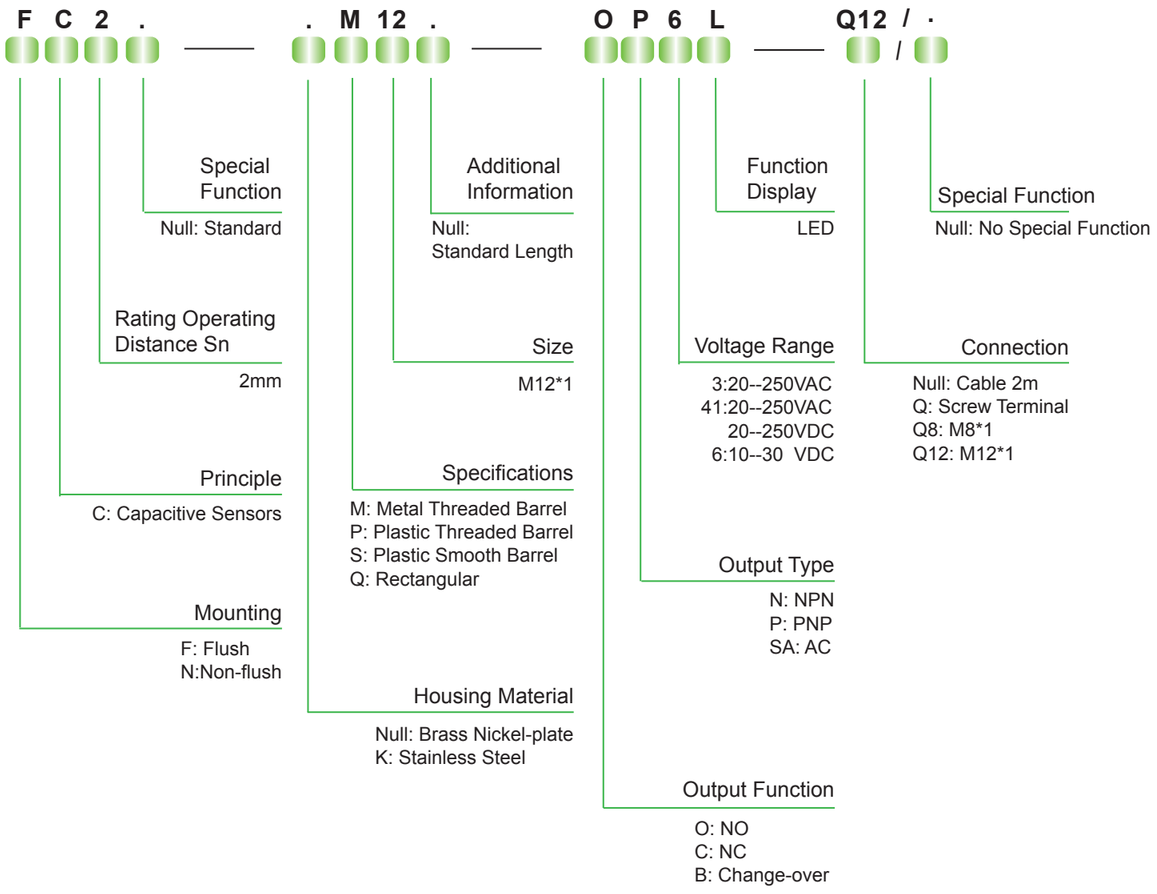


Fig.3 Fig.4

Switching distance adjustment

Almost all ELCO capacitive sensors can be adapted to specific applications by adjusting the potentiometer.

Type Code


F C 2 . ——— . M 12 . ——— O P 6 L ——— Q12 / .
Special Function
Null: Standard
Rating Operating Distance Sn
2mm
Principle
C: Capacitive Sensors
Mounting
F: Flush
N:Non-flush
Additional Information
Null: Standard Length
Size
M12*1
Specifications
M: Metal Threaded Barrel
P: Plastic Threaded Barrel
S: Plastic Smooth Barrel
Q: Rectangular
Housing Material
Null: Brass Nickel-plate
K: Stainless Steel
Function Display
LED
Voltage Range
3:20--250VAC
41:20--250VAC
20--250VDC
6:10--30 VDC
Output Type
N: NPN
P: PNP
SA: AC
Output Function
O: NO
C: NC
B: Change-over
Special Function
Null: No Special Function
Connection
Null: Cable 2m
Q: Screw Terminal
Q8: M8*1
Q12: M12*1

Metal Barrel-M12

Description:

Brass nickel-plated, threaded barrel, DC 3-wire output, potentiometer adjustment, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
FC2-M12-OP6L	2mm	Flush	PNP NO	10...30VDC	≤200mA	50Hz	-25...70℃	2m cable	Fig.1
FC2-M12-ON6L	2mm	Flush	NPN NO	10...30VDC	≤200mA	50Hz	-25...70℃	2m cable	Fig.1
FC2-M12-CP6L	2mm	Flush	PNP NC	10...30VDC	≤200mA	50Hz	-25...70℃	2m cable	Fig.1
FC2-M12-CN6L	2mm	Flush	NPN NC	10...30VDC	≤200mA	50Hz	-25...70℃	2m cable	Fig.1
NC4-M12-OP6L	4mm	Non-flush	PNP NO	10...30VDC	≤200mA	50Hz	-25...70℃	2m cable	Fig.2
NC4-M12-ON6L	4mm	Non-flush	NPN NO	10...30VDC	≤200mA	50Hz	-25...70℃	2m cable	Fig.2
NC4-M12-CP6L	4mm	Non-flush	PNP NC	10...30VDC	≤200mA	50Hz	-25...70℃	2m cable	Fig.2
NC4-M12-CN6L	4mm	Non-flush	NPN NC	10...30VDC	≤200mA	50Hz	-25...70℃	2m cable	Fig.2
FC2-M12-OP6L-Q12	2mm	Flush	PNP NO	10...30VDC	≤200mA	50Hz	-25...70℃	M12 Connector	Fig.3
FC2-M12-ON6L-Q12	2mm	Flush	NPN NO	10...30VDC	≤200mA	50Hz	-25...70℃	M12 Connector	Fig.3
FC2-M12-CP6L-Q12	2mm	Flush	PNP NC	10...30VDC	≤200mA	50Hz	-25...70℃	M12 Connector	Fig.3
FC2-M12-CN6L-Q12	2mm	Flush	NPN NC	10...30VDC	≤200mA	50Hz	-25...70℃	M12 Connector	Fig.3
NC4-M12-OP6L-Q12	4mm	Non-flush	PNP NO	10...30VDC	≤200mA	50Hz	-25...70℃	M12 Connector	Fig.4
NC4-M12-ON6L-Q12	4mm	Non-flush	NPN NO	10...30VDC	≤200mA	50Hz	-25...70℃	M12 Connector	Fig.4
NC4-M12-CP6L-Q12	4mm	Non-flush	PNP NC	10...30VDC	≤200mA	50Hz	-25...70℃	M12 Connector	Fig.4
NC4-M12-CN6L-Q12	4mm	Non-flush	NPN NC	10...30VDC	≤200mA	50Hz	-25...70℃	M12 Connector	Fig.4

Dimensions:

Fig.1

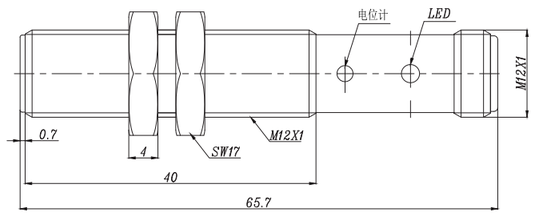


Fig.2

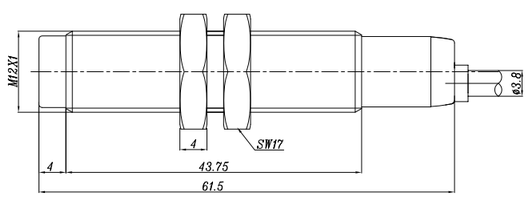


Fig.3

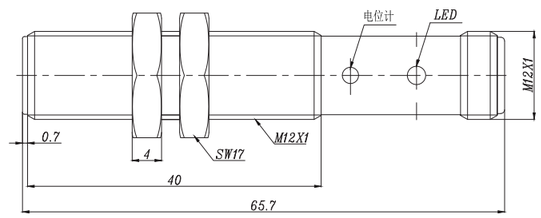
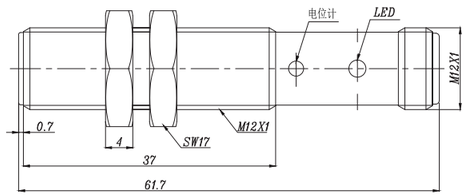


Fig.4



Metal Barrel-M12

Description:

Brass nickel-plated, threaded barrel, DC 4-wire output, potentiometer adjustment, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
FC2-M12-BP6L	2mm	Flush	PNP NO+NC	10...30VDC	≤200mA	50Hz	-25...70℃	2m cable	Fig.1
FC2-M12-BN6L	2mm	Flush	NPN NO+NC	10...30VDC	≤200mA	50Hz	-25...70℃	2m cable	Fig.1
NC4-M12-BP6L	4mm	Non-flush	PNP NO+NC	10...30VDC	≤200mA	50Hz	-25...70℃	2m cable	Fig.2
NC4-M12-BN6L	4mm	Non-flush	NPN NO+NC	10...30VDC	≤200mA	50Hz	-25...70℃	2m cable	Fig.2
FC2-M12-BP6L-Q12	2mm	Flush	PNP NO+NC	10...30VDC	≤200mA	50Hz	-25...70℃	M12 Connector	Fig.3
FC2-M12-BN6L-Q12	2mm	Flush	NPN NO+NC	10...30VDC	≤200mA	50Hz	-25...70℃	M12 Connector	Fig.3
NC4-M12-BP6L-Q12	4mm	Non-flush	PNP NO+NC	10...30VDC	≤200mA	50Hz	-25...70℃	M12 Connector	Fig.4
NC4-M12-BN6L-Q12	4mm	Non-flush	NPN NO+NC	10...30VDC	≤200mA	50Hz	-25...70℃	M12 Connector	Fig.4

Dimensions:

Fig.1

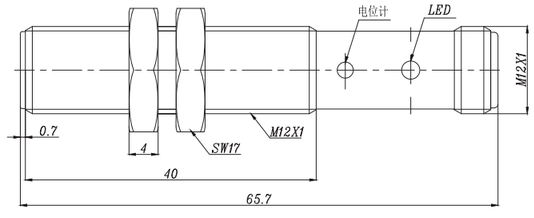


Fig.2

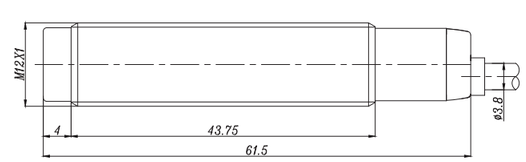


Fig.3

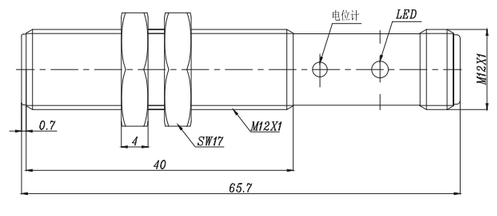
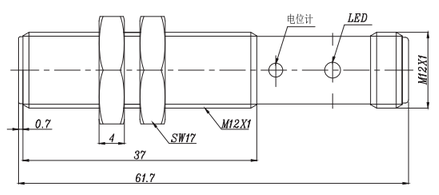
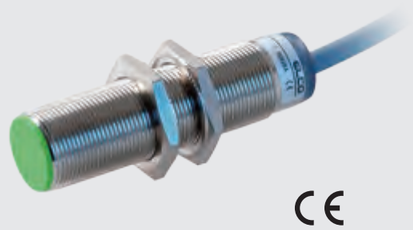


Fig.4



Metal Barrel-M18



Description:

Brass nickel-plated, threaded barrel, DC 3-wire output, potentiometer adjustment, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
FC5-M18-OP6L	5mm	Flush	PNP NO	10...30VDC	≤200mA	50Hz	-25...70℃	2m cable	Fig.1
FC5-M18-ON6L	5mm	Flush	NPN NO	10...30VDC	≤200mA	50Hz	-25...70℃	2m cable	Fig.1
FC5-M18-CP6L	5mm	Flush	PNP NC	10...30VDC	≤200mA	50Hz	-25...70℃	2m cable	Fig.1
FC5-M18-CN6L	5mm	Flush	NPN NC	10...30VDC	≤200mA	50Hz	-25...70℃	2m cable	Fig.1
NC8-M18-OP6L	8mm	Non-flush	PNP NO	10...30VDC	≤200mA	50Hz	-25...70℃	2m cable	Fig.2
NC8-M18-ON6L	8mm	Non-flush	NPN NO	10...30VDC	≤200mA	50Hz	-25...70℃	2m cable	Fig.2
NC8-M18-CP6L	8mm	Non-flush	PNP NC	10...30VDC	≤200mA	50Hz	-25...70℃	2m cable	Fig.2
NC8-M18-CN6L	8mm	Non-flush	NPN NC	10...30VDC	≤200mA	50Hz	-25...70℃	2m cable	Fig.2
FC5-M18-OP6L-Q12	5mm	Flush	PNP NO	10...30VDC	≤200mA	50Hz	-25...70℃	M12 Connector	Fig.3
FC5-M18-ON6L-Q12	5mm	Flush	NPN NO	10...30VDC	≤200mA	50Hz	-25...70℃	M12 Connector	Fig.3
FC5-M18-CP6L-Q12	5mm	Flush	PNP NC	10...30VDC	≤200mA	50Hz	-25...70℃	M12 Connector	Fig.3
FC5-M18-CN6L-Q12	5mm	Flush	NPN NC	10...30VDC	≤200mA	50Hz	-25...70℃	M12 Connector	Fig.3
NC8-M18-OP6L-Q12	8mm	Non-flush	PNP NO	10...30VDC	≤200mA	50Hz	-25...70℃	M12 Connector	Fig.4
NC8-M18-ON6L-Q12	8mm	Non-flush	NPN NO	10...30VDC	≤200mA	50Hz	-25...70℃	M12 Connector	Fig.4
NC8-M18-CP6L-Q12	8mm	Non-flush	PNP NC	10...30VDC	≤200mA	50Hz	-25...70℃	M12 Connector	Fig.4
NC8-M18-CN6L-Q12	8mm	Non-flush	NPN NC	10...30VDC	≤200mA	50Hz	-25...70℃	M12 Connector	Fig.4

Dimensions:

Fig.1

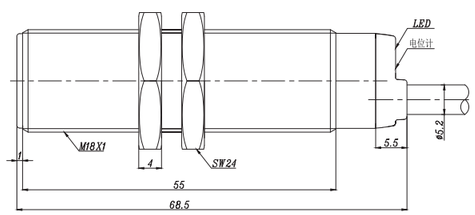


Fig.2

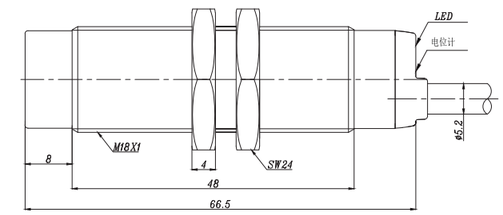


Fig.3

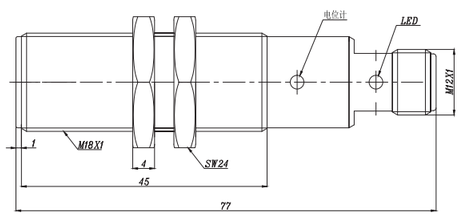
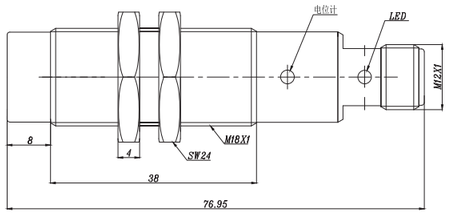


Fig.4



Metal Barrel-M18

Description:

Brass nickel-plated, threaded barrel, DC 4-wire output, potentiometer adjustment, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
FC5-M18-BP6L	5mm	Flush	PNP NO+NC	10...30VDC	≤200mA	50Hz	-25...70℃	2m cable	Fig.1
FC5-M18-BN6L	5mm	Flush	NPN NO+NC	10...30VDC	≤200mA	50Hz	-25...70℃	2m cable	Fig.1
NC8-M18-BP6L	8mm	Non-flush	PNP NO+NC	10...30VDC	≤200mA	50Hz	-25...70℃	2m cable	Fig.2
NC8-M18-BN6L	8mm	Non-flush	NPN NO+NC	10...30VDC	≤200mA	50Hz	-25...70℃	2m cable	Fig.2
FC5-M18-BP6L-Q12	5mm	Flush	PNP NO+NC	10...30VDC	≤200mA	50Hz	-25...70℃	M12 Connector	Fig.3
FC5-M18-BN6L-Q12	5mm	Flush	NPN NO+NC	10...30VDC	≤200mA	50Hz	-25...70℃	M12 Connector	Fig.3
NC8-M18-BP6L-Q12	8mm	Non-flush	PNP NO+NC	10...30VDC	≤200mA	50Hz	-25...70℃	M12 Connector	Fig.4
NC8-M18-BN6L-Q12	8mm	Non-flush	NPN NO+NC	10...30VDC	≤200mA	50Hz	-25...70℃	M12 Connector	Fig.4

Dimensions:

Fig.1

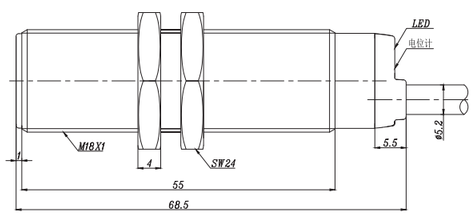


Fig.2

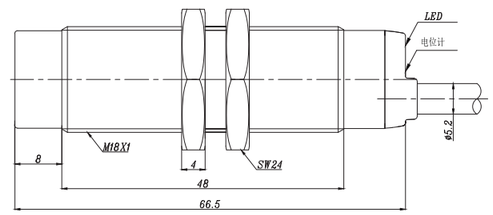


Fig.3

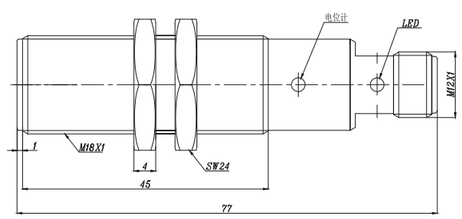
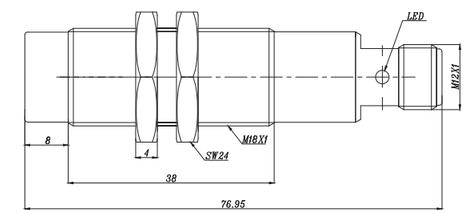


Fig.4



Metal Barrel-M18

Description:

Brass nickel-plated, threaded barrel, AC 2-wire output, potentiometer adjustment, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
FC5-M18-OSA3L	5mm	Flush	AC NO	20...250VAC	≤200mA	15Hz	-25...70℃	2m cable	Fig.1
FC5-M18-CSA3L	5mm	Flush	AC NC	20...250VAC	≤200mA	15Hz	-25...70℃	2m cable	Fig.1
NC8-M18-OSA3L	8mm	Non-flush	AC NO	20...250VAC	≤200mA	15Hz	-25...70℃	2m cable	Fig.2
NC8-M18-CSA3L	8mm	Non-flush	AC NC	20...250VAC	≤200mA	15Hz	-25...70℃	2m cable	Fig.2
FC5-M18-OSA3L-Q12	5mm	Flush	AC NO	20...250VAC	≤200mA	15Hz	-25...70℃	M12 Connector	Fig.3
FC5-M18-CSA3L-Q12	5mm	Flush	AC NC	20...250VAC	≤200mA	15Hz	-25...70℃	M12 Connector	Fig.3
NC8-M18-OSA3L-Q12	8mm	Non-flush	AC NO	20...250VAC	≤200mA	15Hz	-25...70℃	M12 Connector	Fig.4
NC8-M18-CSA3L-Q12	8mm	Non-flush	AC NC	20...250VAC	≤200mA	15Hz	-25...70℃	M12 Connector	Fig.4

Dimensions:

Fig.1

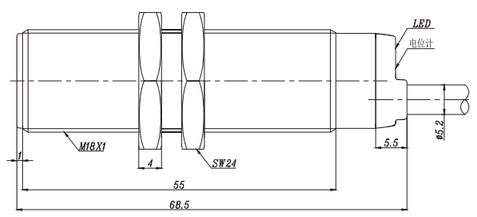


Fig.2

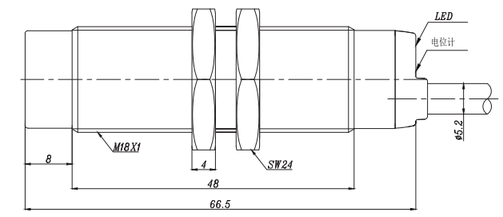


Fig.3

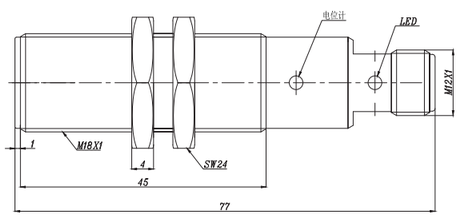
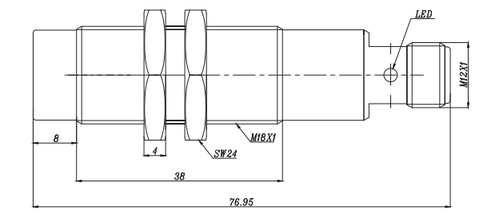


Fig.4



Metal Barrel-M30

Description:

Brass nickel-plated, threaded barrel, DC 3-wire output, potentiometer adjustment, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
FC10-M30-OP6L	10mm	Flush	AC NO	20...250VAC	≤200mA	50Hz	-25...70℃	2m cable	Fig.1
FC10-M30-ON6L	10mm	Flush	AC NO	20...250VAC	≤200mA	50Hz	-25...70℃	2m cable	Fig.1
FC10-M30-CP6L	10mm	Flush	AC NC	20...250VAC	≤200mA	50Hz	-25...70℃	2m cable	Fig.1
FC10-M30-CN6L	10mm	Flush	AC NC	20...250VAC	≤200mA	50Hz	-25...70℃	2m cable	Fig.1
NC15-M30-OP6L	15mm	Non-flush	AC NO	20...250VAC	≤200mA	50Hz	-25...70℃	2m cable	Fig.2
NC15-M30-ON6L	15mm	Non-flush	AC NO	20...250VAC	≤200mA	50Hz	-25...70℃	2m cable	Fig.2
NC15-M30-CP6L	15mm	Non-flush	AC NC	20...250VAC	≤200mA	50Hz	-25...70℃	2m cable	Fig.2
NC15-M30-CN6L	15mm	Non-flush	AC NC	20...250VAC	≤200mA	50Hz	-25...70℃	2m cable	Fig.2
FC10-M30-OP6L-Q12	10mm	Flush	AC NO	20...250VAC	≤200mA	50Hz	-25...70℃	M12 Connector	Fig.3
FC10-M30-ON6L-Q12	10mm	Flush	AC NO	20...250VAC	≤200mA	50Hz	-25...70℃	M12 Connector	Fig.3
FC10-M30-CP6L-Q12	10mm	Flush	AC NC	20...250VAC	≤200mA	50Hz	-25...70℃	M12 Connector	Fig.3
FC10-M30-CN6L-Q12	10mm	Flush	AC NC	20...250VAC	≤200mA	50Hz	-25...70℃	M12 Connector	Fig.3
NC15-M30-OP6L-Q12	15mm	Non-flush	AC NO	20...250VAC	≤200mA	50Hz	-25...70℃	M12 Connector	Fig.4
NC15-M30-ON6L-Q12	15mm	Non-flush	AC NO	20...250VAC	≤200mA	50Hz	-25...70℃	M12 Connector	Fig.4
NC15-M30-CP6L-Q12	15mm	Non-flush	AC NC	20...250VAC	≤200mA	50Hz	-25...70℃	M12 Connector	Fig.4
NC15-M30-CN6L-Q12	15mm	Non-flush	AC NC	20...250VAC	≤200mA	50Hz	-25...70℃	M12 Connector	Fig.4

Dimensions:

Fig.1

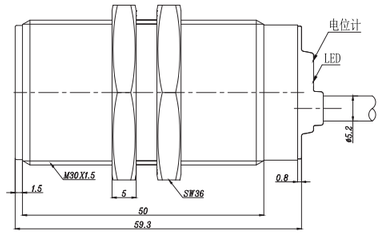


Fig.2

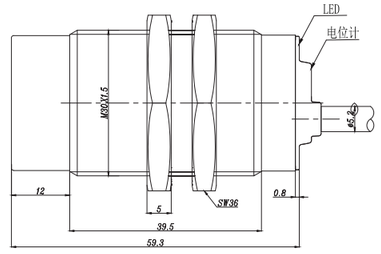


Fig.3

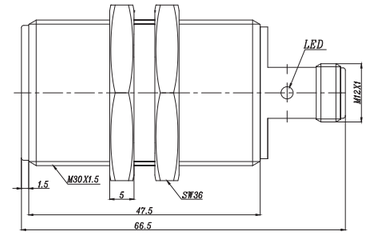
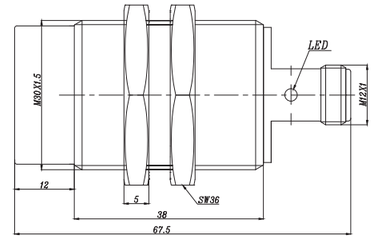


Fig.4



Metal Barrel-M30

Description:

Brass nickel-plated, threaded barrel, DC 4-wire output, potentiometer adjustment, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
FC10-M30-BP6L	10mm	Flush	PNP NO+NC	10...30VDC	≤200mA	50Hz	-25...70℃	2m cable	Fig.1
FC10-M30-BN6L	10mm	Flush	NPN NO+NC	10...30VDC	≤200mA	50Hz	-25...70℃	2m cable	Fig.1
NC15-M30-BP6L	15mm	Non-flush	PNP NO+NC	10...30VDC	≤200mA	50Hz	-25...70℃	2m cable	Fig.2
NC15-M30-BN6L	15mm	Non-flush	NPN NO+NC	10...30VDC	≤200mA	50Hz	-25...70℃	2m cable	Fig.2
FC10-M30-BP6L-Q12	10mm	Flush	PNP NO+NC	10...30VDC	≤200mA	50Hz	-25...70℃	M12 Connector	Fig.3
FC10-M30-BN6L-Q12	10mm	Flush	NPN NO+NC	10...30VDC	≤200mA	50Hz	-25...70℃	M12 Connector	Fig.3
NC15-M30-BP6L-Q12	15mm	Non-flush	PNP NO+NC	10...30VDC	≤200mA	50Hz	-25...70℃	M12 Connector	Fig.4
NC15-M30-BN6L-Q12	15mm	Non-flush	NPN NO+NC	10...30VDC	≤200mA	50Hz	-25...70℃	M12 Connector	Fig.4

Dimensions:

Fig.1

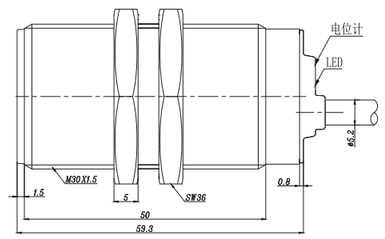


Fig.2

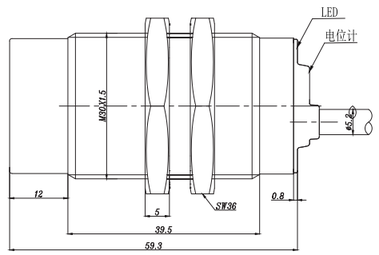


Fig.3

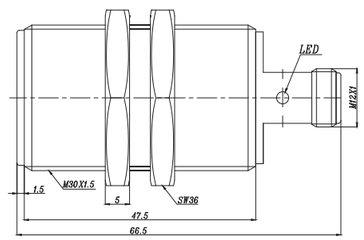
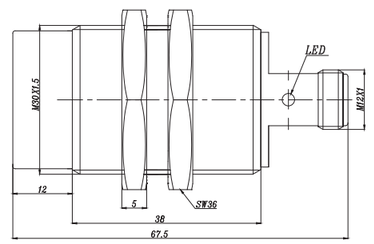


Fig.4



Metal Barrel-M30

Description:

Brass nickel-plated, threaded barrel, AC 2-wire output, potentiometer adjustment, IP67 protection class, LED indicator.

See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
FC10-M30-OSA3L	10mm	Flush	AC NO	20...250VAC	≤200mA	15Hz	-25...70℃	2m cable	Fig.1
FC10-M30-CSA3L	10mm	Flush	AC NC	20...250VAC	≤200mA	15Hz	-25...70℃	2m cable	Fig.1
NC15-M30-CSA3L	15mm	Non-flush	AC NO	20...250VAC	≤200mA	15Hz	-25...70℃	2m cable	Fig.2
NC15-M30-OSA3L	15mm	Non-flush	AC NC	20...250VAC	≤200mA	15Hz	-25...70℃	2m cable	Fig.2
FC10-M30-OSA3L-Q12	10mm	Flush	AC NO	20...250VAC	≤200mA	15Hz	-25...70℃	M12 Connector	Fig.3
FC10-M30-CSA3L-Q12	10mm	Flush	AC NC	20...250VAC	≤200mA	15Hz	-25...70℃	M12 Connector	Fig.3
NC15-M30-OSA3L-Q12	15mm	Non-flush	AC NO	20...250VAC	≤200mA	15Hz	-25...70℃	M12 Connector	Fig.4
NC15-M30-CSA3L-Q12	15mm	Non-flush	AC NC	20...250VAC	≤200mA	15Hz	-25...70℃	M12 Connector	Fig.4

Dimensions:

Fig.1

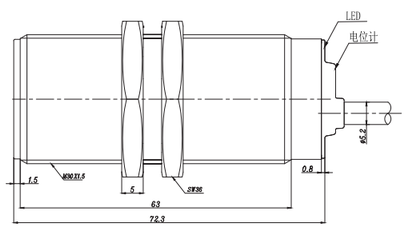


Fig.2

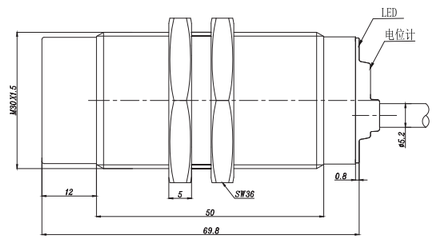


Fig.3

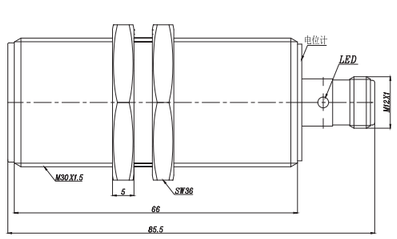
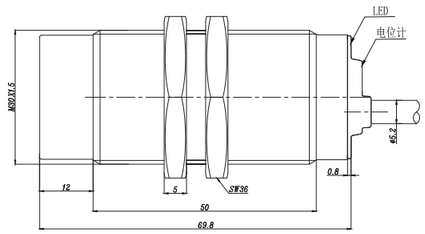


Fig.4



Plastic Rectangular -Q07

Description:

Plastic housing, rectangular 30x50x7mm, DC 3-wire output, potentiometer adjustment, IP67 protection class, LED indicator.

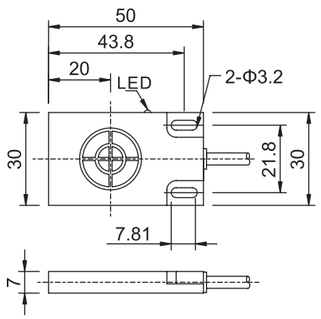
See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
NC8-Q07-OP6L	8mm	Non-flush	PNP NO	10...30VDC	≤200mA	30Hz	-25...70℃	2m cable	Fig.1
NC8-Q07-ON6L	8mm	Non-flush	NPN NO	10...30VDC	≤200mA	30Hz	-25...70℃	2m cable	Fig.1
NC8-Q07-CP6L	8mm	Non-flush	PNP NC	10...30VDC	≤200mA	30Hz	-25...70℃	2m cable	Fig.1
NC8-Q07-CN6L	8mm	Non-flush	NPN NC	10...30VDC	≤200mA	30Hz	-25...70℃	2m cable	Fig.1

Dimensions:

Fig.1



Plastic Rectangular -Q07

Description:

Plastic housing, rectangular 50x20x10mm, DC 3-wire output, potentiometer adjustment, IP67 protection class, LED indicator.

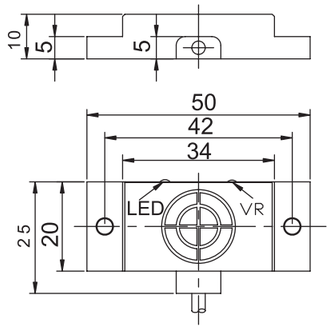
See the wiring diagram on page 233-234 for your reference.

Technical Data:

Type	Rated Operating Distance Sn	Mounting	Output	Voltage Range U_B	Rated Current	Switching Frequency	Ambient Temperature	Connection	Fig
NC10-Q34-OP6L	10mm	Non-flush	PNP NO	10...30VDC	≤200mA	30Hz	-25...70℃	2m cable	Fig.1
NC10-Q34-ON6L	10mm	Non-flush	NPN NO	10...30VDC	≤200mA	30Hz	-25...70℃	2m cable	Fig.1
NC10-Q34-CP6L	10mm	Non-flush	PNP NC	10...30VDC	≤200mA	30Hz	-25...70℃	2m cable	Fig.1
NC10-Q34-CN6L	10mm	Non-flush	NPN NC	10...30VDC	≤200mA	30Hz	-25...70℃	2m cable	Fig.1

Dimensions:

Fig.1



Type Code

C B O 12. 4 -2 - C B 12. 4 / P

Product Category
C-type
Q-type

Shape
Null: Straight
B: Angled

Gender
Null: Male
O: Female

Size
M8*1
M12*1

No. of Pin
2: 2-pin
(2.2, 2.21, 2.22 different pin sequence)
3: 3-pin
4: 4-pin
5: 5-pin
8: 8-pin

Special Function and Cable Material
Null: PVC
P: PUR
WS: Shielded
L: PNP LED
LN: NPN LED
EWSR: Welding spark resistance

No. of Pin
3：3-pin
4：4-pin
5：5-pin
8：8-pin

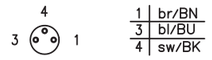
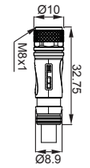
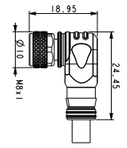
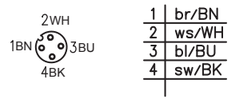
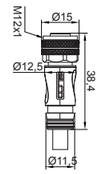
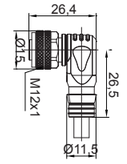
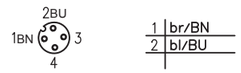
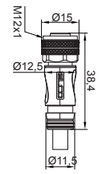
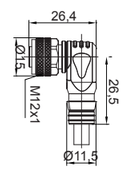
Size
M8*1
M12*1

Shape
Null: Straight
B: Angled

Product Category
C-type
Q-type

Specification
Null: Single Pre-wired

Cable length
Standard Length: 2m

Size and Pin Assignment	Connector	
	Straight	Angled
M8 	 CO8.3-2 CO8.3-5 CO8.3-10	 CBO8.3-2 CBO8.3-5 CBO8.3-10
M12 	 CO12.4-2 CO12.4-5 CO12.4-10	 CBO12.4-2 CBO12.4-5 CBO12.4-10
M12 	 CO12.21-2/NE CO12.21-5/NE CO12.21-10/NE	 CBO12.21-2/NE CBO12.21-5/NE CBO12.21-10/NE

Note:Provide customized sensor with any specification and cable length (2m,5m,10m).

Order code for field-attachable connector

L S B O 12. 4 -0 / C

Product Category
L：Field-attachable Connector

Connection
S: Screw
J: Welding①

Shape
Null: Straight
B: Angled

Gender
Null: Male
O: Female②

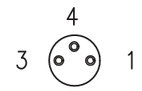
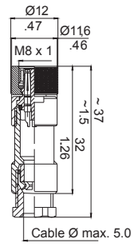
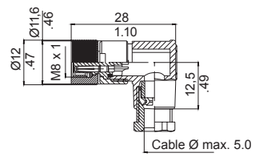
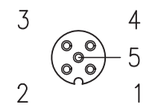
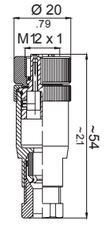
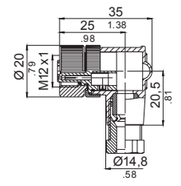
Size
M8×1
M12×1

Special Function
Null: Special Function③
M/S: Shielded Metal Housing
C: Standard Product④

Thread Standard
0: PG7
9: PG9

No of Pin⑤
3: 3-pin
4: 4-pin
5: 5-pin
8: 8-pin

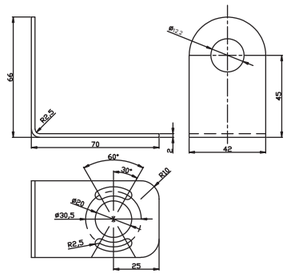
Remarks：
①: Welding wiring for part of M8 and all M23 series products
②: Mark "O" for female end
③: Null for M23 series products
④: If no special requirements, Elco supply preferred products to customer to facilitate field wiring (Only for the M8, M12 series products with screw connection).
⑤: Only supply metal housing for 19-pin products

Sensor	Connector	
	Straight	Angled
M8 	 LSO8.3-0/C	 LSBO8.3-0/C
M12 	 LSO12.4-0/C LSO12.5-0/C	 LSBO12.4-0/C LSBO12.5-0/C

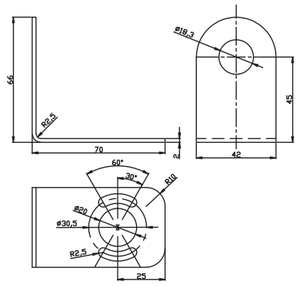
Note: Provide customized sensor with any specification and cable.

Mounting Bracket:

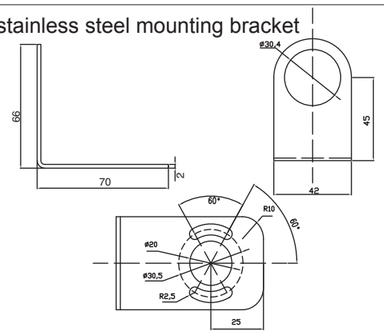
M12 series stainless steel mounting bracket
EO12DF



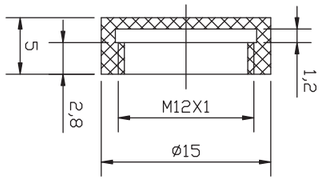
M18 series stainless steel mounting bracket
EO18DF



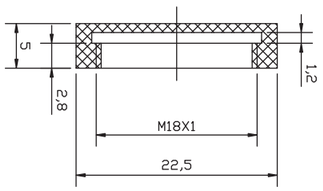
M30 series stainless steel mounting bracket
EO30DF



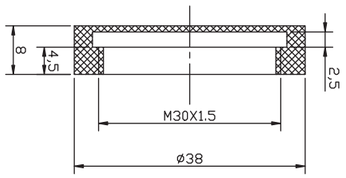
M12 series protective cap
Telfon
AS-FCM12



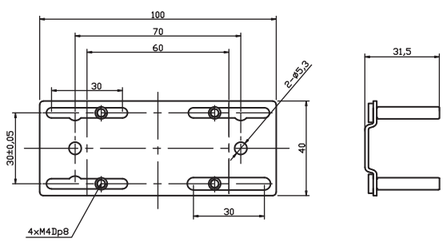
M18 series protective cap
Telfon
AS-FCM18



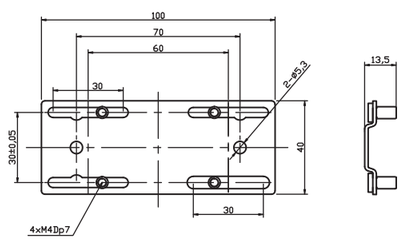
M30 series protective cap
Telfon
AS-FCM30



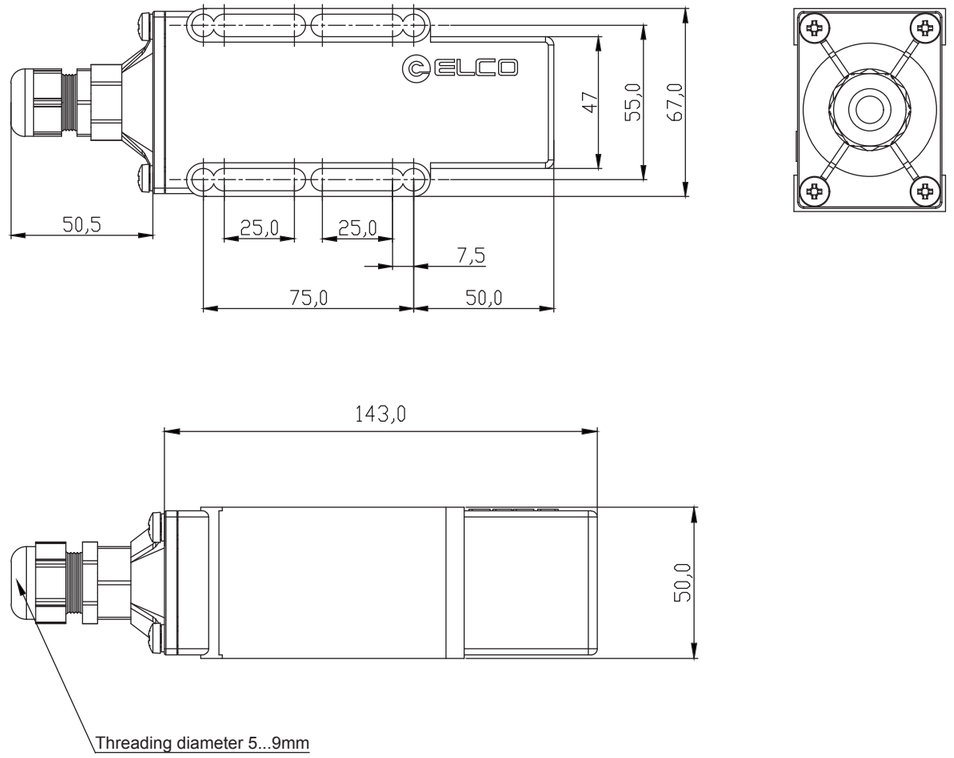
WL40 series stainless steel mounting bracket
ECL40-R



CL40 series stainless steel mounting bracke
ECL40-R1

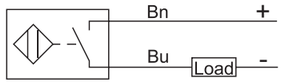


CL40/WL40 series mounting jacket
Main material ULTEM
EWL40-H (for WL40 Series)



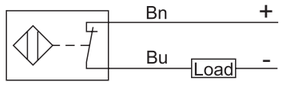
Wiring Diagram

Cable Version



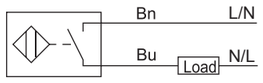
DC-2 wire NO

C01



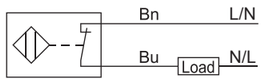
DC-2 wire NC

C02



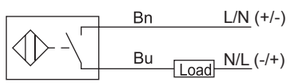
AC-2 wire NO

C03



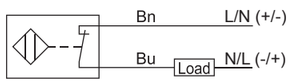
AC-2 wire NC

C04



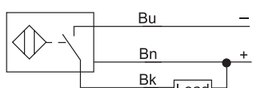
AC/DC-2 wire NO

C05



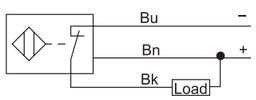
AC/DC-2 wire NC

C06



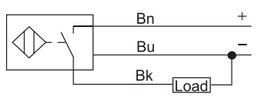
NPN NO

C07



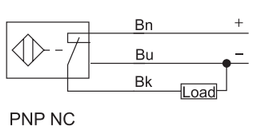
NPN NC

C08



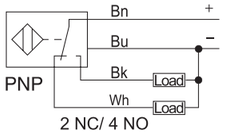
PNP NO

C09



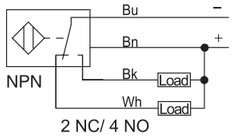
PNP NC

C010



PNP
2 NC/ 4 NO

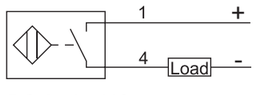
C011



NPN
2 NC/ 4 NO

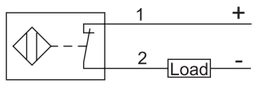
C012

Connector Version



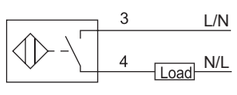
DC-2 wire NO

C013



DC-2 wire NC

C014



AC-2 wire NO

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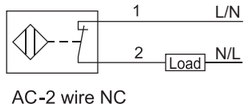

AC-2 wire NC

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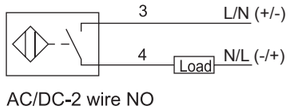

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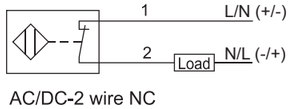

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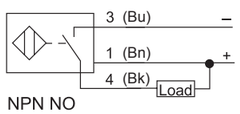

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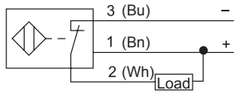

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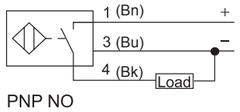
C020



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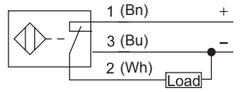

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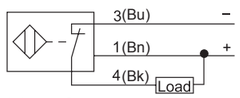
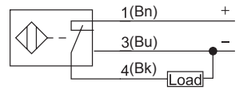


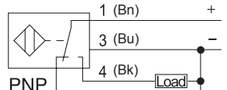
NPN NC

C023



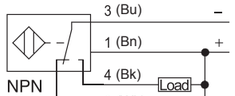
PNP NC

C024



PNP
2 NC/ 4 NO

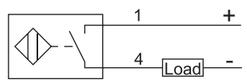
C025



NPN
2 NC/ 4 NO

C026

Terminal Version



DC-2 wire NO

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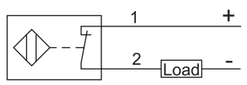
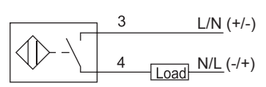


DC-2 wire NC

C028



AC/DC-2 wire NO

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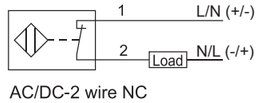
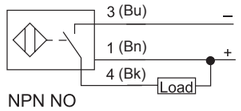


AC/DC-2 wire NC

C030



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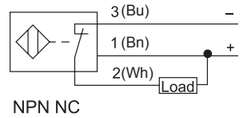

NPN NC

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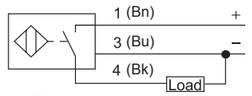
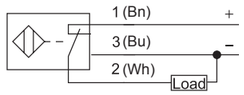


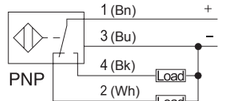
PNP NO

C033



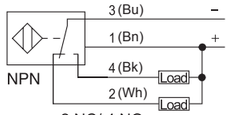
PNP NC

C034



PNP
2 NC/ 4 NO

C035



NPN
2 NC/ 4 NO

C036

Photoelectric Sensor Selection Manual

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ECL-1909-06

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OM18 series 11

Compact sensor

OG18 series 16

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OS20 series 31

OS12 series 33

OS13 series 37

OS50 series 41

OSM70 series 46

Distance measurement sensor

OSM40 series 51

OSM60 series 53

Accessories

Connector 56

Reflector 58

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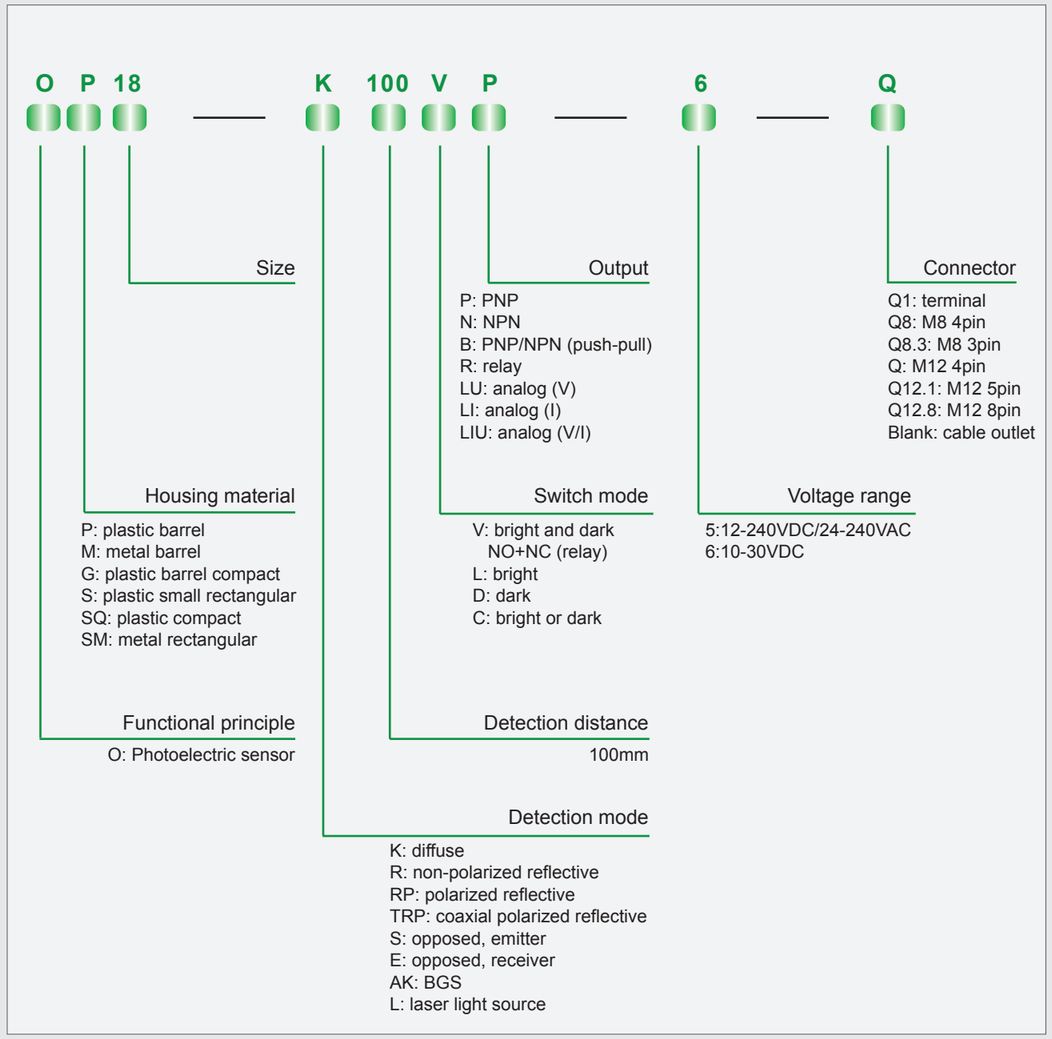
Model Description:



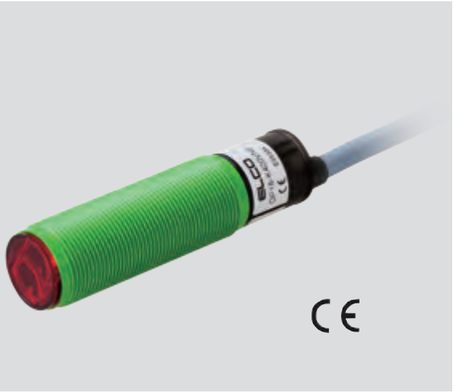
	Barrel		Compact
Product picture			
Series	OP18	OM18	OG18
Features	Barrel Cost-effective	Barrel Long distance laser	Barrel Short body
Detection range	Opposed: 10m Retro-reflective: 3m Polarized retro-reflective: 3m Diffused: 0.6m	Opposed: 10m，60m Retro-reflective: 3m Polarized retro-reflective: 3m Diffused: 0.6m	Opposed: 30m Retro-reflective: 4m Polarized retro-reflective: 4m Diffused: 0.6m
Light source	Red light Infrared light	Laser beam Infrared light	Red light Infrared light
Power supply	10-30VDC	10-30VDC	10-30VDC
Output	NPN/PNP	NPN/PNP	NPN/PNP
Housing material	PA12	Nickel plated brass	ABS+PBT
Protection class	IP67	IP67	IP67

Compact	Rectangular	
OSQ18	OS21	OS10
Round hole mounting Screw mounting	Mini size	High precision Laser BGS
Opposed: 30m Retro-reflective: 4m Polarized retro-reflective: 4m Diffused: 0.6m	Opposed: 2m BGS: 15mm 30mm	Opposed: 30m Retro-reflective: 6m Polarized retro-reflective: 5m Diffused: 1m, 1.5m BGS: 350mm
Laser beam Red light Infrared light	Red light Infrared light	Laser beam Red light Infrared light
10-30VDC	10-30VDC	10-30VDC
NPN/PNP	NPN/PNP	NPN/PNP
ABS+PBT	PC+ABS	PC+PBT
IP67	IP67	IP67

	Rectangular		
Product picture			
Series	OS20	OS12	OS13
Features	High performance Laser BGS	Standard General Economic	Standard General Economic No potentiometer
Detection range	Dynamic and static: 40mm BGS: 1m Non-coaxial polarized reflective: 5m Coaxial polarized reflective: 5m	Opposed: 10m Retro-reflective: 3m Diffused: 0.4m	Opposed: 10m Retro-reflective: 3m Diffused: 0.4m
Light source	Laser beam Red light	Red light Infrared light	Red light Infrared light
Power supply	10-30VDC	10-30VDC	10-30VDC
Output	NPN/PNP	NPN/PNP	NPN/PNP
Housing material	PC+PBT	PC+PBT	PC+PBT
Protection class	IP67	IP65	IP65

	Rectangular		
OS50	OSM40	OSM60	OSM70
Wide voltage Long distance Relay	Metal housing High precision Laser distance measurement	Metal housing Laser distance measurement	Metal housing Long distance Relay
Opposed: 40m Retro-reflective: 10m Polarized retro-reflective: 6m Diffused: 2.5m	Distance measuring: 50mm 400mm	Distance measuring: 10m	Opposed: 150m Retro-reflective: 30m Polarized retro-reflective: 25m BGS: 3m
Red light Infrared light	Laser beam	Laser beam	Laser beam
10-30VDC 24-240V AC/DC	10-30VDC	10-30VDC	10-30VDC 24-240V AC/DC
NPN/PNP, Relay	NPN/PNP Analogue	2x Push-Pull Analogue	Push-Pull Relay
PBT+ABS	Die-cast zinc	Stainless steel	Die-cast zinc
IP67	IP67	IP67	IP67

Photoelectric Sensors—Barrel-OP18



Description:

M18 barrel mounting mode, high cost-effective, OEM variations are optional.

Features:

- General mounting mode
- Bright status indicator

Technical Data:

Operating voltage	10...30VDC
Ripple voltage	≤10%
No-load current	Opposed: ≤25mA; Others: ≤15mA
Output current	≤100mA
Protective circuit	Electrical surge, reverse polarity protection, short circuit protection
Sensitivity	Adjustable, with single-turn knob
Output indicator	Yellow LED
Ambient temperature	-25...65℃
Storage temperature	-40...70℃
Voltage withstanding	1000V/AC 50/60Hz 60s
Insulation impedence	≥50MΩ(500VDC)
Shock resistance	Complex amplitude 1.5mm 10... 50Hz (2hr X, Y,Z respectively)
Impact resistance	500m/S² (50G) 3 times X,Y,Z respectively
Protection class	IP67
Housing material	PA12

Type:

Detection mode	Type	Distance	Light source	Frequency	Output	Switching mode	Connection	Wiring
Opposed	OP18-S6 (emitter)	10m	Infrared	— —	— —	— —	2m cable	Fig.1
	OP18-EVP6 （receiver）		— —	1000Hz	PNP	NO+NC	2m cable	Fig.3
	OP18-EVN6 （receiver）		— —	1000Hz	NPN	NO+NC	2m cable	Fig.4
	OP18-S6Q (emitter)	10m	Infrared	— —	— —	— —	M12 connector	Fig.2
	OP18-EVP6Q （receiver）		— —	1000Hz	PNP	NO+NC	M12 connector	Fig.5
	OP18-EVN6Q （receiver）		— —	1000Hz	NPN	NO+NC	M12 connector	Fig.6

The detection distance corresponds to the reflector RB50*50-1 (purchased separately)

Retro-reflective	OP18-RVP6	3m	Infrared	1000Hz	PNP	NO+NC	2m cable	Fig.3
	OP18-RVN6	3m	Infrared	1000Hz	NPN	NO+NC	2m cable	Fig.4
	OP18-RVP6Q	3m	Infrared	1000Hz	PNP	NO+NC	M12 connector	Fig.5
	OP18-RVN6Q	3m	Infrared	1000Hz	NPN	NO+NC	M12 connector	Fig.6
Polarized retro-reflective	OP18-RPVP6	3m	Red	1000Hz	PNP	NO+NC	2m cable	Fig.3
	OP18-RPVN6	3m	Red	1000Hz	NPN	NO+NC	2m cable	Fig.4
	OP18-RPVP6Q	3m	Red	1000Hz	PNP	NO+NC	M12 connector	Fig.5
	OP18-RPVN6Q	3m	Red	1000Hz	NPN	NO+NC	M12 connector	Fig.6

Diffused	OP18-K100VP6	100mm	Infrared	1000Hz	PNP	NO+NC	2m cable	Fig.3
	OP18-K100VN6	100mm	Infrared	1000Hz	NPN	NO+NC	2m cable	Fig.4
	OP18-K100VP6Q	100mm	Infrared	1000Hz	PNP	NO+NC	M12 connector	Fig.5
	OP18-K100VN6Q	100mm	Infrared	1000Hz	NPN	NO+NC	M12 connector	Fig.6
	OP18-K200VP6	200mm	Infrared	1000Hz	PNP	NO+NC	2m cable	Fig.3
	OP18-K200VN6	200mm	Infrared	1000Hz	NPN	NO+NC	2m cable	Fig.4
	OP18-K200VP6Q	200mm	Infrared	1000Hz	PNP	NO+NC	M12 connector	Fig.5
	OP18-K200VN6Q	200mm	Infrared	1000Hz	NPN	NO+NC	M12 connector	Fig.6
	OP18-K400VP6	400mm	Infrared	1000Hz	PNP	NO+NC	2m cable	Fig.3
	OP18-K400VN6	400mm	Infrared	1000Hz	NPN	NO+NC	2m cable	Fig.4
	OP18-K400VP6Q	400mm	Infrared	1000Hz	PNP	NO+NC	M12 connector	Fig.5
	OP18-K400VN6Q	400mm	Infrared	1000Hz	NPN	NO+NC	M12 connector	Fig.6
	OP18-K600VP6	600mm	Infrared	1000Hz	PNP	NO+NC	2m cable	Fig.3
	OP18-K600VN6	600mm	Infrared	1000Hz	NPN	NO+NC	2m cable	Fig.4
	OP18-K600VP6Q	600mm	Infrared	1000Hz	PNP	NO+NC	M12 connector	Fig.5
	OP18-K600VN6Q	600mm	Infrared	1000Hz	NPN	NO+NC	M12 connector	Fig.6

Wiring:

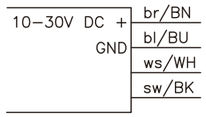


Fig.1

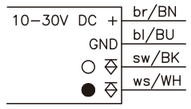


Fig.3

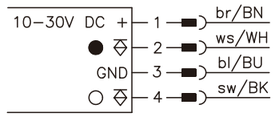


Fig.5

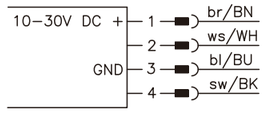


Fig.2

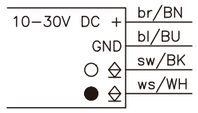


Fig.4

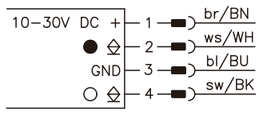
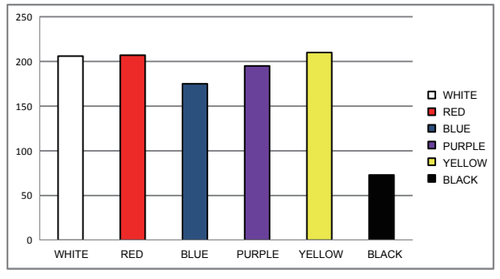


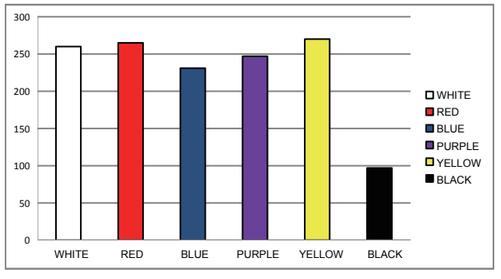
Fig.6

Functional characteristics:

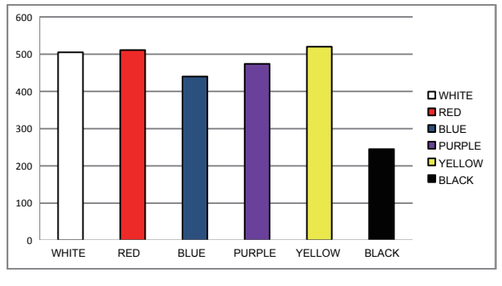
OP18-K100VP6 diffused attenuation figure



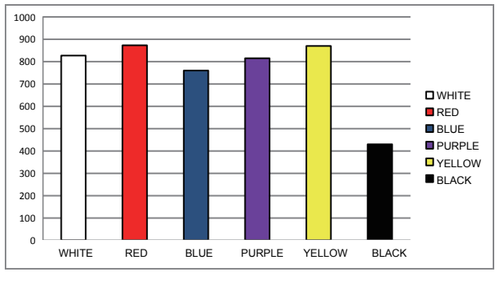
OP18-K200VP6 diffused attenuation figure



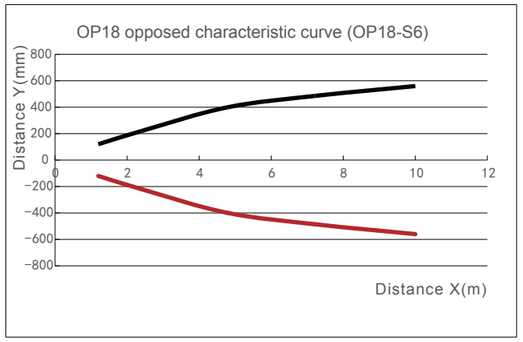
OP18-K400VP6 diffused attenuation figure

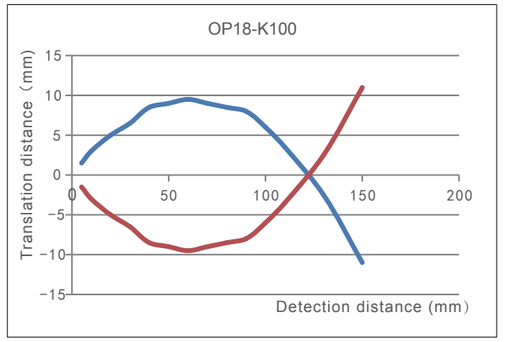


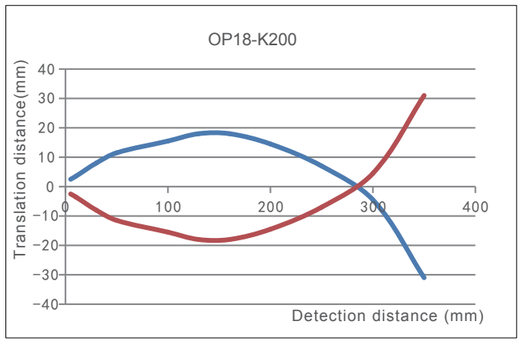
OP18-K600VP6 diffused attenuation figure

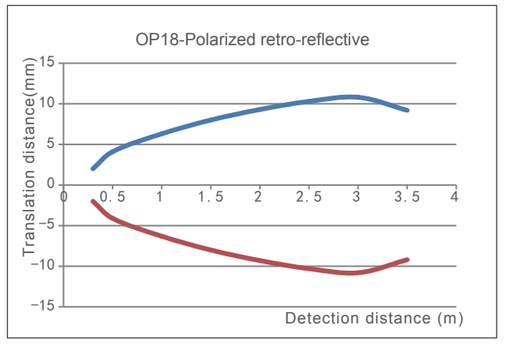


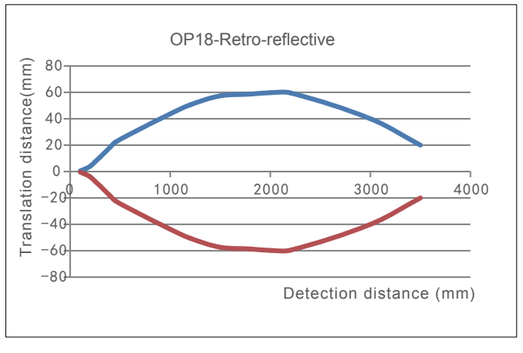
Functional characteristics:

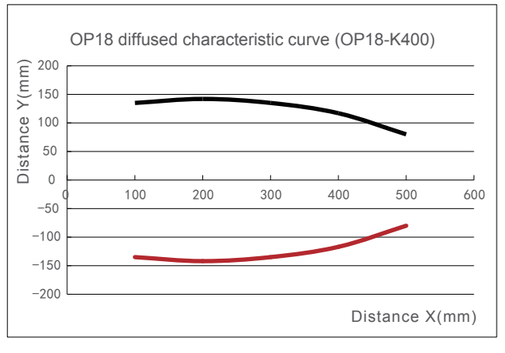


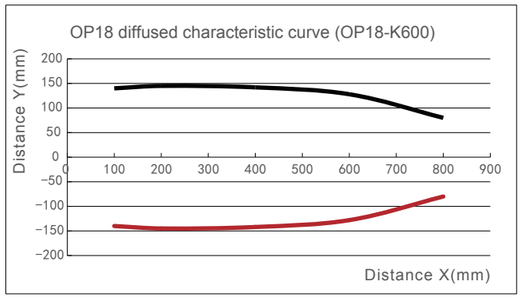




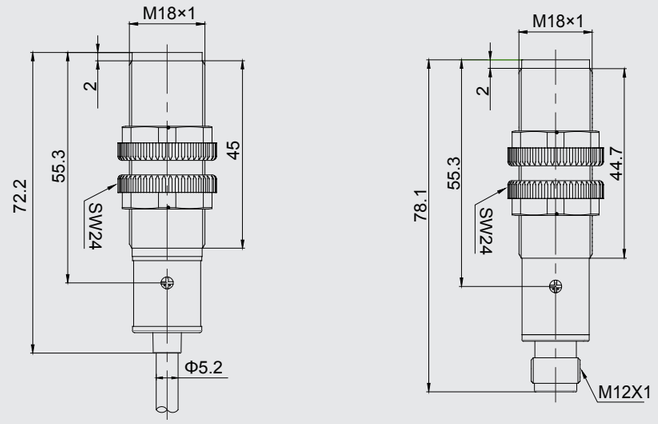






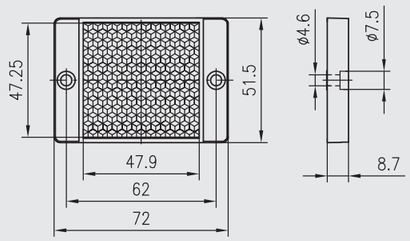


Dimensions:



Reflector (optional):

RB50x50-1



Description:

M18 barrel mounting mode, metal housing

Features:

- Strong impact resistance
- 60m laser opposed

Technical Data:

Operating voltage	10...30VDC
Ripple voltage	≤10%
No-load current	Opposed: ≤25mA; Others: ≤15mA
Output current	≤100mA
Protective circuit	Electrical surge, reverse polarity protection, short circuit protection
Sensitivity	Adjustable, with single-turn knob
Output indicator	Yellow LED
Ambient temperature	-25...65℃
Storage temperature	-40...70℃
Voltage resistance	1000V/AC 50/60Hz 60s
Insulation impedence	≥50MΩ(500VDC)
Shock resistance	Complex amplitude 1.5mm 10... 50Hz (2hr X, Y ,Z respectively)
Impact resistance	500m/S²(50G) 3 times X,Y,Z respectively
Protection class	IP67
Housing material	Brass nickel-plated

Type:

Detection mode	Type	Distance	Light source	Frequency	Output	Switching mode	Connection	Wiring
Opposed	OM18-S6(emitter)	10m	Infrared	— —	— —	— —	2m cable	Fig.1
	OM18-EVP6（receiver）		— —	200Hz	PNP	NO+NC	2m cable	Fig.3
	OM18-EVN6（receiver）		— —	200Hz	NPN	NO+NC	2m cable	Fig.4
	OM18-S6Q (emitter)	10m	Infrared	— —	— —	— —	M12 connector	Fig.2
	OM18-EVP6Q（receiver）		— —	200Hz	PNP	NO+NC	M12 connector	Fig.5
	OM18-EVN6Q（receiver）		— —	200Hz	NPN	NO+NC	M12 connector	Fig.6
	OM18-SL306	30m	laser	— —	— —	— —	2m cable	Fig.1
	OM18-EL30VP6		laser	1000Hz	PNP	NO+NC	2m cable	Fig.3
	OM18-EL30VN6		laser	1000Hz	NPN	NO+NC	2m cable	Fig.4
	OM18-SL306Q	30m	laser	— —	— —	— —	M12 connector	Fig.2
	OM18-EL30VP6Q		laser	1000Hz	PNP	NO+NC	M12 connector	Fig.5
	OM18-EL30VN6Q		laser	1000Hz	NPN	NO+NC	M12 connector	Fig.6
	OM18-SL606	60m	laser	— —	— —	— —	2m cable	Fig.1
	OM18-EL60VP6		laser	1000Hz	PNP	NO+NC	2m cable	Fig.3
	OM18-EL60VN6		laser	1000Hz	NPN	NO+NC	2m cable	Fig.4
	OM18-SL606Q	60m	laser	— —	— —	— —	M12 connector	Fig.2
	OM18-EL60VP6Q		laser	1000Hz	PNP	NO+NC	M12 connector	Fig.5
	OM18-EL60VN6Q		laser	1000Hz	NPN	NO+NC	M12 connector	Fig.6

The detection distance corresponds to the reflector RB50*50-1 (purchased separately)

Retro-reflective	OM18-RVP6	3m	Infrared	200Hz	PNP	NO+NC	2m cable	Fig.3
	OM18-RVN6	3m	Infrared	200Hz	NPN	NO+NC	2m cable	Fig.4
	OM18-RVP6Q	3m	Infrared	200Hz	PNP	NO+NC	M12 connector	Fig.5
	OM18-RVN6Q	3m	Infrared	200Hz	NPN	NO+NC	M12 connector	Fig.6
Polarized retro-reflective	OM18-RPVP6	3m	Red	200Hz	PNP	NO+NC	2m cable	Fig.3
	OM18-RPVN6	3m	Red	200Hz	NPN	NO+NC	2m cable	Fig.4
	OM18-RPVP6Q	3m	Red	200Hz	PNP	NO+NC	M12 connector	Fig.5
	OM18-RPVN6Q	3m	Red	200Hz	NPN	NO+NC	M12 connector	Fig.6

Diffused	OM18-K100VP6	100mm	Infrared	200Hz	PNP	NO+NC	2m cable	Fig.3
	OM18-K100VN6	100mm	Infrared	200Hz	NPN	NO+NC	2m cable	Fig.4
	OM18-K100VP6Q	100mm	Infrared	200Hz	PNP	NO+NC	M12 connector	Fig.5
	OM18-K100VN6Q	100mm	Infrared	200Hz	NPN	NO+NC	M12 connector	Fig.6
	OM18-K200VP6	200mm	Infrared	200Hz	PNP	NO+NC	2m cable	Fig.3
	OM18-K200VN6	200mm	Infrared	200Hz	NPN	NO+NC	2m cable	Fig.4
	OM18-K200VP6Q	200mm	Infrared	200Hz	PNP	NO+NC	M12 connector	Fig.5
	OM18-K200VN6Q	200mm	Infrared	200Hz	NPN	NO+NC	M12 connector	Fig.6
	OM18-K400VP6	400mm	Infrared	200Hz	PNP	NO+NC	2m cable	Fig.3
	OM18-K400VN6	400mm	Infrared	200Hz	NPN	NO+NC	2m cable	Fig.4
	OM18-K400VP6Q	400mm	Infrared	200Hz	PNP	NO+NC	M12 connector	Fig.5
	OM18-K400VN6Q	400mm	Infrared	200Hz	NPN	NO+NC	M12 connector	Fig.6
	OM18-K600VP6	600mm	Infrared	200Hz	PNP	NO+NC	2m cable	Fig.3
	OM18-K600VN6	600mm	Infrared	200Hz	NPN	NO+NC	2m cable	Fig.4
	OM18-K600VP6Q	600mm	Infrared	200Hz	PNP	NO+NC	M12 connector	Fig.5
	OM18-K600VN6Q	600mm	Infrared	200Hz	NPN	NO+NC	M12 connector	Fig.6

Wiring:

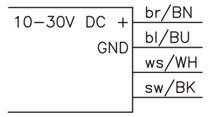


Fig.1

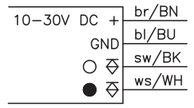


Fig.3

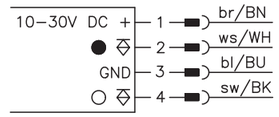


Fig.5

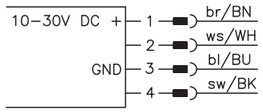


Fig.2

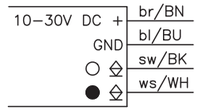


Fig.4

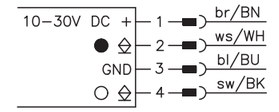
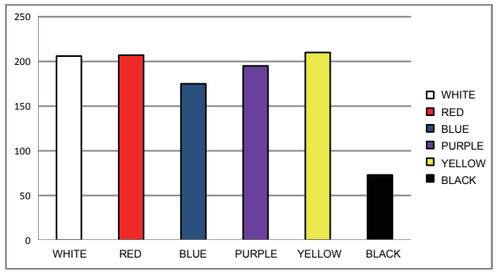


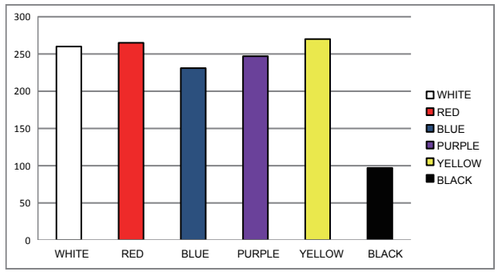
Fig.6

Functional characteristics:

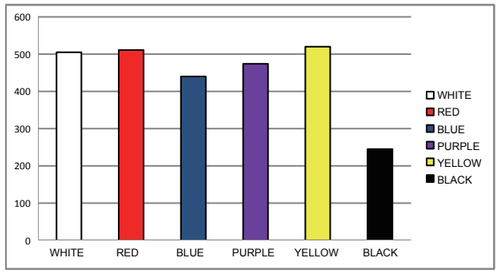
OM18-K100VP6 diffused attenuation figure



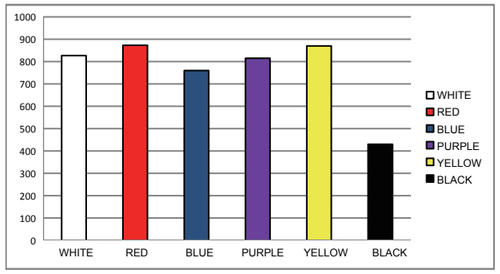
OM18-K200VP6 diffused attenuation figure



OM18-K400VP6 diffused attenuation figure

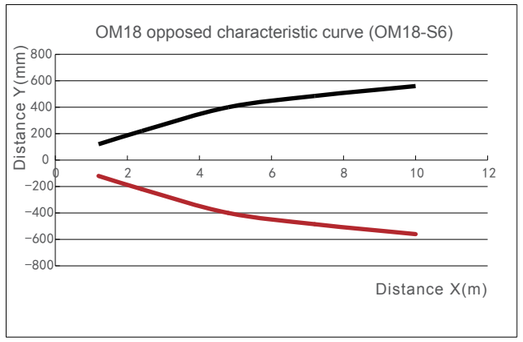


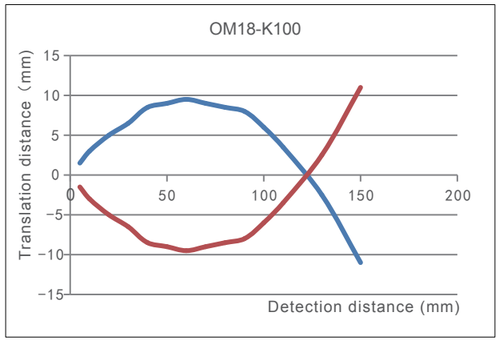
OM18-K600VP6 diffused attenuation figure

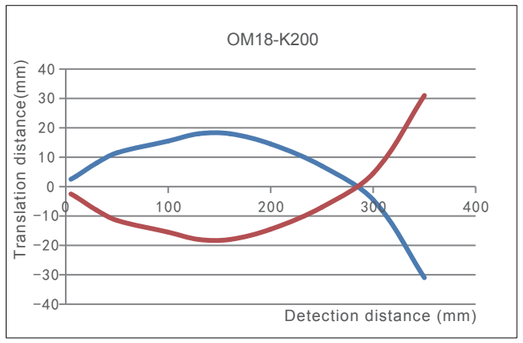


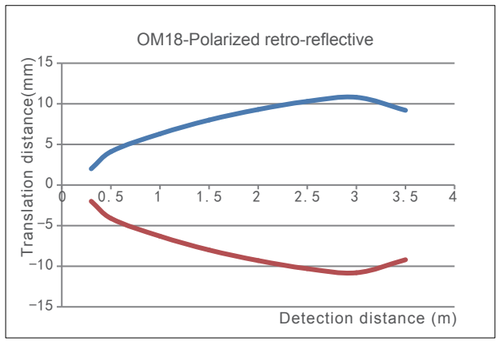
Photoelectric Sensors—Barrel-OM18

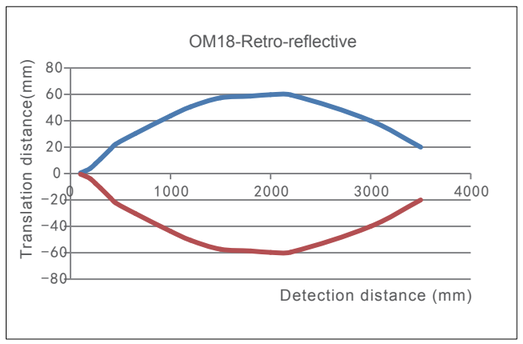
Functional characteristics:

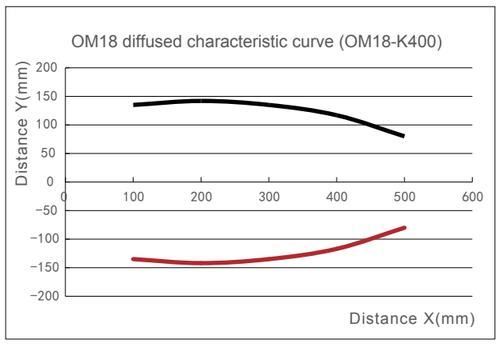


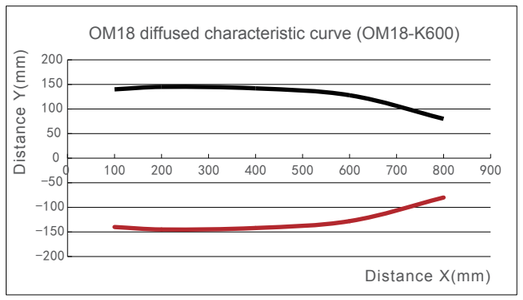




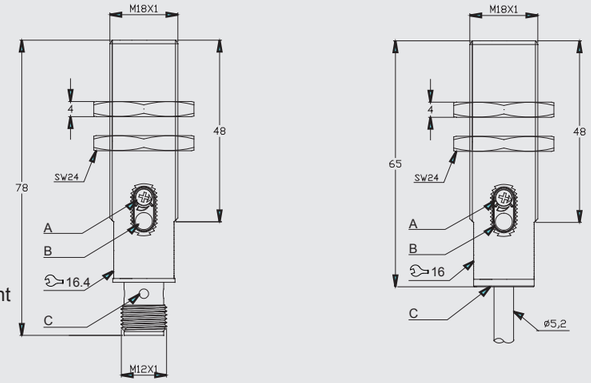








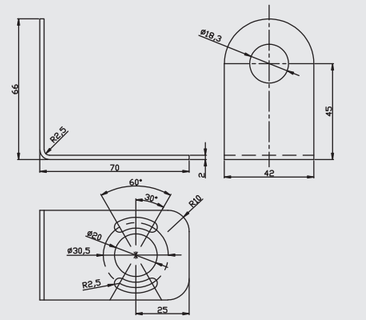
Dimensions:



A Sensitivity adjustment
B Power Indicator
C Output indicator
Wrench slot

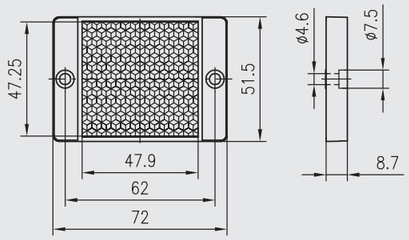
Mounting bracket (optional):

EO18DF



Reflector (optional):

RB50x50-1



Photoelectric Sensors—Compact-OG18

Description:

M18 barrel mounting mode, length 40mm, according to the needs of use, can provide red, infrared opposed products.

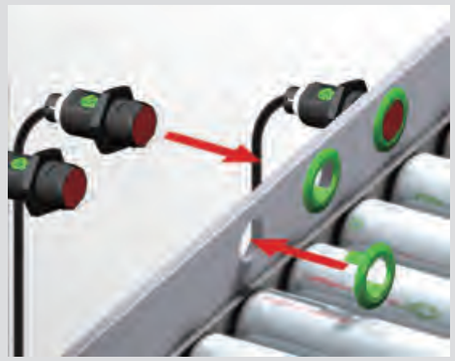
Features:

- Compact size
- Long sensing range
- Visible red LED light source

Sensor function description:

The embedded mounting bracket accessory enables the sensor to be flush mounted on the surface of the equipment, saving mounting time and reducing occupancy space

Clear and bright red LED visible light source, clear illumination position and long-distance position detection, suitable for various equipment applications



Type:

Detection mode	Type	Distance	Light source	Frequency	Output	Switching mode	Connection	Wiring
Opposed	OG18-S6 (emitter)	30m	Infrared	— —	— —	— —	2m cable	Fig.1
	OG18-ECP6（receiver）		— —	1000Hz	PNP	Light-on / Dark-on	2m cable	Fig.3
	OG18-ECN6（receiver）		— —	1000Hz	NPN	Light-on / Dark-on	2m cable	Fig.2
	OG18-S6Q (emitter)	30m	Infrared	— —	— —	— —	M12 connector	Fig.4
	OG18-ECP6Q（receiver）		— —	1000Hz	PNP	Light-on / Dark-on	M12 connector	Fig.5
	OG18-ECN6Q（receiver）		— —	1000Hz	NPN	Light-on / Dark-on	M12 connector	Fig.6
Retro-reflective	OG18-RCP6	4m	Red	1000Hz	PNP	Light-on / Dark-on	2m cable	Fig.3
	OG18-RCN6	4m	Red	1000Hz	NPN	Light-on / Dark-on	2m cable	Fig.2
	OG18-RCP6Q	4m	Red	1000Hz	PNP	Light-on / Dark-on	M12 connector	Fig.6
	OG18-RCN6Q	4m	Red	1000Hz	NPN	Light-on / Dark-on	M12 connector	Fig.5
Polarized retro-reflective	OG18-RPCP6	4m	Red	1000Hz	PNP	Light-on / Dark-on	2m cable	Fig.3
	OG18-RPCN6	4m	Red	1000Hz	NPN	Light-on / Dark-on	2m cable	Fig.2
	OG18-RPCP6Q	4m	Red	1000Hz	PNP	Light-on / Dark-on	M12 connector	Fig.6
	OG18-RPCN6Q	4m	Red	1000Hz	NPN	Light-on / Dark-on	M12 connector	Fig.5
Diffused	OG18-K200CP6	200mm	Red	1000Hz	PNP	Light-on / Dark-on	2m cable	Fig.3
	OG18-K200CN6	200mm	Red	1000Hz	NPN	Light-on / Dark-on	2m cable	Fig.2
	OG18-K200CP6Q	200mm	Red	1000Hz	PNP	Light-on / Dark-on	M12 connector	Fig.6
	OG18-K200CN6Q	200mm	Red	1000Hz	NPN	Light-on / Dark-on	M12 connector	Fig.5
	OG18-K400CP6	400mm	Red	1000Hz	PNP	Light-on / Dark-on	2m cable	Fig.3
	OG18-K400CN6	400mm	Red	1000Hz	NPN	Light-on / Dark-on	2m cable	Fig.2
	OG18-K400CP6Q	400mm	Red	1000Hz	PNP	Light-on / Dark-on	M12 connector	Fig.6
	OG18-K400CN6Q	400mm	Red	1000Hz	NPN	Light-on / Dark-on	M12 connector	Fig.5
	OG18-K600CP6	600mm	Red	1000Hz	PNP	Light-on / Dark-on	2m cable	Fig.3
	OG18-K600CN6	600mm	Red	1000Hz	NPN	Light-on / Dark-on	2m cable	Fig.2
	OG18-K600CP6Q	600mm	Red	1000Hz	PNP	Light-on / Dark-on	M12 connector	Fig.6
	OG18-K600CN6Q	600mm	Red	1000Hz	NPN	Light-on / Dark-on	M12 connector	Fig.5

Photoelectric Sensors—Compact-OG18

Technical Data:

Operating voltage	10...30VDC
Response time	1ms
Repeatability	≤3%
Load current	≤200mA
Protective circuit	Impact resistance, power reverse protection, output reverse protection
Sensitivity	Adjustable, with single-turn knob
Output indicator	Yellow LED
Ambient temperature	-25...55℃
Storage temperature	-40...70℃
Voltage resistance	1000V/AC 50/60Hz 60s
Insulation impedence	≥50MΩ(500VDC)
Shock resistance	Complex amplitude 1.5mm 10... 50Hz (2hr X, Y,Z respectively)
Impact resistance	500m/S²(50G) 3 times X,Y,Z respectively
Protection class	IP67
Housing material	PC+ABS

Wiring:

Pre-wired cable

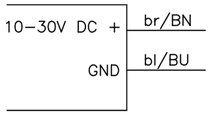


Fig.1

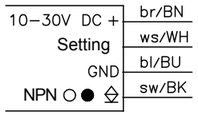


Fig.2

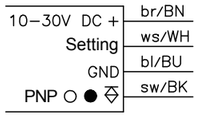


Fig.3

M12 connector

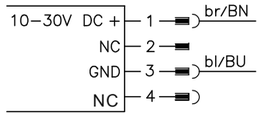


Fig.4

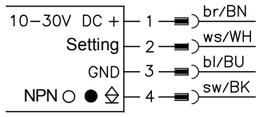


Fig.5

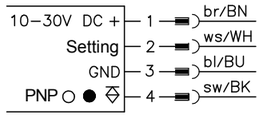
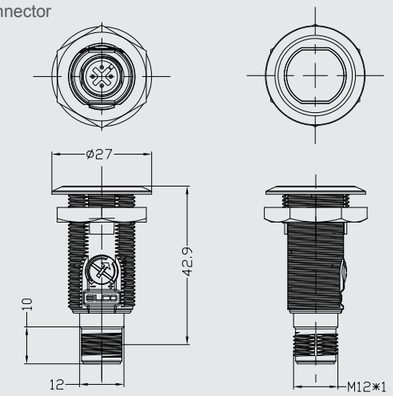


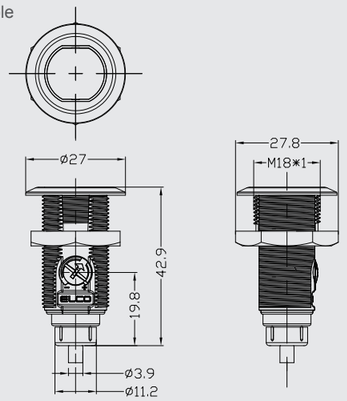
Fig.6

Dimensions:

M12 connector

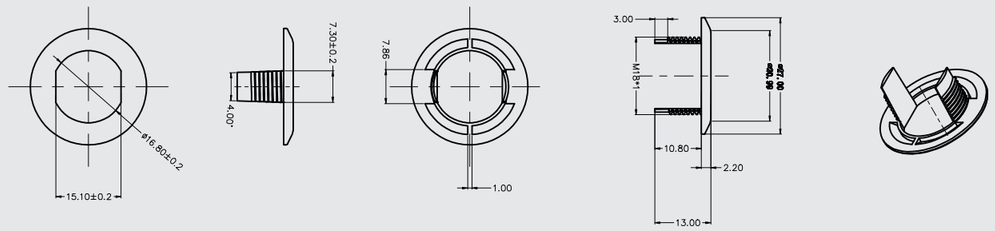


2m cable



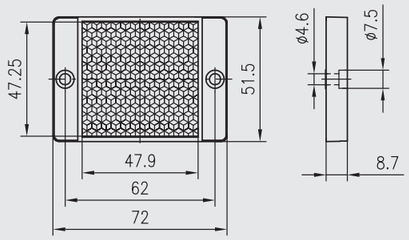
Mounting bracket (standard):

EOG18-1



Reflector (optional):

RB50x50-1



Photoelectric Sensors—Compact-OSQ18

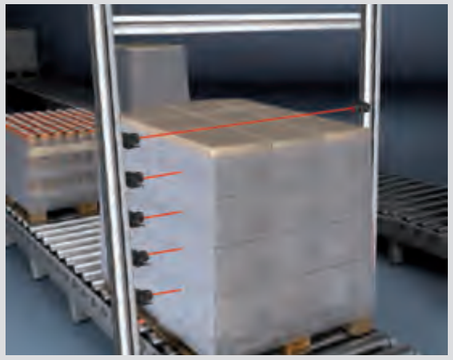
Description:

Optional mounting methods: mounting hole for barrel series or screw for rectangular series, 30m long distance opposed, laser beam products.

Features:

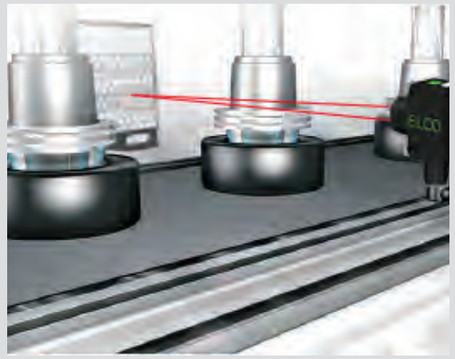
- Compact size
- Long sensing range
- Visible red beam, laser beam

Sensor function description:



The laser beam opposed, the ultra-fine spot does not diverge. Close mounting does not interfere with each other. Multiple pairs of side-by-side mounted sensors measure carton's height which is economical and practical.

Polarized retro-reflective photoelectric sensor is suitable for automotive, metal processing, printing and other industries, can stably detect highly reflective objects.



Type:

Detection mode	Type	Distance	Light source	Frequency	Output	Switching mode	Connection	Wiring
Opposed	OSQ18-S6(emitter)	30m	Infrared	— —	— —	— —	2m cable	Fig.1
	OSQ18-EVP6(receiver）		— —	1000Hz	PNP	NO+NC	2m cable	Fig.3
	OSQ18-EVN6(receiver）		— —	1000Hz	NPN	NO+NC	2m cable	Fig.4
	OSQ18-S6Q(emitter)	30m	Infrared	— —	— —	— —	M12 connector	Fig.2
	OSQ18-EVP6Q(receiver）		— —	1000Hz	PNP	NO+NC	M12 connector	Fig.5
	OSQ18-EVN6Q(receiver）		— —	1000Hz	NPN	NO+NC	M12 connector	Fig.6
	OSQ18-SL306 (emitter)	30m	laser	— —	— —	— —	2m cable	Fig.1
	OSQ18-EL30VP6(receiver）		— —	1000Hz	PNP	NO+NC	2m cable	Fig.3
	OSQ18-EL30VN6 (receiver）		— —	1000Hz	NPN	NO+NC	2m cable	Fig.4
	OSQ18-SL306Q(emitter)	30m	laser	— —	— —	— —	M12 connector	Fig.2
	OSQ18-EL30VP6Q(receiver）		— —	1000Hz	PNP	NO+NC	M12 connector	Fig.5
	OSQ18-EL30VN6Q(receiver）		— —	1000Hz	NPN	NO+NC	M12 connector	Fig.6

Retro-reflective	OSQ18-RVP6	4m	Red	1000Hz	PNP	NO+NC	2m cable	Fig.3
	OSQ18-RVN6	4m	Red	1000Hz	NPN	NO+NC	2m cable	Fig.4
	OSQ18-RVP6Q	4m	Red	1000Hz	PNP	NO+NC	M12 connector	Fig.5
	OSQ18-RVN6Q	4m	Red	1000Hz	NPN	NO+NC	M12 connector	Fig.6
Polarized retro-reflective	OSQ18-RPVP6	4m	Red	1000Hz	PNP	NO+NC	2m cable	Fig.3
	OSQ18-RPVN6	4m	Red	1000Hz	NPN	NO+NC	2m cable	Fig.4
	OSQ18-RPVP6Q	4m	Red	1000Hz	PNP	NO+NC	M12 connector	Fig.5
	OSQ18-RPVN6Q	4m	Red	1000Hz	NPN	NO+NC	M12 connector	Fig.6

Diffused	OSQ18-K200VP6	200mm	Red	1000Hz	PNP	NO+NC	2m cable	Fig.7
	OSQ18-K200VN6	200mm	Red	1000Hz	NPN	NO+NC	2m cable	Fig.8
	OSQ18-K200VP6Q	200mm	Red	1000Hz	PNP	NO+NC	M12 connector	Fig.9
	OSQ18-K200VN6Q	200mm	Red	1000Hz	NPN	NO+NC	M12 connector	Fig.10
	OSQ18-K400VP6	400mm	Red	1000Hz	PNP	NO+NC	2m cable	Fig.7
	OSQ18-K400VN6	400mm	Red	1000Hz	NPN	NO+NC	2m cable	Fig.8
	OSQ18-K400VP6Q	400mm	Red	1000Hz	PNP	NO+NC	M12 connector	Fig.9
	OSQ18-K400VN6Q	400mm	Red	1000Hz	NPN	NO+NC	M12 connector	Fig.10
	OSQ18-K600VP6	600mm	Red	1000Hz	PNP	NO+NC	2m cable	Fig.7
	OSQ18-K600VN6	600mm	Red	1000Hz	NPN	NO+NC	2m cable	Fig.8
	OSQ18-K600VP6Q	600mm	Red	1000Hz	PNP	NO+NC	M12 connector	Fig.9
	OSQ18-K600VN6Q	600mm	Red	1000Hz	NPN	NO+NC	M12 connector	Fig.10

Photoelectric Sensors—Compact-OSQ18

Operating voltage	10...30VDC
Response time	1ms
Repeatability	≤3%
Load current	≤200mA
Protective circuit	Electrical surge, reverse polarity protection, short circuit protection
Sensitivity	Adjustable, with single-turn knob
Output indicator	Yellow LED
Ambient temperature	-25...55℃
Storage temperature	-40...70℃
Voltage resistance	1000V/AC 50/60Hz 60s
Insulation impedence	≥50MΩ(500VDC)
Shock resistance	Complex amplitude 1.5mm 10... 50Hz (2hr X, Y,Z respectively)
Impact resistance	500m/S²(50G) 3 times X,Y,Z respectively
Protection class	IP67
Housing material	PC+ABS

Wiring:

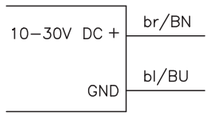


Fig.1

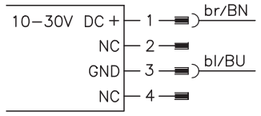


Fig.2

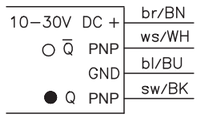


Fig.3

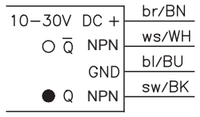


Fig.4

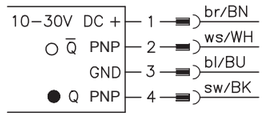


Fig.5

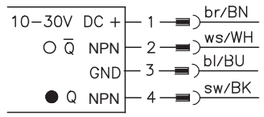


Fig.6

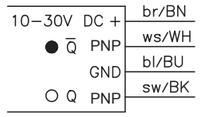


Fig.7

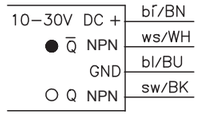


Fig.8

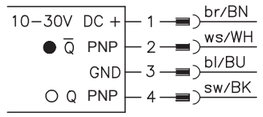


Fig.9

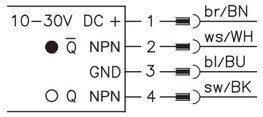
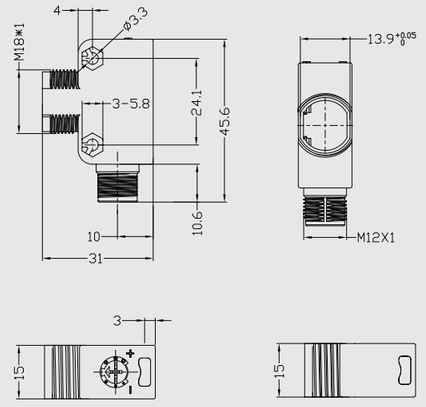


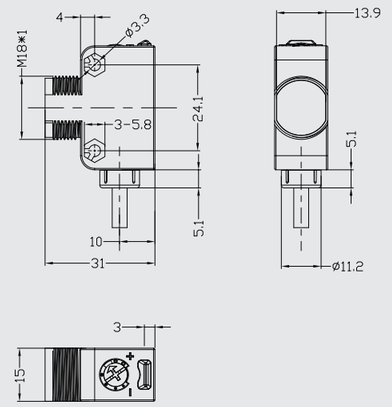
Fig.10

Dimensions:

M12 connector

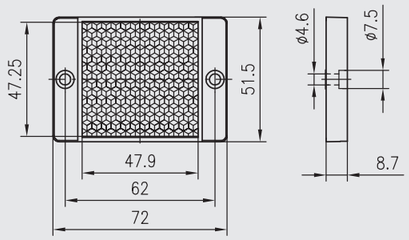


2m cable



Reflector (optional):

RB50x50-1



Description:

The compact design is very suitable for limited mounting space requirement in electronic, semiconductor and other industries. BGS products have excellent black-and-white attenuation characteristics, suitable for detecting non-bright surface objects, minimum detectable 0.2mm copper wire and distinguish single and double sheet thickness.

Features:

- Long sensing range
- Spot light source, divergent light with small-angle
- Mounting hole Φ3, built-in metal parts,strong and long life-time

Type:

Detection mode	Type	Distance	Light source	Frequency	Output	Switching mode	Connection	Wiring
Opposed	OS21-S6 (emitter)	1m	Infrared	— —	— —	— —	2m cable	Fig.1
	OS21-ELN6 (receiver)		— —	500μs	NPN	Light on	2m cable	Fig.2
	OS21-EDN6 (receiver)		— —	500μs	NPN	Dark on	2m cable	Fig.3
	OS21-S6 (emitter)		Infrared	— —	— —	— —	2m cable	Fig.1
	OS21-ELP6 (receiver)		— —	500μs	PNP	Light on	2m cable	Fig.4
	OS21-EDP6 (receiver)		— —	500μs	PNP	Dark on	2m cable	Fig.5
	OS21-S26 (emitter)	2m	Infrared	— —	— —	— —	2m cable	Fig.1
	OS21-E2LN6 (receiver)		— —	500μs	NPN	Light on	2m cable	Fig.2
	OS21-E2DN6 (receiver)		— —	500μs	NPN	Dark on	2m cable	Fig.3
	OS21-S26 (emitter)	2m	Infrared	— —	— —	— —	2m cable	Fig.1
	OS21-E2LP6 (receiver)		— —	500μs	PNP	Light on	2m cable	Fig.4
	OS21-E2DP6 (receiver)		— —	500μs	PNP	Dark on	2m cable	Fig.5
BGS	OS21-AK15LN6	15mm	Red	800Hz	NPN	Light on	2m cable	Fig.2
	OS21-AK15DN6		Red	800Hz	NPN	Dark on	2m cable	Fig.3
	OS21-AK15LP6		Red	800Hz	PNP	Light on	2m cable	Fig.4
	OS21-AK15DP6		Red	800Hz	PNP	Dark on	2m cable	Fig.5
	OS21-AK30LN6	30mm	Red	800Hz	NPN	Light on	2m cable	Fig.2
	OS21-AK30DN6		Red	800Hz	NPN	Dark on	2m cable	Fig.3
	OS21-AK30LP6		Red	800Hz	PNP	Light on	2m cable	Fig.4
	OS21-AK30DP6		Red	800Hz	PNP	Dark on	2m cable	Fig.5

Technical Data:

Operating voltage	10...30VDC
Ripple voltage	≤5Vss
Output type	PNP/NPN（Depends on the model）
Output feature	Light on/dark on (Depends on the model)
No-load current	≤20mA
load current	<100mA
Light source	Red, Infrared
Yellow LED	Switch status
Green LED	Power on
Housing	PC+PBT
Protection class	IP67
Ambient temperature	-20...+50℃
Storage temperature	-40...+75℃
Circuit protection	Polarity reversal protection, short-circuit protection,over-current protection

Wiring:

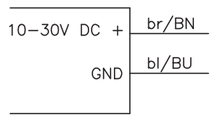


Fig.1

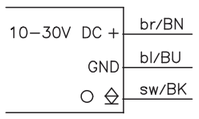


Fig.2

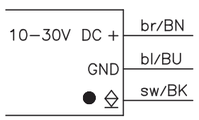


Fig.3

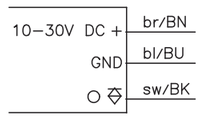


Fig.4

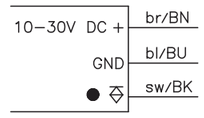
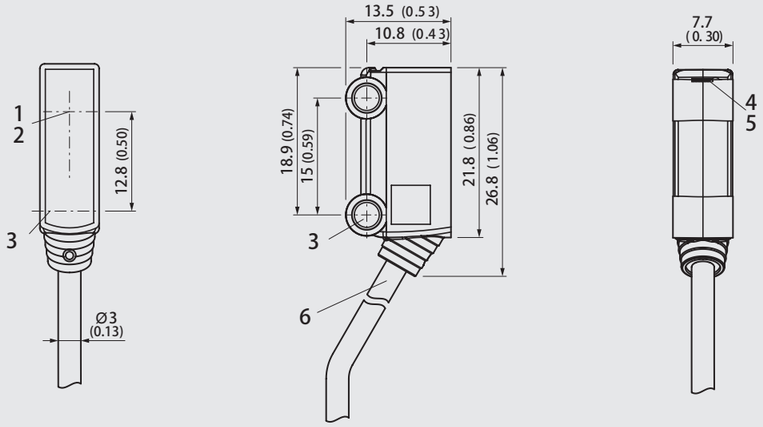


Fig.5

Dimensions:



1	Receiver optic axis
2	Emitter optic axis
3	Mounting hole φ3.2mm
4	Green LED indicator: power on
5	Yellow LED indicator: receive light
6	Connection: cable connection

Description:

Mini-rectangular photoelectric sensors OS10 series, with high performance and 25.4mm standard mounting hole distance, are available as BGS (background suppression) mode, Diffused mode, retro-reflective mode, and opposed mode. With optional red beam or laser beam source, they are suitable for printing and packaging, pharmaceutical, electronic, small equipment and other application fields.

Features:

- BGS function greatly improves the detection effect
- Optional red beam or laser beam
- Adjustable sensing range
- Protection class IP67
- Optional M8 connector, 2 m pre-wired cable

Red Beam:

Detection mode	Type	Distance	Light source	Frequency	Output	Switching mode	Connection	Wiring
Opposed	OS10-S6 (emitter)	30m	Infrared	— —	— —	— —	2m cable	Fig. 1
	OS10-ECN6(receiver)		— —	1kHz	NPN	Light on/dark on	2m cable	Fig. 2
	OS10-ECP6(receiver)		— —	1kHz	PNP	Light on/dark on	2m cable	Fig. 3
	OS10-S6Q8(emitter)	30m	Infrared	— —	— —	— —	M8 connector, 4-pin	Fig. 4
	OS10-ECN6Q8(receiver)		— —	1kHz	NPN	Light on/dark on	M8 connector, 4-pin	Fig. 5
	OS10-ECP6Q8(receiver)		— —	1kHz	PNP	Light on/dark on	M8 connector, 4-pin	Fig. 6
Polarized retro-reflective	OS10-RPCN6	6m	Red	1kHz	NPN	Light on/dark on	2m cable	Fig. 2
	OS10-RPCP6	6m	Red	1kHz	PNP	Light on/dark on	2m cable	Fig. 3
	OS10-RPCN6Q8	6m	Red	1kHz	NPN	Light on/dark on	M8 connector, 4-pin	Fig. 5
	OS10-RPCP6Q8	6m	Red	1kHz	PNP	Light on/dark on	M8 connector, 4-pin	Fig. 6
Diffused	OS10-K1000CN6	20...1000mm	Red	1kHz	NPN	Light on/dark on	2m cable	Fig. 2
	OS10-K1000CP6	20...1000mm	Red	1kHz	PNP	Light on/dark on	2m cable	Fig. 3
	OS10-K1000CN6Q8	20...1000mm	Red	1kHz	NPN	Light on/dark on	M8 connector, 4-pin	Fig. 5
	OS10-K1000CP6Q8	20...1000mm	Red	1kHz	PNP	Light on/dark on	M8 connector, 4-pin	Fig. 6
BGS	OS10-AK65CN6	6...65mm	Red	1kHz	NPN	Light on/dark on	2m cable	Fig. 2
	OS10-AK65CP6	6...65mm	Red	1kHz	PNP	Light on/dark on	2m cable	Fig. 3
	OS10-AK65CN6Q8	6...65mm	Red	1kHz	NPN	Light on/dark on	M8 connector, 4-pin	Fig. 5
	OS10-AK65CP6Q8	6...65mm	Red	1kHz	PNP	Light on/dark on	M8 connector, 4-pin	Fig. 6
	OS10-AK150CN6	6...150mm	Red	1kHz	NPN	Light on/dark on	2m cable	Fig. 2
	OS10-AK150CP6	6...150mm	Red	1kHz	PNP	Light on/dark on	2m cable	Fig. 3
	OS10-AK150CN6Q8	6...150mm	Red	1kHz	NPN	Light on/dark on	M8 connector, 4-pin	Fig. 5
	OS10-AK150CP6Q8	6...150mm	Red	1kHz	PNP	Light on/dark on	M8 connector, 4-pin	Fig. 6
	OS10-AK350CN6	6...350mm	Red	1kHz	NPN	Light on/dark on	2m cable	Fig. 2
	OS10-AK350CP6	6...350mm	Red	1kHz	PNP	Light on/dark on	2m cable	Fig. 3
	OS10-AK350CN6Q8	6...350mm	Red	1kHz	NPN	Light on/dark on	M8 connector, 4-pin	Fig. 5
	OS10-AK350CP6Q8	6...350mm	Red	1kHz	PNP	Light on/dark on	M8 connector, 4-pin	Fig. 6

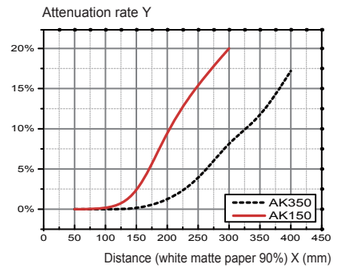
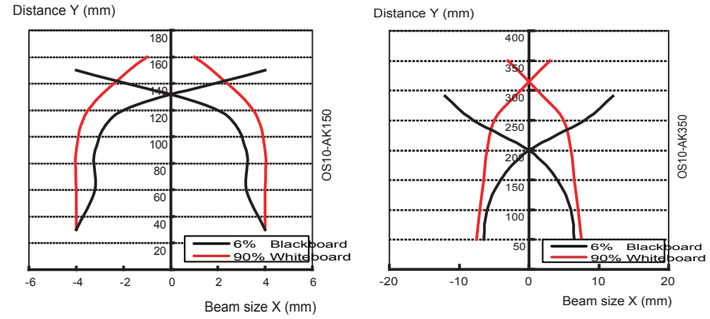
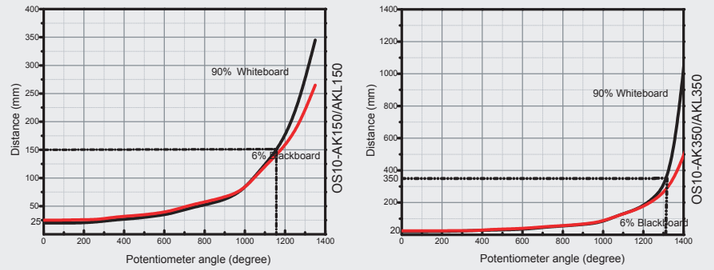
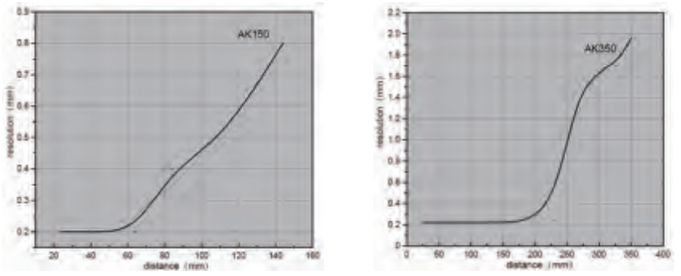
Laser Beam:

Detection mode	Type	Distance	Light source	Frequency	Output	Switching mode	Connection	Wiring
Opposed	OS10-SL6 (emitter)	30m	Laser	— —	— —	— —	2m cable	Fig. 1
	OS10-ELCN6(receiver)		— —	1KHz	NPN	Light on/dark on	2m cable	Fig. 2
	OS10-ELCP6(receiver)		— —	1KHz	PNP	Light on/dark on	2m cable	Fig. 3
	OS10-SL6Q8 (emitter)	30m	Laser	— —	— —	— —	M8 connector, 4-pin	Fig. 4
	OS10-ELCN6Q8 (receiver)		— —	1KHz	NPN	Light on/dark on	M8 connector, 4-pin	Fig. 5
	OS10-ELCP6Q8 (receiver)		— —	1KHz	PNP	Light on/dark on	M8 connector, 4-pin	Fig. 6
Polarized retro-reflective	OS10-RPLCN6	5m	Laser	1KHz	NPN	Light on/dark on	2m cable	Fig. 2
	OS10-RPLCP6	5m	Laser	1KHz	PNP	Light on/dark on	2m cable	Fig. 3
	OS10-RPLCN6Q8	5m	Laser	1KHz	NPN	Light on/dark on	M8 connector, 4-pin	Fig. 5
	OS10-RPLCP6Q8	5m	Laser	1KHz	PNP	Light on/dark on	M8 connector, 4-pin	Fig. 6
BGS	OS10-AKL150CN6	6...150mm	Laser	1KHz	NPN	Light on/dark on	2m cable	Fig. 2
	OS10-AKL150CP6	6...150mm	Laser	1KHz	PNP	Light on/dark on	2m cable	Fig. 3
	OS10-AKL150CN6Q8	6...150mm	Laser	1KHz	NPN	Light on/dark on	M8 connector, 4-pin	Fig. 5
	OS10-AKL150CP6Q8	6...150mm	Laser	1KHz	PNP	Light on/dark on	M8 connector, 4-pin	Fig. 6
	OS10-AKL350CN6	6...350mm	Laser	1KHz	NPN	Light on/dark on	2m cable	Fig. 2
	OS10-AKL350CP6	6...350mm	Laser	1KHz	PNP	Light on/dark on	2m cable	Fig. 3
	OS10-AKL350CN6Q8	6...350mm	Laser	1KHz	NPN	Light on/dark on	M8 connector, 4-pin	Fig. 5
	OS10-AKL350CP6Q8	6...350mm	Laser	1KHz	PNP	Light on/dark on	M8 connector, 4-pin	Fig. 6

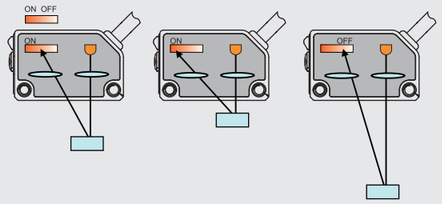
Technical Data:

Operating voltage	10...30VDC
Ripple voltage	±10% of U_B
Light source	Red (625nm) / class 1 laser
Output type	PNP / NPN
Switch mode	Light on: Setting connects U+ Dark on: Setting connects U-
No-load current	≤20mA
load current	≤100mA
Sensitivity	Potentiometer adjustment
LED	Power supply (green), switch (yellow)
Housing	Polycarbonate
Connection	M8 connector/2m cable
Ambient temperature	-25˚C...+55˚C
Storage temperature	-40˚C...+70˚C
Protection class	IP67

Product Features:

Precise distance setting High resolution	Multi-turn potentiometer for accurate setting. Detect a workpiece with a thickness of up to 0.2 mm, such as a business card (the object to be tested is standard white).
BGS function	For workpieces of different colors and materials, the detection distance is basically the same. For a whiteboard with a reflectivity of 90% and a blackboard with a reflectivity of 6%, the distance attenuation is within 15%. 
Small spot	The OS10-AKL150 series laser light source has a spot size of 1mm at 100mm position, which has the advantages of precise positioning and edge detection.
High brightness light source	High-brightness LED red light source for easy identification of detection positions 
BGS	
Resolution	

BGS - Background Suppression Function:



The sensor judges an present object when light is received at the receiver Red position.

Standard diffused mode photoelectric sensors detect the objects according to the value of the received light, which is dependent on object color, material, transparency and other factors. Therefore, even using the same type of diffused photoelectric sensor to detect different objects, the sensing ranges vary dramatically.

By using dual diode receiver, the BGS mode photoelectric sensors detect the objects according to the different position that reflected light falls on the receiver. As shown in left figure, when the sensor is relatively close to the object, the reflected light falls on receiver Red position, at this time, the output is turned ON.

The sensing range of the photoelectric sensors with BGS is basically the same for various objects.

Wiring:

Cable

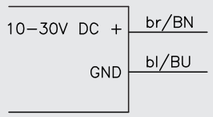


Fig.1

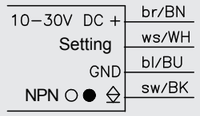


Fig.2

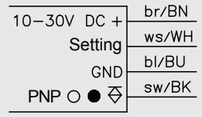


Fig.3

M8 connector

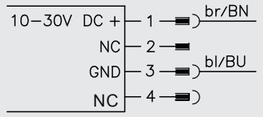


Fig.4

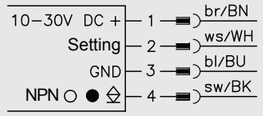


Fig.5

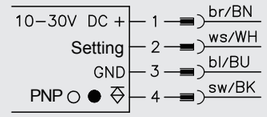
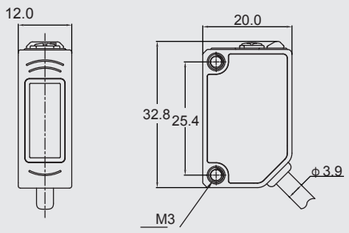


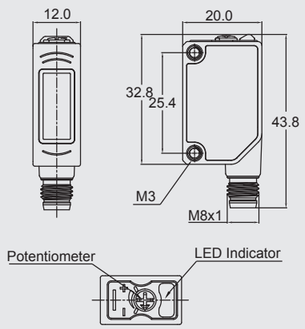
Fig.6

Dimensions:

Cable



M8 connector



Photoelectric Sensors—Rectangular-OS20

Description:

High-performance mini rectangular photoelectric sensor can provide BGS (dynamic and static state, 1M BGS) detection, laser coaxial polarized retro-reflective detection and laser non-coaxial polarized retro-reflective detection, transparent object detection and PCB detection. It is suitable for logistics, packaging, electronics, small equipment and other applications.

Features:

- It can provide stable and reliable detection of the motion state of objects
- Distance of 1M available for BGS
- Coaxial has no blind-zone, precise positioning function
- Red or laser are optional

Type:

Detection mode	Type	Distance	Light source	Frequency	Output	Switching mode	Connection	Wiring
Dynamic and static state	OS20-SDK40CN6	40mm	Red	1KHz	NPN	Light on/dark on	2m cable	Fig.1
	OS20-SDK40CP6		Red	1KHz	PNP	Light on/dark on	2m cable	Fig.3
	OS20-SDK40CN6Q8		Red	1KHz	NPN	Light on/dark on	M8 4-pin connector	Fig.2
	OS20-SDK40CP6Q8		Red	1KHz	PNP	Light on/dark on	M8 4-pin connector	Fig.4
BGS PCB detection line array light source	OS20-AK100CN6/L	100mm	Red	1KHz	NPN	Light on/dark on	2m cable	Fig.1
	OS20-AK100CP6/L		Red	1KHz	PNP	Light on/dark on	2m cable	Fig.3
	OS20-AK100CN6Q8/L		Red	1KHz	NPN	Light on/dark on	M8 4-pin connector	Fig.2
	OS20-AK100CN6Q8/L		Red	1KHz	PNP	Light on/dark on	M8 4-pin connector	Fig.4
BGS	OS20-AK1000CN6	20...1000mm	Red	1KHz	NPN	Light on/dark on	2m cable	Fig.1
	OS20-AK1000CP6		Red	1KHz	PNP	Light on/dark on	2m cable	Fig.3
	OS20-AK1000CN6Q8		Red	1KHz	NPN	Light on/dark on	M8 4-pin connector	Fig.2
	OS20-AK1000CN6Q8		Red	1KHz	PNP	Light on/dark on	M8 4-pin connector	Fig.4
Retro-reflective transparent object detection	OS20-TRCN6	1m	Red	1KHz	NPN	Light on/dark on	2m cable	Fig.1
	OS20-TRCP6		Red	1KHz	PNP	Light on/dark on	2m cable	Fig.3
	OS20-TRCN6Q8		Red	1KHz	NPN	Light on/dark on	M8 4-pin connector	Fig.2
	OS20-TRCP6Q8		Red	1KHz	PNP	Light on/dark on	M8 4-pin connector	Fig.4
Non-coaxial polarized retro-reflective detection	OS20-RPLCN6	5m	Laser	1KHz	NPN	Light on/dark on	2m cable	Fig.1
	OS20-RPLCP6		Laser	1KHz	PNP	Light on/dark on	2m cable	Fig.3
	OS20-RPLCN6Q8		Laser	1KHz	NPN	Light on/dark on	M8 4-pin connector	Fig.2
	OS20-RPLCP6Q8		Laser	1KHz	PNP	Light on/dark on	M8 4-pin connector	Fig.4
Coaxial polarized retro-reflective detection	OS20-TRPLCN6	5m	Laser	1KHz	NPN	Light on/dark on	2m cable	Fig.1
	OS20-TRPLCP6		Laser	1KHz	PNP	Light on/dark on	2m cable	Fig.3
	OS20-TRPLCN6Q8		Laser	1KHz	NPN	Light on/dark on	M8 4-pin connector	Fig.2
	OS20-TRPLCN6Q8		Laser	1KHz	PNP	Light on/dark on	M8 4-pin connector	Fig.4

Technical Data:

Operating voltage	10...30VDC
Ripple voltage	±10% of U_B
Light source	Red (625nm) / class 1 laser
Output type	PNP / NPN
Switch mode	Light on: Setting connects U+ Dark on: Setting connects U-
No-load current	≤20mA
load current	≤100mA
Sensitivity	Teach button or potentiometer adjustment
LED	Power supply (green), switch (yellow)
Housing	Polycarbonate
Connection	M8 connector/2m cable
Ambient temperature	-25℃...+55℃
Storage temperature	-40℃...+70℃
Protection class	IP67

Wiring:

Pre-wired cable

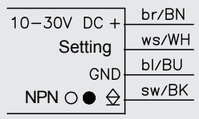


Fig.1

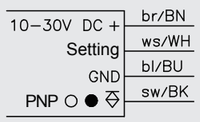


Fig.2

M8 connector

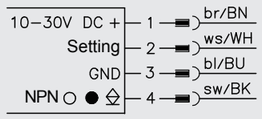


Fig.3

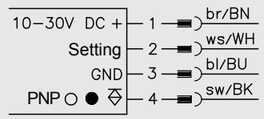
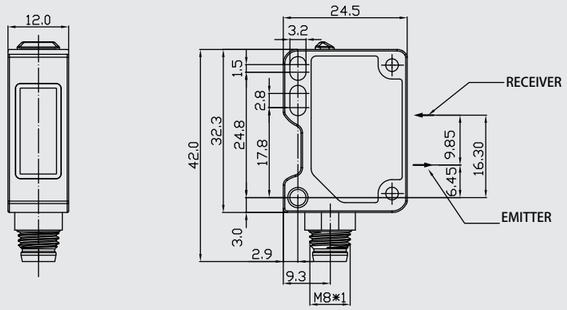


Fig.4

Dimensions:



Photoelectric Sensors—Rectangular-OS12

Description:

Cost-effective product, compact structure (20x32x12mm), 360° LED indicator, small size with reliable detection.

Features:

- Potentiometer adjustment
- Distance of 200mm and 400mm available for diffused
- Anti-interference capability
- M8 Pigtail connection optional
- Infrared beam, */R optional for red beam

Type (red light source):

Detection mode	Type	Distance	Light source	Frequency	Output	Switching mode	Connection	Wiring
Opposed	OS12-S6(emitter)	10m	Infrared	— —	— —	— —	2m cable	Fig.1
	OS12-ECN6(receiver)		— —	500μs	NPN	Light on/dark on	2m cable	Fig.3
	OS12-ECP6(receiver)		— —	500μs	PNP	Light on/dark on	2m cable	Fig.4
	OS12-S6-*-Q8(emitter)	10m	Infrared	— —	— —	— —	M8 Pigtail	Fig.2
	OS12-ECN6-*-Q8(receiver)		— —	500μs	NPN	Light on/dark on	M8 Pigtail	Fig.5
	OS12-ECP6-*-Q8(receiver)		— —	500μs	PNP	Light on/dark on	M8 Pigtail	Fig.6
Reflector	OS12-RCN6	3m	Infrared	500μs	NPN	Light on/dark on	2m cable	Fig.3
	OS12-RCP6	3m	Infrared	500μs	PNP	Light on/dark on	2m cable	Fig.4
	OS12-RCN6-*-Q8	3m	Infrared	500μs	NPN	Light on/dark on	M8 Pigtail	Fig.5
	OS12-RCP6-*-Q8	3m	Infrared	500μs	PNP	Light on/dark on	M8 Pigtail	Fig.6
Diffused (20...400mm)	OS12-K400CN6	400m	Infrared	500μs	NPN	Light on/dark on	2m cable	Fig.3
	OS12-K400CP6	400m	Infrared	500μs	PNP	Light on/dark on	2m cable	Fig.4
	OS12-K400CN6-*-Q8	400m	Infrared	500μs	NPN	Light on/dark on	M8 Pigtail	Fig.5
	OS12-K400CP6-*-Q8	400m	Infrared	500μs	PNP	Light on/dark on	M8 Pigtail	Fig.6

* Cable length, m, eg. OS12-S6-0.1-Q8, pigtail cable length 0.1m.
* /R red beam, eg. OS12-S6/R

Technical Data:

Operating voltage	10...30VDC
Ripple voltage	±10% of UB
Light source	Infrared and red are optional
Output type	PNP / NPN
Output feature	Light on/dark on
No-load current	≤20mA
load current	≤100mA
Sensitivity	Adjustable
Spot diameter	1.2m (10m, opposed), 350mm (3m, retro-reflective), 10mm (800mm, diffused)
Orange LED	Switch
Housing	PMMA
Adjustment mode	Single-turn potentiometer
Connection	M8 Pigtail/2m cable
Ambient temperature	-25˚C...+55˚C
Storage temperature	-40˚C...+70˚C
Protection class	IP65
Switch mode	Light on: Setting connects U+
	Dark on: Setting connects U-

Wiring:

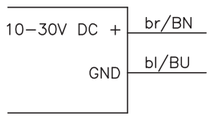


Fig.1

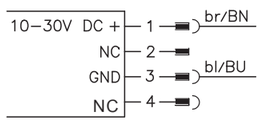


Fig.2

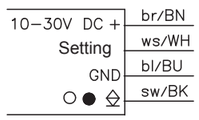


Fig.3

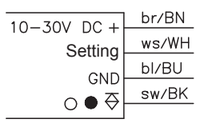


Fig.4

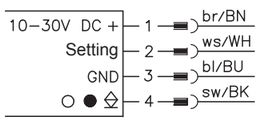


Fig.5

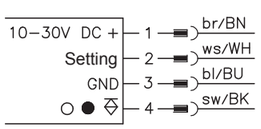
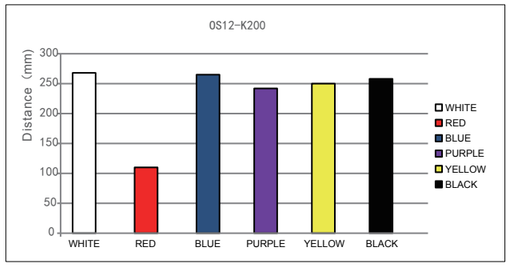


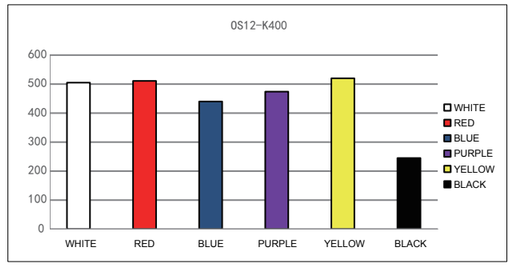
Fig.6

Functional characteristics:

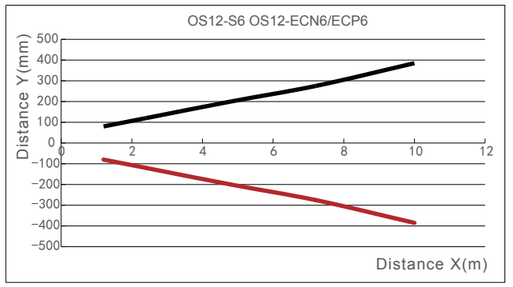
OS12-K200 diffused attenuation figure

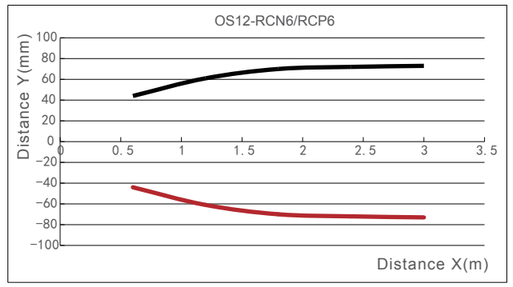


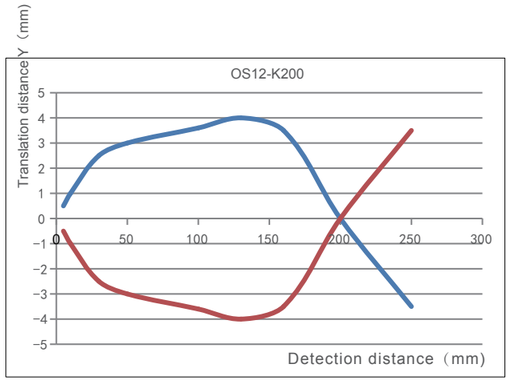
OS12-K400 diffused attenuation figure

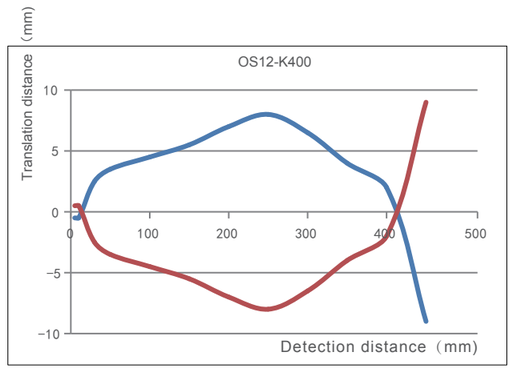


OS12 series characteristic curve



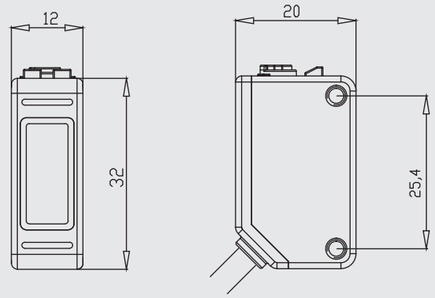




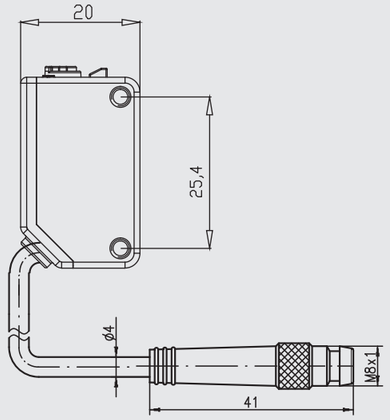


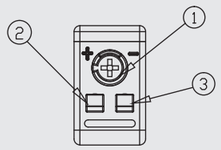
Dimensions:

Pre-wired cable



M8 connector





1	Detection distance adjusting knob
2	Power indicator
3	Switch action indicator

Description:

Cost-effective product, compact structure (20x32x12mm), 360° LED indicator, small size with reliable detection.

Features:

- Distance of 200mm, 300mm, 400mm available for diffused
- Anti-interference capability
- M8 Pigtail connection optional
- Infrared beam, */R optional for red beam
- Detection distance is not adjustable

Type (red light source):

Detection mode	Type	Distance	Light source	Frequency	Output	Switching mode	Connection	Wiring
Opposed	OS13-S6(emitter)	10m	Infrared	— —	— —	— —	2m cable	Fig.1
	OS13-ELN6(receiver)		— —	500μs	NPN	Light on	2m cable	Fig.2
	OS13-EDN6(receiver)		— —	500μs	NPN	Dark on	2m cable	Fig.3
	OS13-S6(emitter)	10m	Infrared	— —	— —	— —	2m cable	Fig.1
	OS13-ELP6(receiver)		— —	500μs	PNP	Light on	2m cable	Fig.4
	OS13-EDP6(receiver)		— —	500μs	PNP	Dark on	2m cable	Fig.5
Reflector	OS13-RLN6	3m	Infrared	500μs	NPN	Light on	2m cable	Fig.2
	OS13-RLP6	3m	Infrared	500μs	PNP	Light on	2m cable	Fig.4
	OS13-RDN6	3m	Infrared	500μs	NPN	Dark on	2m cable	Fig.3
	OS13-RDP6	3m	Infrared	500μs	PNP	Dark on	2m cable	Fig.5
Diffused (20...400mm)	OS13-K400LN6	400m	Infrared	500μs	NPN	Light on	2m cable	Fig.2
	OS13-K400LP6	400m	Infrared	500μs	PNP	Light on	2m cable	Fig.4
	OS13-K400DN6	400m	Infrared	500μs	NPN	Dark on	2m cable	Fig.3
	OS13-K400DP6	400m	Infrared	500μs	PNP	Dark on	2m cable	Fig.5

* /R red beam, eg. OS13-S6/R

Technical Data:

Operating voltage	10...30VDC
Ripple voltage	±10% of UB
Light source	Infrared and red are optional
Output type	PNP / NPN
Output feature	Light on/dark on
No-load current	≤20mA
load current	≤100mA
Spot diameter	1.2m (10m, opposed), 350mm (3m, retro-reflective), 10mm (800mm, diffused)
Orange LED	Switch
Housing	PMMA
Connection	0.1m M8 Pigtail/2m cable
Ambient temperature	-25˚C...+55˚C
Storage temperature	-40˚C...+70˚C
Protection class	IP65

Wiring:

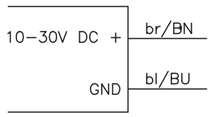


Fig.1

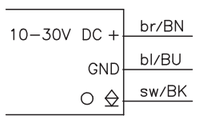


Fig.2

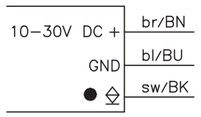


Fig.3

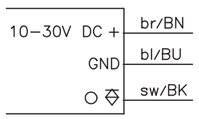


Fig.4

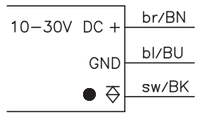
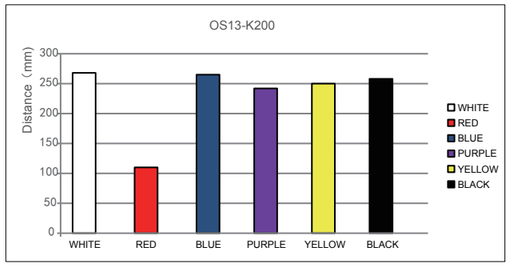


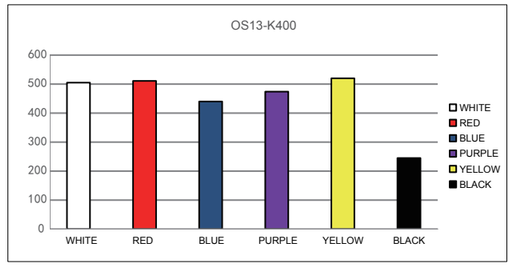
Fig.5

Functional characteristics:

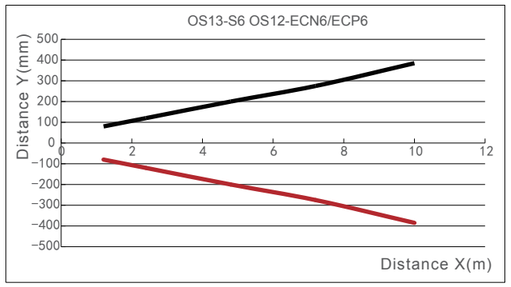
OS13-K200 diffused attenuation figure

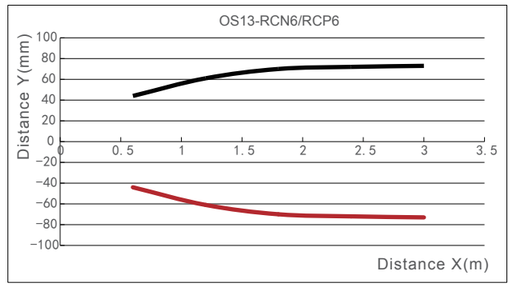


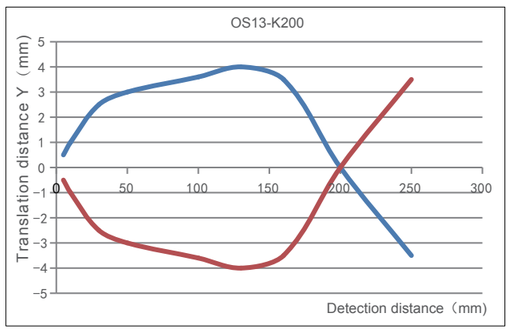
OS13-K400 diffused attenuation figure

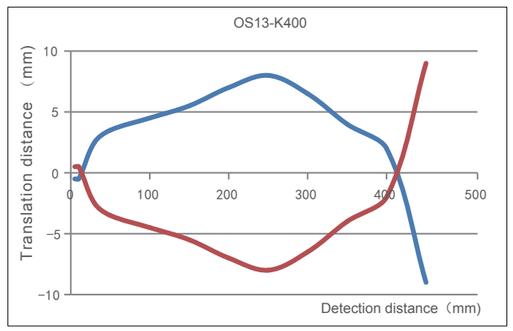


OS13 series characteristic curve



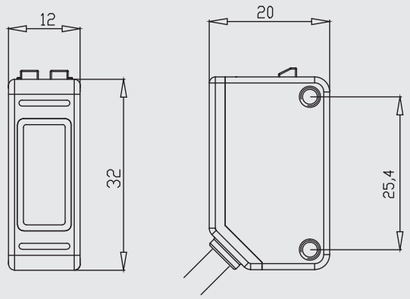




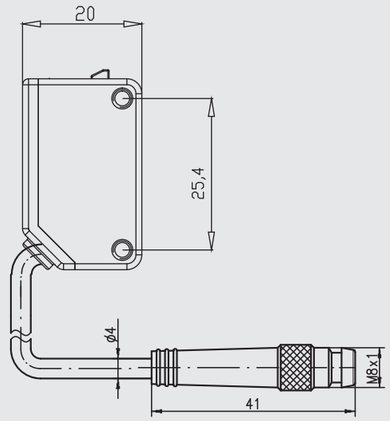


Dimensions:

Pre-wired cable



M8 Pigtail



1	Switch action indicator
2	Power indicator

ELCO INDUSTRIAL AUTOMATION

Description:

Rectangular 50*50mm; 40m sensing range for opposed mode; 10m sensing range for retro-reflective mode, 2.5m sensing range for diffused mode; Wide voltage power supply, relay output

Features:

- Multiple output modes
- Long sensing range
- Flexible mounting

Sensor function description:

40m opposed for ultra-long distance detection, suitable for stereo garages, warehouses, 24-240V AC and DC power supply, relay output, no need for a separate 24V switching power supply.

Using a red LED light source that facilitates optical axis alignment, a 10m retro-reflective detection distance and a wide lateral width rolling shutter door can also be installed.

Type:

Detection mode	Type	Distance	Light source	Frequency	Output	Switching mode	Connection	Wiring
Opposed	OS50-S6 (emitter)	40m	Infrared	— —	— —	— —	2m cable	Fig.1
	OS50-EVP6 (receiver)		— —	500Hz	PNP	NO+NC		Fig.3
	OS50-EVN6 (receiver)		— —		NPN			Fig.4
	OS50-S6Q (emitter)	40m	Infrared	— —	— —	— —	M12 connector	Fig.2
	OS50-EVP6Q (receiver)		— —	500Hz	PNP	NO+NC		Fig.5
	OS50-EVN6Q (receiver)		— —		NPN			Fig.6
	OS50-S5 (emitter)	40m	Infrared	— —	— —	— —	2m cable	Fig.11
	OS50-EVR5 (receiver)		— —	50Hz	Relay	NO+NC		Fig.12
	OS50-S206 (emitter)	20m	Red	— —	— —	— —	2m cable	Fig.1
	OS50-E20VP6 (receiver)		— —	500Hz	PNP	NO+NC		Fig.3
	OS50-E20VN6 (receiver)		— —		NPN			Fig.4
	OS50-S206Q (emitter)	20m	Red	— —	— —	— —	M12 connector	Fig.2
	OS50-E20VP6Q (receiver)		— —	500Hz	PNP	NO+NC		Fig.5
	OS50-E20VN6Q (receiver)		— —		NPN			Fig.6
	OS50-S205 (emitter)	20m	Red	— —	— —	— —	2m cable	Fig.11
	OS50-E20VR5 (receiver)		— —	50Hz	Relay	NO+NC		Fig.12
	OS50-SL6(emitter)	60m	Laser	— —	— —	— —	2m cable	Fig.1
	OS50-ELVP6 (receiver)		— —	500Hz	PNP	NO+NC		Fig.3
	OS50-ELVN6 (receiver)		— —		NPN			Fig.4
	OS50-SL6Q(emitter)	60m	Laser	— —	— —	— —	M12 connector	Fig.2
	OS50-ELVP6Q (receiver)		— —	500Hz	PNP	NO+NC		Fig.5
	OS50-ELVN6Q (receiver)		— —		NPN			Fig.6
	OS50-SL5(emitter)	60m	Laser	— —	— —	— —	2m cable	Fig.7
	OS50-ELVR5 (receiver)		— —	50Hz	Relay	NO+NC		Fig.8

The detection distance corresponds to the reflector RB50*50-1

Retro-reflective	OS50-RVP6	10m	Red	500Hz	PNP	NO+NC	2m cable	Fig.3
	OS50-RVN6				NPN			Fig.4
	OS50-RVP6Q	10m	Red	500Hz	PNP	NO+NC	M12 connector	Fig.5
	OS50-RVN6Q				NPN			Fig.6
	OS50-RVR5	10m	Red	50Hz	Relay	NO+NC	2m cable	Fig.12
Polarized retro-reflective	OS50-RPVP6	6m	Red	500Hz	PNP	NO+NC	2m cable	Fig.3
	OS50-RPVN6				NPN			Fig.4
	OS50-RPVP6Q	6m	Red	500Hz	PNP	NO+NC	M12 connector	Fig.5
	OS50-RPVN6Q				NPN			Fig.6
	OS50-RPVR5	6m	Red	50Hz	Relay	NO+NC	2m cable	Fig.12

Diffused	OS50-K1000VP6	1000mm	Red	500Hz	PNP	NO+NC	2m cable	Fig.7
	OS50-K1000VN6				NPN			Fig.8
	OS50-K1000VP6Q	1000mm	Red	500Hz	PNP	NO+NC	M12 connector	Fig.9
	OS50-K1000VN6Q				NPN			Fig.10
	OS50-K1000VR5	1000mm	Red	50Hz	Relay	NO+NC	2m cable	Fig.12
	OS50-K2500VP6	2500mm	Infrared	500Hz	PNP	NO+NC	2m cable	Fig.7
	OS50-K2500VN6				NPN			Fig.8
	OS50-K2500VP6Q	2500mm	Infrared	500Hz	PNP	NO+NC	M12 connector	Fig.9
	OS50-K2500VN6Q				NPN			Fig.10
	OS50-K2500VR5	2500mm	Infrared	50Hz	Relay	NO+NC	2m cable	Fig.12

Technical Data:

Operating voltage	10...30VDC(NPN、PNP) 24...240VAC/DC(relay type)
Response time	Max,2ms(NPN、PNP) Max,30ms(relay type)
Repeatability	≤3%
Load current	≤200mA(NPN、PNP) ≤3A（relay type）
Protection circuit	Electrical surge, reverse polarity protection, short circuit protection Electrical surge protection (relay type)
Distance adjustment	Adjustable, with single-turn knob
Output indicator	Yellow LED
Ambient temperature	-25...55℃
Ambient humility	35...85%RH
Voltage resistance	1000V/AC 50/60Hz 60s
Insulation impedence	≥50MΩ(500VDC)
Shock resistance	Complex amplitude 1.5mm 10... 50Hz (2hr X, Y,Z respectively)
Impact resistance	500m/S^2(50G) 3 times X,Y,Z respectively
Protection class	IP65
Housing material	PC＋ABS
Accessories	Mounting bracket (all types) EOS50-1, reflector RB50*50-1 (only for retro-reflective and polarized retro-reflective)

Wiring:

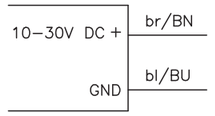


Fig.1

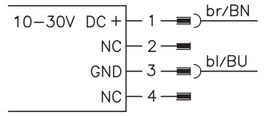


Fig.2

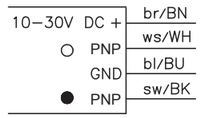


Fig.3

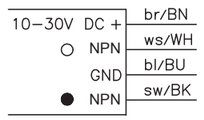


Fig.4

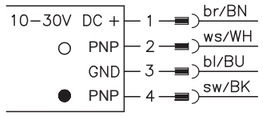


Fig.5

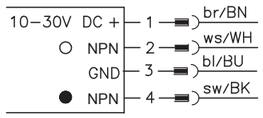


Fig.6

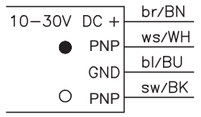


Fig.7

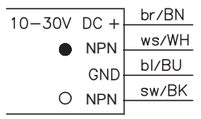


Fig.8

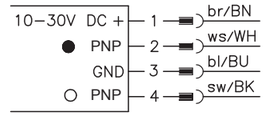


Fig.9

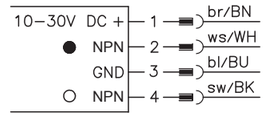


Fig.10

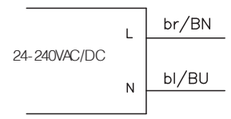


Fig.11

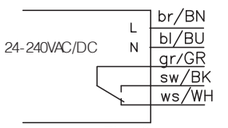
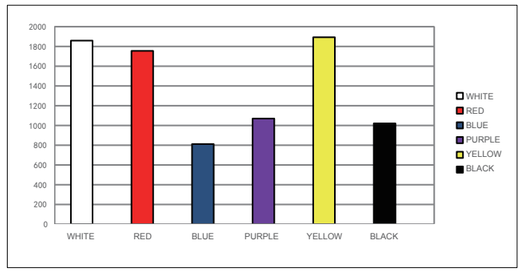


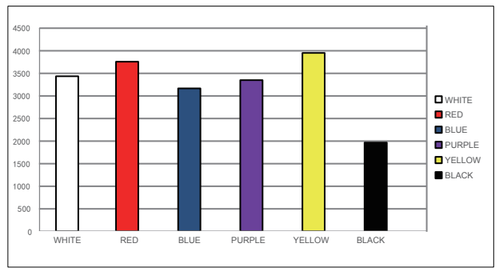
Fig.12

Functional characteristics:

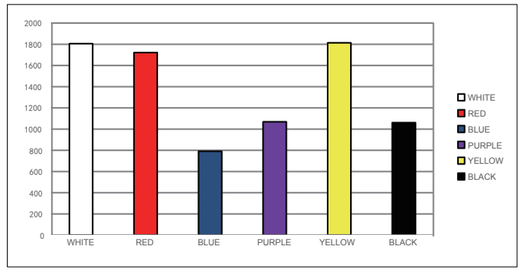
OS50-K1000VP6 diffused attenuation figure



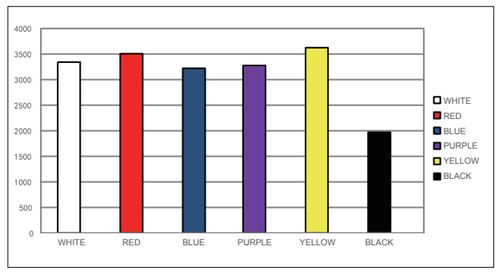
OS50-K2500VP6 diffused attenuation figure



OS50-K1000VR5 diffused attenuation figure

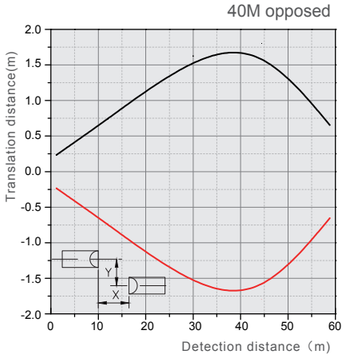


OS50-K2500VR5 diffused attenuation figure

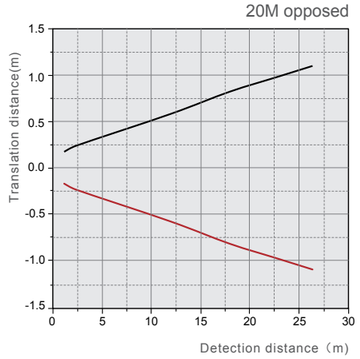


OS50 series translation characteristic curve

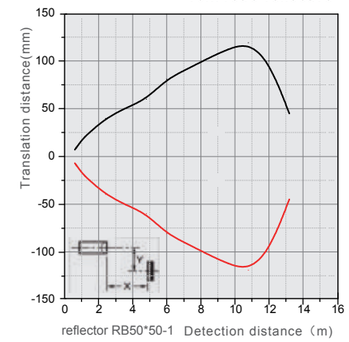
40M opposed



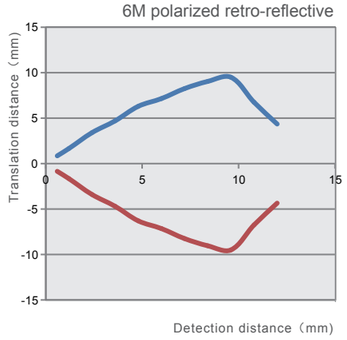
20M opposed



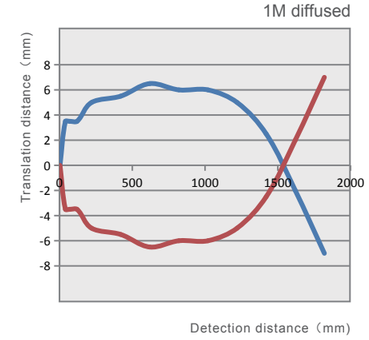
10M retro-reflective



6M polarized retro-reflective



1M diffused

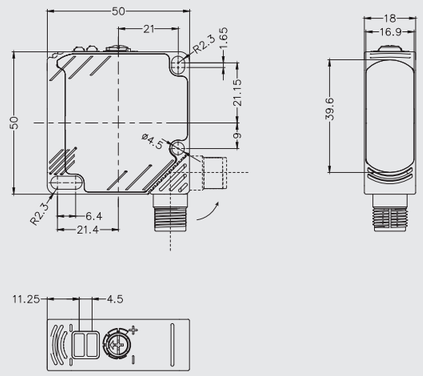


2.5M diffused

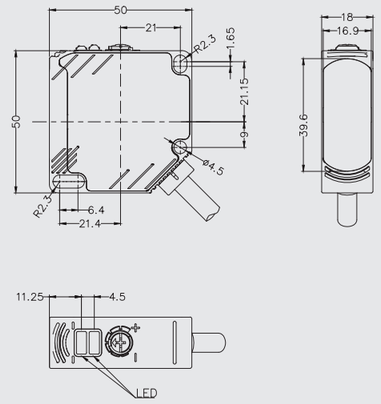
Detection object:
white painting paper (200*300mm)

Dimensions:

M12 connector

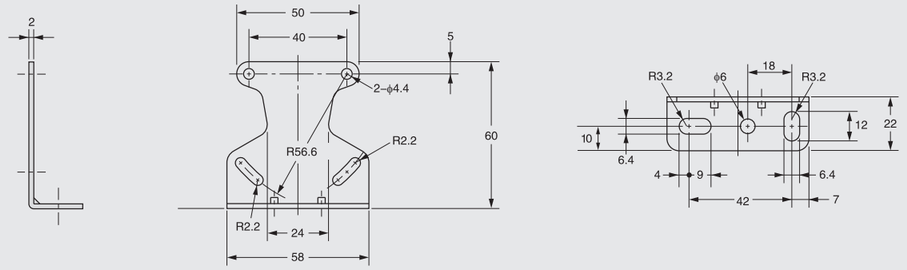


2m cable



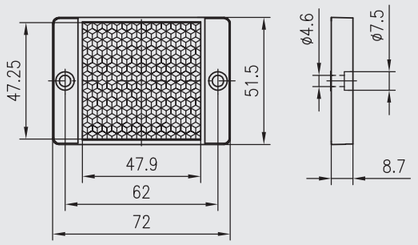
Mounting bracket (standard):

EOS50-1

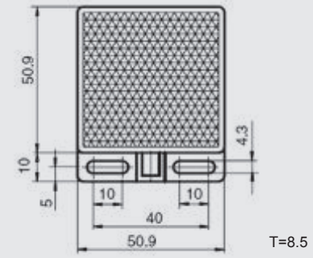


Reflector:

RB50x50-1 (standard)



RB50x50 (optional)



Photoelectric sensor - rectangular OSM70

Description:

Metal housing, 150m laser opposed, 30m laser retro-reflective, 25m laser polarized retro-reflective, 3m laser BGS diffuse, coaxial technology, no blind zone, precise positioning, wide voltage supply, relay output

Features:

- BGS function greatly improves the detection effect
- Long detection distance
- Adjust the sensitivity by knob
- IP67 protection class
- Push-pull / relay output

Type: (light source-laser)

Detection mode	Type	Distance	Light source	Frequency	Output	Switching mode	Connection	Wiring
Opposed	OSM70-SL6	150m	Laser	— —	— —	— —	2m cable	Fig.1
	OSM70-ELVB6		— —	1KHz	Push-Pull	Light on / dark on	2m cable	Fig.4
	OSM70-SL6Q	150m	Laser	— —	— —	— —	M12 4-pin connector	Fig.2
	OSM70-ELVB6Q		— —	1KHz	Push-Pull	Light on / dark on	M12 4-pin connector	Fig.4
	OSM70-SL5	150m	Laser	— —	— —	— —	2m cable	Fig.3
	OSM70-ELVR5		— —	50Hz	Relay	Light on / dark on	2m cable	Fig.5
Retro-reflective	OSM70-RLVB6	30m	Laser	1KHz	Push-Pull	Light on / dark on	2m cable	Fig.4
	OSM70-RLVB6Q	30m	Laser	1KHz	Push-Pull	Light on / dark on	M12 4-pin connector	Fig.4
	OSM70-RLVR5	30m	Laser	50Hz	Relay	Light on / dark on	2m cable	Fig.5
Polarized retro-reflective	OSM70-RPLVB6	25m	Laser	1KHz	Push-Pull	Light on / dark on	2m cable	Fig.4
	OSM70-RPLVB6Q	25m	Laser	1KHz	Push-Pull	Light on / dark on	M12 4-pin connector	Fig.4
	OSM70-RPLVR5	25m	Laser	50Hz	Relay	Light on / dark on	2m cable	Fig.5
BGS	OSM70-AKL3000VB6	3m	Laser	50Hz	Push-Pull	Light on / dark on	2m cable	Fig.4
	OSM70-AKL3000VB6Q	3m	Laser	50Hz	Push-Pull	Light on / dark on	M12 4-pin connector	Fig.4
	OSM70-AKL3000VR5	3m	Laser	50Hz	Relay	Light on / dark on	2m cable	Fig.5

Technical Data:

Operating voltage	10...30VDC (push-pull), 24...240VAC/DC (relay)
Ripple voltage	±10% of U_B
Switch output	Push-Pull
Output characteristics	Light on / dark on
Repeatability	≤3%
light source	650nm laser
Spot diameter	5mm (at 7m)
No-load current	≤30mA
Load current	≤450mA (push-pull), ≤3A (relay)
Protection circuit	Reverse polarity protection, short circuit protection, surge protection (relay)
LED	Power (green), switch (red)
Housing material	Die-cast aluminum
Connection	M12 connector / 2 meter cable
Operating temperature	-25°C…55°C
Storage temperature	-40°C…70°C
Ambient humidity	35…85%RH
Protection class	IP67
Dimensions	27×54×84mm

Wiring:

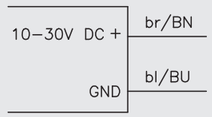


Fig.1

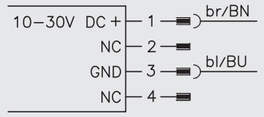


Fig.2

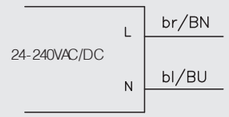


Fig.3

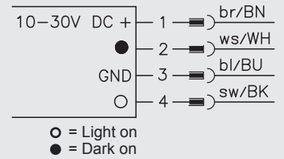


Fig.4

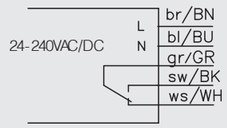
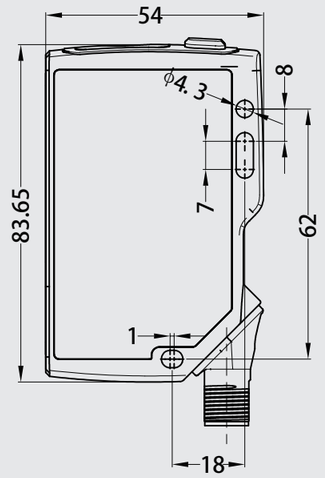


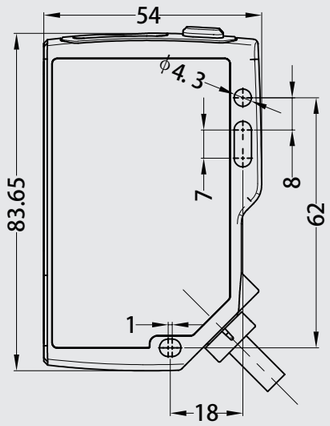
Fig.5

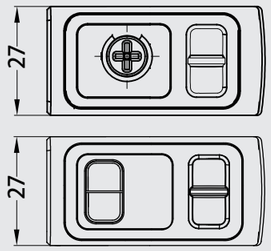
Dimensions:

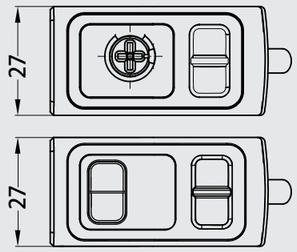
M12 connector



2 meter cable







Photoelectric sensor - OSM40

Description:

Laser displacement sensor
655nm laser source, metal housing
LED display and button settings, rich interface

Features:

- LED digital display + teaching function
- Strong resistance to ambient light, compact size
- Analog/switch dual output

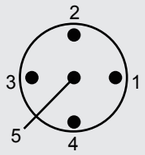
Type:

Type	Distance	Beam	Output	Resolution	Connection	Wiring
OSM40-KL50VNLIU6Q12.1	50±15mm	Red laser	NPN + analog	≤0.1mm	M12 connector	Fig.1
OSM40-KL50VPLIU6Q12.1	50±15mm	Red laser	PNP + analog	≤0.1mm	M12 connector	Fig.1
OSM40-KL400VNLIU6Q12.1	400±200mm	Red laser	NPN + analog	≤1mm	M12 connector	Fig.1
OSM40-KL400VPLIU6Q12.1	400±200mm	Red laser	PNP + analog	≤1mm	M12 connector	Fig.1

Technical Data:

Supply voltage	10-30VDC
Power	1.5W
Analog output	4...20mA，0...10V
Switch output	NPN/PNP
Light source	655nm laser source
Protection circuit	Short circuit protection
Response time	1.5ms / 5ms / 10ms switchable
Repeatability	1mm
Spot diameter	About φ1mm
Housing material	Die-cast zinc
Ambient temperature	-10℃-45℃
Ambient humidity	35-85%RH
Connection	M12 5-pin connector
Protection class	IP67
Dimensions	60.4*20*35.5mm

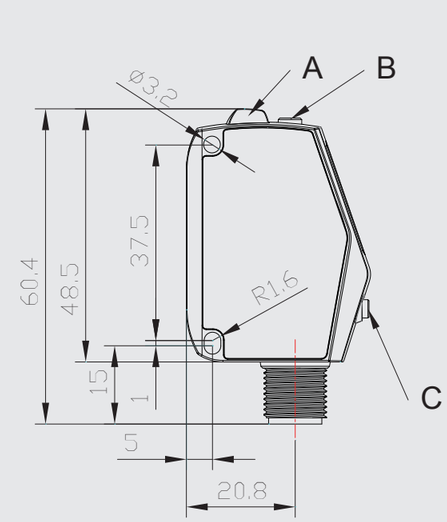
Interface output:

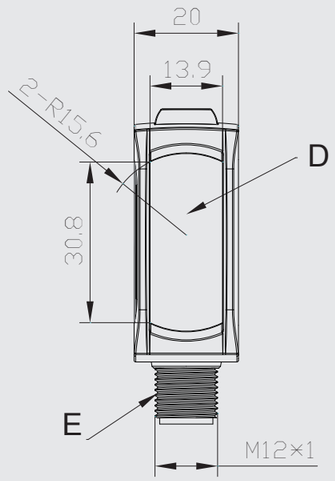


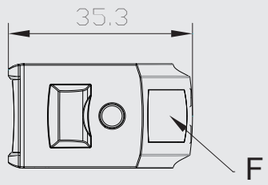
CO12.5-2/WS/P
2m cable connector
fig. 1

Serial number	Wire color	Function
1	brown	10...30VDC
2	white	N/A
3	blue	0V
4	black	PNP/NPN
5	green	Q_A ANALOG OUTPUT(I/U)

Dimensions:







A alarm indicator
B function setting button
C function adjustment button
D emitting & receiving
E M12*1 connector
F LED display

Description:

Laser ranging sensor
Laser source, metal housing
Can be displayed by LED and set by button
Multiple interfaces

Features:

- LED display + LED indicator
- Teach button setting
- Strong resistance to extreme light interference
- Compact size
- Analog, switch dual output

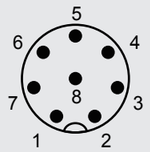
Type:

Type	Distance	Light source	Frequency	Output	Resolution	Connection	Wiring
OSM60-KL10V2BLIU6Q12.8/R	0.2-10m	Red laser	— —	2×Push-Pull Analog mA/V	5mm	M12 connector	Fig.1

Technical Data:

Operating voltage	10-30VDC
Power	＜1W
Analog output	Voltage 0-10V, current 4-20mA
Switch output	2xPush-pull
Resolution(mm)	5mm
Preheat time	30min
Measurement accuracy	±2cm
Response time	20ms
Repeatability	1cm
Green LED is bright	Ready
Yellow LED flashes	Object detection, teaching
Housing material	Stainless steel
Spot size/distance	About φ2cm/10m
Ambient temperature	-20℃...+50℃
Connection	M12 connector
Protection class	IP67
Dimensions	68.5x69.7x37mm

Interface output:

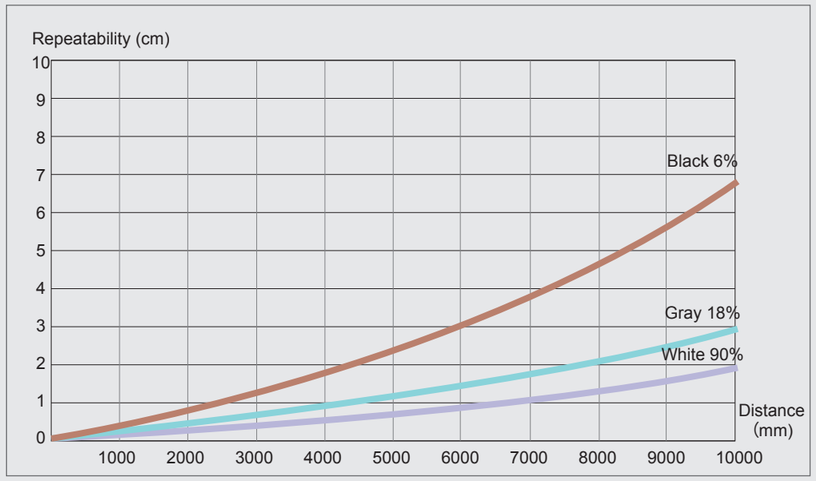


CO12.8-2/WS/P
2m connector
Fig. 1

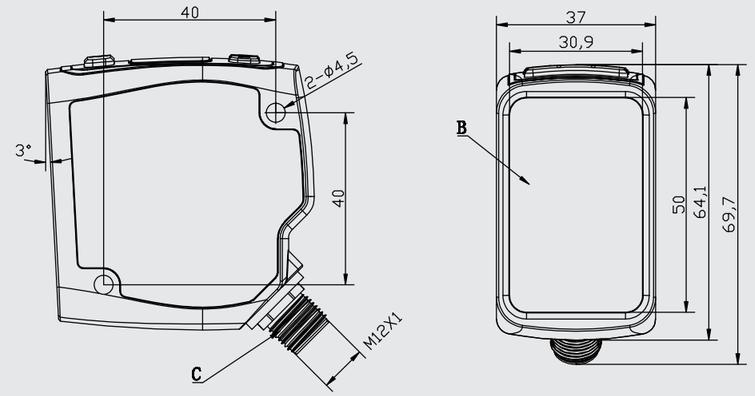
Serial number	Wire color	Function
1	white	N/A
2	brown	10...30VDC
3	green	Q_A ANALOG OUTPUT(I)
4	yellow	Q1
5	grey	Q2
6	pink	Q_V ANALOG OUTPUT(V)
7	blue	0V
8	red	TRIGGER

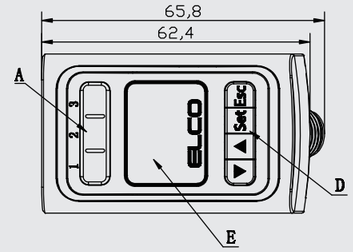
Repeatability:

Repeatability (cm)
[white 90%, gray 18%, black 6%]



Dimensions:

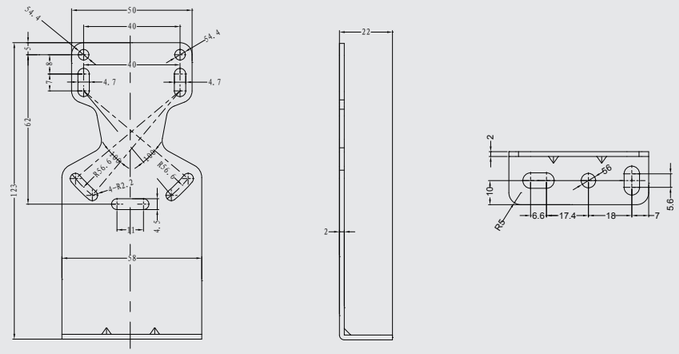




A 1 (green) 2 (yellow) 3 (yellow) indicator
B emitting & receiving
C M12*1 connector
D Button
E Display

Mounting bracket :

EOSM60-1



C B O 12. 4 -2 - C B 12. 4 / P

Product category
Type C

Shape
Blank: straight
B: angled

Gender
Blank: male
O: female

Size
M8*1
M12*1

Number of pin
3: 3-pin
4: 4-pin
5: 5-pin
8: 8-pin

Special function and cable material
Blank: PVC
P: PUR
S: Shielded
L: PNP LED indicator
LN: NPN LED indicator
NE: Intrinsically safe (blue jacket)
EWSR: Resistance to welding sparks
SSN: stainless steel nut
-BC: B-coding products*

Number of pin
3: 3-pin
4: 4-pin
5: 5-pin
8: 8-pin

Size
M8*1
M12*1

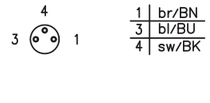
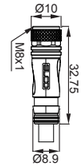
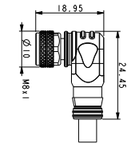
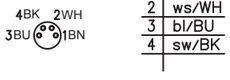
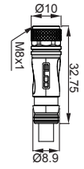
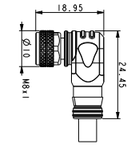
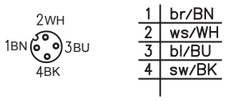
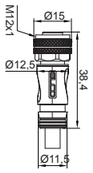
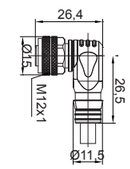
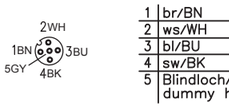
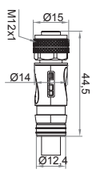
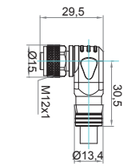
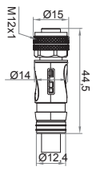
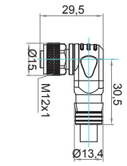
Shape
Blank: straight
B: angled

Product category
Type C

Specification
Blank: single-ended pre-wired

Cable length
Standard: 2 meters

Accessories - connector

Size and pin assignment	Adapter connector	
	Straight	Angled
M8  1 br/BN 3 bl/BU 4 sw/BK		
M8  1 br/BN 2 ws/WH 3 bl/BU 4 sw/BK		
M12  1 br/BN 2 ws/WH 3 bl/BU 4 sw/BK		
M12  1 br/BN 2 ws/WH 3 bl/BU 4 sw/BK 5 Blindloch/ dummy hole		
M12 1 ws/WH 2 br/BN 3 gn/GN 4 ge/YE 5 gr/GY 6 rs/PK 7 bl/BU 8 rt/RD		

Reflector:

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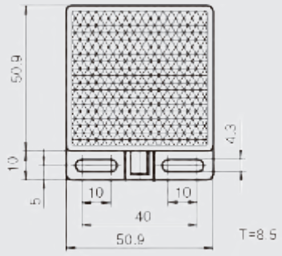

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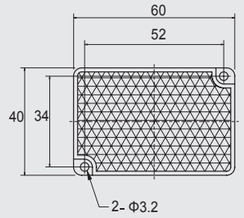
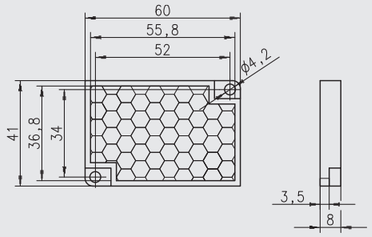
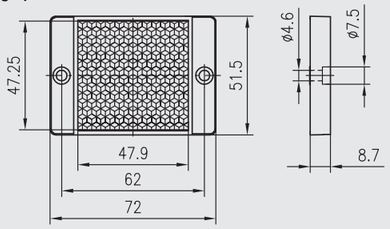


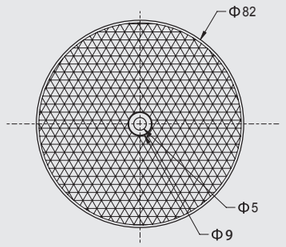
RB40x60-1



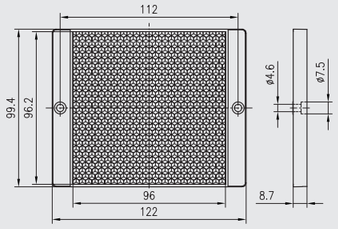
RB50x50-1



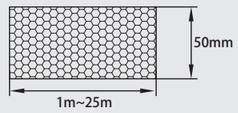
RB80



RB100x100

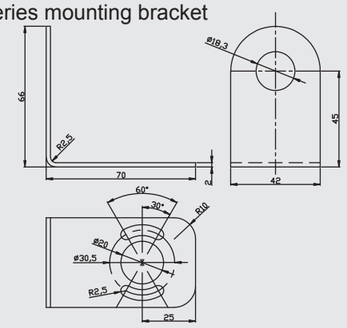


Reflective tape
RT50-1

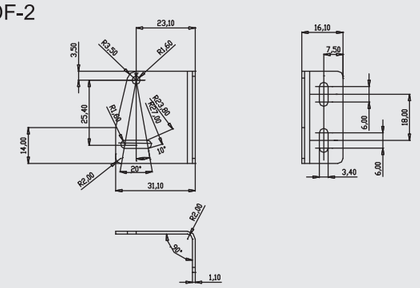


Mounting bracket:

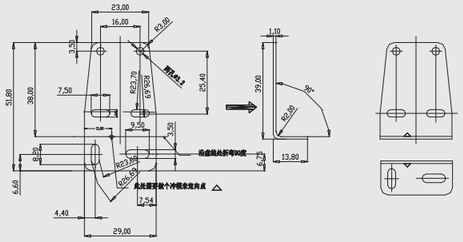
Barrel 18 series mounting bracket
EO18DF



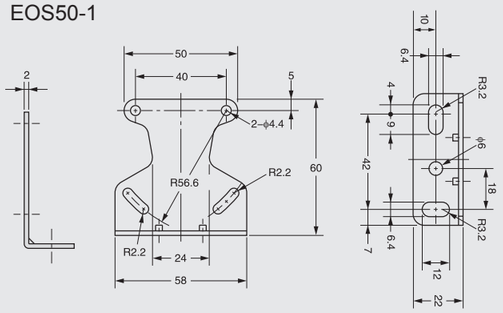
OS12 series mounting bracket
EOS12DF-2



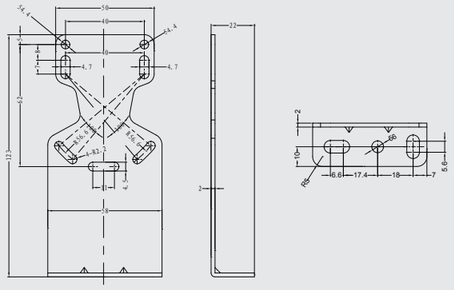
OS12 series mounting bracket
EOS12DF-1



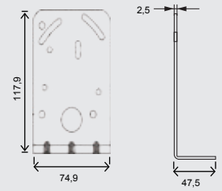
OS50 Series Mounting Bracket
EOS50-1



OSM60 & OSM70 series universal mounting bracket
EOSM60-1 / EOSM70-1



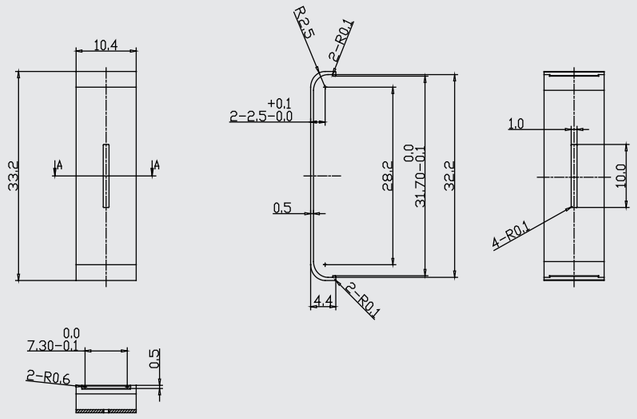
OSM72 mounting bracket
EOSM72-1



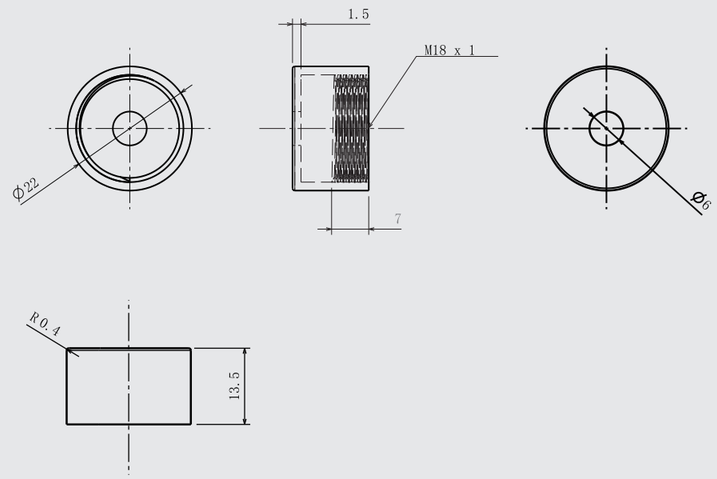
OSM72 mounting bracket (optional)
EOSM72-1

Slit:

OS12 series slit
SOS12-1



OM18\OP18\OG18 slit
SOM18-1



Encoder

Easydic Series Shaft Incremental Encoder EV28

Description

Small economical shaft encoder EV28 is widely used in light industries where space for sensor installation is a concern. The resolution is up to 600,and with its small size, light weight, and high precision,if fully meets the controlling requirements of the modern light industries. With the different shaft lengths available, the product can be use d in a wide variety of industrial environments. It's one of the most recommended choices when in consideration of performance and cost.

Features

- Flexible coupling connection avoids damage to the encoder
- Stainless steel shaft Φ4、Φ5 ensures high stability and protection
- Metal housing for better shock resistance
- Protection class IP50
- Reverse connection protection
- Short circuit protection
- Cable output, waterproof rubber end

Mechanical Characteristics

Shaft diameter（mm）	Φ4/Φ5g6
Protection acc. to EN 60529	IP50
Speed	6000, continuous
Max load capacity of the shaft	5Naxial，10Nradial
Shock resistance	30G/11ms
Vibration resistance	6G 10~2000HZ
Bearing life	10^9 revolution
Moment of inertia	approx.0.7×10^{-6} kgm^2
Starting torque	<0.01Nm
Body material	AL-alloy UNI9002-5
Housing material	AL-alloy UNI9002-5
Operating temperature	-20~+80°C
Storage temperature	-30~+85°C
Weight	100g

Resolution:
50,100,200,300,360,500,600

Electrical Characteristics

Output circuit	Push-pull	RS422	RS422
Resolution	Max. 600ppr	Max. 600ppr	Max. 600ppr
Supply voltage(VDC)	10-30V/5-30V	5V	10-30V
Power consumption (no load)	≤125mA	≤80mA	≤80mA
Permissible load (channel)	±80mA	±50mA	±50mA
Pulse frequency	Max. 300kHz	Max. 300kHz	Max. 300kHz
Signal level high	Min.Ub-1.5V	Min.3.4V	Min.3.4V
Signal level low	Max.0.8V	Max.0.4V	Max.0.4V
Rise time Tr	Max 1μs	Max 200ns	Max 200ns
Fall time Tr	Max 1μs	Max 200ns	Max 200ns

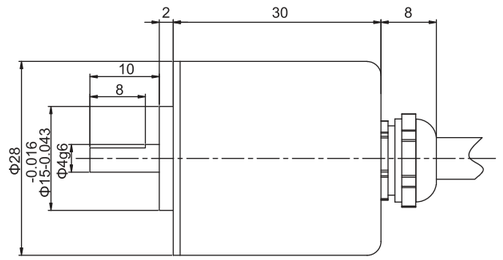
Terminal Assignment

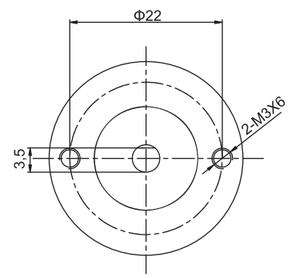
Signal	0V	$+U_b$	A	$\bar{A}$	B	$\bar{B}$	Z	$\bar{Z}$	Shield
Color	WH	BN	GN	YE	GY	PK	BU	RD	⏚

Easydic Series Shaft Incremental Encoder EV28

Dimensions

EV28





Easydic Series Shaft Incremental Encoder EV28

Order Code

EV 28 A 4 – L5 P A – 500 . XXXX

- **EV** — Series: EV= Topydic incremental
- **28** — Housing diameter: 28=housing diameter
- **A** — Shaft diameter: A=Φ 15 mm clamping flange
- **4** — Shaft diameter: 4=Φ 4 mm; 5=Φ 5 mm
- **L5** — Encoder Output & Power Supply [1)]:
  - L5=RS422 5Vdc
  - L6=RS422 10~30Vdc
  - H6=Push-pull HTL（with reverse sign） 10~30Vdc
  - P6=Push-pull HTL（without reverse sign） 10~30Vdc

  Please refer to output circuit structure and wiring for output configuration
- **P** — Standard cable length: P= 0.5m
- **A** — Outlets direction: A=axial
- **500** — Resolution: Pulse/r ≤600. Note: for available pulse options please contact the company for further information
- **XXXX** — XXXX=Special code. Customized cable length CN00XX=cable length. e.g. CN0010=1m, CN0015=1.5m, CN0020=2m

1)When UB=5V,short-circuit to channel, 0V,or+UB is permitted;
When UB is greater than 5V, short-circuit to channel or 0V is permitted

Topydic Small Shaft Incremental Encoder EV40A

Descriptions

Topydic series small shaft incremental encoder-EV40A delivers oustanding performance in mechanical shock-resistance and is capable of withstanding higher axial and radial loads so as to meet variousindustrial environments. Its special position of cabling fits to the limited installation sapce. Combining advanced signal processing technology with multiple types of electrical output, EV40A are capable of matching various upper control computers.

Features

- Stainless steel shaft ensures safety and stability in operation
- Optional types of flange connection offers more flexibility
- Metal casting housing for greater shock resistance
- Side cabling design greatly saves the installation space and simplifies wiring
- Rerverse connection protection; short circuit protection

Mechanical Characteristics

Shaft diameter (mm)	Φ6g6
Protection grade	IP66 standard, IP67 optional
Max. speed/minute	6000
Max. load capacity of the shaft	60N axial
	100N radial
Shock resistance	50G/11ms
Vibration resistance	10G 10~2000HZ
Bearing life	10^9 revolution
Moment of inertia	1.9×10^{-6} kgm^2
Starting torque	<0.08Nm
Body material	Al-alloy
Housing material	Zn-alloy
Operating temperature	-20~+85°C
Storage temperature	-25~+100°C
Weight	110g

Regular resolution: **10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 200, 300, 360, 400, 500, 512, 600, 800, 1000, 1024,** 2000, 4000, 2500, 5000, 2048

Note: Bold part is normally in stock. Other resolution are available only upon request.

Electrical Characteristics

Output circuit	RS422	Push-pull
Resolution	Max.5000ppr	Max.5000ppr
Supply voltage(VDC)	5±0.25 or 10-30	10-30
Power consumption(no load)	≤80mA	≤125mA
Permissible load(channel)	±50mA	±80mA
Pulse frequency	Max.800kHz	Max. 800kHz
Signal level high	Min. 3.4V	Min.Ub-1.8
Signal level low	Max. 0.4V	Max. 2.0V
Rise time Tr	Max. 200ns	Max 1μs
Fall time Tf	Max. 200ns	Max 1μs

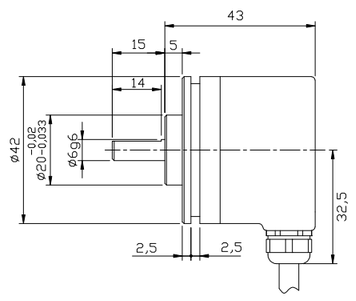
Topydic Small Shaft Incremental Encoder EV40A

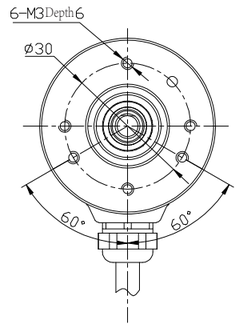
Terminal Configuration

Signal	0V	$+U_b$	A	$\bar{A}$	B	$\bar{B}$	Z	$\bar{Z}$	0V Sen	$+U_b$ Sen	Shield
Color	WH	BN	GN	YE	GY	PK	BU	RD	GY/PK	RD/BU	⏚
Pin	10	12	5	6	8	1	3	4	11	2	PH

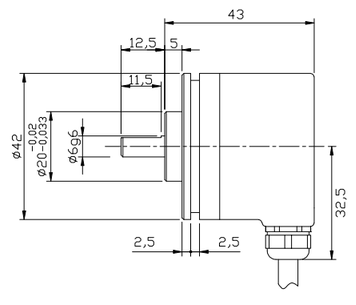
Dimensions

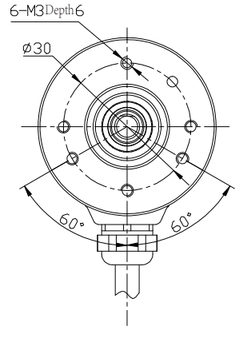
EV40A





EV40B

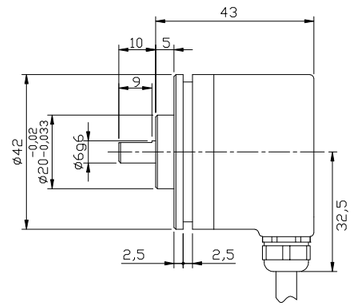


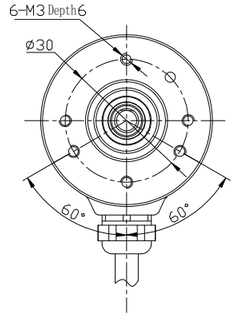


Topydic Small Shaft Incremental Encoder EV40A

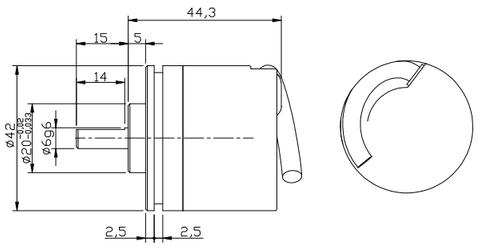
Dimensions

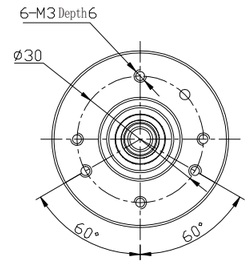
EV40C





EV40A side pre-wired cable





Topydic Small Shaft Incremental Encoder EV40A

Order Code:

EV 40 B 6 – L5 P R – 1024 TP . XXXX

- **6** — Shaft diameter
  - 6= Φ6mm
- **B** — Flange type
  - A=Φ20 clamping flange with synchro flange ditch, axis length 15mm
  - B=Φ20 clamping flange with synchro flange ditch, axis length 12.5mm
  - C=Φ20 clamping flange with synchro flange ditch, axis length 10mm
- **40** — Housing diameter
  - 40=housing diameter
- **EV** — Series
  - EV= Topydic incremental
- **L5** — Output & Supply voltage [1)]

L5=RS422 (with reverse signal)	5Vdc
L6=RS422 (with reverse signal)	10~30Vdc
H6=Push-pull HTL (with reverse signal)	10~30Vdc
P6=Push-pull (without reverse signal)	10~30Vdc

- **P** — Standard cable length
  - P=0.5m
- **R** — Outlets direction
  - R=radial
- **1024** — Resolution
  - Pulse/r: ≤5000
  - Note: for other available pulse options please contact us for further information
- **TP** — Side output cable length
  - TP=0.5m
  - Note:If blank here, it means P=0.5m
- **XXXX** — XXXX=Special code
  - Customized cable length
  - CN00XX=cable length
  - e.g. CN0010=1m
    CN0015=1.5m
    CN0020=2m

[1)] When the voltage supply within the limited range and only one signal channel is connected improperly at certain moment:
if UB=5V, it's pXremitted to connect to signal channals, 0V or UB;
if UB>5V, it's premitted to connect to signal channals or 0V.

Topydic Small Hollow Shaft Incremental Encoder EV40P

Descriptions

Topydic series small shaft incremental encoder-EV40P delivers oustanding performance in mechanical shock-resistance and is capable of withstanding higher axial and radial loads so as to meet variousindustrial environments. Its special position of cabling fits to the limited installation sapce. Combining advanced signal processing technology with multiple types of electrical output, EV40P are capable of matching various upper control computers.

Features

- Stainless steel shaft ensures safety and stability in operation
- Optional types of flange connection offers more flexibility
- Metal casting housing for greater shock resistance
- Side cabling design greatly saves the installation space and simplifies wiring
- Rerverse connection protection; short circuit protection

Mechanical Characteristics

Shaft diameter (mm)	Φ6H7/Φ8H7
Protection grade	IP66 standard, IP67 optional
Max. speed/minute	6000
Max. load capacity of the shaft	60N axial
	100N radial
Shock resistance	50G/11ms
Vibration resistance	10G 10~2000HZ
Bearing life	10^9 revolution
Moment of inertia	1.9×10^{-6} kgm^2
Starting torque	<0.08Nm
Body material	Al-alloy
Housing material	Zn-alloy
Operating temperature	-20~+85°C
Storage temperature	-25~+100°C
Weight	110g

Regular resolution: **10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 200, 300, 360, 400, 500, 512, 600, 800, 1000, 1024, 1200, 1250,** 2000, **2500,** 4000, 5000

Note: Bold part is normally in stock. Other resolution are available only upon request.

Electrical Characteristics

Output circuit	RS422	Push-pull
Resolution	Max.5000ppr	Max.5000ppr
Supply voltage(VDC)	5±0.25 or 10-30	10-30
Power consumption(no load)	≤80mA	≤125mA
Permissible load(channel)	±50mA	±80mA
Pulse frequency	Max.800kHz	Max. 800kHz
Signal level high	Min. 3.4V	Min.Ub-1.8
Signal level low	Max. 0.4V	Max. 2.0V
Rise time Tr	Max. 200ns	Max.1μs
Fall time Tf	Max. 200ns	Max.1μs

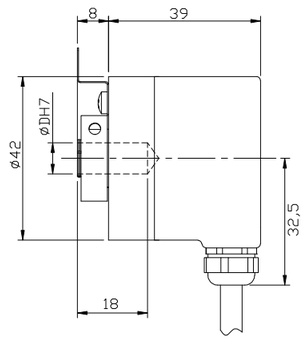
Topydic Small Hollow Shaft Incremental Encoder EV40P

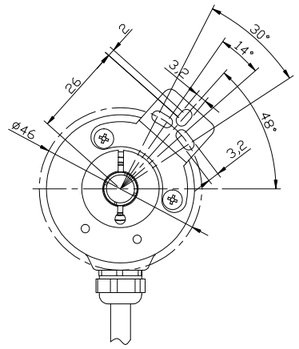
Terminal Configuration

Signal	0V	$+U_b$	A	$\bar{A}$	B	$\bar{B}$	Z	$\bar{Z}$	0V Sen	$+U_b$ Sen	Shield
Color	WH	BN	GN	YE	GY	PK	BU	RD	GY/PK	RD/BU	⏚
Pin	10	12	5	6	8	1	3	4	11	2	PH

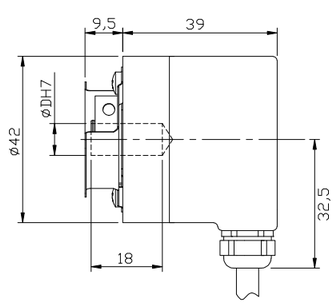
Dimensions

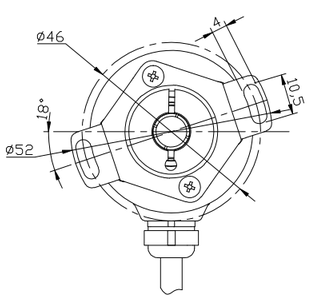
EV40P





EV40W

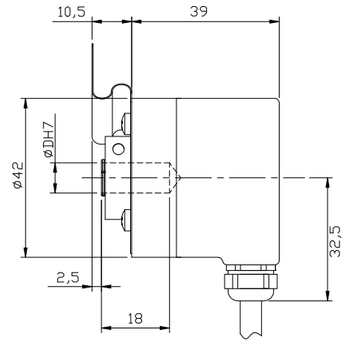


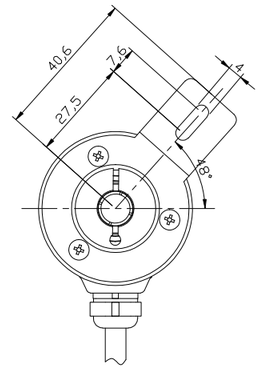


Topydic Small Hollow Shaft Incremental Encoder EV40P

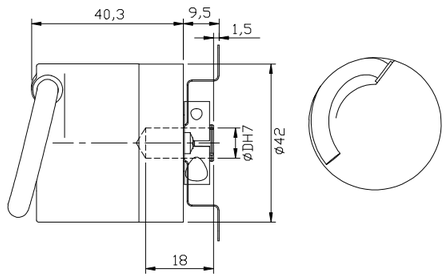
Dimensions

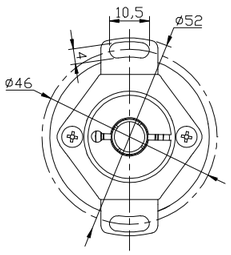
EV40H





EV40W side pre-wired cable





Topydic Small Hollow Shaft Incremental Encoder EV40P

Order Code:

EV 40 P 6 – L5 P R – 1024 TP . XXXX

- **EV** — Series: EV =Topydic incremental
- **40** — Housing diameter: 40=housing diameter
- **P** — Flange type: P=with single-wing fixing plate; W=with double-wing fixing plate; H=long fastening arm
- **6** — Shaft diameter: 6= Φ6mm; 8= Φ8mm
- **L5** — Output & Supply voltage [1)]:
  - L5=RS422 (with reverse signal) 5Vdc
  - L6=RS422 (with reverse signal) 10~30Vdc
  - H6=Push-pull HTL (with reverse signal) 10~30Vdc
  - P6=Push-pull (without reverse signal) 10~30Vdc
- **P** — Standard cable length: P=0.5m
- **R** — Outlets direction: R=radial
- **1024** — Resolution: Pulse/r: ≤5000. Note: for other available pulse options please contact us for further information
- **TP** — Side output cable length: TP=0.5m. Note:If blank here,it means P=0.5m
- **XXXX** — XXXX=Special code. Customized cable length CN00XX=cable length, e.g. CN0010=1m, CN0015=1.5m, CN0020=2m

[1)] When the voltage supply within the limited range and only one signal channel is connected improperly at certain moment: if UB=5V, it's pXremitted to connect to signal channals, 0V or UB; if UB＞5V, it's premitted to connect to signal channals or 0V.

Topydic Series Shaft Incremental EV50A

Descriptions

Topydic series shaft incremental encoder EV50A, with double-bearing and casting housing, owns exclient performance to resist mechanical shocks and can be used in various industrial environments; being compatible with standard flange types-50mm and 58mm, it can meet different application requirements;its wide voltage range, reverse connection and short circuit protection can effectively prevent the impact to the encoder due to mis-wiring.

Features

- Resolution up to 5000ppr; pulse frequency up to 300kHz
- Hollow shaft diameter, Φ6~Φ12mm
- Be compatible with standard flange types-50mm and 58mm
- Φ50mm metal casting housing for limited installation space
- Operating temperature, -40~+85℃; IP67 protection grade for outdoors application
- Multi signal output interfaces to meet different types of data aquisition of upper computer
- Optional output types-with cable, M12 connector and M23 connector
- Reverse connection and short circuit protection to ensure the safety [1)]

Mechanical Characteristics

Shaft diameter	Φ6/Φ8/Φ10/Φ12/Φ1/4"/Φ3/8"
Protection Grade	IP65 (without oil seal)
	IP67 (with oil seal)
Speed	12000 rpm (without oil seal)
	6000 rpm (with oil seal)
Max. load capacity of the shaft	40N axial
	80N radial
Shock resistance	50G/11ms
Vibration resistance	10G 10～2000HZ
Bearing life	10^9 revolution
Moment of inertia	$1.9 \chi 10^{-6}$ kgm²
Starting torque	<0.01Nm (IP65)
	<0.05Nm (IP67)
Body material	Al-alloy
Housing material	Al-alloy
Operating temperature	-40～+85°C
Storage temperature	-45～+90°C
	approx. 400g
Weight	

Resolution: 100, 200, 300, 360, 400, 500, 512, 600, 800, 1000, 1024, 1200, 1250, 2000, 2048, 2500, 3600, 4096, 5000
Attention: the products with above resolutions are standing inventory; others on request.

Electrical Characteristics

Output circuit	RS422	Push-pull
Supply voltage (VDC)	5±0.25 or 10~30	10~30
Power consumption (no load)	typ. 40mA	typ. 50mA
	max. 90mA	max. 100mA
Permissible load (channel)	max. ±20mA	max. ±30mA
Pulse frequency	max. 300kHz	max. 300kHz
Signal level high	min. 2.5V	min. Ub-1V
Signal level low	max. 0.5V	max. 0.5V
Rise time Tr	max. 200ns	max. 1μs
Fall time Tf	max. 200ns	max. 1μs

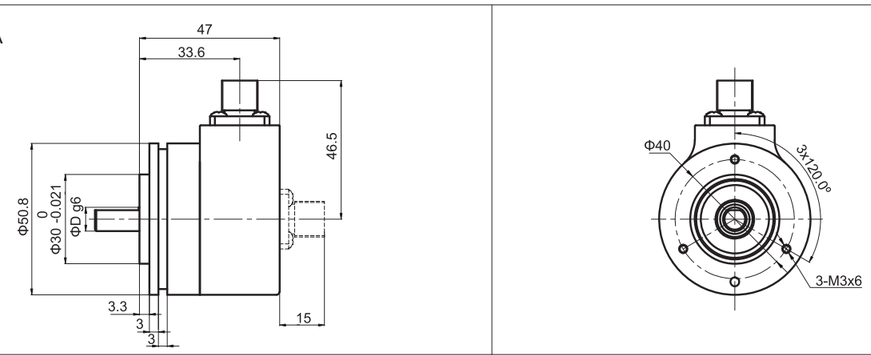
Terminal Configuration

Signal	0V	$+U_b$	A	$\bar{A}$	B	$\bar{B}$	Z	$\bar{Z}$	0V Sen	$+U_b$ Sen	Shield
Color Code	WH	BN	GN	YE	GY	PK	BU	RD	GY/PK	RD/BU	⏚
Pin (12-pin)	10	12	5	6	8	1	3	4	11	2	PH
Pin (5-pin)	1	2	3	-	4	-	5	-			PH
Pin (8-pin)	1	2	3	4	5	6	7	8			PH

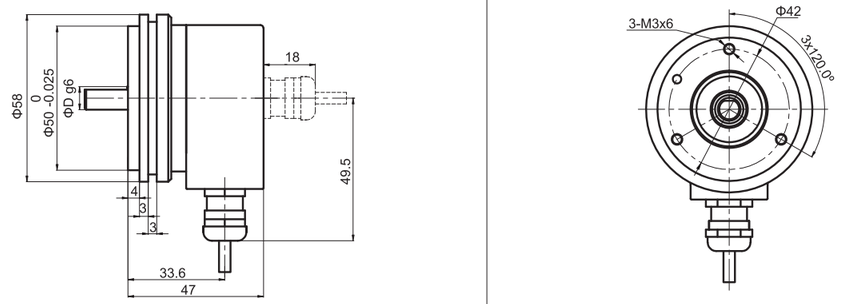
Topydic Series Shaft Incremental EV50A

Dimensions (mm)

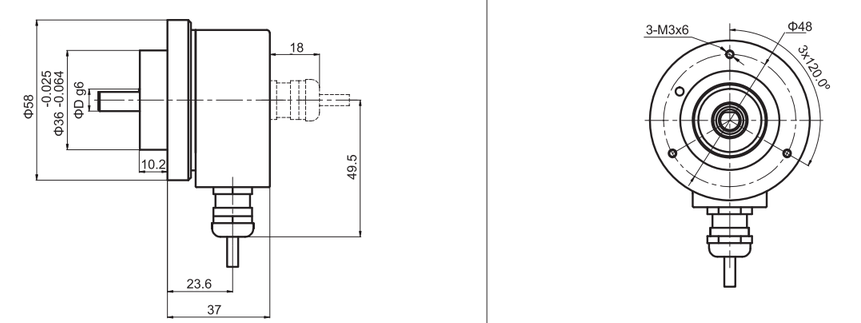
EV50A



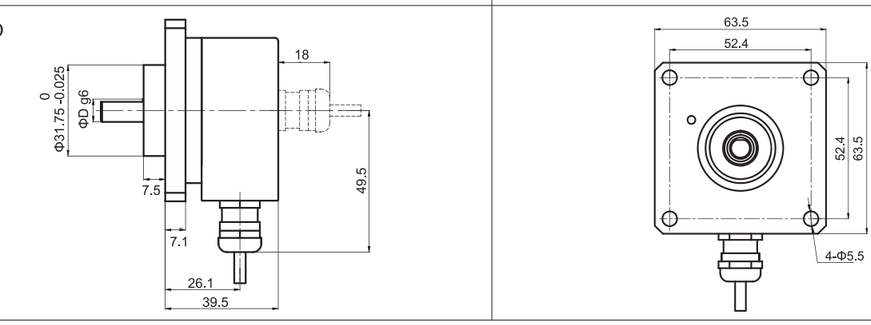
EV50B



EV50C



EV50D



Topydic Series Shaft Incremental EV50A

Order Code:

EV 50 B 6 – L5 P R – 1024 XX . XXXX

Shaft diameter
6= Φ6mm x 10mm
7= Φ1/4" x 5/8"
8= Φ8mm x 15mm
9= Φ3/8" x 5/8"
10= Φ10mm x 20mm
12= Φ12mm x 20mm
(8R,9R,10R,12R=IP67)

Flange type
A=Φ50.8 synchro flange
B=Φ58 synchro flange
C=Φ58 clamping flange
D=Φ63.5 square flange

Housing diameter
50=Housing diameter

Series
EV=Topydic incremental

Output & Supply voltage[1)]

L5=RS422 (with reverse signal)	5Vdc
L6=RS422 (with reverse signal)	10~30Vdc
H6= Push-pull HTL (with reverse signal)	10~30Vdc
P6= Push-pull HTL (without reverse signal)	10~30Vdc

Standard cable length
P=1.5m

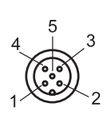
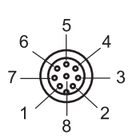
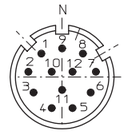
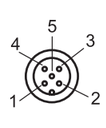
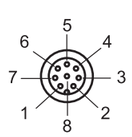
Outlets direction
R= radial
A=axial

Resolution
Pulse/r: 1-5000

Optional functions
M5=M12, 5-pin plug without connector
M8=M12, 8-pin plug without connector
T=M23, 12-pin plug without connector
(for other cable length, it's on requested)

XXXX= Special code
Customized cable length
CN00XX=cable length
e.g. CN0010=1m
CN0020=2m

Top view of pin plug:

Connector Type	5-pin M12 Connector	8-pin M12 Connector	12-pin M23 Connector	5-pin M12 Connector	8-pin M12 Connector
Pin plug					
Matched connector	M125PSF-0020-W 5-core pre-molded connector with 2m PUR cable	M128PSF-0020-W 5-core pre-molded connector with 2m PUR cable	TMSP1612F Field attachable connector	TMSP125PF Field attachable connector	TMSP128PF Field attachable connector

Topydic Series Shaft Incremental EV50P

Descriptions

Topydic series shaft incremental encoder EV50P, with double-bearing and casting housing, owns exclient performance to resist mechanical shocks and can be used in various industrial environments; stainless steel through-hole, diameter of which up to 15mm; its wide voltage range, reverse connection and short circuit protection can effectively prevent the impact to the encoder due to mis-wiring.

Features

- Resolution up to 5000ppr; pulse frequency up to 300kHz
- Wide range of shaft diameter, Φ6~Φ15mm
- Hollow shaft installation, robust metal casting housing
- Operating temperature, -40~+85℃; IP67 protection grade for outdoors application
- Housing thickness up to 46.3mm for limited installation space
- Multi signal output interfaces to meet different types of data aquisition of upper computer
- Optional output types-with cable, M12 connector and M23 connector
- Reverse connection and short circuit protection to ensure the safety

Mechanical Characteristics

Shaft diameter (mm)	Φ6/Φ8/Φ10/Φ12/Φ14/Φ15/Φ1/4"/Φ3/8"/Φ1/2"/Φ5/8"
Protection grade	IP65 (without oil seal)
	IP67 (with oil seal)
Speed	12000 (without oil seal)
	6000 (with oil seal)
Max. load capacity of the shaft	40N axial
	80N radial
Shock resistance	50G/11ms
Vibration resistance	10G 10～2000HZ
Bearing life	10^9 revolution
Moment of inertia	$6x10^{-6}kgm^2$
Starting torque	<0.03Nm (IP65)
	<0.08Nm (IP67)
Body material	Al-alloy
Housing material	Al-alloy
Operating temperature	-40～+85°C
Storage temperature	-45～+90°C
Weight	Approx. 400g

Regular resolution: 100，200，300，360，400，500，512，600，800，1000，1024，1200，1250，2000，2048，2500，3600，4096，5000

Note: other resolutions on request

Electrical Characteristics

Output circuit	RS422	Push-pull
Supply voltage(VDC)	5±0.25 or 10~30	10~30
Power consumption(no load)	typ. 40mA	typ. 50mA
	max. 90mA	max. 100mA
Permissible load(channel)	max. ±20mA	max. ±30mA
Pulse frequency	max. 300kHz	max. 300kHz
Signal level high	min. 2.5V	min. Ub-1V
Signal level low	max. 0.5V	max. 0.5V
Rise time Tr	max. 200ns	max. 1μs
Fall time Tf	max. 200ns	max. 1μs

1) When the voltage supply within the limited range and only one signal channel is connected improperly at certain moment: if U_B=5V, it's premitted to connect to signal channals, 0V or UB; if U_B>5V, it's premitted to connect to signal channals or 0V.

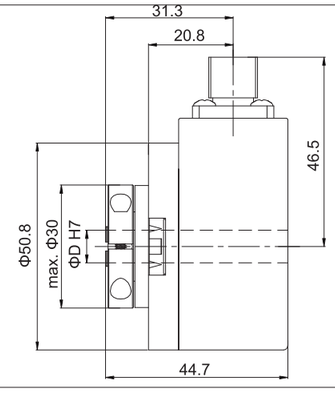
Topydic Series Shaft Incremental EV50P

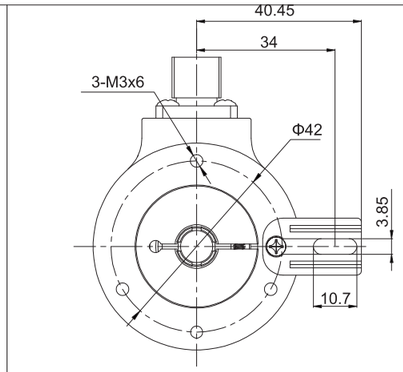
Terminal Configuration

Signal	0V	$+U_b$	A	$\bar{A}$	B	$\bar{B}$	Z	$\bar{Z}$	0V Sen	$+U_b$ Sen	Shield
Color	WH	BN	GN	YE	GY	PK	BU	RD	GY/PK	RD/BU	⏚
Pin(12-pin)	10	12	5	6	8	1	3	4	11	2	PH
Pin(5-pin)	1	2	3	-	4	-	5	-			PH
Pin(8-pin)	1	2	3	4	5	6	7	8			PH

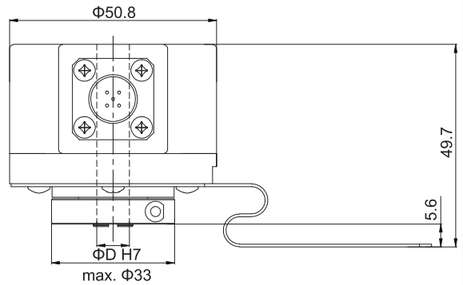
Dimensions

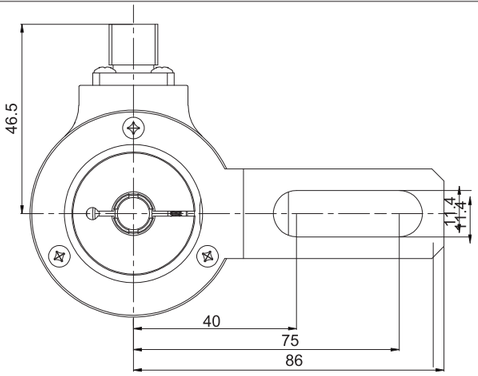
EV50K



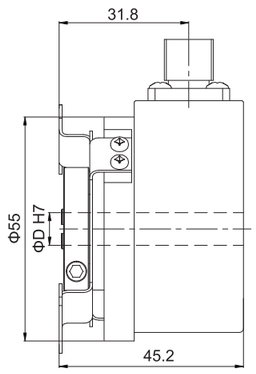


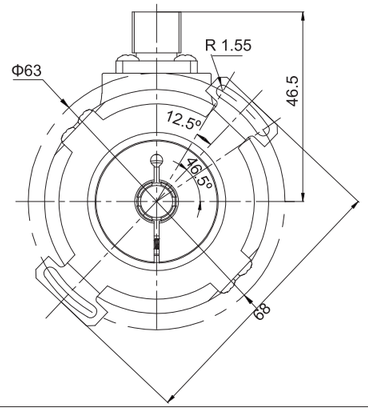
EV50H





EV50W





Topydic Series Shaft Incremental EV50P

Order Code:

EV 50 W 10 – L5 P R – 1024 XX . XXXX

Shaft diameter
6= Φ6mm
7= Φ1/4"
8= Φ8mm
9= Φ3/8"
10= Φ10mm
12= Φ12mm
13= Φ1/2"
14= Φ14mm
15= Φ15mm
16= Φ5/8"
(8R,9R,10R,12R=IP67)

Flange type
K= long torque support slot
H= long fastening arm
W=double-wing fixing plate

Housing diameter
50= housing diameter

Series
EV=Topydic incremental

Outlets direction
R= radial

Standard cable length
P=1.5m

Output & Supply voltage[1)]

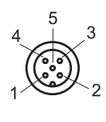
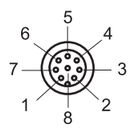
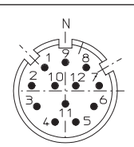
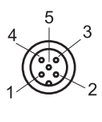
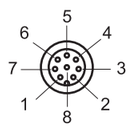
L5=RS422 (with reverse signal)	5Vdc
L6=RS422 (with reverse signal)	10~30Vdc
H6= Push-pull HTL (with reverse signal)	10~30Vdc
P6= Push-pull HTL (without reverse signal)	10~30Vdc

Resolution
Pulse/r: 1-5000

Optional functions
TP=tangential output cable length 1.5m (only applicable to L5,L6)
M5=M12, 5-pin plug without connector
M8=M12, 8-pin plug without connector
T=M23, 12-pin plug without connector
(for other cable length, it's on requested)

XXXX= Special code
Customized cable length
CN00XX=cable length
e.g. CN0010=1m
CN0020=2m

Top view of pin plug:

Connector type	5-pin M12 connector	8-pin M12 connector	12-pin M23 connector	5-pin M12 connector	8-pin M12 connector
Pin plug					
Matched connector	M125PSF-0020-W 5-core pre-molded connector with 2m PUR cable	M128PSF-0020-W 8-core pre-molded connector with 2m PUR cable	TMSP1612F Field attachable connector	TMSP125PF Field attachable connector	TMSP128PF Field attachable connector

Topydic Series Shaft Incremental Encoder EV58A

Descriptions

Topydic series encoders EV58A are widely used in industrial environments. It delivers outstanding performance in mechanical shock resistance and is capable of withstanding higher axial and radial loads. Its flexible and variant mechanical structure & electrical circuit designs ensure perfect matches with multiply types of flanges or servo motors. They are compatible with all control computers.

eatures

- Max resolution is up to 5000pulse/r, output frequency is up to 300 kHz
- Stainless steel shaft Φ6/Φ8/Φ10, flexible coupling connection ensures encoder safety during operation
- Various types of flanges, including imperial sizes
- Metal housing for greater shock resistance; compact structure is suited for confined space mounting
- Protection class IP65
- Direct cable output or connector is more flexible and easy for maintenance The waterproof rubber ends ensure safety during operation
- Reverse connection protection Short circuit protection

Mechanical Characteristics

Shaft diameter (mm)	Φ6g6/Φ8g6/Φ10g6
Protection grade	IP65
Speed	6000
Max. load capacity of the shaft	60N axial
	120N radial
Shock resistance	50G/11ms
Vibration resistance	10G 10～2000HZ
Bearing life	10^9revolution
Moment of inertia	$1.9\chi10^{-6}kg\,m^2$
Starting torque	<0.01Nm IP65
Body material	Al-alloy
Housing material	Al-alloy
Operating temperature	-20～+90°C
Storage temperature	-40～+100°C
Weight	300g

Regular resolution: 360，400，500，512，600，800，1000，1024，2000，2500，4000，2048，4096，5000

Note: other resolutions on request

Electrical Characteristics

Output circuit	RS422	Push-pull
Resolution	Max.5000ppr	Max.5000ppr
Supply voltage(VDC)	5±0.25 or 10-30	10-30
Power consumption(no load)	≤80mA	≤125mA
Permissible load(channel)	±50mA	±80mA
Pulse frequency	Max.300kHz	Max.300kHz
Signal level high	Min.3.4V	Min. Ub-1.8
Signal level low	Max.0.4V	Max.2.0V
Rise time Tr	Max 200ns	Max 1μS
Fall time Tf	Max 200ns	Max 1μS

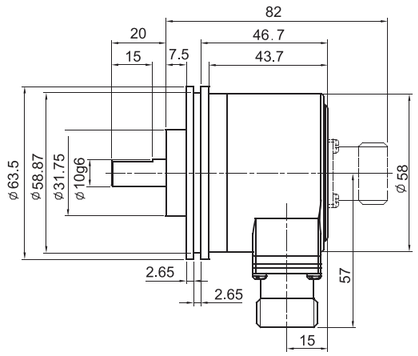
Topydic Series Shaft Incremental Encoder EV58A

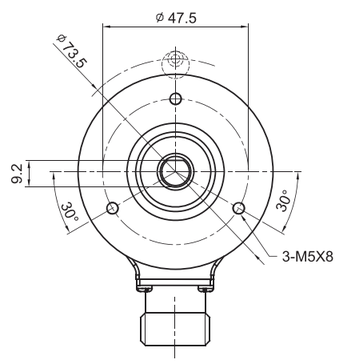
Terminal Configuration

Signal	0V	$+U_b$	A	$\overline{A}$	B	$\overline{B}$	Z	$\overline{Z}$	Shield
Color	WH	BN	GN	YE	GY	PK	BU	RD	⏚
Pin	10	12	5	6	8	1	3	4	PH

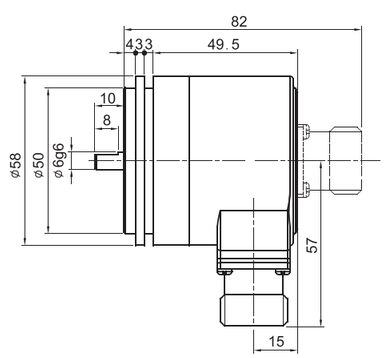
Dimensions

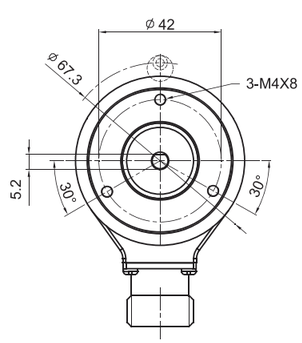
EV58A





EV58B

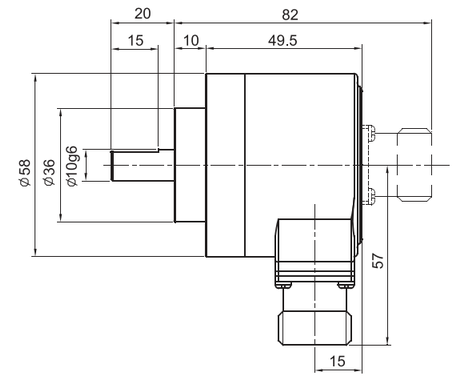


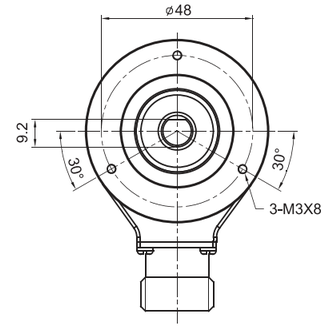


Topydic Series Shaft Incremental Encoder EV58A

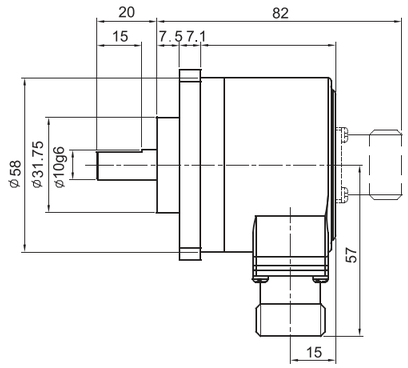
Dimensions

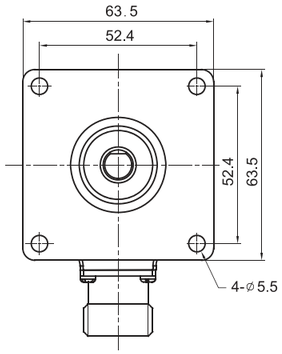
EV58C



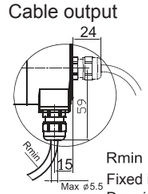


EV58D





Cable output



Rmin
Fixed installation: 55mm
Drag installation: 70mm

Topydic Series Shaft Incremental Encoder EV58A

Order Code:

EV 58 B 6 – L5 T R – 1024 . XXXX

Series
EV=Topydic incremental

Housing diameter
58= housing diameter

Flange type
A=Φ31.75 clamping flange, shaft length 20mm
B=synchro flange, only for shaft Φ6, shaft length 10mm
C=Φ36 clamping flange, shaft length 20mm
D=Φ63.5 square flange, shaft Φ31.75, shaft length 20mm

Shaft diameter
6=Φ6mm
(only for EIC58B)
8=Φ8mm
9=Φ9.52mm (3/8"×7/8")
10=Φ10mm

Output & Supply voltage[1)]

L5=RS422 (with reverse signal)	5Vdc
L6=RS422 (with reverse signal)	10~30Vdc
H6=Push-pull HTL (with reverse signal)	10~30Vdc
P6=Push-pull HTL (without reverse signal)	10~30Vdc

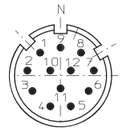
Standard cable length
P=1.5m
T=M23, 12-pin plug without connector

Outlets direction
R=radial
A=axial

Resolution
Pulse/r: ≤5000
Note: for other available pulse options please contact us for further information

XXXX=Special code
Customized cable length
CN00XX=cable length
e.g. CN0010=1m
CN0020=2m

Topview of 12-pin Connector



1) When the voltage supply within the limited range and only one signal channel is connected improperly at certain moment:
if U_B=5V, it's pXremitted to connect to signal channals, 0V or U_B;
if U_B＞5V, it's premitted to connect to signal channals or 0V.

Matched connector:
For connection type "T": TMSP1612F

Topydic Series Hollow Shaft Incremental Encoder EV58P

Descriptions

Topydic series encoders EV58P, with double-bearing design, are widely used in industrial environments. It delivers outstanding preformance in mechanical shock resistance. It adopts stainless steel hollow shaft design with max. shaft diameter of Φ15mm and is able to withstand higher axial and radial loads. requirements. Its wide voltage range, reverse connection and short circuit protection can effectively

Features

- Resolution up to 5000ppr; pulse frequency up to 300kHz
- Wide range of shaft diameter, Φ8...Φ15mm
- Operating temperature, -20...+80℃; IP65
- Thickness of 34.5mm, applicable for installation with limited space
- Multi signal output interfaces to meet diferent types of data aquisition of upper computer
- Reverse connection and short circuit protection to ensure the safety [1)]

Mechanical Characteristics

Shaft diameter (mm)	Φ8/Φ10/Φ12 /Φ14/Φ15
Protection Grade	IP65
Speed	6000rpm
Max. load capacity of the shaft	40N axial
	80N radial
Shock resistance	50G/11ms
Vibration resistance	10G 10...2000HZ
Bearing life	10^9 revolution
Moment of inertia	approx. $6x10^{-6}kgm^2$
Starting torque	<0.03Nm
Body material	Al-alloy
Housing material	Al-alloy
Operating temperature	-20... +80°C
Storage temperature	-40... +95°C
Weight	approx. 400g

Regular resolution: 256，300，360，400，500，512，600，800，1000，1024，1200，1250，2000，2048，2500，3600，4096，5000
Note: other resolutions on request

Electrical Characteristics

Output circuit	RS422	Push-pull
Supply voltage (VDC)	5±0.25 or 10...30VDC	10...30VDC
Power consumption (no load)	typ. 40mA	typ. 50mA
	max. 90mA	max. 100mA
Permissible load	max. ±20mA	max. ±30mA
Pulse frequency	max. 300kHz	max. 300kHz
Signal level high	min. 2.5VDC	min. Ub-1VDC
Signal level low	max. 0.5VDC	max. 0.5VDC
Rise time Tr	max. 200ns	max. 1μs
Fall time Tf	max. 200ns	max. 1μs

1) When the voltage supply within the limited range and only one signal channel is connected improperly at certain moment:
if U_B=5VDC is premitted to connect to signal channals, 0VDC or U_B;
if U_B＞5VDC , its premitted to connect to signal channals or 0VDC.

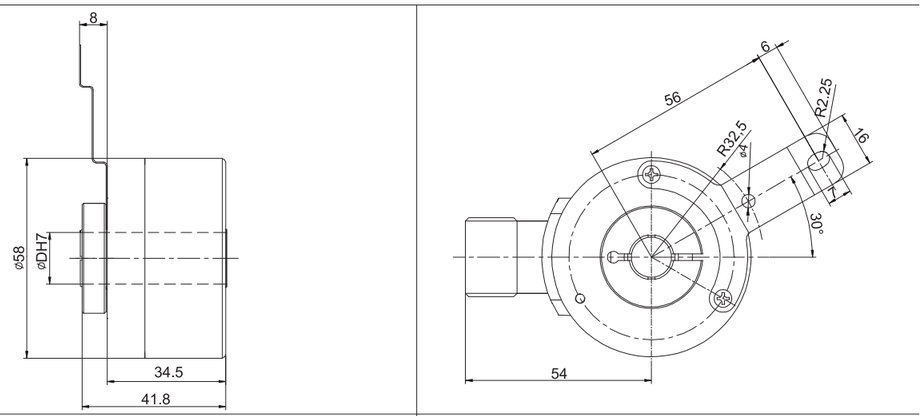
Topydic Series Hollow Shaft Incremental Encoder EV58P

Terminal Assignment

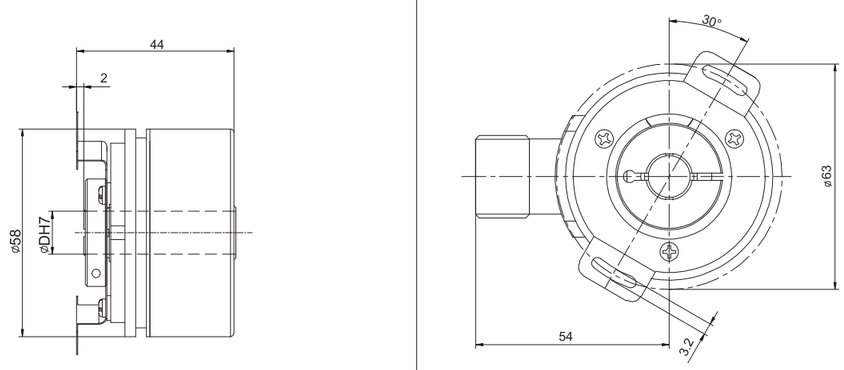
Signal	0V	$+U_b$	A	$\bar{A}$	B	$\bar{B}$	Z	$\bar{Z}$	0V Sen	$+U_b$ Sen	Shield
Color Code	WH	BN	GN	YE	GY	PK	BU	RD	GY/PK	RD/BU	⏚
12-pin	10	12	5	6	8	1	3	4	11	2	PH

Dimensions (mm):

EV58P



EV58W



Topydic Series Hollow Shaft Incremental Encoder EV58P

Order Code:

EV 58 P 10 – L5 T R – 1024 . XXXX

Shaft diameter
8= Φ8mm
10=Φ10mm
12=Φ12mm
14=Φ14mm
15=Φ15mm

Outlets direction
R=radial

XXXX=Special code
Customized cable length
CN00XX=cable length
e.g. CN0010=1m
CN0020=2m

Flange type
P=hollow shaft with fixing sheet
W=double-winged fixing sheet

Standard cable length
P=1.5m
T=M23, 12-pin plug without connector

Resolution
Pulse/r: ≤5000
Note: for other available pulse options please contact us for further information

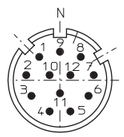
Housing diameter
58=Housing diameter

Series
EV=Topydic incremental

Output & Supply voltage[1)]

L5=RS422 (with reverse signal)	5VDC
L6=RS422 (with reverse signal)	10...30VDC
H6=Push-pull HTL (with reverse signal)	10...30VDC
P6=Push-pull HTL (with reverse signal)	10...30VDC

T type connection:
12-pin M23 Connector



TMSP1612F
Field attachable connector

[1)] When provided power voltage is correct:
Short-circuit to channel, 0V, or +UB is permitted when UB=5VDC;
Short-circuit to channel or 0V is permitted when UB=10…30VDC

Heavydic Large Hollow Shaft Incremental Encoder EV90P

Descriptions

Heavydic large hollow shaft incremental encoder EV90P are specially designed for heavy industries and heavy-loaded shaft applications. It delivers perfect perfornance of mechanical shock resistance, and is capable of withstanding higher axial and radial loads. It can be directly installed onto the drive shaft with crutch arm or fixing sheet for flexible connection. Its resolution is up to 2500ppr, which ensures accurate control and application safety.

Features

- Robust metal housing against greater shock; compact structure for limited installation space
- Resolution up to 2500ppr; protection grade of IP65
- Compact hollow shaft design to save both space and cost
- Crutch arm and fixing sheet provide greater flexibility
- Stainless steel hollow shaft with diameter of Φ25/Φ30/Φ38/Φ45; installed by “C” lock ring
- Flexible connecting with cable or connector for easy maintemance; water-proof design to ensure safety
- Reverse connection / short circuit protetion

Mechanical Characteristics

Hollow shaft diameter (mm)	Φ25/Φ30/Φ38/Φ45H7
Protection Grade	IP65
Speed	3500 rpm
Max. load capacity of the shaft	80N axial
	140N radial
Shock resistance	50G/11ms
Vibration resistance	10G 10～2000HZ
Bearing life	10^9 revolution
Moment of inertia	approx.15×10^{-6} kgm^2
Starting torque	<0.1Nm with oil seal
Body material	Al-alloy
Housing material	Al-alloy
Operating temperature	-20～+80°C (-40～+80°C optional)
Storage temperature	-45～+85°C
Weight	approx. 900g

Regular resolution: 1024, 2048

Note: other resolutions on request

Electrical Characteristics

Output circuit	RS422	Push-pull
Resolution	Max 2500ppr	Max 2500ppr
Supply voltage (VDC)	5±0.25 or10-30	10-30
Power consumption (no load)	≤80mA	≤125mA
Permissible load	±20mA	±40mA
Pulse frequency	Max 300kHz	Max 300kHz
Signal level high	Min 3.4V	Min Ub-1.8
Signal level low	Max 0.4V	Max 2.0V
Rise time Tr	Max 200ns	Max 1μS
Fall time Tf	Max 200ns	Max 1μS

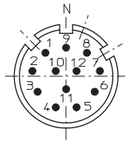
Terminal Configuration

Signal	0V	+Ub	A	$\bar{A}$	B	$\bar{B}$	Z	$\bar{Z}$	0V Sen	+Ub Sen	Shield
Color Code	WH	BN	GN	YE	GY	PK1	BU	RD	GY/PK	RD/BU	⏚
Pin	10	12	5	6	8	1	3	4	11	2	PH

1）When the voltage supply within the limited range and only one signal channel is connected improperly at certain moment:
if U_B=5V, it’s premitted to connect to signal channals, 0V or U_B ;
if U_B>5V, it’s premitted to connect to signal channals or 0V.

Matched connector:
the compatible connector with type of connection “T” is TMS1612F.

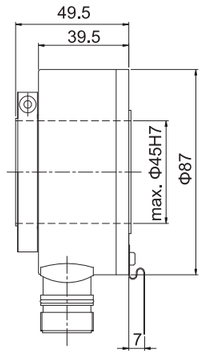
Topview of 12-pin plug

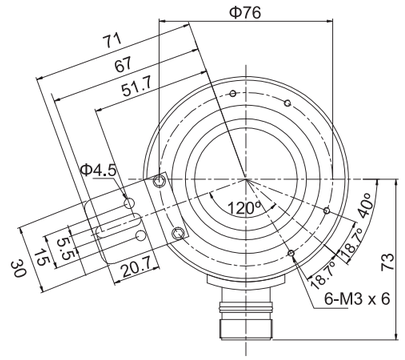


Heavydic Large Hollow Shaft Incremental Encoder EV90P

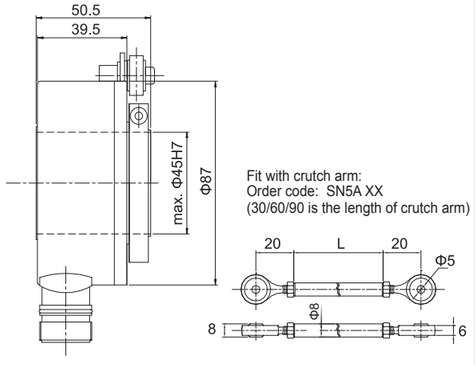
Dimensions (mm)

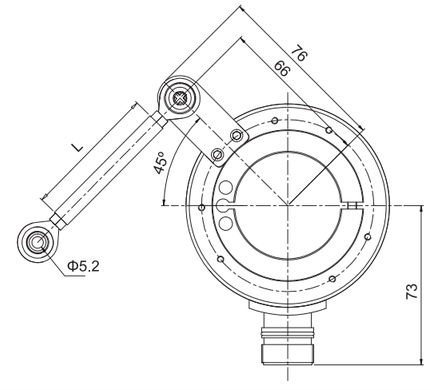
EV90P





EV90R





Order Code:

EV 90 P 30 – L5 T R – 1024 . XXXX

- XXXX=Special code
- Outlets direction: R=radial
- Resolution: Pulse/r: ≤2500
- Hollow shaft diameter: 25=Φ25H7, 30=Φ30H7, 38=Φ38H7, 45=Φ45H7
- Standard cable length: P=1.5m; T= M23, 12-pin plug with connector (order code for connector: TMSP1612F)
- Flange type: P= fixing sheet; R= crutch arm
- Output & Supply voltage:
  - L5=RS422 (with reverse signal) 5Vdc
  - L6=RS422 (with reverse signal) 10~30Vdc
  - H6=Push-pull HTL (with reverse signal) 10~30Vdc
  - P6=Push-pull HTL (without reverse signal) 10~30Vdc
- Housing diameter: 90= housing diameter
- Series: EV＝heavydic incremental

Topydic Series Large Hollow Shaft Incremental Encoder EV150P

Description

Topydic series large hollow shaft encoders EV150P are widely used in industrial environments in which direct installation on the drive shaft for speed feedback is required. It delivers excellent performance in withstanding mechanical shock and higher axial and radial loads. Hollow shaft structure could be directly installed onto the drive shaft, and crutch arm or block-pin accessories provide greater flexibility to prolong the usability of the encoder. EV150P delivers resolution up to 2048ppr, and guaranteen both precise measurement control and safety in loading. It is the most recommended product for its high quality and affordability.

Features

- Crutch are or block-pin accessories provide the greatest flexibilty
- Resolution 2048ppr,IP64 guarantees precision and safety
- Compact hollow shaft design is both a space and cost-saver
- Metal housing for greater shock resistance,compact structure is suited for confined mounting space
- Stainless steel hollow shaft Φ60H7 — Φ80H7 ,"C"lock ring
- Cable output or connector is flexible and easy for maintenance
  The waterproof rubber ends ensures safety
- Reverse connection protection.Short circuit protection

Mechanical Characteristics

Hollow shaft diameter(mm)	Φ60H7 — Φ80H7
Protection acc. to EN 60529	IP64
Speed	3000RPM
Max load capacity of the shaft	100N axial
	200N radial
Shock resistance	50G/11ms
Vibration resistance	10 G 10~2000Hz
Bearing life	10^9 revolution
Moment of inertia	<15 x 10^{-6}kgm^2
Starting torque	<0.25Nm max.
Body material	AL-alloy
Housing material	AL-alloy + green paint
Operating temperature	-20~+90°C
Storage temperature	-40~+100°C
Weight	1800g

Resolution: 1000，1024，2048
Attention: Bold part is in stock, others on request

Electrical Characteristics

Output circuit	RS422	Push-pull
Resolution	Max.2048ppr	Max.2048ppr
Supply voltage(VDC)	5±0.25 or 10-30	10-30
Power consumption (no load)	≤80mA	≤125mA
Permissible load (channel)	±50mA	±80mA
Pulse frequency	Max.800kHz	Max.800kHz
Signal level high	Min.3.4V	Min.Ub-1.8
Signal level low	Max.0.4V	Max.2.0V
Rise timeTr	Max 200ns	Max 1μs
Fall timeTf	Max 200ns	Max 1μs

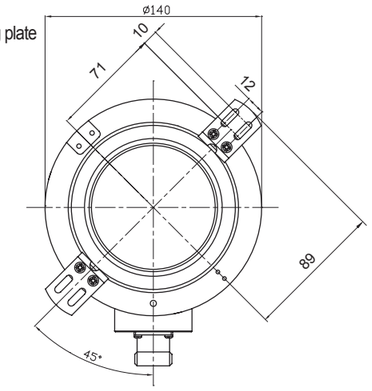
Terminal Assignment

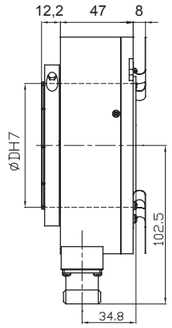
Signal	0V	$+U_b$	A	$\overline{A}$	B	$\overline{B}$	Z	$\overline{Z}$	0V Sen	$+U_b$ Sen	Shield
Color	WH	BN	GN	YE	GY	PK	BU	RD	GY/ PK	RD/ BU	⏚
Pin	10	12	5	6	8	1	3	4	11	2	PH

Topydic Series Large Hollow Shaft Incremental Encoder EV150P

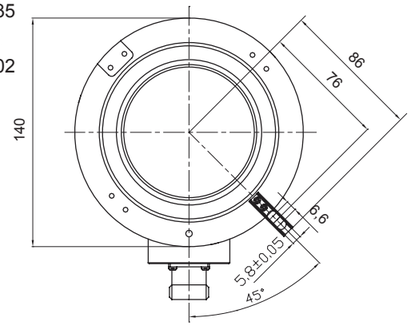
Dimensions

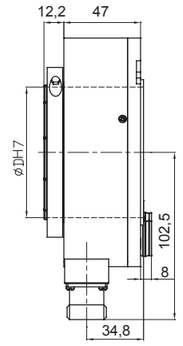
EV150P
Double-wing fixing plate
E41350013

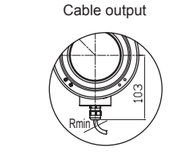




EV150K
Long torque support slot:
E41350035
Block pin:
E41220002

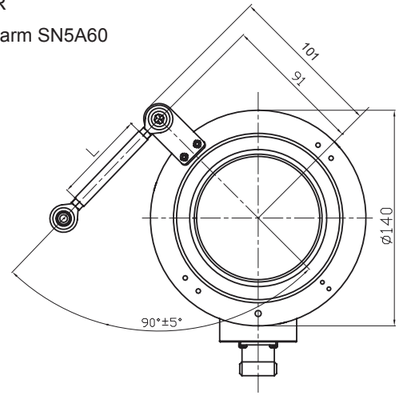


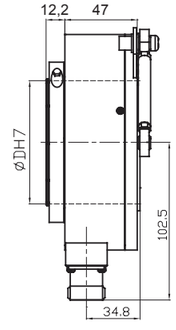




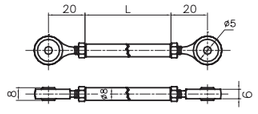
Rmin
Fix installation: 55mm
Draw installation: 70mm

EV150R
Torque arm SN5A60





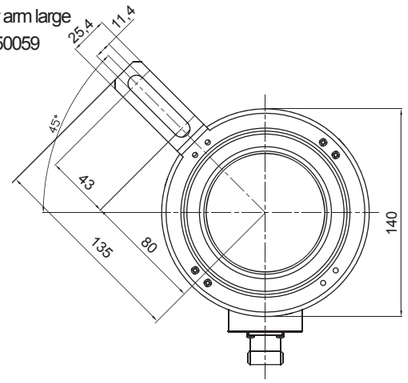
Crutch arm order
SN5A XX
(30,60,90means length)

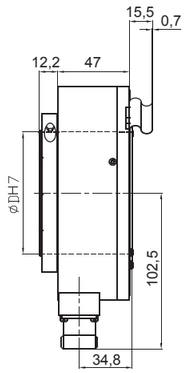


Topydic Series Large Hollow Shaft Incremental Encoder EV150P

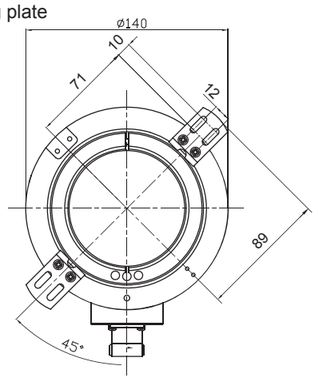
Dimensions

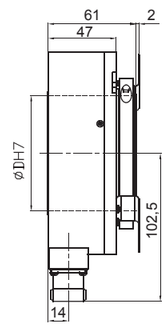
EV150H
Tether arm large
E41350059



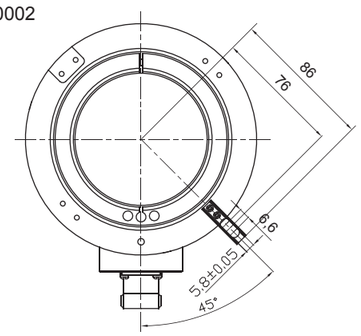


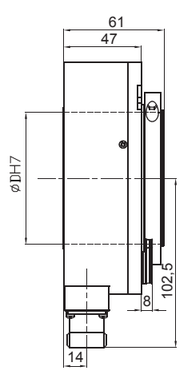
EV150RP
Double-wing fixing plate
E41350013

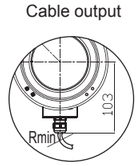




EV150RK
Long torque support slot:E41350035
Block pin:E41220002





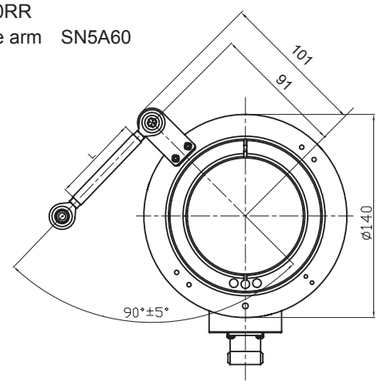


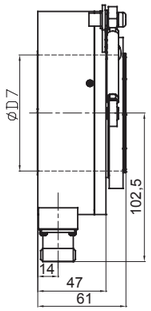
Rmin
Fix installation: 55mm
Draw installation: 70mm

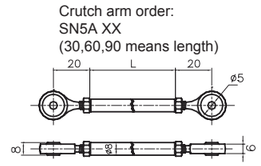
Topydic Series Large Hollow Shaft Incremental Encoder EV150P

Dimensions

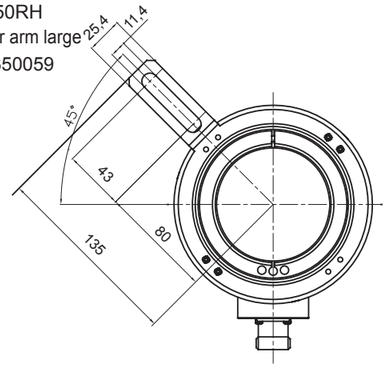
EV150RR
Torque arm SN5A60

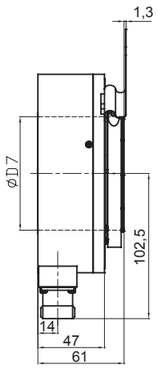


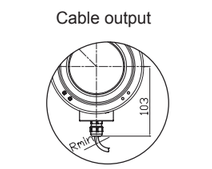




EV150RH
Tether arm large
E41350059

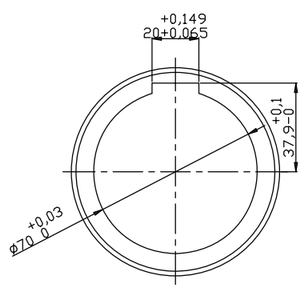






Rmin
Fix installation: 55mm
Draw installation: 70mm

Keyway shaft



EV150P Keyway

Topydic Series Large Hollow Shaft Incremental Encoder EV150P

Order Code:

EV 150 P 70 – L5 T R – 1024 . XXXX

Shaft diameter
60=Φ60H7
65=Φ65H7
70=Φ70H7
75=Φ75H7
80=Φ80H7
Adding “K” to a shaft diameter means it is a hollow shaft with keyway，eg.
60K=Φ60F7 keyway (≤70）without fixed lock ring for keyway mounting

Output & Supply voltage [1)]

L5=RS422 (with reverse sign)	5Vdc
L6=RS422 (with reverse sign)	10~30Vdc
H6=Push-pull HTL (with reverse sign)	10~30Vdc
P6=Push-pull (without reverse sign)	10~30Vdc

Flange type
P=hollow shaft with spring
K=long torque support slot
R=universal torque arm (SN5A60)
H=tether arm large
RP=hollow shaft with spring
RK=long torque support slot
RR=universal torque arm (SN5A60)
RH=tether arm large

Housing diameter
150=housing diameter

Series
EV＝Topydic incremental

Type of connection
P=Cable length 1.5m
T=M23,12-pin plug without connector
(other cable length are available upon request)

Outlets direction
R=radial

Resolution
Pulse/r ≤2048
Attention: for pulse scale pls contact our company

XXXX=Special code
Customized cable length
CN00XX=cable length
e.g. CN0010=1m
CN0020=2m

Diameter	Lock ring	Screw
Φ60	E41230053	M4×16
Φ65	E41230059	M4×16
Φ70	E41230058	M4×16
Φ75	E41230057	M4×16
Φ80	E41230056	M4×16

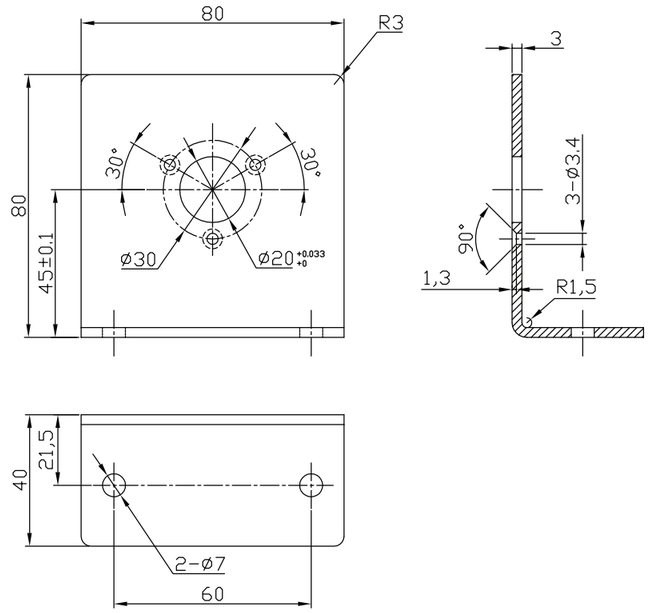
1) When the provided power voltage is correct:
Short-circuit to channel, 0V, or +UB is permitted when UB=5V;
Short-circuit to channel or 0V is permitted when UB=10…30V.

Connector order:
matching “T” connector: TMSP1612F

EVL Support

EVL support:

Type: EVL-L38A
Material: carbon steel
Surface treatment: zinc plating
Applicable for: shaft encoder 38 series
Installation: with flange

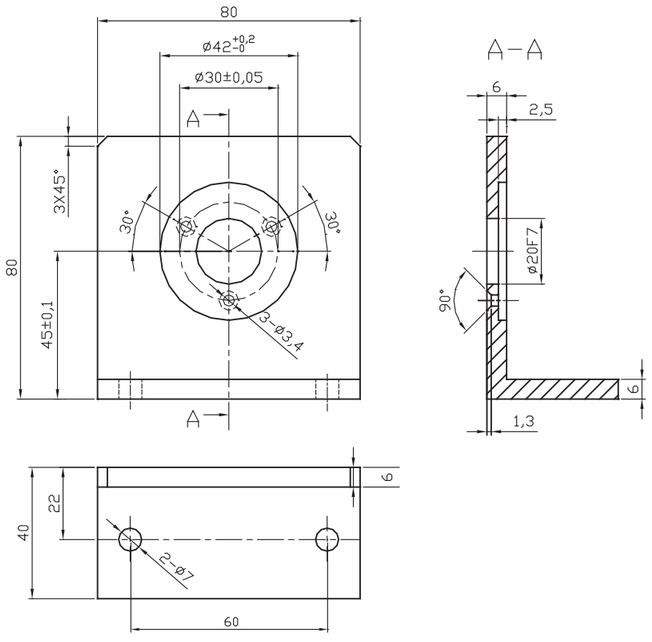


EVL support:

Applicable for shaft encoder 40 with clamping flange

Material: AI

Type:
EVL-L40A



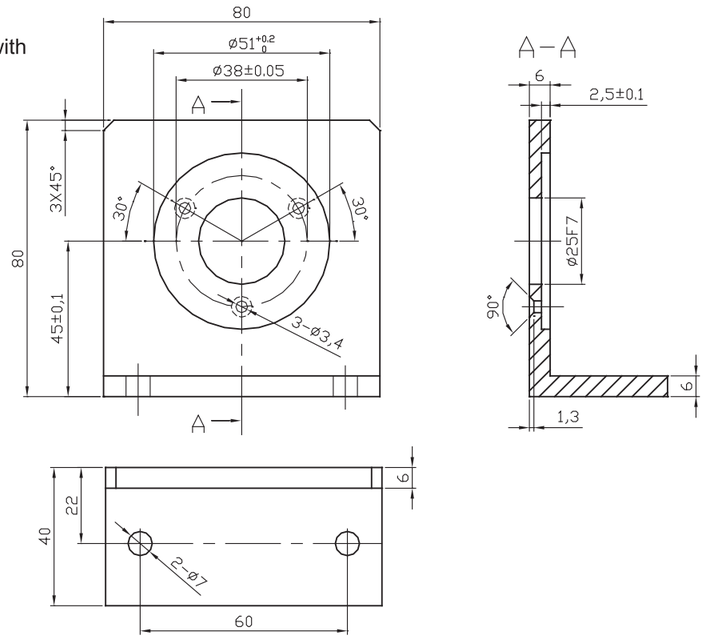
EVL Support

EVL support:

Applicable for shaft encoder 50A with clamping flange

Material: AI

Type:
EVL -L50A

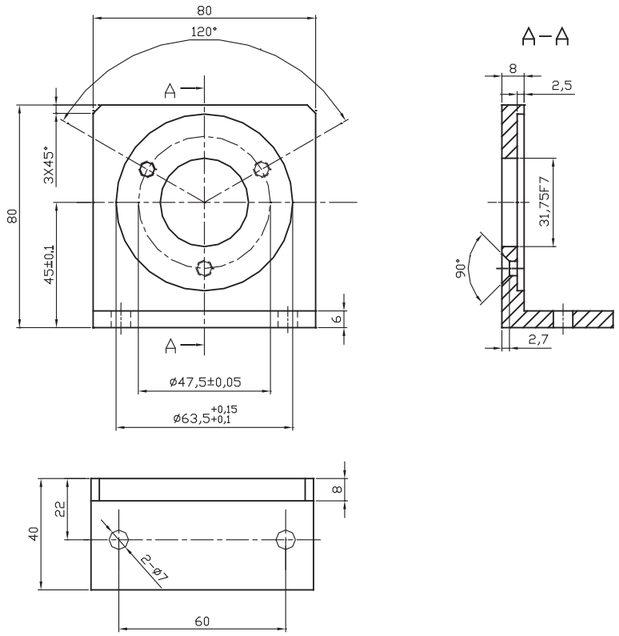


EVL support:

Applicable for shaft encoder 58A with clamping flange

Material: AI

Type:
EVL-L58A



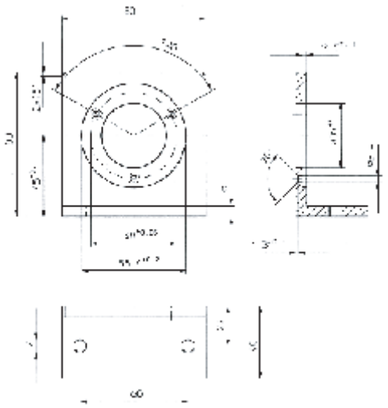
EVL Support

EVL support:

Applicable for shaft encoder 58 with clamping flange

Material: AI

Type:
EVL-L58C

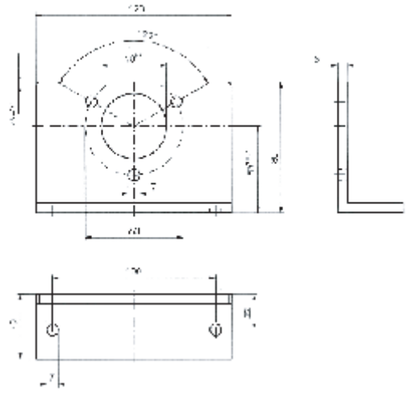


EVL support:

Applicable for shaft encoder 90 with clamping flange

Material: AI

Type:
EVL-L90A

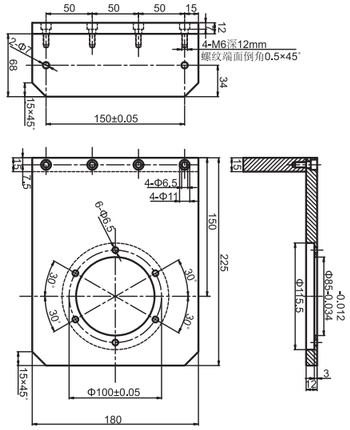


EVL support:

Applicable for shaft encoder 115 with clamping flange

Material: AI

Type:
EVL-L115A



Coupling

Description

Flexible precision couplings are essential parts for the transmission of rotational motion to the encoder shaft. Couplings are designed in AL-alloy and are composed by a cylindrical body on which there is a helicoidal groove. With the perfect balancing of the rotating body, the couplings do not have critical points subject to breakage and are completely frictionless. Moreover, they perfectly transmit the rotation motion, even in the case of axial misadjustment and misalignment. The couplings do not require any maintenance. The internal drain allows the coupling to have the minimum distance of 6.12mm between the shafts.

Features

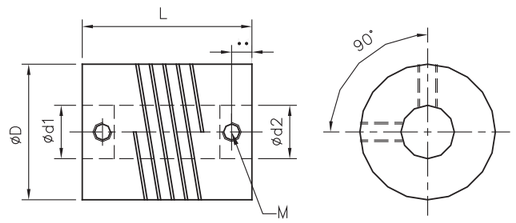
- Torsional rigidity
- Ability to support slight shaft misadjustments
- Ability to absorb small axial shift of the shaft

Note: Metric and Imperial sizes: A1=6.35mm A2=9.525mm A3=12.7mm

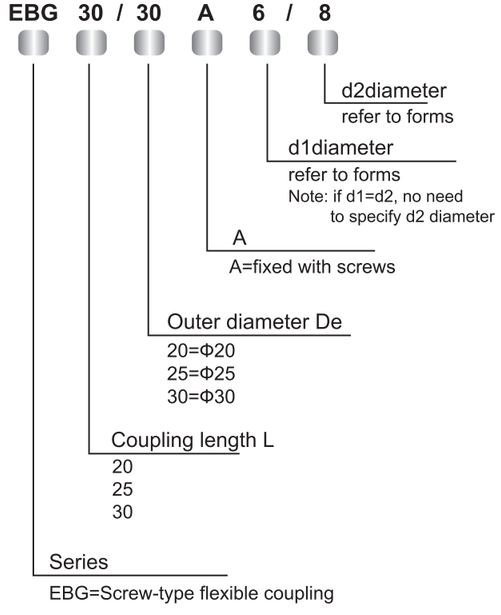
Screw flexible coupling:

Code	Φd1/Φd2Shaft diameter	ΦD	L	L1	Twisting moment	Max. angular displacement	Max. speed	Screw（M）	Material
EBG20/20A□□□□	3 4 5 6 6.35(A1)	20	20	2.55	0.8N.m	1°	8000r/min	M3	AL-alloy
EBG25/25A□□□□	5 6 6.35(A1) 8 9.525(A2) 10	25	25	3.55	1.8N.m	1°	8000r/min	M4	AL-alloy
EBG30/30A□□□□	6 8 9.525(A2) 10 12 12.7(A3)	30	30	4.15	2.7N.m	1°	8000r/min	M5	AL-alloy
EBG38/38A□□□□	8 9.525(A2) 10 12 12.7(A3) 14 15	38	38	4.15	6.3N.m	1°	8000r/min	M5	AL-alloy
EBG50/50A□□□□	12 12.7(A3) 14 15 16 18 19	50	50	5.25	19.5N.m	1°	8000r/min	M6	AL-alloy

Coupling Dimensions:



Order Code

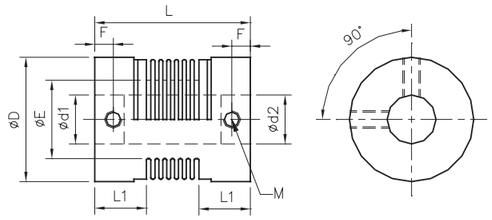


Coupling

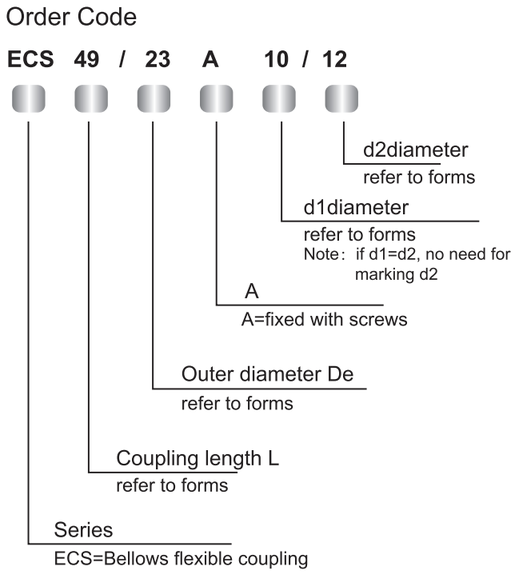
Bellow flexible coupling

Code	Φd1/Φd2 Shaft diameter	ΦD	L	L1	F	E	Twisting moment	Max. angular displacement	Max. speed	Screw（M）	Material
ECS27/16A □□□□	4 5 6 6.35(A1) 8	16	27	8.5	3	9.5	0.5N.m	2°	6000r/min	M3	AL-alloy
ECS29/20A □□□□	5 6 6.35(A1) 8 9.525(A2) 10 12	20	29	8.5	3	12.5	0.6N.m	2°	6000r/min	M3	AL-alloy
ECS34/25A □□□□	6 6.35(A1) 8 9.525(A2) 10 12	25	34	10.5	4	15	1.7N.m	2°	6000r/min	M4	AL-alloy
ECS38/32 □□□□	6 8 9.525(A2) 10 12	32	38	11.5	4	21	1.7N.m	2°	6000r/min	M4	AL-alloy
ECS49/32 □□□□	6 8 9.525(A2) 10 12	32	49	11.5	4	21	1.7N.m	2°	6000r/min	M4	AL-alloy
ECS51/40 □□□□	10 11 12 14 15 16	40	51	12.5	4.5	27	3.5N.m	2°	6000r/min	M5	AL-alloy
ECS57/55A □□□□	12 14 15 16	50	57	13.5	5	40	9.0N.m	2°	6000r/min	M6	AL-alloy

Coupling Dimensions



Order Code



Miniature Absolute Singleturn Encoder EAC50

Description

Miniature absolute singleturn encoder EAC50 series can withstand a higher axial and radial load with its reasonable and compact structure. The standard flange combined the clamping and synchronous flanges together, while leaving multiple types of pre-screwed holes for easy installation. The EAC50 series can be widely used in angular and positioning measurement, particularly in the textile industry.

Features

- Pre-screwed holes for easy installation
- Clamping and synchronous flanges combined
- Durable stainless steel shaft
- Metal housing for shock resistance
- Waterproof metal wiring for greater IP level
- Protection class IP64
- Reverse connection protection

Mechanical Characteristics

shaft diameter（mm）	Φ6g6/Φ8g6
Protection acc. to EN 60529	Ip64
Speed（r/m ）	6000
Max load capacity of the shaft	
Axial load capacity	40N
Radial load capacity	80N
Shock resistance	50G/11ms
Vibration resistance	10G 10~2000Hz
Bearing life	10^9revolution
Rotor moment of inertia	$1.8\times10^{-6}kgm^2$
Starting torque	<0.01Nm
Body material	AL-alloy
Housing material	AL-alloy
Operating temperature	-20℃~~+80℃
Storage temperature	-25℃~~+85℃
Weight	330g

Resolution

2, 4, 8, 16, 32, 64, 90, 128, 180, 250, 256, 360, 500, 512, 720, 1024

Electrical Characteristics

Output circuit	PNP	PNP open collector	NPN	NPN open collector
Resolution	10 Bits	10 Bits	10 Bits	10 Bits
Supply voltage (Vdc)	10-30V/5V	10-30V/5V	10-30V/5V	10-30V/5V
Power consumption (no load)	≤125mA	≤125mA	≤80mA	≤80mA
Permissible load (channel)	±80mA	±80mA	±50mA	±50mA
Pulse frequency	Max300kHz	Max300kHz	Max300kHz	Max300kHz
Signal level high	MinUb-1.5V	MinUb-1.5V	MinUb-2.5V	MinUb*70%
Signal level low	Max0.4V	depends on pull-down resistor	Max0.4V	Max0.4V
Rise timeTr	Max 1μs	Max 1μs	Max 1μs	Max 1μs
Fall timeTf	Max 1μs	Max 1μs	Max 1μs	Max 1μs

*): NPN open collector is depending on the pull-up resistor. 4.7kΩ is the recommended resistance. 8.2kΩ is the recommended resistance for PNP open collector.

**): NPN (PNP) open collector is depending on pull-up (down) resistor and cable length

Miniature Absolute Singleturn Encoder EAC50

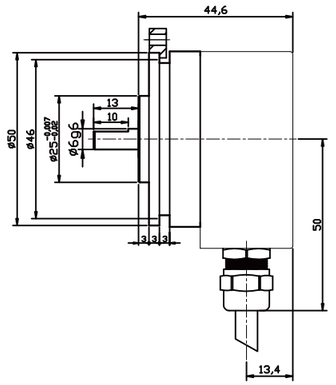
Terminal Configuration

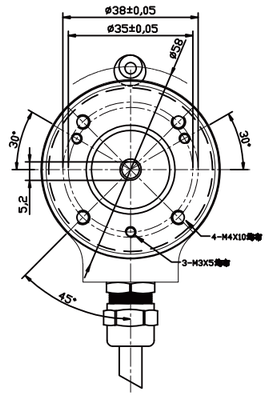
Signal	0V	$+U_b$	bit0	bit1	bit2	bit3	bit4	bit5	bit6	bit7	bit8	bit9	V/R *
Color Code	WH	BN	GN	YE	GY	PK	BU	RD	BK	PL	GY/PK	RD/BU	YE/BN
Gray code	/	/	0	1	2	3	4	5	6	7	8	9	-

Attention
Bite definition of parallel interface for an absolute encoder is: bit0=MSB, bit1=MSB-1,bit2=MSB-2, ...

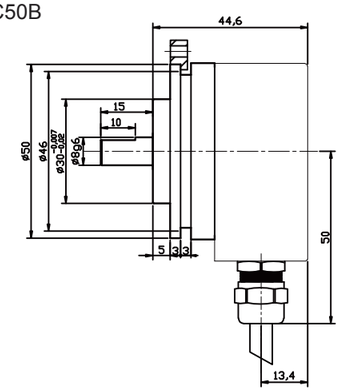
Dimensions

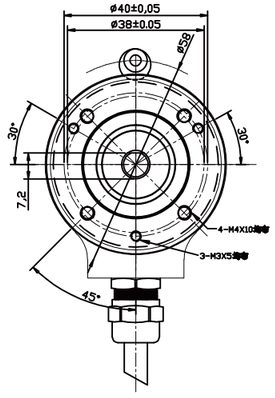
EAC50A





EAC50B





servo-restraint ring：50PXL（see installation accessories for reference）

Miniature Absolute Singleturn Encoder EAC50

Order Code:

EAC 50 B 8 – G C6 N P R – 1024 EU . XXXX

Shaft diameter
6=Φ6mm(ECAS50A)
8=Φ8mm(ECAS50B)

Outlets direction
R=radial
A=axial

XXXX=Special code
Customized cable length
CN00XX= cable length
e.g. CN0010=1m
CN0020=2m

Type of connection
P=cable output
(standard length 0.5m)

Miniature Absolute
Singleturn Encoder

Flange type
A=round flangeΦ25 mm
B=round flangeΦ30 mm

Output logic
N=negative logic (parallel)
P=positive logic (parallel)

Resolution
Singleturn resolution
Max 1024 (10 bits)-parallel

Output & Supply voltage

N6=NPN（standard negative logic）	10~30Vdc
N5=NPN（standard negative logic）	5Vdc
C6=NPN open collector（standard negative logic）	10~30Vdc
C5=NPN open collector（standard negative logic）	5Vdc
R6=PNP（standard positive logic ）	10~30Vdc
R5=PNP（standard positive logic ）	5Vdc
U6=PNP open collector（standard positive logic）	10~30Vdc
U5=PNP open collector（standard positive logic）	5Vdc

Housing dimensions
50= housing dimensions

Series
EAC＝absolute singleturn

Output code type
G=Gray Code
B=Binary

Profibus-DP Interface Absolute Singleturn Encoder EAC58

Description

Profibus-DP interface absolute singleturn encoder EAC58 series provides outstanding performance in withstanding mechanical damages and higher axial and radial loads. Various types of flanges are available to meet different requirements. The series complies with Profibus protocol, and its maximum resolution is up to 8192. Its high speed communication and anti-interference deliver strong and stable operation.

Features

- Various types of flanges are available
- Pre-screwed holes are convenient for installation
- Waterproof seal provides greater IP level
- Direct cable output, which is convenient for installation and maintenance
- Protection class IP65
- Metal housing for better shock resistance
- Conforming to Profibus-DP protocol

Mechanical Characteristics

Shaft diameter (mm)	Φ6g6	-58B
	Φ8g6	-58A/B
	Φ9.52(3/8")g6	-58A
	Φ10g6	-58C
Hollow shaft diameter (mm)	Φ8H7/Φ9.52H7/Φ10H7	-58/W
	Φ12H7/Φ14H7/ Φ15H7	-58/W
Protection acc. to EN 60529	IP65	
Speed	6000, continuous	
Axial load capacity	80N	
Radial load capacity	160N	
Shock resistance	50G/11ms	
Vibration resistance	10G 10~2000Hz	
Bearing life	10^9 revolution	
Rotor moment of inertia	approx.1.8×10^{-6} kgm^2	
Starting torque	<0.05Nm	
Body material	ALUNI 9002/5 -(D11S)	
Housing material	AL6060	
Flange material	ALUNI 9002/5 -(D11S)	
Operating temperature	-40°C~~+80°C	
Storage temperature	-45°C~~+85°C	
Weight	~800g	

Resolution 8192 4096

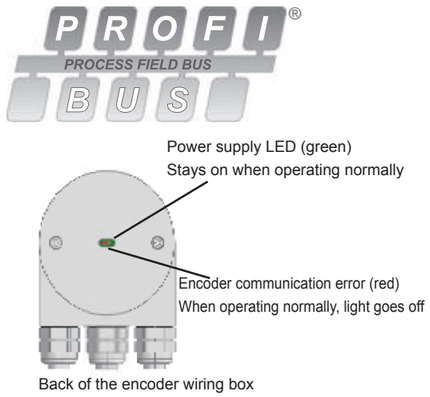
Electrical Characteristics

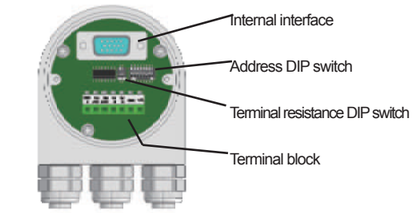
Resolution	8192 (13 bits)
Supply voltage	10~30 Vdc
Power consumption (no load)	300mA
Baud rate	12 Mbaud
Linearity	+/- 1/2 LSB
Output frequency	Max 100 KHz

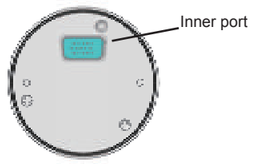
Connection

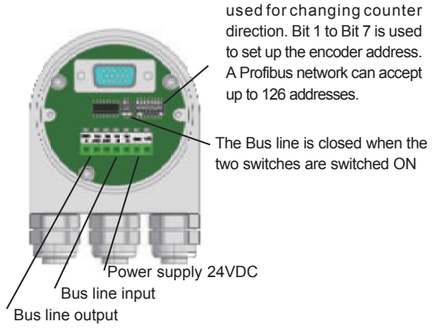
+V	Supply voltage(24 VDC)
0V	Ground
A	Profibus-DPline output (GN)
B	Profibus-DPline output (RD)
A	Profibus-DPline input (GN)
B	Profibus-DPline input (RD)

Profibus-DP Interface Absolute Singleturn Encoder EAC58









Introduction

Profibus-DP interface absolute singleturn encoder (Identification number 0x0CCA) comforms to the Profibus-DP standard as described on the European Standard EN 50170 Vol. 2. The encoders are designed according to “Profibus Profile for Encoders, Order No. 3062”.

The Profibus-DP interface has the same maximum resolution and features (8192 position/revolution) of the stand-along version, and it also has the advantages of the Profibus-DP network.Through the Profibus-DP network is possible to:

- During the periodic data exchange, obtaining the angular position from the encoder.
- Resolution and the revolution are configurable now (please refer to the corresponding chapters for configuring the parameters).
- Changing the default increment count direction (change between CW/CCW when configuring the parameters).
- Perform the Preset operation (Set the encoder to read a specific position).
- Read the diagnosis status.
- Getting info about the code supplied by the device.

From the device it is possible to:

- Display the ON/OFF status.
- Display the device activity on the bus.
- Activate the Reset function
- Sett up the device address.
- If required, insert the terminal resistance into the bus.
- Change the counting direction

Installation

IInstalling the Profibus-DP encoder in a network requires the execution of the standard procedures necessary for configuring any Profibus-DP slave. The procesures are as follows:

1- Add the slave onto the master (please see corresponding chapter).

2- Wire the encoder into the Profibus network. Whether wiring it in the middle or at the terminal are depending on the physical position the device has in the bus.

3- Directly set up the address (which must be unique in the network and as the same as the device) for the slave.

4- Prepare the applications at the master side and set up the Profibus network.

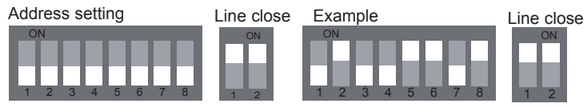
On the back cover of the encoder there are two LED indicators. The device’s operating status can be observed by the two LEDs. The green LED shows the power status and must be on constantly. The red LED only switches off during the periodic data exchange between the Profibus master and the encoder.

Note：To set and configure the slave into the Profibus-DP master, it is necessary to use the “gsd” file delivered with the encoder. The file can be found on the CD.

DIP-switch setup (configuring slave address)

Besides the address and the standard position of a terminal DIP switch, a configuration example of Profibus and the devices is illustrated below.

In this example, device’s address is set up as 1001101, with the corresponding decimal address as 77. Bit 7 is the top digit, and bit 1 is the lowest digit. Bit 8 is used for changing the counter direction. Bit 1 to bit 7 are used to configuring encoder’s address.



Network Characteristics

Usually, an A type cable is used to wire a DP/FMS network. This cable has to have the following characteristics:

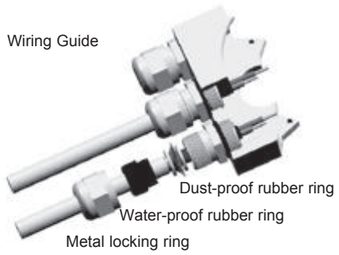
Parameter	A type cable
Characteristic resistance (Ω)	135…165 at a certain frequency (3…20Mhz)
Rated capacity (PF/m)	<30
Loop resistance (Ω/Km)	<=110
Core diameter (mm)	>0.64*)
Core cross-section (mm²)	>0.34*)

This cable allows the optimal network utilization. In fact, it is possible to reach the maximum communication speed allowed (12Mbaud). However, there are some limitations due to the maximum physical dimensions of a bus segment as follows:

kbaud	9.6	19.2	93.75	187.5	500	1500	12000
Range/Segment	1200m	1200m	1200m	1000m	400m	200m	100m

Finally, the physical characteristics of a Profibus network are learned.

Profibus-DP Interface Absolute Singleturn Encoder EAC58



Max. number of station participating in the exchange of user data	DP: 126 (Address 0-125) FMS: 127 (Address 0-126)
Max. number of stations per segment	32
Available data transfer rates (kbit/s)	9.6,19.2,45.45,93.75,187.5,500,1500,3000,
Max. segments	6000,12000

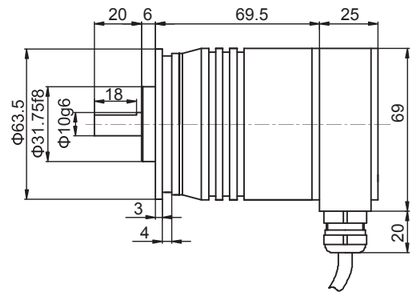
According to EN50170, a maximum of 4 repeaters are allowed between any two stations.Dependent on the repeater type and manufacturer, more than 4 repeaters may be allowed in some cases. Refer to the manufacturer's technical specification for details.

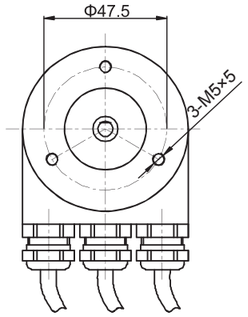
Wiring box

Unscrew the back cover, and wire the cables (power cable, input and output bus) according to the instructions on the cover. The cable will pass through the metallocking ring, water-proof rubber ring, and dust-proof rubber ring into the metal notch.Lock the metal ring to fasten the cables

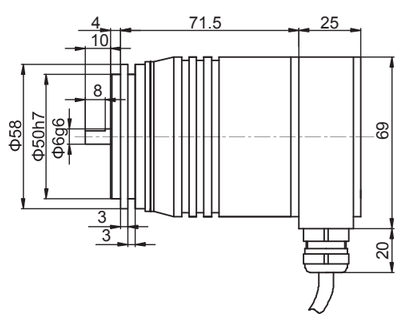
Dimensions

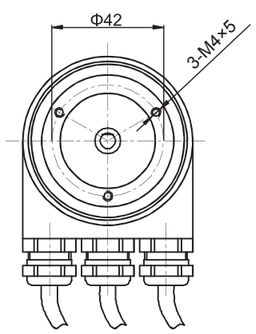
EAC58A





EAC58B

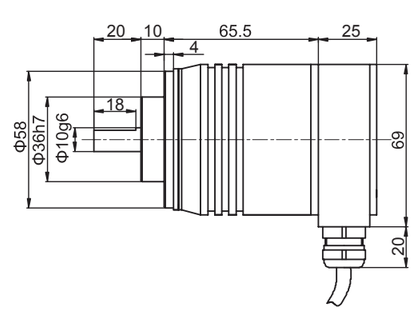


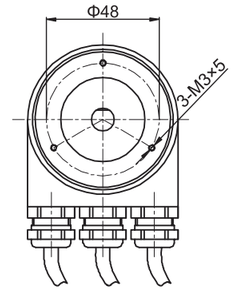


Profibus-DP Interface Absolute Singleturn Encoder EAC58

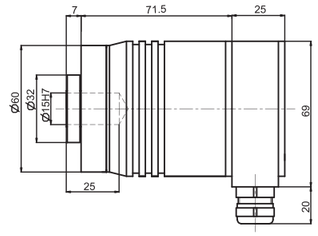
Dimensions

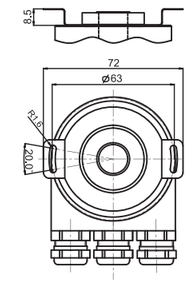
EAC58C





EAC58W





Profibus-DP Interface Absolute Singleturn Encoder EAC58

Order Code:

EAC 58 C 10 – B F6 X X R – 8192 DP

- **EAC** — Series: EAC = Profibus-DP interface absolute singleturn
- **58** — Housing diameter: 58=Φ58flange
- **C** — Flange type: A=round flange; B=synchro flange, shaft length 10mm; C=Φ36clamping flange,shaft length 20mm; W=blind hollow shaft flange, double-winged spring leaf installation
- **10** — Shaft/ Hollow shaft diameter: 6=Φ6g6mm (58B); 8=Φ8g6mm 58A/B; 9=Φ9.52g6mm 58A; 10=Φ10g6mm; Only for flange type 58W: 8 =Φ8H7mm, 9 =Φ9.52H7mm, 10=Φ10H7mm, 12=Φ12H7mm, 14=Φ14H7mm, 15=Φ15H7mm
- **B** — Code type: B=Binary
- **F6** — Output & Supply voltage: F6=Profibus-DP interface 10~30Vdc
- **X** — Output logic: X=nonsense
- **X** — Type of connection: X=integrated coupler terminal box with 3 PG7 threaded connectors; T=integrated coupler terminal box with 3 M12 plugs
- **R** — Outlets direction: R=radial
- **8192** — Resolution: resolution (see previous pages for reference) standard8192 (13 bits)
- **DP** — Profibus-DP Interface Absolute Encoder

4…20mA Analog Output Absolute Singleturn Encoder EAC58

Description:

The 4-20mA Analog output absolute singleturn encoder EAC58 series features acompact structure with striong perfomance in withstanding mechanical damages and higher axial and radial loads. EACA58 series is equipped with the RESET function,and has the resolution up to 8192.4-20mA output is compatible with special PC controllers.

Features:

- Waterproff seal provides greater IP level
- Pre-screwed holes for convenience purpose
- Durable stlnless steel shaft
- Metal housing for better shock resistance
- Protection class IP65
- Staring and flnishing points calibration function equipped

Mechanical Characteristics

Shaft diameter（mm）	Φ6g6/Φ10h8
Protection acc. to EN60529	IP65
Speed（r/m）	6000
Max load capacity of the shaft	
Axial load capacity	60N
Rsdial load capacity	120N
Shock resistance	50G/11ms
Vibration resistance	10G 10~2000Hz
Bearing life	10^9revolution
Rotor moment of inertia	$1.8\times10^{-6}kgm^2$
Starting torque	<0.01Nm
Body material	AL-alloy
Housing material	AL-alloy
Operating temperature	-20°C~~+80°C
Storage temperature	-25°C~~+85°C
Weight	360g

Resolution：8192.For other resolution repuests please contact us for further information.

Electrical Characteristics

Type of Interface	4--20mA	0--10V
Supply voltage（Ub）	10--30VDC/5VDC	10--30VDC
Current consumption	70mA	70mA
Max.loading current	84mA	84mA
Word-updating frequency	Max15.000/s	Max. 15.000/s
Current loop	10 ... 30VDC	10 ... 30VDC
Analog signal	4 ... 20mA	0 ... 10V
Max.input resistance	200Ω	200Ω
Measuring range	0 ... 360°	0 ... 360°
Max.sensitivity（25°C）	0.2°	0.2°
Resolution	13 Bit	13 Bit
Setup time	Max. 2 ms	Max. 2 ms
Temperature effect	0.1°/10K	0.1°/10K
No-load current	≤3.5 mA	≤3.5 mA
Sensor should be electrically isolated form current loop		

Conforms to CE requirements of EN 61000-6-1，EN 61000-6-4 and EN 61000-6-3

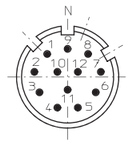
4…20mA Analog Output Absolute Singleturn Encoder EAC58

Terminal Configuration

Voltage signal	0V	+U_b	VOUT+	VOUT-	VIN+	VIN-	STZ	VR	STT	-----	-----	-----	⏚
Current Signal	0V	+U_b	----	-----	+I	-I	STZ	VR	STT	-----	-----	-----	⏚
Color	WH	BN	GN	YE	GY	PK	BU	RD	BK	VT	GY/PK	RD/BU	
Gray	1	2	3	4	5	6	7	8	9	10	1	12	PH

Top view of the connecting end on needle connector block

12-pin plug



+I: Input of current loop 0V/+U_b and VIN+/VIN-: can be powered together or seperately

I-: Output of current loop VOUT+/VOUT-: voltage output VIN-/VOUT-: connected in circuit

STZ: SET input (signal level remains high for 2 sec), the output current is set to 4mA

VR: Up/down input, as the input is activated, decreasing current values are transmitted when shaft turning clockwise

STT input: SET input (signal level remains high for 2 sec), the output current is set to 20mA

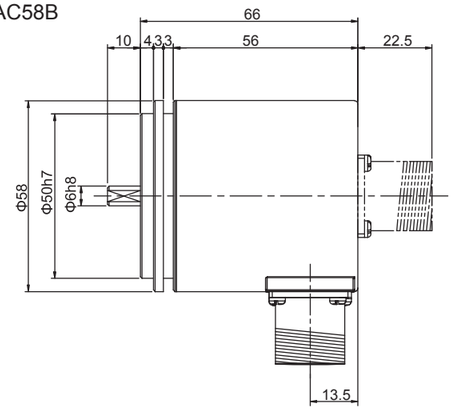
PH: Plug housing

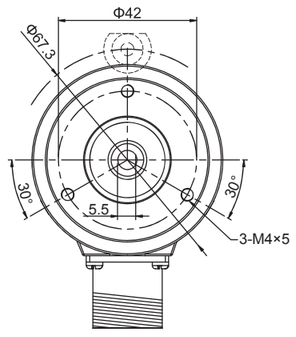
Attention: 1, Before initial start-up, unused outputs must be insulated..

2, Shaft remains static, and at the same time set STZ & STT signal at high level; singleturn resumes to 4-20mA, and the present position output is at 4mA.

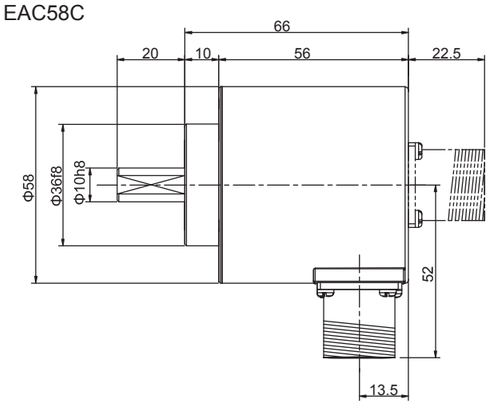
Dimensions

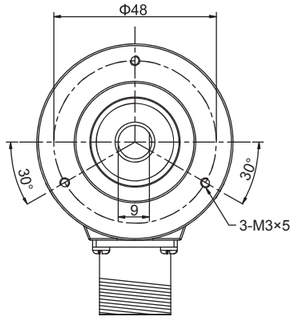
EAC58B





EAC58C





4…20mA Analog Output Absolute Singleturn Encoder EAC58

Order Code

EAC 58 C 10 – G S6 X PC R – 8192 EA . XXXX

Series
EAC=4--20mA analogue interface

Housing diameter
58=housing diameter

Flange type
B=synchro flange,shaftΦ6 length10mm
C=Φ36clamping flange, shaft length 20mm

Shaft diameter
6=Φ6mm EAS58B
10=Φ10mm

Supply voltage
S6 = 10~30Vdc
S5 = 5Vdc

Type of connection
PC=12-core cable (1.5m)
T=M23, 12-pin plug

Outlets direction
R=radial
A=axial

Resolution
singleturn resolution 8192(13bits)

Output
EA=4~20mA
EV=0~10V

XXXX=Special code
Customized cable length
CN00XX=cable length
e.g. CN0010=1m
CN0020=2m

Standard Absolute Singleturn Encoder EAC58

Description

Standard absolute singleturn encoder EAC58 series can be widely used in various industrial environments. The series also has a good performance against mechanical damage, and withstanding higher axial and radial load. Various flange types and connections are available. EAC58 series also has the RESET function and resolution up to 8192.

Features

- Pre-screwed holes for easy installation
- Waterproof seal provides greater IP level
- Durable stainless steel shaft
- Metal housing for shock resistanceMetal housing for shock resistance
- Protection class IP65
- Reverse connection protection and short circuit protection

Mechanical Characteristics

Shaft diameter（mm）	Φ6/Φ8/Φ9/Φ10h8
Protection acc. to EN 60529	Ip65
Speed (r/m)	6000
Max load capacity of the shaft	
Axial load capacity	60N
Radial load capacity	120N
Shock resistance	50G/11ms
Vibration resistance	10G 10~2000Hz
Bearing life	10^9revolution
Rotor moment of inertia	$1.8\times10^{-6}kgm^2$
Starting torque	<0.01Nm
Body material	AL-alloy
Housing material	AL-alloy
Operating temperature	-20 ℃~~+80 ℃
Storage temperature	-25 ℃~~+85 ℃
Weight	360g

Resolution

SSI：1024， 2048， 4096， 8192

Parallel：2， 4， 8， 16， 32， 64， 128， 256， 512， 1024， 2048， 4096，8192

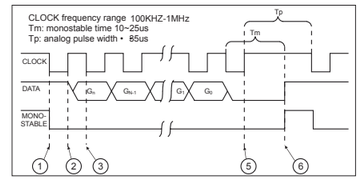
Electrical Characteristics

Output circuit	SSI	SSI	Parallel	Parallel
Output driver	RS422	RS422	Push-pull/NPN open collector	
Resolution	13 Bits	13 Bits	13 Bits	13 Bits
Supply voltage (Vdc)	10-30V	5V	10-30V	5V
Power consumption (no load)	≤200mA	≤200mA	≤200mA	≤200mA
Permissible load (channel)	±20mA	±20mA	±20mA	±2zhuo0mA
Pulse frequency	Max1MHz	Max1MHz	Max40kHz	Max40kHz
Signal level high	Typ.3.8V	Typ.3.8V	MinUb-2.8V	Min3.4V
Signal level low	Max0.5V	Max0.5V	Max2.0V	Max0.5V
Rise timeTr	Max 100ns	Max 100ns	Max 0.2μs	Max 0.2μs
Fall timeTf	Max 100ns	Max 100ns	Max 0.2μs	Max 0.2μs

Terminal Configuration

SSI Wiring Guide

Signal	0V	$+U_b$	+C	-C	+D	-D	ST *	V/R*	Shielded
Color Code	WH	BN	GN	YE	GY	PK	BU	RD	⏚
12-pin	1	2	3	4	5	6	7	8	PH



Parallel Wiring Guide

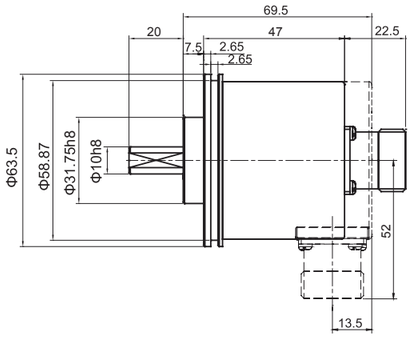
Signal	0V	$+U_b$	bit0	bit1	bit2	bit3	bit4	bit5	bit6	bit7	bit8	bit9	bit10	bit11	bit12	V/R *	ST *
Color	WH	BN	GN	YE	GY	PK	BU	RD	BK	PL	GY/PK	RD/BU	WH/GN	BN/GN	WH/YE	YE/BN	WH/GY
17-pin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Gray	/	/	1	2	3	4	5	6	7	8	9	10	11	12	13	/	/
Binary																	

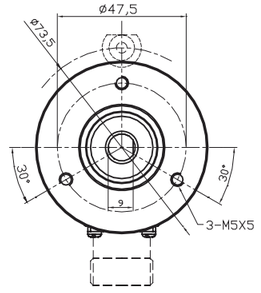
Attention

Bite definition of parallel interface for an absolute encoder is： bit0=MSB,bit1=MSB-1,bit2=MSB-2,.....

Dimensions

EAC58A

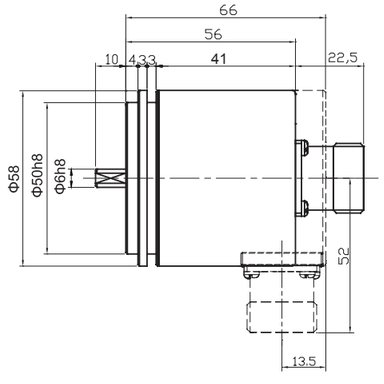


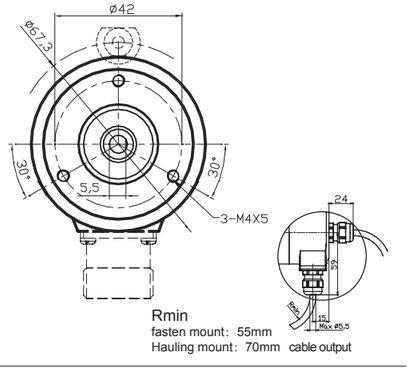


servo-restraint ring：

58PXL (see installation accessories for reference)

EAC58B





Rmin

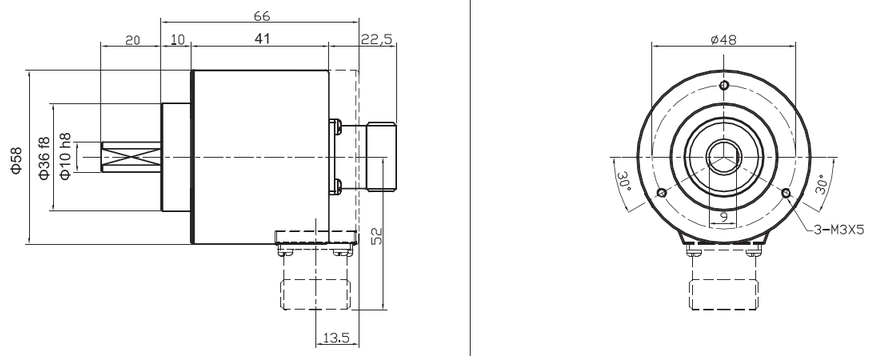
fasten mount：55mm

Hauling mount：70mm cable output

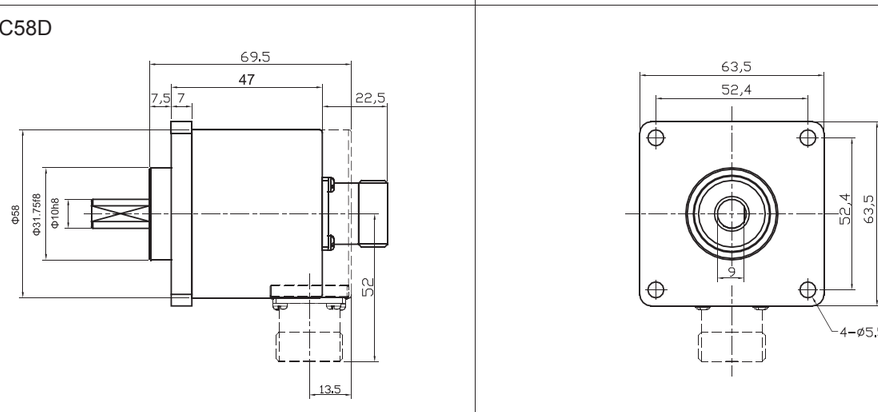
Standard Absolute Singleturn Encoder EAC58

Dimensions

EAC58C

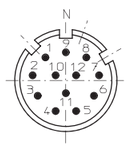


EAC58D

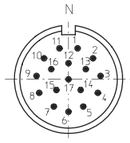


Note:Do not use excessive force during hardwiring between driving shaft,flange,and encoder to prevent shaft damage form overload.

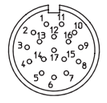
Top view of 12-pin encoder



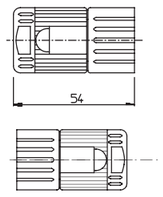
Top view of 17-pin encoder



Hole arrangement for of 17-pin connector



Size



Standard Absolute Singleturn Encoder EAC58

Order Code:

EAC 58 C 10 – G S6 X PC R – 8192 EU . XXXX

Shaft diameter
6=Φ6mm(EACS58B)
8=Φ8mm
9=Φ9.52mm (3/8")
10=Φ10mm

Flange type
A=Φ31.75 clamping flange, shaft length 20mm
B=synchronous flange, shaft length 10mm
C=Φ36 clamping flange, shaft length 20mm
D=63.5 spuare flange, Φ31.75,shaft length 20mm

Housing dimensions
58= housing dimensions

Series
EAC=absolute singleturn series

Output Code
G=Gray Code
B=Binary

Interface & Supply voltage

P6=push-pill（standard positive logic）	10~30Vdc
P5=push-pill（standard positive logic）	5Vdc
S6=SSI（synchronous serial interface）	10~30Vdc
S5=SSI（synchronous serial interface）	5Vdc
C6=NPN open collector（standard negative logic）	10-30Vdc

Output logic
P=positive logic (parallel)
N=negative logic (parallel)
X= ninsense (SSI)

Types of connection
PC=12-core cable (SSI) standard length 1.5m
T=M23, 12-pin connector (SSI)
PD=18-core cable (parallel) standard length 1.5m
TA=M23, 17-pin connector (parallel)

Resolution
singleturn resolution
(see previous pages for reference)
Max 8192 (13 bits)-parallel
standard 8192 (13 bits)-SSI

Standard Absolute Singleturn Encoder

Outlets direction
R=radial
A=axial

XXXX=Special code
Customized cable length
CN00XX= cable length
e.g. CN0010=1m
CN0020=2m

Connector accessories
Connectors matching with "T" wiring
Ordering code：TMSP1612F
Connectors matching with "TA" wiring
Ordering code：TMSP1617F

This sample is for reference only, please subject to the actual products.
Please contact ELCO for further specification requests and requirements.

Standard Hollow Shaft Absolute Singleturn Encoder EAC58P

Description

Standard absolute singleturn encoder EAC58P series can be widely used in various industrial environments. The series also has a good performance against mechanical damage, and withstanding higher axial and radial load. Various flange types and connections are available. EAC58P series is also equipped with the RESET function with resolution up to 8192.

Features

- Hollow shaft installation saves space with "C" ring lock
- Φ8/10/12 hollow shaft for easy applications
- Waterproof seal provides greater IP level
- Metal housing is capable of withstanding higher axial and radial loads
- Protection class IP65
- Output cables or connectors are available for easy maintenance

Mechanical Characteristics

Hollow shaft diameter（mm）	Φ8/Φ10/Φ12H7
Protection acc. to EN 60529	IP65
Speed（r/m）	6000
Max load capacity of the shaft	
Axial load capacity	60N
Radial load capacity	1200N
Shock resistance	50G/11ms
Vibration resistance	10G 10~2000Hz
Bearing life	10^9revolution
Rotor moment of inertia	1.8×10^{-6}kgm^2
Starting torque	<0.01Nm
Body material	AL-alloy
Housing material	AL-alloy
Operating temperature	-20°C~~+80°C
Storage temperature	-25°C~~+85°C
Weight	360g

Resolution

SSI：1024，2048，4096，8192

Parallel：2，4，8，16，32，64，128，256，512，1024，2048，4096，8192

Electrical Characteristics

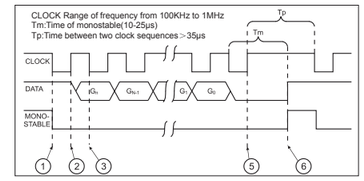
Output circuit	SSI	SSI	Parallel	Parallel
Output driver	RS422	RS422	Push-pull/NPN OC	
Resolution	13 Bits	13 Bits	13 Bits	13 Bits
Supply voltage (Vdc)	10-30V	5V	10-30V	5V
Power consumption (no load)	≤200mA	≤200mA	≤200mA	≤200mA
Permissible load (channel)	±20mA	±20mA	±20mA	±20mA
Pulse frequency	Max1MHz	Max1MHz	Max40kHz	Max40kHz
Signal level high	Typ.3.8V	Typ.3.8V	Typ.Ub-2.8V	Typ.3.4V
Signal level low	Max0.5V	Max0.5V	Max2.0V	Max0.5V
Rise timeTr	Max 100ns	Max 100ns	Max 0.2μs	Max 0.2μs
Fall timeTf	Max 100ns	Max 100ns	Max 0.2μs	Max 0.2μs

Standard Hollow Shaft Absolute Singleturn Encoder EAC58P

Terminal Configuration

SSI Wiring Guide

Signal	0V	+U_b	+C	-C	+D	-D	ST*	V/R*	Shield
Color	WH	BN	GN	YE	GY	PK	BU	RD	÷
12-pin	1	2	3	4	5	6	7	8	PH



Parallel

Signal	0V	+U_b	bit0	bit1	bit2	bit3	bit4	bit5	bit6	bit7	bit8	bit9	bit10	bit11	bit12	V/R*	ST*
Color	WH	BN	GN	YE	GY	PK	BU	RD	BK	VT	GY/PK	RD/BU	WH/GN	BN/GN	WH/YE	YE/BN	WH/GY
12-pin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Gray	/	/	1	2	3	4	5	6	7	8	9	10	11	12	13	/	/
Binary																	

Attention

Bite definition of parallel interface for an absolute encoder is: bit0=MSB, bit1 =MSB-1, bit2=MSB-2,

Dimensions

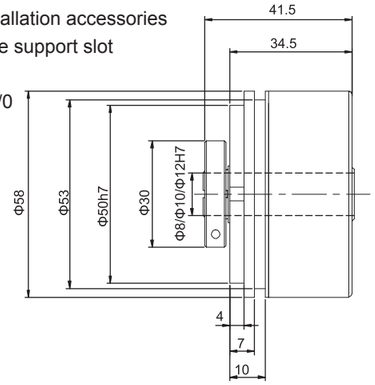
EAC58P(Q)

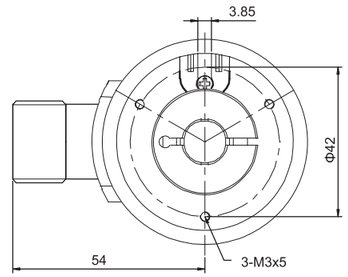
P without installation accessories

Q short torque support slot

Accessories:

E23230010A/0

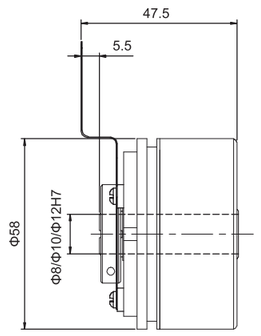


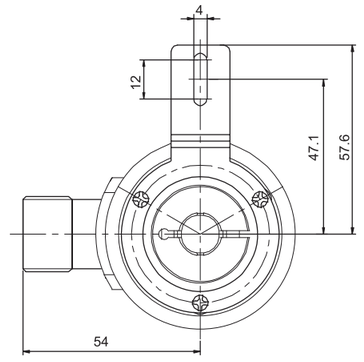


EAC58H

Accessories:

E41350050A/0

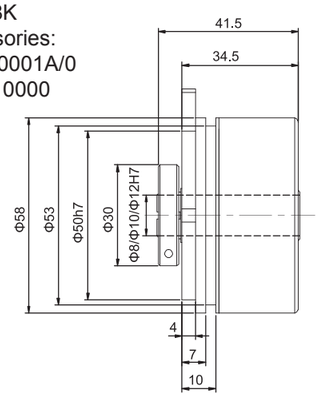


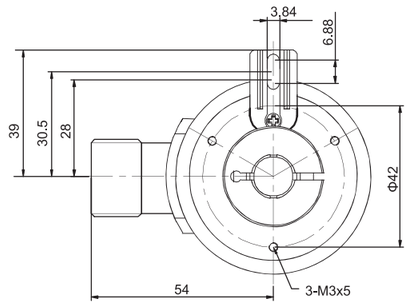


Standard Hollow Shaft Absolute Singleturn Encoder EAC58P

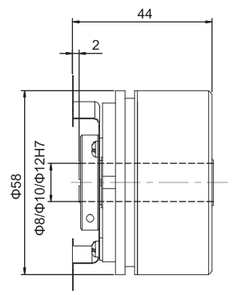
Mechanical Drawings

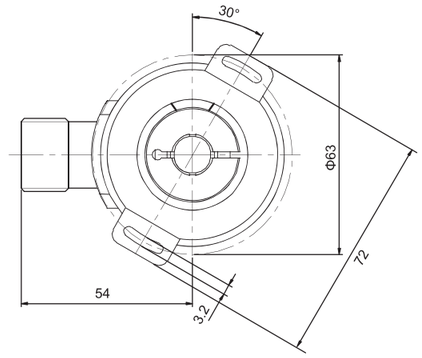
EAC58K
Accessories:
E41220001A/0
E4700 0000





EAC58W
Accessories:
E41350042A/1





Standard Hollow Shaft Absolute Singleturn Encoder EAC58P

Order Code:

EAC 58 W 10 – G S6 X PC R – 8192 EU . XXXX

Series
EAC＝standard absolute singleturn

Housing dimensions
58=housing diameter

Flange type
p=without installation accessories
H=tether arm
Q=short torque support slot
K=long torque support slot
W=double-winged stator coupling

Hollow Shaft diameter
8=Φ8mm
9=Φ9.52mm
10=Φ10mm
12=Φ12mm

Output Code
G=Gray Code
B=Binary

Interface & Supply voltage

P6=push-pill（standard positive logic）	10~30Vdc
P5=push-pill（standard positive logic）	5Vdc
S6=SSI（synchronous serial interface）	10~30Vdc
S5=SSI（synchronous serial interface）	5Vdc
C6=NPN open collector（standard negative logic）	10-30Vdc

Output logic
P=positive logic (parallel)
N=negative logic (parallel)
X= ninsense (SSI)

Types of connection
PC=12-core cable (SSI) standard length 1.5m
T=M23, 12-pin connector (SSI)
PD=18-core cable (parallel) standard length 1.5m
TA=M23, 17-pin connector (parallel)

Outlets direction
R=radial
A=axial

Resolution
singleturn resolution
(see previous pages for reference)
Max 8192 (13 bits)-parallel
standard 8192 (13 bits)-SSI

Standard Absolute Singleturn Encoder

XXXX=Special code
Customized cable length
CN00XX= cable length
e.g. CN0010=1m
CN0020=2m

Connector accessories
Connectors matching with “T” wiring
Ordering code： TMSP1612F
Connectors matching with “TA” wiring
Ordering code： TMSP1617F

This sample is for reference only, please subject to the actual product.
Please contact ELCO for further specification requests and requirements.

DeviceNet Absolute Multiturn Encoder EAM58

Descriptions

DeviceNet absolute multituren encoder EAM58 series is used in various industrial environment. It delivers excellent performance in withstanding mechaniclal damages. It complies with DeviceNet protocol and has a max. resolution of 8192 and max. revolution up to 4096. Its high speed communication and anti-interference function ensure steady performance during operatuion.

Features

DeviceNet®

- Pre-screwed holes, convenient for installation
- Water-proof seal, improve protection grade
- Optional shaft diameter; better load capacity thanks to stainless steel design
- Cable output, faciliate maintemance and installation
- Protection grade of IP65
- Metal housing for better shock resistance
- Comply with DeviceNet Bus protocol

Mechanical Characteristics

Shaft diameter (mm)	Φ6g6	-58B optional
	Φ8g6	-58A/B/C
	Φ9.52(3/8")g6	-58A/B/C
	Φ10g6	-58A/B/C
Hollow shaft diameter (mm)	Φ8H7/Φ9.52H7/Φ10H7	-58W
	Φ12H7/Φ14H7/ Φ15H7	-58W
Protection Grade	IP65	
Speed (r/m)	6000	
Axial load capacity	80N	
Radial load capacity	160N	
Shock resistance	50G/11ms	
Vibration resistance	10G 10~2000Hz	
Bearing life	10^9 revolution	
Moment of inertia	approx. 1.8×10^{-6} kgm^2	
Starting torque	<0.05Nm	
Housing material	AL UNI 9002/5 - (D11S)	
Cover material	AL 6060	
Flange material	AL UNI 9002/5 - (D11S)	
Operating temperature	-40°C~~+80°C	
Storage temperature	-45°C~~+85°C	
Weight	~800g	

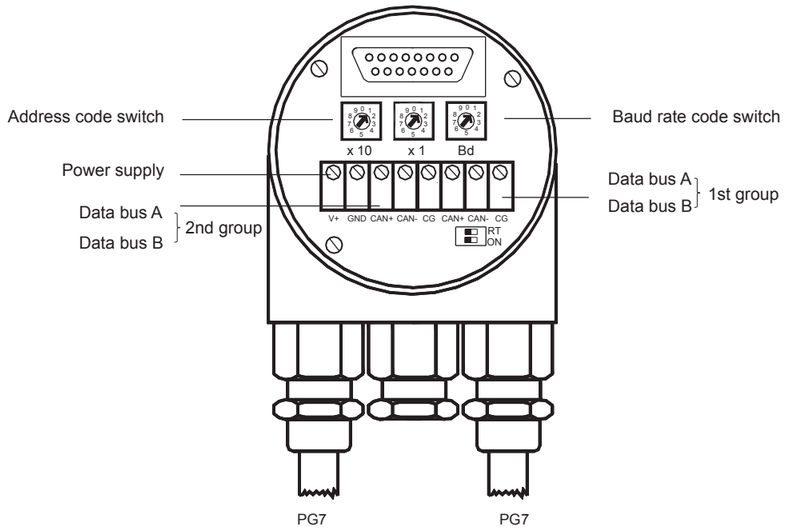
4096 (Max. revolution) × 8192 (Max. resolution of single turn)

Electrical Characteristics

Max.revolution	4096 (12 bits)
Max revsolution/revolution	8192 (13 bits)
Supply voltage (Vdc)	10~30 Vdc
Power consumption (no load)	350mA
Bus Max. rate	500K
Linearity	+/- 1/2 LSB
Protocal	DeviceNet Profile for Encoder Release V2.0

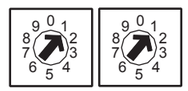
Terminal Assignment

V+	Power supply (24VDC)
GND	Power ground (24VDC)
CG	CAN GND
CAN-	CAN Low
CAN+	CAN High
CG	CAN GND
CAN-	CAN Low
CAN+	CAN High



Regulate station address

The station address can be regulated by the swith and be distributed only once among the address 1 to 63.



Regulate Baud rate

Baud rate k bit/s	Switch
125	0
250	1
500	2

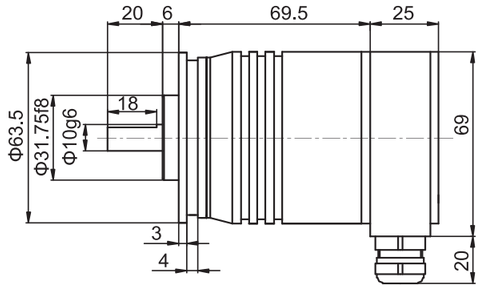
Regulate terminal resistor

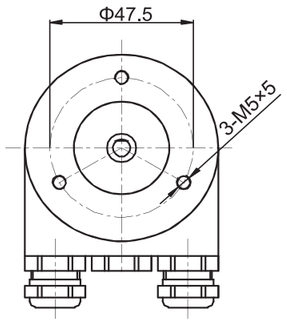
Set the terminal resistor (120 Ω) into the circuit by the DIP switch.

DeviceNet Absolute Multiturn Encoder EAM58

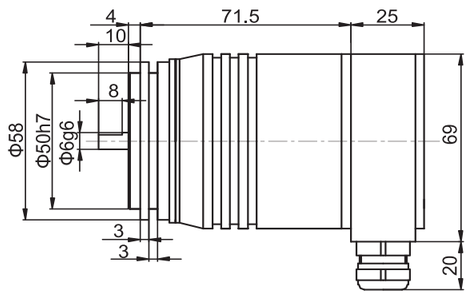
Dimensions (mm)

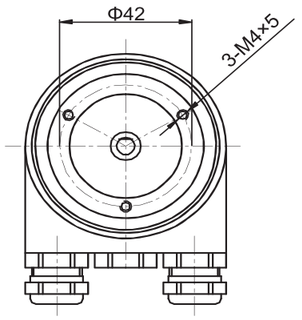
EAM58A





EAM58B

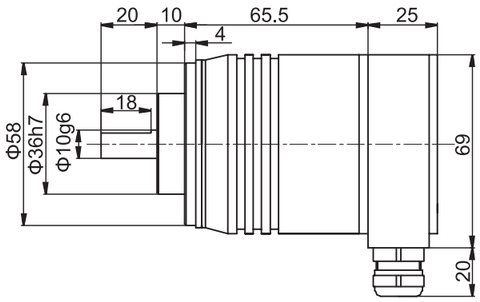


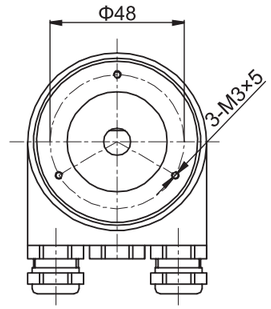


DeviceNet Absolute Multiturn Encoder EAM58

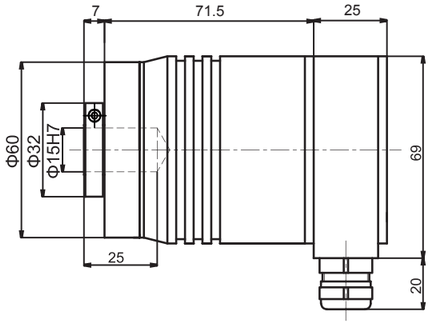
Dimensions (mm)

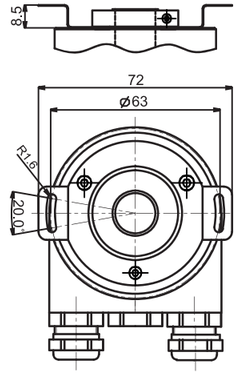
EAM58C





EAM58W





DeviceNet Absolute Multiturn Encoder EAM58

Order Code:

EAM 58 C 10 – B F6 X X R – 4096/8192 DN

Series
EAM=absolute multiturn DeviceNET

Housing diameter
58=Φ58

Flange types
A=round flange (58A)
B=synchro flange, shaft length 10mm
C=Φ36 clamping flange,shaft length 20mm
W=blind hollow shaft flange, installed with double-winged fixing sheet

(Hollow) Shaft diameter
6=Φ6g6mm for 58B
8=Φ8g6mm for 58A/B/C
9=Φ9.52g6mm for 58A/B/C
10=Φ10g6mm for 58A/B/C

Only applicable for the axis aperture in flange type 58 W
8 =Φ8H7mm
9 =Φ9.52H7mm
10=Φ10H7mm
12=Φ12H7mm
14=Φ14H7mm
15=Φ15H7mm

Code type
B=Binary

Interface & Supply voltage
F6=Profibus-DP interface 10~30Vdc

Output logic
X=not applicable

Type of connection
X= terminal box 2 PG7 threaded connectors and integrated T-coupler
T= integrated coupler terminal box with 3 M12 plugs

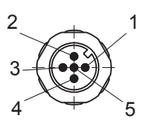
Outlets direction
R=radial

Resolution
Turns/Singleturn resolution (refer to previous pages)
Standard 4096/8192 (25 bits)

DeviceNet Absolute Encoder

M12 terminal assignment：

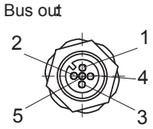
Bus in:



Signal	DRAIN	+ V DC	– V DC	CAN_H	CAN_L
Pin	1	2	3	4	5

For 5-core male plug, the order code of “T” connector is: TMSP12F-F5

Bus out:



Signal	DRAIN	+ V DC	– V DC	CAN_H	CAN_L
Pin	1	2	3	4	5

For 5-core female plug, the order code of “T” connector is: TMSP12F-M5

Profibus-DP Interface Absolute Multiturn Encoder EAM58

Description

Profibus-DP interface absolute multiturn encoder EAM 58 series are capable of withstanding mechanical damage and higher axial and radial loads. Various types of flanges can be adapted to meet different requirements. It complies with Profibus protocol,and has the max resolution up to 8192 and the max revolution up to 4096. The resolution and revolution can be configured in accordance with customer requirements. Its high speed communication and anti-interference capabilities deliver stable operation.

Features

- Various types of flanges available
- Pre-screwed holes for the convenience of customer
- Waterproof seal provides greater IP level
- Cable output, convenient in installation and maintenance
- Protection class IP65
- Metal housing for better shock resistance
- Conforming to Profibus-DP protocol, programmable revolution and resolution

Mechanical Characteristics

Shaft diameter (mm)	Φ6g6	-(58B)
	Φ8g6	-58A/B/D/EA
	Φ9.52(3/8")g6	-58A/D/E
	Φ10g6	-58C
Hollow shaft diameter (mm)	Φ8H7/Φ9.52H7/Φ10H7	-58W
	Φ12H7/Φ14H7/ Φ15H7	-58W
Protection acc. to EN 60529	IP65	
Speed	6000，continuous	
Axial load capacity	80N	
Radial load capacity	160N	
Shock resistance	50G/11ms	
Vibration resistance	10G 10~2000Hz	
Bearing life	10^9 revolution	
Rotor moment of inertia	approx.1.8×10^{-6} kgm^2	
Starting torque	<0.05Nm	
Body material	ALUNI 9002/5 -(D11S)	
Housing material	AL6060	
Flange material	ALUNI 9002/5 -(D11S)	
Operating temperature	-40°C~~+80°C	
Storage temperature	-45°C~~+85°C	
Weight	~800g -58B/C, 63A/D/E	

Resolution 4096 (revolution) ×8192 (resolution) 4096 (revolution) ×4096 (resolution)
Revolution and resolution can be programmed in PLC (see operation manual for configurations)

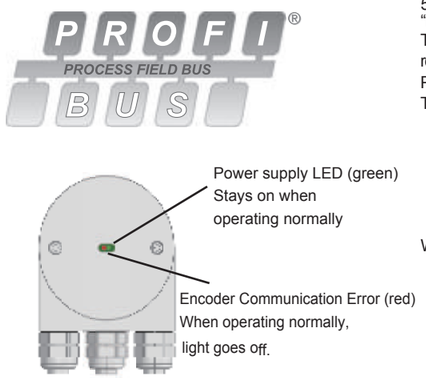
Electrical Characteristics

Revolution	4096 (12 bits)
Resolution/revolution	8192 (13 bits)
Supply voltage	10~30 Vdc
Power consumption (no load)	300mA
Baud rate	12 Mbaud
Linearity	+/- 1/2 LSB
Output frequency	Max 100 KHz

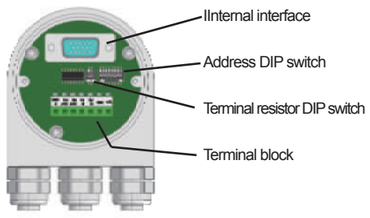
Terminal Assignement

+V	Supply voltage (24VDC)
0V	Ground
A	Profibus-DPline output (GN)
B	Profibus-DPline output (RD)
A	Profibus-DPline input (GN)
B	Profibus-DPline input (RD)

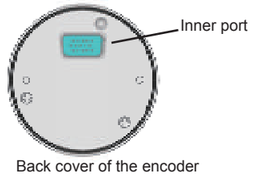
Profibus-DP Interface Absolute Multiturn Encoder EAM58



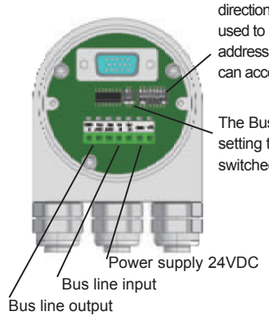
Back of the encoder wiring box



Inside of the encoder wiring box



Back cover of the encoder



Introduction

The Profibus-DP Bus multiturn absolute encoder (identification code 0x0CCA) conforms to the Profibus-DP standards as described in the European Standard EN 50170 volume 2. It also complies with the existing encoder regulation document: "Profibus Profile for Encoders, Order No. 3062".

The Profibus-DP interface maintains the same maximum resolution and characteristics (8192 position/ revolution, 4096 revolution) of the stand-along version, and it also adds on the extra feature of the Profibus-DP network.

Through the Profibus-DP network, it is possible to:

- Obtain the angular position information from the encoder during the periodic data exchange.
- Program the resolution and the revolution (refer to corresponding chapters for parameter setting).
- Change the default increment counting direction (switch between CW/CCW when configuring the parameters).
- Perform the Preset operation (Set the encoder to read a specific position).
- Read the diagnosis status.
- Obtain info about the code supplied by the device.

When using the device, it is possible to:

- Display the ON/OFF status.
- Display the device activity on the bus.
- Activate the Reset function
- Set up the device address
- If required, inserting the terminal resistor into the bus.
- Change the counting direction

Installation

Installing the Profibus-DP encoder in a network requires the execution of the standard procedures necessary for configuring any Profibus-DP slave. The procedures are as follows

1- Add the slave onto the master (please see corresponding chapter).

2- Wire the encoder into the Profibus network. Whether wiring it in the middle or at the terminal are depending on the physical position of the device in the bus.

3- Directly set up the address (which must be unique in the network and as same as the device) for the slave.

4- Prepare the applications at the master side and set up the Profibus network.

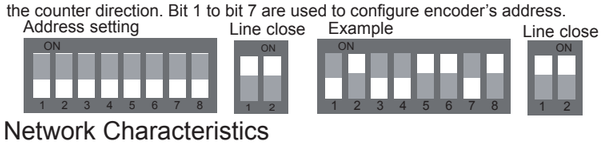
On the back cover of the encoder there are two LED indicators. The device's operating status can be observed by the two LED. The green LED shows the power status and must be on constantly. The red LED only switches off only during the periodic data exchange between the Profibus master and the encoder.

Note: To set and configure the slave into the Profibus-DP master, it is necessary to use the "gsd" file delivered with the encoder. The file can be found on the CD.

DIP-switches setup (configuring slave address)

Besides the address and the standard position of a terminal DIP switch, a configuration example of Profibus and the devices is illustrated below.

In this example, device's address is set up as 1001101, with the corresponding decimal address as 77. Bit 7 is the top digit, and bit 1 is the lowest digit. Bit 8 is used for changing the counter direction. Bit 1 to bit 7 are used to configure encoder's address.



Network Characteristics

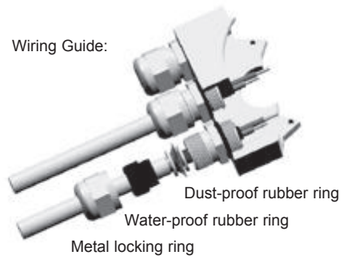
Usually, an A type cable is used to wire a DP/FMS network. This cable has to have the following characteristics:

Parameter	A type cable
Characteristic resistance（Ω）	135…165at a certain frequency（3…20Mhz）
Rated capacity（PF/m）	<30
Loop resistance （Ω/Km）	<=110
Core diameter（mm）	>0.64*）
Core cross-section（mm^2）	>0.34*）

This cable allows the optimal network utilization. In fact, it is possible to reach the maximum communication speed allowed (12Mbaud). However, there are some limitations due to the maximum physical dimensions of a bus segment as follows:

kbaud	9.6	19.2	93.75	187.5	500	1500	12000
Range/Segment	1200m	1200m	1200m	1000m	400m	200m	100m

Finally, the physical characteristics of a Profibus network are now known.



Max. number of station participating in the exchange of user data	DP：126（Address 0-125） FMS：127（Address 0-26）
Max. number of stations per segment	32
Available data transfer rates (kbit/s)	9.6,19.2,45.45,93.75,187.5,500,1500,3000,
Max. segments	6000,12000

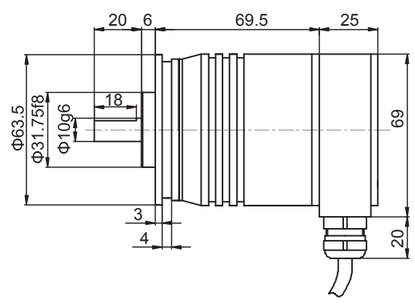
According to EN50170, a maximum of 4 repeaters are allowed between any two stations. Dependent on the repeater type and manufacturer, more than 4 repeaters may be allowed in some cases. Refer to the manufacturer's technical specification for details.

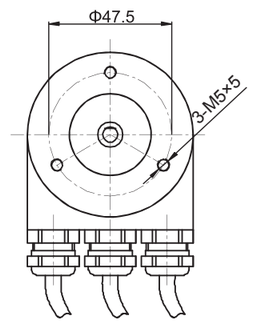
Wiring box

Unscrew the back cover and wire the cables (power cable, input and output bus) according to the instructions on the cover wiring. The cable will pass through the metal locking ring, water-proof rubber ring, and dust-proof rubber ring into the metal notch. Lock the metal ring to fasten the cables

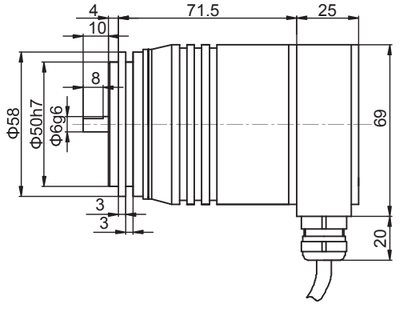
Dimensions

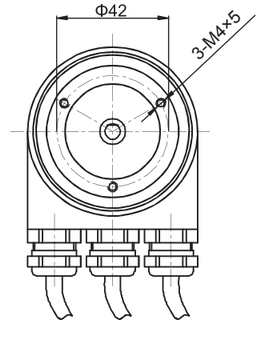
EAM58A





EAM58B

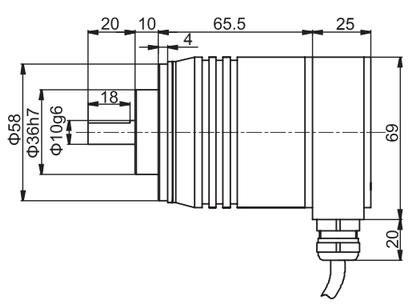


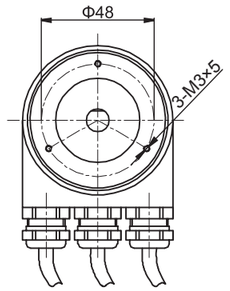


Profibus-DP Interface Absolute Multiturn Encoder EAM58

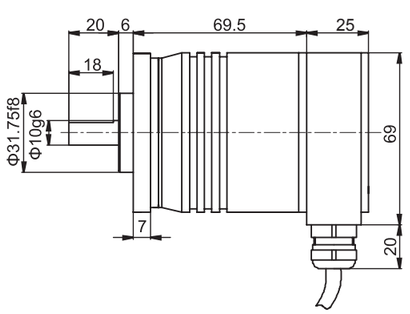
Dimensions

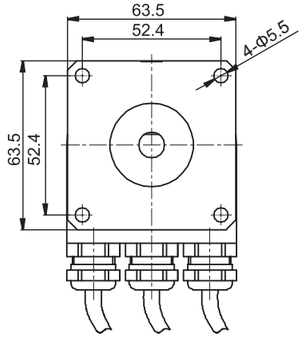
EAM58C



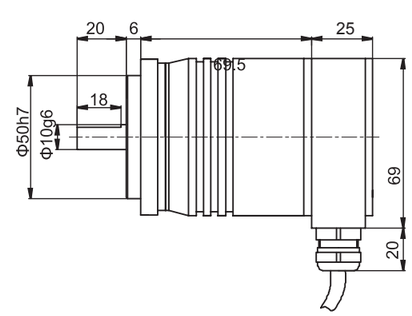


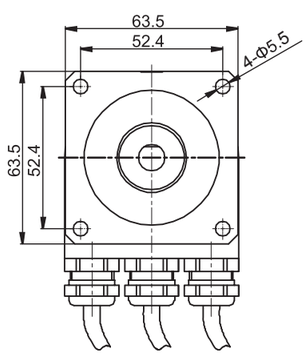
EAM58D





EAM58E

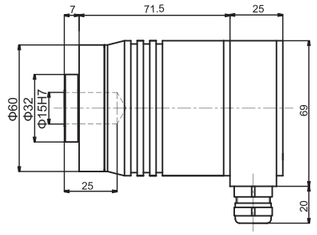


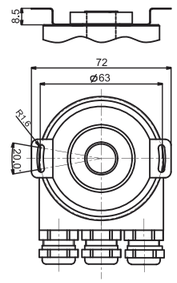


Profibus-DP Interface Absolute Multiturn Encoder EAM58

Dimensions

EAM58W





Order Code:

EAM 58 C 10 – B F6 X X R – 4096/8192 DP

Profibus-DP Interface Absolute Encoder

Resolution
resolution (see previous pages for reference
Standard 4096/8192(25 bits)

Connection direction
R=radial

Shaft diameter
6=Φ6g6mm (58B)
8=Φ8g6mm 58A/B/D/E,
9=Φ9.52g6mm 58A/D/E,
Only applicable for axis aperture in flange type 58W
8 =Φ8H7mm
9 =Φ9.52H7mm
10=Φ10H7mm
12=Φ12H7mm
14=Φ14H7mm
15=Φ15H7mm

Types of connection
X=integrated coupler terminal box with 3 PG7 threaded connectors
T=integrated coupler termianl box with 3 M12 plugs

Output logic
X= nonsense

Interface & Power Supply
F6=Profibus-DP interface 10~30Vdc

Code type
B=Binary

Flange type
A=round flange
B=synchro flange, shaft length 10mm
C=Φ36clamping flange,shaft length 20mm
D=Φ63.5square flange，Φ31.75，shaft length20mm
E=Φ63.5quare flange，Φ50h7，shaft length20mm
W=blind hollow shaft flange, double-winged spring leaf installation

Housing diameter
58=Φ58flange

Series
EAM＝Profibus-DP interface absolute multiturn

4-20mA Analog Output Absolute Multiturn Encoder EAM58

Description:

4-20mA Analog output absolute multiturn encoder EAM58 series, designed with compact structure is capable of withstanding higher axial and radial loads. European standard flanges provide great convenience in installation. The encoder can provide 16 bits and 4-20mA analog and data outputs to meet the specific interface needs of PC. Multiple configurations of resolution and number of turns are available to meet different application requirements.

Features:

- European standard flange
- Waterproof seal provides greater IP level
- Pre-screwed holes for convenience purpose
- Durable stainless steel shaft
- Metal housing for better shock resistance
- Protection class IP65
- Output cables or connectors are available for easy installation and maintenance
- 4-20mA Analog output

Mechanical Characteristics

Shaft diameter(mm)	Φ6g6/Φ8g6/Φ9g6/Φ10g6
Protection acc. to EN 60529	IP65
Speed(r/m)	6000
Max load capacity of the shaft	
Axial load capacity	80N
Radial load capacity	160N
Shock resistance	50G/11ms
Vibration resistance	10G 10~2000Hz
Bearing life	10^9revolution
Rotor moment of inertia	$1.8\times10^{-6}kgm^2$
Starting torque	<0.01Nm
Body material	AL-alloy
Housing material	AL-alloy
Operating temperature	-40°C~~+80°C
Storage temperature	-45°C~~+85°C
Weight	360g~750g

Resolution 256 512 1024 2048 4096 8192

others on request

Electrical Characteristics

Output circuit	4--20mA	0--10V
Supply voltage(U_b)	10--30VDC／5VDC	10--30VDC
Power consumption typ.	70mA	70mA
No load Max.	84mA	84mA
Word change frequency	Max15.000/s	Max. 15.000/s
Current loop supply voltage	10 ... 30VDC	10 ... 30VDC
Analogue signal	4 ... 20mA	0 ... 10V
Max. input resistance	200Ω	200Ω
Measuring range	Determined based on on actual resolution	Determined based on on actual resolution
Max. sensitivity（25℃）	0.2°	0.2°
Resolution	16 Bit	16 Bit
Building up time	Max. 2 ms	Max. 2 ms
Temperature coefficient	0.1°/10K	0.1°/10K
Power consumption (no load)	≤3.5 mA	≤3.5 mA
Sensors must be electrically insulated from current loop.		

Conforms to CE requirements: EN 61000-6-1, EN 61000-6-4 and EN 61000-6-3

4-20mA Analog Output Absolute Multiturn Encoder EAM58

Terminal Configuration

Voltage signal	0V	+U_b	VOUT+	VOUT-	VIN+	VIN-	STZ	VR	STT	-----	-----	-----	⏚
Current Signal	0V	+U_b	----	-----	+I	-I	STZ	VR	STT	-----	-----	-----	⏚
Color	WH	BN	GN	YE	GY	PK	BU	RD	BK	VT	GY/PK	RD/BU	
Gray	1	2	3	4	5	6	7	8	9	10	1	12	PH

+I: Input of current loop　　0V/+U_b and VIN+/VIN-: can be powered together or seperately

I-: Output of current loop　　VOUT+/VOUT-: voltage output　　VIN-/VOUT-: connected in circuit

STZ: SET input (signal level remains high for 2 sec), the output current is set to 4mA

VR: Up/down input, as the input is activated, decreasing current values are transmitted when shaft turning clockwise

STT input: SET input (signal level remains high for 2 sec), the output current is set to 20mA

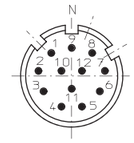
PH: Plug housing

Attention: 1, Before initial start-up, unused outputs must be insulated..

2, Shaft remains static, and at the same time set STZ & STT signal at high level; singleturn resumes to 4-20mA, and the present position output is at 4mA.

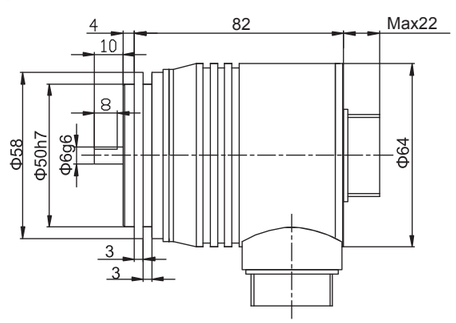
Top view of the connecting end on needle connector block

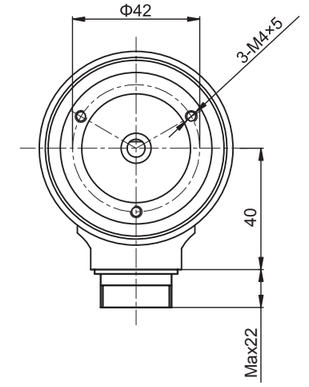
12-pin plug



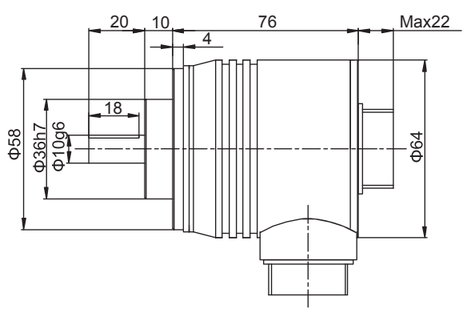
Dimensions

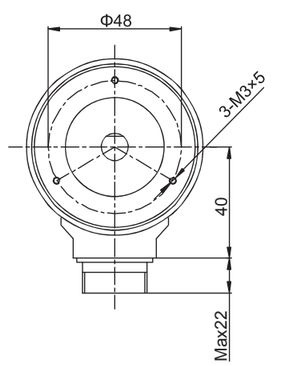
EAM58B





EAM58C





4-20mA Analog Output Absolute Multiturn Encoder EAM58

Order Code

EAM 58 C 10 – G S6 X PC R – 16/4096 EA . XXXX

- **EAM** — Series
  - EAM=4--20mA analogue interface
- **58** — Housing diameter
  - 58=housing diameter
- **C** — Flange type
  - B=synchro flange,shaftΦ6 length10mm
  - C=Φ36clamping flange, shaft length 20mm
- **10** — Shaft diameter
  - 6=Φ6mm EAS58B
  - 10=Φ10mm
- **G** — Supply voltage
  - S6 = 10~30Vdc
  - S5 = 5Vdc
- **S6** — Type of connection
  - PC=12-core cable (1.5m)
  - T=M23, 12-pin plug
- **X** — Outlets direction
  - R=radial
  - A=axial
- **PC** — Resolution
  - Singleturn resolution Max. 8192 (13bits)
  - Multiturn resolution Max. 65536 (16bits)
  - Note: Add "D" for including resolution cable box.
- **R** — EA=4~20mA EV=0~10V
- **16/4096** — XXXX=Special code
  - Customized cable length
  - CN00XX=cable length
  - e.g. CN0010=1m CN0020=2m
- **EA** — Optional shaft diameters facilate the application
- **XXXX** — Variolus turns and resolutions

Standard Absolute Multiiturn Encoder EAM58

Descriptions

The standard absolute multiturn encoder EAM58 series offers excellent performance to resist mechanical shocks and is capable of withstanding high axial and radial loads. Various flange types provide great convenience for installation; serial and parrallel interfaces are provided for various upper PC; optional turns, resolutions and code formats greatly facilitate customer's application.

Features

- Various types of flanges available
- Pre-screwed holes convenient to installation
- Waterproof seal provides higher IP grade
- Optional shaft diameters facilate the application
- Metal housing to resist shocks
- Protection grade of IP65
- Optional output connecting for easy use
- Variolus turns and resolutions

Mechanical Characteristics

Shaft diameter (mm)	Φ6g6/Φ8g6/Φ9g6/Φ10g6
Hollow shaft diameter (mm)	Φ8H7/Φ9.52H7/Φ10H7 -58W
	Φ12H7/Φ14H7/ Φ15H7 -58W
Protection Grade	IP65
Speed (r/m)	6000
Max. load capacity of the shaft	
Axial	80N
Radial	160N
Shock resistance	50G/11ms
Vibration resistance	10G 10~2000Hz
Bearing life	10^9 revolution
Moment of inertia	$1.8\times10^{-6}kgm^2$
Starting torque	<0.01Nm
Body material	Al-alloy
Housing material	Al-alloy
Operating temperature	-40°C~~+80°C
Storage temperature	-45°C~~+85°C
Weight	approx. 400g

Regular resolution:

Turns available: 2，4，8，16，32，64，128，256，512，1024，2048，4096

Optional resolution per turn：2，4，8，16，32，64，128，256，512，1024，2048，4096，8192

ST：Reset input, the current position value is saved as the new "0"position.

VR：Up/Down input, once this input is activated, the shaft will turn clockwise, and the output value will decrease gradually.

Latch：Latch input, current output value is freezed.

Electrical Characteristics

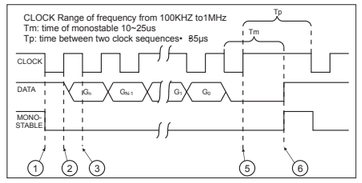
Output circuit	SSI	SSI	Parallel	Parallel
Output and driver	RS422	RS422	Push-Pull	Push-Pull
Resolution	13 Bits	13 Bits	13 Bits	13 Bits
Supply voltage (Vdc)	10-30V	5V	10-30V	5V
Power consumption (no load)	≤200mA	≤200mA	≤200mA	≤200mA
Max. load current	±20mA	±20mA	±20mA	±20mA
Max.output frequency	Max.15kHz	Max.15kHz	Max.40kHz	Max.40kHz
Signal level high	Typ.3.8V	Typ.3.8V	Min.Ub-2.8V	Min.3.4V
Signal level low	Max.0.5V	Max.0.5V	Max.2.0V	Max.0.5V
Rise time Tr	Max 100ns	Max 100ns	Max 1μs	Max 0.2μs
Fall time Tf	Max 100ns	Max 100ns	Max 1μs	Max 0.2μs

Standard Absolute Multiiturn Encoder EAM58

Terminal Assignment

SSI

Signal	0V	+U_b	+C	-C	+D	-D	ST *	V/R*	Latch	Shield
Color Code	WH	BN	GN	YE	GY	PK	BU	RD	BK	⏚
12-pin	1	2	3	4	5	6	7	8	9	PH



Parallel

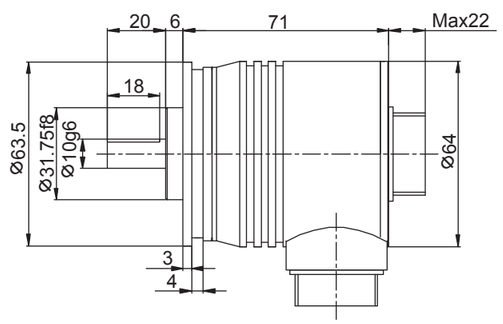
Signal	0V	+U_b	bit0	bit1	bit2	bit3	bit4	bit5	bit6	bit7	bit8	bit9	bit10	bit11	bit12
Color Code	WH	BN	GN	YE	GY	PK	BU	RD	BK	VT	WH/GN	BN/GN	WH/YE	BN/YE	WH/GY
M32-pin	j	h	A	B	C	D	E	F	G	H	J	K	L	M	N
Gray	/	/	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	G12	G13

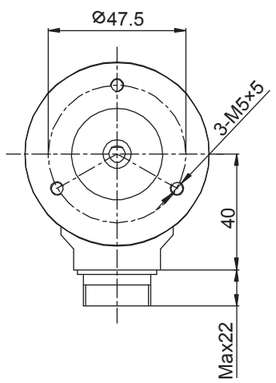
Signal	bit13	bit14	bit15	bit16	bit17	bit18	bit19	bit20	bit21	bit22	bit23	bit24	Latch	V/R*	ST
Color Code	BN/GY	WH/PK	BN/PK	WH/BU	BN/BU	WH/RD	BN/RD	WH/BK	BN/BK	GN/GY	YE/PK	GY/PK	YE/BK	RD/BU	GN/BU
M32-pin	P	R	S	T	U	V	W	X	Y	Z	a	d	e	g	f
Gray	G14	G15	G16	G17	G18	G18	G20	G21	G22	G23	G24	G25	/	/	/

Attention:
Bite definition of the parallel interface for an absolute encoder: bit0=MSB,bit1=MSB-1,bit2=MSB-2, ...

Dimensions (mm)

EAM58A

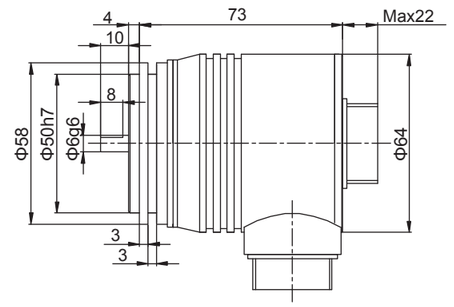


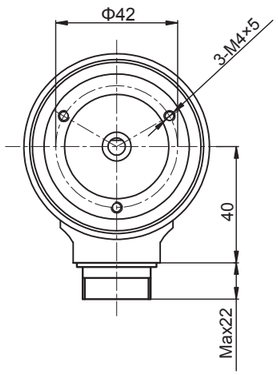


Standard Absolute Multiturn Encoder EAM58

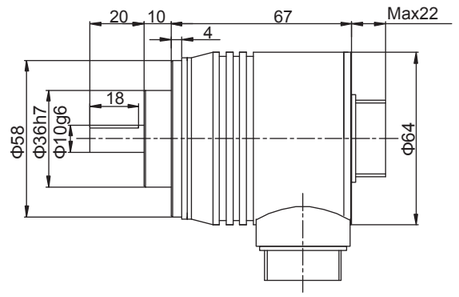
Dimensions (mm)

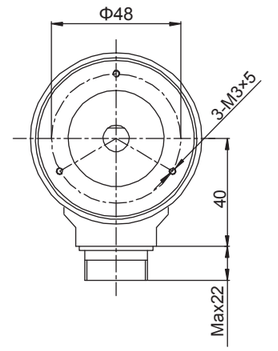
EAM58B



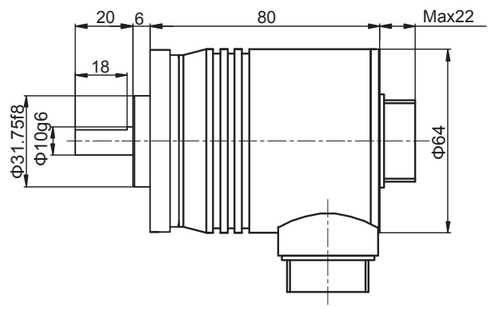


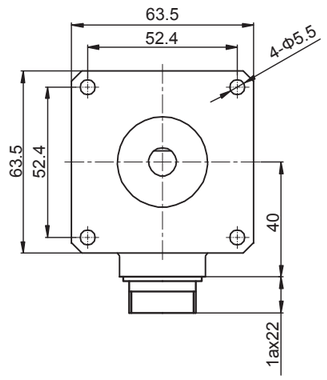
EAM58C





EAMS58D

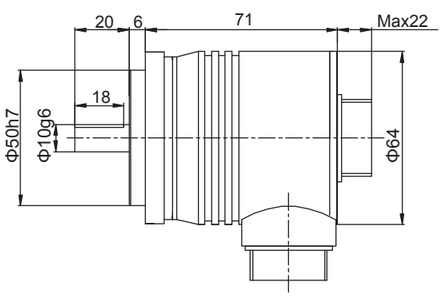


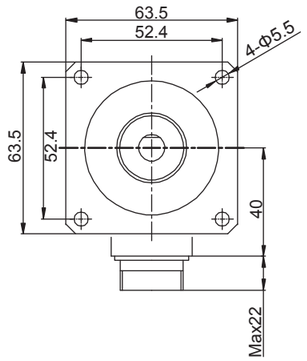


Standard Absolute Multiturn Encoder EAM58

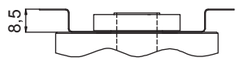
Dimensions (mm)

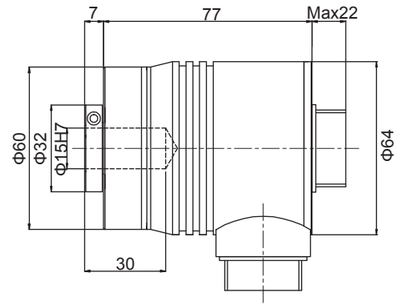
EAM58E

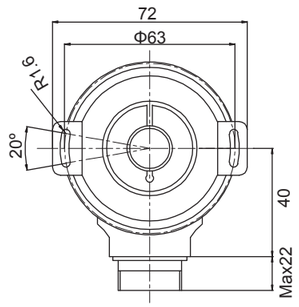




EAM58W
Matched accessory:
E41350042A/1







Standard Absolute Multiturn Encoder EAM58

Order Code ：

EAM 58 C 10 – G S6 X PC R – 4096/8192 EU . XXXX

Series
EAM＝standard absolute multiturn

Housing diameter
58=Φ58

Flange types
A=round flange
B=synchro flange, shaft length 10mm
C=Φ36 clamping flange,shaft length 20mm
D=Φ63.5 square flange，Φ31.75，shaft length20mm
E=Φ63.5square flange，Φ50，shaft length20mm
W=blind hollow shaft flange, installed with double-winged fixing sheet

Code type
G=Gray
B=Binary

Interface & Supply voltage

P6=push-pull with short-circuit protection (standard positive logic)	10~30Vdc
P5=push-pull with short-circuit protection (standard positive logic)	5Vdc
S6=SSI（synchro serial interface）	10~30Vdc
S5=SSI（synchro serial interface）	5Vdc

Please contact us for other requirements.

Output logic
N=negative logic (parallel)
P=positive logic (parallel)
X=not applicable (SSI)

(Hollow) Shaft diameter
6=Φ6g6mm
58B
8=Φ8g6mm
58A/B/D/E
9=Φ9.52g6mm
58A/D/E
10=Φ10g6mm
Only applicable for the axis aperture in flange type 58W
8 =Φ8H7mm
9 =Φ9.52H7mm
10=Φ10H7mm
12=Φ12H7mm
14=Φ14H7mm
15=Φ15H7mm

Type of connection
PC=12-core cable (SSI), standard length 1.5m
T=M23, 12-pin plug (SSI),without matching connectors
PE=32-core cable (parallel), standard length 1.5m
MA=MS 19-pin plug
ME=MS 32-pin plug

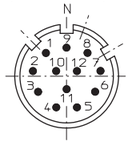
Outlets direction
R=radial
A=axial

Resolution
Turns/Singleturn resolution (refer to previous pages)
Standard 4096/8192 (25 bits)

Standard Absolute Multiturn Encoder

XXXX=Special code
Customized cable length
CN00XX= cable length
e.g. CN0010=1m
CN0020=2m

Topview of 12-pin plug



Connection accessories:
Connectors matching with connection type “T”
Order code: TMSP1612F
Connectors matching with connection type “ME”
Order code: MS32FV
Connectors matching with connection type “MA”
Order code: MS19FV

This sample is only for reference;
It’s subject to the actual products.

ProfiNet Interface Absolute Multiturn Encoder EAM58

Desctiption

The ProfiNet Interface Absolute Multiturn Encoder EAM58 Series, has a good resistance to mechanical damage and is also capable of withstanding higher axial and radial loads. Various types of flanges can be used to meet different requirements. It complies with ProfiNet interface protocol and has a max. resolution of 8192 and a max. revolution of 4096. The resolution and revolution can be programmed according to customer requirements. The high speed communication and anti-interference features ensure steady performance during operation.

Features

- 6 Status indicators, for a fast and accurate understanding of the product status
- 3×M12 Connectors, implement a fast connection
- ProfiNet IO/RT interface with an intelligent diagnosis and high speed data transmission function
- Software configures the application of various parameters - convenient maintenance
- Faster data update, update time ≤1ms

Mechanical Characteristics

Shaft Diameter(mm)	Φ6g6	-58B
	Φ10g6	-58C
Hollow Shaft Diameter(mm)	Φ8H7/Φ10H7/Φ12H7	-58W
Degree of Protection	IP65	
Speed	6000	
Axial load capacity	40N	
Radial load capacity	80N	
Shock resistance	50G/11ms	
Vibration resistance	10G 10~2000Hz	
Bearing life	10^9 revolution	
Rotor moment of inertia	approx. 1.8×10^{-6} kgm^2	
Starting torque	<0.05Nm	
Body material	AL UNI 9002/5 -(D11S)	
Housing material	AL 6060	
Flange material	AL UNI 9002/5 -(D11S)	
Operating temperature	-40°C~~+80°C	
Storage temperature	-45°C~~+85°C	
Weight	~600g	

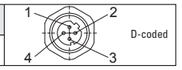
Electrical Characteristics

Max. number of laps	4096 (12 bits)
Max. resolution	8192 (13 bits)
Supply voltage	10~30 Vdc
Current consumption (without load)	200mA
Max. bus rate	100 Mbits/s
Linearity	12bits+/- 1/2 LSB
Interfaces	PROFINET IO/RT Class C
Encoder device protocol	V4.1 Class3

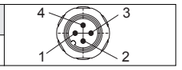
LED indicator light

Power light:	Green light for breakdown, no light for no power supply
Configuration lamp:	Red light for breakdown, no light for normal configuration
Interface 1/2:	Green/orange light for normal work, no light for not normal

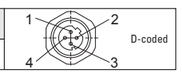
Data port 1:

Signal	T×D+	R×D+	T×D-	R×D-	
Needle number	1	2	3	4	

Data port:

Signal	+V	—	-V	—	
Needle number	1	—	3	—	

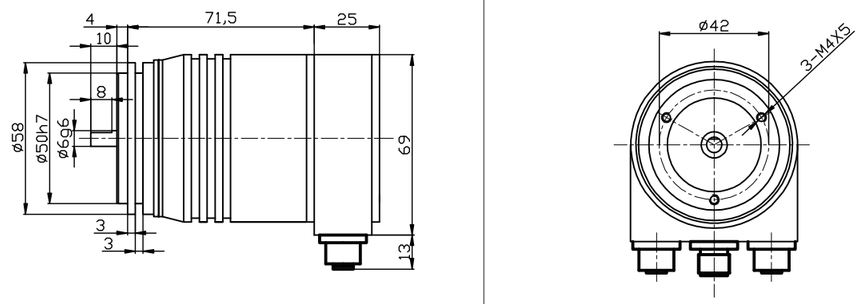
Data port 2:

Signal	T×D+	R×D+	T×D-	R×D-	
Needle number	1	2	3	4	

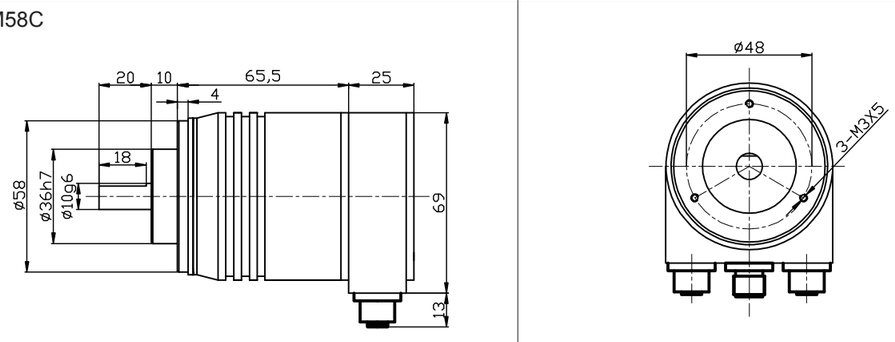
ProfiNet Interface Absolute Multiturn Encoder EAM58

Mechanical drawing

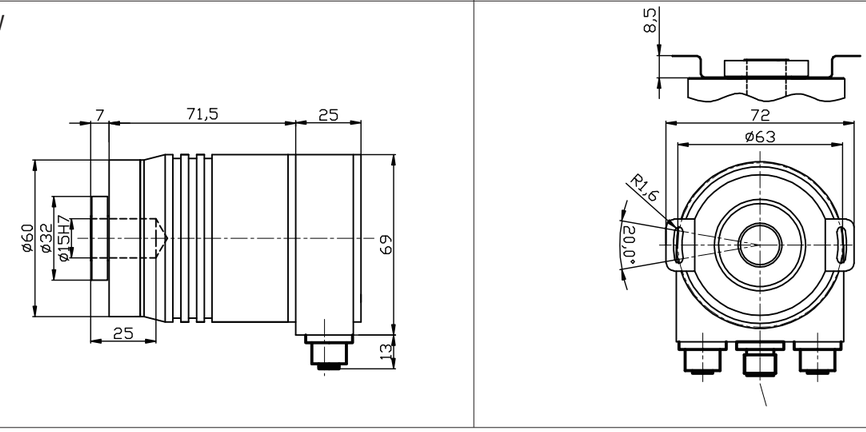
EAM58B



EAM58C



EAM58W



ProfiNet Interface Absolute Multiturn Encoder EAM58

Order Code:

EAM 58 C 10 – B F6 X T R – 4096/8192 PN

- **Series**
  - EAM = ProfiNET Interface Multiturn
- **Housing diameter**
  - 58 = Φ58 flange
- **Flange types**
  - B = synchro flange, shaft lenght 10mm
  - C = Φ36 clamping flange, shaft length 20mm
  - W = shaft length, double-wiged spring leaf installation
- **Shaft diameter**
  - 6 = Φ6g6mm
    58B optional
  - 10 = Φ10g6mm
    58C optional
  - Only for flange type 58W:
    8 = Φ8H7mm
    10 = Φ10H7mm
    12 = Φ12H7mm
- **Code type**
  - B = Binary
- **Output & supply voltage**
  - F6 = Profinet IO Interface 10~30Vdc
- **Output logic**
  - X = not applicable
- **Type of connection**
  - T = integrated coupler terminal box with 3 M12 plugs
- **Outlet directions**
  - R = radial
- **Resolution**
  - Turns/Singleturn resolution (see previous pages for reference) standard 4096/8192 (25 bits)
- ProfiNet Interface Absolute Encoder

Mating connectors code:
Power supply connector: TMSP 12F-F4
Bus input connector: ES06-52
Bus output connector: ES06-52

Large Hollow Shaft Profibus-DP Interface Absolute Multiturn Encoder EAM90L

Description

Profibus-DP interface absolute multiturn encoder EAM90L series delivers outstanding performance in withstanding mechanical damages higher axial and radial loads. Through-hole installations and various types of shatfs diameters could meet the different repuirements of customers. It complies with Profibus protocol and has a maximum resolution of 16384 and revolution of 4096. The resolution and revolution can be programmed on repuests. Its high speed communication and anti-interference performance ensure a steady operation.

Features

- Waterproof seal provides greater IP level
- Various types of stainless steel shafts diameters
- Metal housing for better shock resistance
- Direct cable output, convenient for installation and maintenance
- Protection class IP65
- Conforming to the Profibus protocol
  Programmable revolution and resolution

Mechanical Characteristics

Shaft diameter(mm)	Φ12H7/Φ15H7/Φ20H7//Φ24H7/Φ28H7/ Φ(5/8)"H7/Φ1"H7/Φ12g6X30
Protection acc. to EN 60529	IP 65
Speed(r/m)	Max.6000 continuous Max.3000
Max load capacity of the shaft	
axial	40 N
radial	80 N
Shock resistance	2500 m/s^2 6ms
Vibration resistance	100 m/s^2 10~2000 Hz
Bearing life	10^9revolution
Moment of inertia	~72 x 10^{-6}kgm^2
Starting torque	hollow shaft < 0.2 Nm
	shaft < 0.05 Nm
Body material	AL-alloy
Housing material	AL-alloy
Operating temperature	-20˚C ~ +80˚C
Storage temperature	-25˚C ~ +85˚C
Weight	~ 900g

Resolution
4096 (revolution) ×8192 (resolution)
4096 (revolution) ×4096 (resolution)
Revolution and resolution are programmable in PLC (see operation manual for programming steps)

Electrical Characteristics

Supply voltage(+Ub)	10~30 V DC
Power consumption	Max.0.29 A
Linearity	± 1/2 LSB (± 1 LSB 13/14 bit) $_2$
Interface	RS 485
Protocols	Profibus-DP, encoder profile class 2
Baud rate	Max. 12 Mbit/s
Address	programmable via DIP switches

Conforms to CE acc. to EN 61000-6-1, EN 61000-6-4 and EN 61000-6-3
Conforms to EMC acc. to EN 61000-4, 5

Profibus Documentations for field bus Encoders:

Please refer to PROFIBUS-DP for detailed information, i.e. DIN 19245-3 and EN 50170, and OVERVIEW for other information.

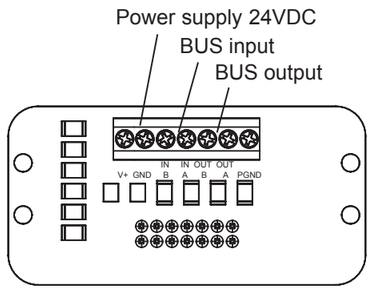
Programmable parameters:

- Rotation Direction
- Proportional factor
  - Single turn resolution
  - Total resolution
- Preset position
- Diagnostic mode

Encoder with integrated coupler:

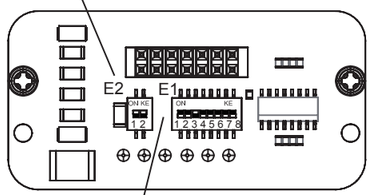
- Achieving current isolation through Fieldus DC/DC converter
- Including RS485 driver, max baud rate 12MB
- Configure Fieldbus address through DIP switch
- LED Diagnostic Display
- Equipped with Class1 & Class 2 functions

Large Hollow Shaft Profibus-DP Interface Absolute Multiturn Encoder EAM90L



Terminal wiring block of an encoder

E2: Line close DIP switch —— Default OFF
DIP1-DIP2, the BUS is closed when setting the two switches ON,120Ω.



E1: Address DIP switch——DIP1- DIP7 address setting switch, binary operation, the default address is 4 as illustrated in the diagram, a maximum number of 126 addresses are acceptable in Profibus network. DIP8: CW/CCW

Connection

V+	Supply voltage
GND	Ground
B	Profibus-DPline input (RD)
A	Profibus-DPline input (GN)
B	Profibus-DPline output (RD)
A	Profibus-DPline output (GN)

Introduction

Profibus-DP interface absolute multiturn encoder (Identification number 0x0CCA) complies with the Profibus-DP standards as described on the European Standard EN 50170 volume 2. The encoders also conform to “Profibus Profile for Encoders, Order No. 3062”.

The Profibus-DP interface maintains the same maximum resolution (16384 position per revolution, 16384 revolutions) and the features of a stand-along unit with the bonus of the Profibus-DP network.

Through the Profibus-DP network it is able to:
- Obtain the angular position from the encoder during the periodic data exchange.
- Program the resolution and revolution (refer to corresponding chapters for parameter setup).
- Change the default incremental direction (convert between CW/CCW during parameter setup).
- Perform the Preset operation (program the encoder to read a specific position).
- Read the diagnostic status.
- Obtain info about the code came with the device.

With the device’s class, it is able to:
- TDisplay the ON/OFF status.
- Display the BUS device activity on the bus.
- Reset function
- Configure the device address.
- If required, inserting the terminal resistor into the bus.
- Change the counting direction

Installation

Installing the Profibus-DP encoder in a network requires the execution of a typical procedure necessary for configuring any Profibus-DP slave. The procedure is as follows

1- Commissioning the slave onto the master (see corresponding chapter).

2- Wiring the encoder into the Profibus network using the physical location of the device in the bus.

3- Configuring slave’s address (which must be unique in the network and the same as the device).

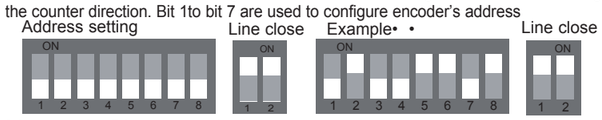
4- Preparing applications from the master and setting up the Profibus networ

On the back cover of the encoder there are two LED indicators. The device’s operating status can be observed by the two LED. The green LED shows the power status and must be on constantly. The red LED only switches off during the periodic data exchange between the Profibus master and the encoder.

Note: To set and configure the slave into the Profibus-DP master it is necessary to use the “gsd” file delivered with the encoder. The file can be found on the CD.

DIP-switches setup (configuring slave address)

Besides the address and the standard position of a terminal DIP switch, a configuration example of Profibus and the devices is illustrated below:
In this example, device’s address is set up as 1001101, with the corresponding decimal address as 77. Bit 7 is the top digit, and bit 1 is the lowest digit Bit 8 is used for changing the counter direction. Bit 1to bit 7 are used to configure encoder’s address



Network Characteristics

Usually, an A type cable is used to wire a DP/FMS network. This cable has to have the following characteristics.

Parameter	A type cable
Characteristic resistance（Ω）	135…165at a certain frequency（3…20Mhz）
Rated capacity（PF/m）	<30
Loop resistance（Ω/Km）	<=110
Core diameter（mm）	>0.64*)
Core cross-section（mm^2）	>0.34*)

This cable allows the optimal network utilization. In fact, it is possible to reach the maximum communication speed allowed (12Mbaud). However, there are some limitations due to the maximum physical dimensions of a bus segment as follows

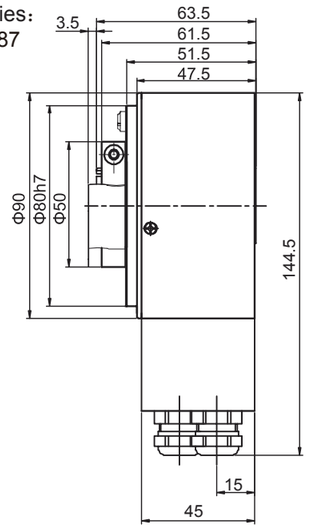
kbaud	9.6	19.2	93.75	187.5	500	1500	12000
Range/Segment	1200m	1200m	1200m	1000m	400m	200m	100m

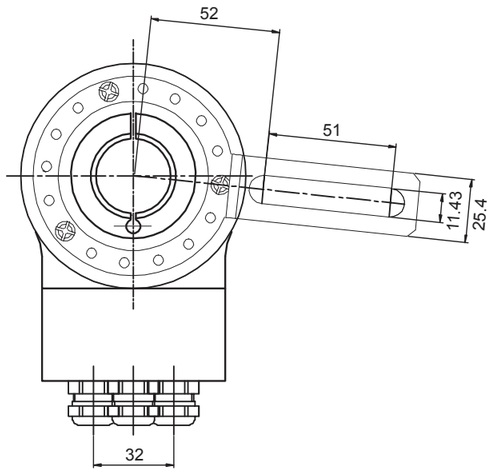
Finally, the physical characteristics of a Profibus network are now known.

Large Hollow Shaft Profibus-DP Interface Absolute Multiturn Encoder EAM90L

Dimensions(mm)

EAM90L
Accessories：
E41350087





Large Hollow Shaft Profibus-DP Interface Absolute Multiturn Encoder EAM90L

Order Code

EAM 90 L 20 – B F6 X X R – 4096/8192 DP

Series
EAM= Profibus-DP interface absolute multiturn

Housing diameter
90=housing diameter

Flange types
L=long tether arm

Hollow shaft/Shaft diameter
12 = Φ12 mmhollow shaft
15 = Φ15 mmhollow shaft
16 = Φ16 mmhollow shaft
20 = Φ20 mmhollow shaft
24 = Φ24 mmhollow shaft
25 = Φ25 mmhollow shaft
28 = Φ28 mmhollow shaft
15.9 = Φ5/8" hollow shaft
1E = Φ1"hollow shaft
1C = Φ12 x 30 mmshaft

Code type
B=Binary

Output & Supply voltage
F6=Profibus-DP interface 10~30Vdc
Profibus Class 2

Output logic
X=nonsense

Types of connection
X= integrated coupler terminal box with 3 PG7 threaded connectors
T= integrated coupler terminal box with 3 M12 plugs

Outlets direction
R=radial

Resolution
revolution/resolution
4096/16384 (max26bits)
4096/8192 (standard25 bits)

Profibus-DP Interface Encoder

Accessories
Installation accessories
Various types of connection

Please see the enclosed CD for GSD documents and operation manual.

Large Hollow Shaft Absolute Multiturn Encoder EAM90L

Description

Large hollow shaft absolute multiturn encoder EAM90L series delivers good performance in withstanding mechanical damages and higher axial and radial loads. Its unique hollow shaft structure, various types of shafts diameters are available for different applications. It is equipped with resolution up to 16384(14 bit) and the RESET function.

Features

- Gray or Binary available
- Space-saver hollow shaft design, “C” ring lock
- Durable stainless steel shaft Φ12~Φ28mm
- Waterproof seal provides greater IP level
- Metal housing can withstand higher axial and radial loads.
- Resolution up to 16384
- Protection class IP65

  Equipped with short-circuit and reverse connection protection
- Output cables or connectors are available for easy maintenance

Mechanical Characteristics

Shaft diameter (mm)	Φ12H7/Φ15H7/Φ20H7/Φ24H7/Φ28H7/ Φ(5/8)"H7/Φ1"H7/Φ12g6X30
Protection acc. to EN 60529	IP65
Speed (r/m)	6000
Max load capacity of the shaft	
axial	40N
radial	80N
Shock resistance	50G/11ms
Vibration resistance	10G 10~2000Hz
Bearing life	10^9revolution
Moment of inertia	$1.8\times10^{-6}kgm^2$
Starting torque	<0.1Nm max
Body material	AL-alloy
Housing material	AL-alloy
Operating temperature	-20°C~~+80°C
Storage temperature	-25°C~~+85°C
Weigh	600g

Available conventional resolution:

Resolution per turn:

1024，2048，4096，8192，16384

Number of turns:

1024, 2048, 4096, 8192

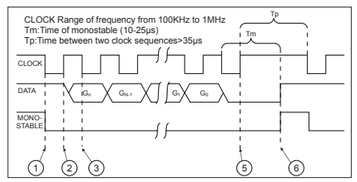
Electrical Characteristics

Output circuit	SSI
Output driver	RS422
Resolution	14 Bits
Supply voltage (Vdc)	10-30V
Power consumption (no load)	≤200mA
Permissible load (channel)	±20mA
Pulse of frequency	Max. 1MHz
Signal level high	Typ. 3.8V
Signal level low	Max. 0.5V
Rise timeTr	Max 100ns
Fall timeTf	Max 100ns

Terminal Configuration

SSI Wiring Guide

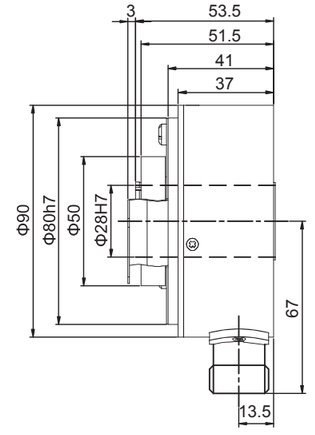
Signal	0V	+Ub	+C	-C	+D	-D	ST*	VR*	⏚
Color	WH	BN	GN	YE	GY	PK	BU	RD	
12-pin	1	2	3	4	5	6	7	8	PH

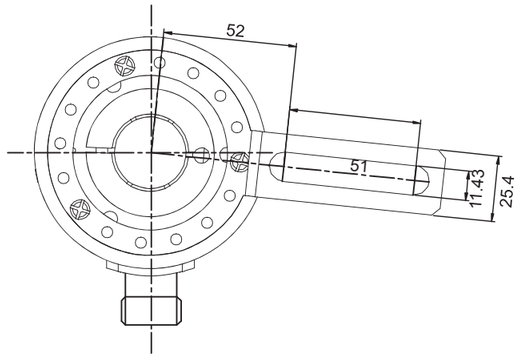


Large Hollow Shaft Absolute Multiturn Encoder EAM90L

Dimensions

EAM90L
Accessories
E41350087





Order Code

EAM 90 P 20 – G S4 X PC R – 4096/8192 SS . XXXX

– –

Series
EAM=standard absolute multiturn

Housing diameter
90= housing dimension

Flange type
L=long tether arm

Shaft/ Hollow shaft diameter
12 = Φ12mmmmhollow shaft
15 = Φ15mmmmhollow shaft
20 = Φ20mmmmhollow shaft
24 = Φ24mmmmhollow shaft
28 = Φ28mmmmhollow shaft
15.9 = Φ5/8"mmmmhollow shaft

Code type
G=Gray
B=Binary

Interface and Power Supply
S4=SSI(synchro serial interface) 5~30Vdc

Output logic
X= N/A (SSI)

Types of connection
PC=12-core cable (SSI)
standard length 1.5m
T=M23, 12-pin connector (SSI)

Outlets direction
R=radial

Resolution
resolution max. 16384 (14 bits)
revolution 4096 (12 bits)

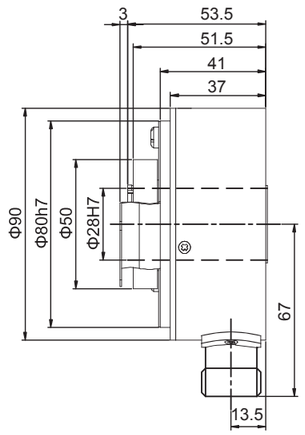
Large Hollow Shaft Absolute Encoder

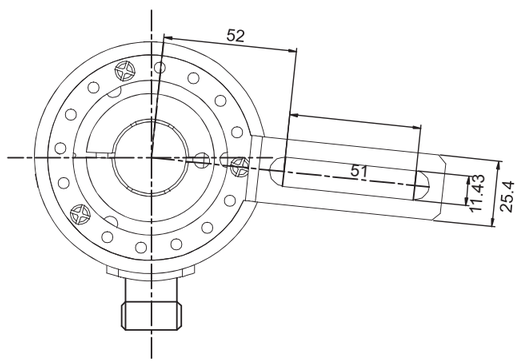
Customized cable length
CN00XX= cable length
e.g. CN0010=1m
CN0020=2m
XXXX=Special code

Large Hollow Shaft Absolute Multiturn Encoder EAM90L

Dimensions

EAM90L
Accessories
E41350087





Order Code

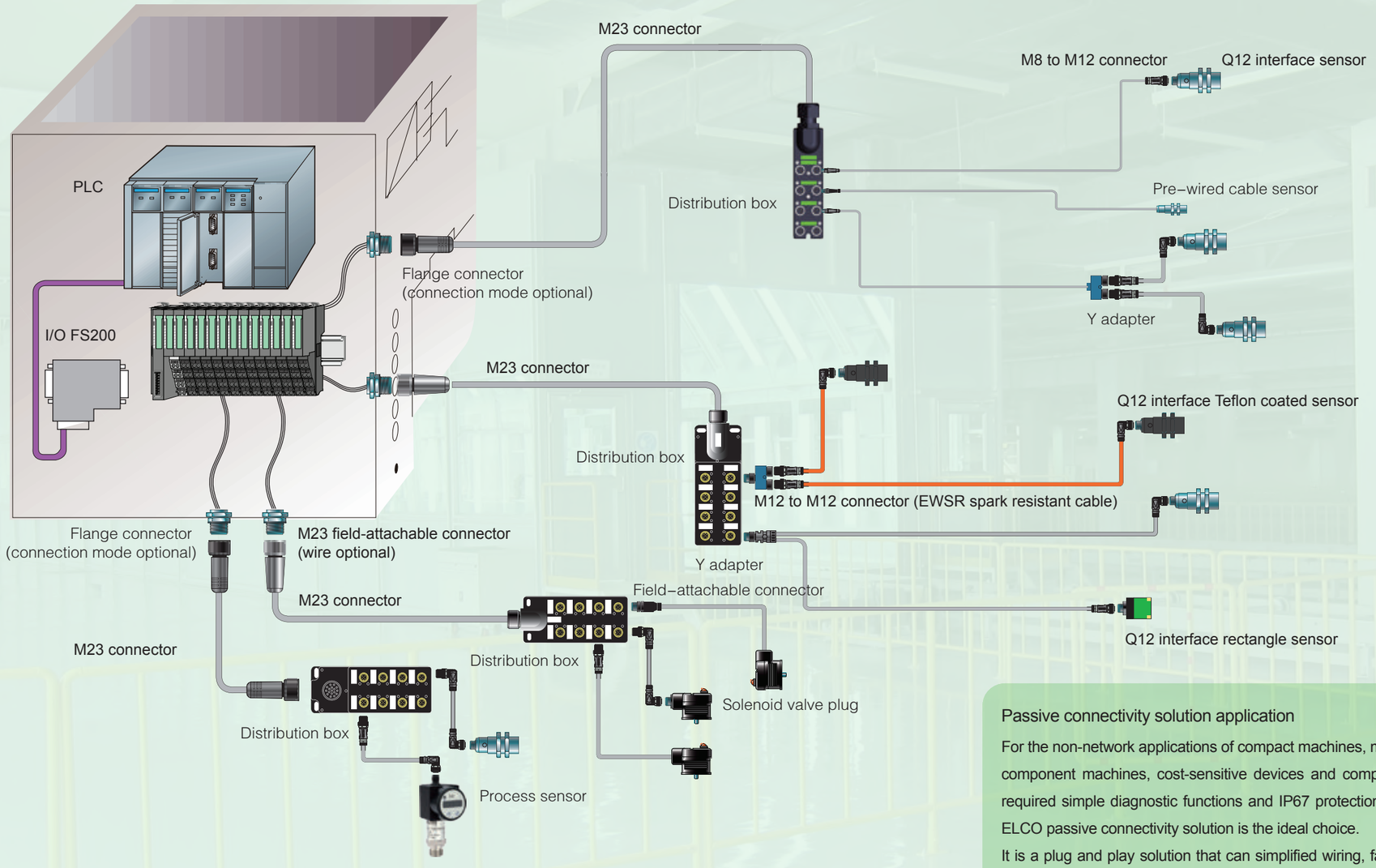
EAM 90 P 20 – G S4 X PC R – 4096/8192 SS . XXXX

- Series: EAM=standard absolute multiturn
- Housing diameter: 90= housing dimension
- Shaft/ Hollow shaft diameter: 12 = Φ12mmmmhollow shaft; 15 = Φ15mmmmhollow shaft; 20 = Φ20mmmmhollow shaft; 24 = Φ24mmmmhollow shaft; 28 = Φ28mmmmhollow shaft; 15.9 = Φ5/8"mmmmhollow shaft
- Flange type: L=long tether arm
- Code type: G=Gray; B=Binary
- Interface and Power Supply: S4=SSI(synchro serial interface) 5~30Vdc
- Output logic: X= N/A (SSI)
- Types of connection: PC=12-core cable (SSI) standard length 1.5m; T=M23, 12-pin connector (SSI)
- Outlets direction: R=radial
- Resolution: resolution max. 16384 (14 bits) revolution 4096 (12 bits)
- Large Hollow Shaft Absolute Encoder
- XXXX=Special code: Customized cable length CN00XX= cable length e.g. CN0010=1m CN0020=2m

ELCO
INDUSTRIAL AUTOMATION

Connectivity

Typical passive connectivity solution

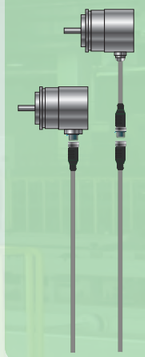


ELCO standard connectors covered 2-, 3-, 4-, 5-, 8-core connectors, which can connect between proximity switches, photoelectric sensors, ultrasonic sensors, process sensors (pressure sensors, flow sensors), mechanical limit switches, security curtains, encoders and other devices. We also provide customized cable jacket, length and connector functions to realize quick connection and apply to the different conditions in the field.

Optional distribution boxes including M8 and M12 interface, which provide customer to build plug and play solution. Different number of ports, various connection mode, customized cable length, and optional PNP, NPN can meet system requirements of PLC with different brands. We also provide passive and solenoid valve devices.

5-core, 8-core shielded M12 connectors
Match with safety curtains

Features:
- Fully shielding plugs
- Customized pin definitions
- Customized compatible adapters
- Optional field-attachable metal connectors



5-core, 8-core shielded M12 connectors
Match with encoders

Features:
- Fully shielding plugs
- Customized pin definitions
- Customized compatible adapters
- Optional field-attachable metal connectors
- Pigtail kit available

Passive connectivity solution application

For the non-network applications of compact machines, modular component machines, cost-sensitive devices and components required simple diagnostic functions and IP67 protection class, ELCO passive connectivity solution is the ideal choice.

It is a plug and play solution that can simplified wiring, fast and safe connection between sensors, limit switches, photoelectric sensors, solenoid valves, etc., connect to the I/O module or controller in the cabinet via cable from distribution box.

ELCO passive connectivity solution, including:

- Single-ended cordsets (one end with connector, the other end with homerun cable)
- Double-ended cordsets (both ends with connectors)
- Field-attachable connectors (reserved wiring terminals, PG waterproof connectors)
- Panel mounting sockets (flange mounting holes, sockets)
- Distribution boxes (M8, M12 interface, various of connection mode)
- Y-type modules and the Y-type cable distributors
- Solenoid valve plugs and extension components (A, B, C-type)
- Bulk cables (200, 300,500m)

Y Splitter/Adapter

ECS - F E 2 C B . 12. 4 - 2/2 / .

Special Function and Cable Material
- Null: PVC
- P: PUR
- WS: Shielded
- L: PNP LED
- LN: NPN LED
- B24: 2-, 4-pin shorted

Connection Type (splitter)
- 2/2: 2m cable for each end
- 2-C12.4: Male straight M12 connector with 2m cable
- 2-C8.4: Male straight M8 connector with 2m cable
- 2-CB12.4: Male angled M12 connector with 2m cable
- 2-CB8.4: Male angled M8 connector with 2m cable

No. of Pin
- 2: 2-pin(2.2, 2.21, 2.22 different pin sequence)
- 3: 3-pin
- 4: 4-pin
- 5: 5-pin

Connection Type (adapter)
- Null: Homerun cable
- 8: M8*1
- 12: M12*1

Gender
- Null: Male
- O: Female

Product Category
- Y splitter/adapter

Gender
- Null: Male
- F: Female

Size
- Null: M12
- E: M8

Product Category
- Null: Y adapter
- 2: Y splitter

Specification
- Null: Homerun cable
- C: Pre-wired connector

Shape
- Null: Straight
- B: Angled

Flange Connector

F O 12. 4 - 0 / M16/ F

Mounting
- Null: Rear panel mounting (rear locking nut)
- F: Front panel mounting (front locking nut)

Screw Connection
- M16: M16×1.5

Connection Type
- 0: Reserved soldering cover
- P: PCB welding pin
- 0.5: Cable length (unit: m)

Product Category
- F: Flange connector

Gender
- Null: Male
- O: Female

Size
- 12: M12*1
- 8: M8*1
- 7/78": M20*1.5

No. of Pin
- 4: 4-pin
- 5: 5-pin
- 8: 8-pin
- 12: 12-pin

Cordsets

C B O 12. 4 -2 - C B 12. 4 / P

Special Function and Cable Material
- Null: PVC
- P: PUR
- WS: Shielded
- L: PNP LED
- LN: NPN LED
- EWSR: Welding spark resistance

No. of Pin
- 3: 3-pin
- 4: 4-pin
- 5: 5-pin
- 8: 8-pin

Size
- 8: M8*1
- 12: M12*1

Shape
- Null: Straight
- B: Angled

Product Category
- C-type
- Q-type

Specification
- Null: Single pre-wired

Cable length
- Standard: 2m

Product Category
- C-type
- Q-type

Shape
- Null: Straight
- B: Angled

Gender
- Null: Male
- O: Female

Size
- 8: M8*1
- 12: M12*1

No. of Pin
- 2: 2-pin(2.2, 2.21, 2.22 different pin sequence)
- 3: 3-pin
- 4: 4-pin
- 5: 5-pin
- 8: 8-pin

Field-attachable Connector

L S B O 12. 4 - 0 / C

Special Function
- Null: No special function
- M/S: Metal housing shielded
- C: Standard

Screw Specification
- 0: PG7(4-6mm)
- 9: PG9(6-8mm)

No. of Pin
- 3: 3-pin
- 4: 4-pin
- 5: 5-pin
- 8: 8-pin

Size
- M8×1
- M12×1

Product Category
- L: Field-attachable connector

Connection Type
- S: Screw termination

Shape
- Null: Straight
- B: Angled

Gender
- Null: Male
- O: Female

Pre-Wired I/O Connectors

The pre–wired and plastic I/O connectors meet all requirements for safe, fast and reliable field connections. Our standardized pre–wired connectors guarantee steady and shock prove IP67 connections. Depending on the selected cable type, they cover all applications in difficult environmental conditions like chemical influences, high or low air temperatures and significant mechanical stress. Cables are available with screening shields to ensure secure and interference–free signal transmissions.

- Shock resistant, reliable contact
- 360° shielded connectors
- Protection class IP67
- Current rating 2-4 A (depends on number of cores)
- Optional 2, 3, 4, 5, 8 core cables available
- Various cable types:
  PVC, PUR, with or without shields, EWSR spark resistant
  STPE high elastic and high flexible
- Oil and chemical resistant, flame retardant, drag chain suitable
- Connectors M8x1, M12x1, 7/8", M23x1 threads
- Optional straight and angled connectors
- Built in LED indicators
- Optional A-coded, B-coded etc. interface
- Standard cable lengths 2m, all other lengths optionally available
- Special cables for special applications available on request

Y Splitter/Adapter

Y Splitter/Adapter includes different types of products, such as module type and cable output type. It can be used as simple distribution box and extend port access to reduce installation cost and save installation time. The material and structure of Y splitter/adapter are available in dirty and damp industrial environment and its protection rating is up to IP67.

Y splitter/adapter including M12 to 2×M12, M12 to 2×M8, M8 to 2×M12, M8 to 2×M8 and M8/M12 to homerun cable with customized length.It can be used for port extension, distribution box kit and distributed I/O connector extension.

Field-attachable I/O Connectors

Field-attachable I/O connectors can be used in the field where the different or special cable lengths are required, for example the special mechanical manufcturing filed. Elco supply straight /angled connector of 3, 4, 5 cores and Y Splitter, and its cable is fixed by screw or clamp and other ways. The contacted elastic rubber ensure tightness, and the maximum cable diameter is 8mm. Cable section is from 0.25 to 0.75 mm², and wire oulet can be adjusted within 90° for angled connector according to connector terminal layout ,shielded(metal) type is available for straight connector, so all the products installed under the insert state can meet the requirement of IEC60529 protection class IP67.

- Screw locked
- With cable sleeve (prevent from bending)
- Cable clamp ring reducing the tension
- Protection class IP67
- Two housing types: plastic and zinc alloy casting housing
- Wired against customer’s requirement, assembling and installing in the field
- M8 interface: 3 and 4 cores optional, M12 interface: 4 5 8 cores optional
- Straight and angled connectors optional
- Zinc casting housing with shield function, using in the harsh environment

I/O Cable

Cable is an important part of the pre-wired connector, therefore it's very important to select the right cable for corresponding connector. ELCO connectivity system provide cables with various jackets and functions for different application environment and field.

PVC Cable

The cable with PVC jacket and its good mechanical performance (e.g. tensile strength, crack and abrasion resistance) is suitable for most applications in industrial installations. The cable is weatherproof and resistant to oil and chemical solutions. It is therefore a standard and economic solution for field installations to link I/O systems.

Cable Type	Conductor Cross Section	Optional Cores No.	Wire Diameter(mm)	Matching Products
PVC（gray）	0.25mm²	3，4	4.4±0.15	M8
PVC（gray）	0.34mm²	2，3，4，5	5.2±0.15	M12

PUR Cable

The PUR jacket cable with its superior mechanical performance (e.g. tensile strength, crack and abrasion resistance, weather and oil/chemical resistance) is suitable for applications in extreme environments. It is therefore an ideal solution for industrial installations to link I/O systems in a harsh environment.

Cable Type	Conductor Cross Section	Optional Cores No.	Wire Diameter(mm)	Matching Products
PUR（gray）	0.25mm²	3，4	4.4±0.15	M8
PUR（gray）	0.25mm²	8	6.4±0.15	M12
PUR（gray）	0.34mm²	2，3，4，5	5.2±0.15	M12

EWSR Cable

The special jacket material can enhanced mechanical properties (including tensile strength, crack resistance and wear resistance) and have high temperature resistance. Once you choose this cable, the detailed field environment and requirements must be clear.

Shielding Cable

The tinned copper braid shielding layer provides a good electromagnetic shield against interferences. Shielded cables therefore improve safe signal transmissions.

A wide range of special cables for special applications are available upon request. Please contact us to disucuss your exact requirements.

Wire Color and Pin Table

Color Code	corresponding pin 2pin(.2)	corresponding pin 2pin(.21)	corresponding pin 2pin(.22)	corresponding pin 3pin	corresponding pin 4pin	corresponding pin 5pin	corresponding pin 8pin	corresponding pin 12pin
WH					2	2	1	1
BN	1	1	3	1	1	1	2	2
GN							3	3
YE							4	4
GY						5	5	5
PK							6	6
BU	4	2	4	3	3	3	7	7
RD							8	8
BK				4	4	4		9
VI								10
GY/PK								11
RD/BU								12

Special Cable Jacket Color

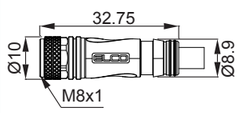
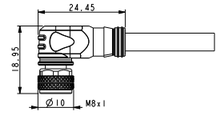
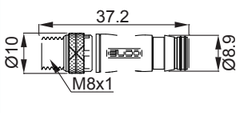
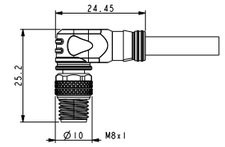
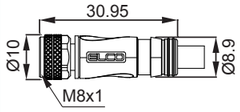
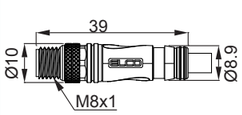
Jacket Color	Cable Identification
OG	EWSR
BU	NAMUR (intrinsic safe)
BK	PUR
GY	PVC PUR

Pre-wired I/O connector

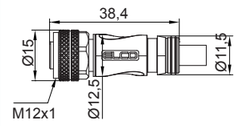
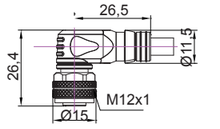
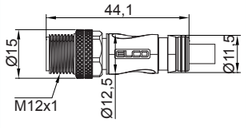
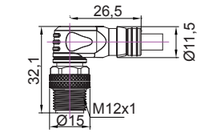
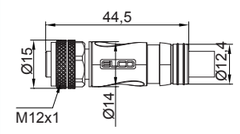
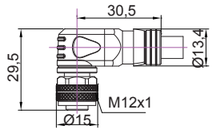
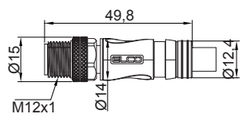
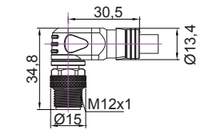
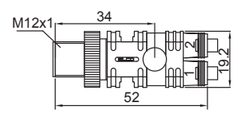
Pin Assignment

	2pin			3pin	4pin	5pin	8pin
	2.2	2.21	2.22				
M8 Female							
M8 Male							
M12 Female							
M12 Male							

Dimensions M8

	Straight Female	Angled Female	Straight Male	Angled Female
Standard				
Special Application				

Dimensions M12

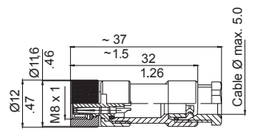
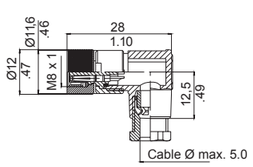
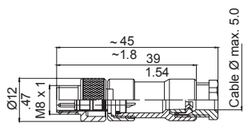
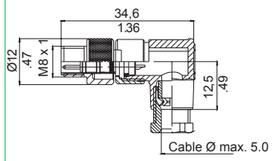
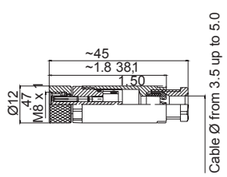
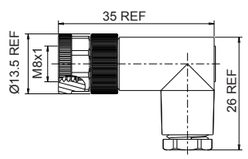
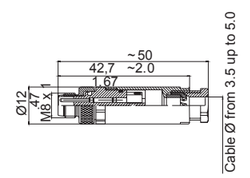
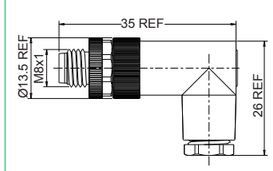
	Straight Female	Angled Female	Straight Male	Angled Female
Standard				
Special Application				
				

Field-attachable connector

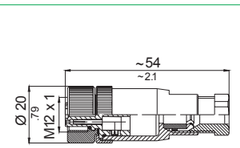
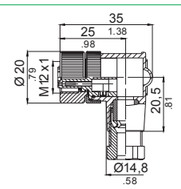
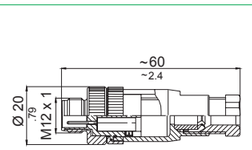
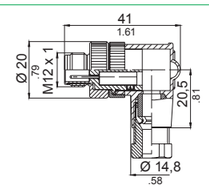
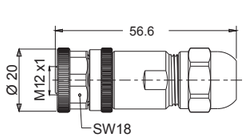
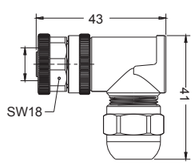
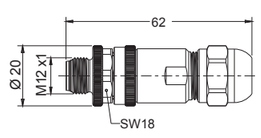
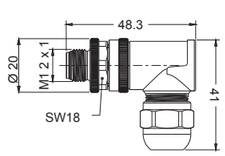
Pin Assignment

	3pin	4pin	5pin	8pin
M8 Female				
M8 Male				
M12 Female				
M12 Male				

Dimensions M8

Straight Female(Welding）	Angled Female(Welding)	Straight Male(Welding)	Angled Male(Welding)
			
Straight Female (Screwing)	Angled Female (Screwing)	Straight Male(Screwing)	Angled Male(Screwing)
			

Dimensions M12

	Straight Female	Angled Female	Straight Male	Angled Female
Plastic housing				
Metal housing				

Single-ended I/O Cordsets- M12 (Straight-female)

Description:

Used for sensors, I/O connector connecting. Standard M12(straight-female) threaded connection.
2, 3, 4, 5, 8-core are optional. Customized cable lengths. Degree of protection IP67.

Features:

- PVC, PUR cable are optional
- A-coded interface
- LED indicator

* All technical information about the raw cable for connectors, please refer to the “cable” section (P513).

Type Code

Cable jacket	Description	Type	Pin	Rated current/voltage	Cable length	Wire section
PVC	Female DC 2-core	CO12.2-2	2	4A/250V	2m	0.34mm²
	Female AC/DC 2-core	CO12.21-2	2	4A/250V	2m	0.34mm²
	Female AC 2-core	CO12.22-2	2	4A/250V	2m	0.34mm²
	Female 3-core NO	CO12.3-2	3	4A/250V	2m	0.34mm²
	Female 3-core NO with LEDPNP	CO12.3-2/L	3	4A/30V	2m	0.34mm²
	Female 3-core NO with LEDNPN	CO12.3-2/LN	3	4A/30V	2m	0.34mm²
	Female 4-core NO/NC	CO12.4-2	4	4A/250V	2m	0.34mm²
	Female 4-core NO/NC with LEDPNP	CO12.4-2/L	4	4A/30V	2m	0.34mm²
	Female 4-core NO/NC with LEDNPN	CO12.4-2/LN	4	4A/30V	2m	0.34mm²
	Female 5-core NO/NC	CO12.5-2	5	4A/60V	2m	0.34mm²
	Female 8-core	CO12.8-2	8	2A/30V	2m	0.25mm²
PUR	Female DC 2-core	CO12.2-2/P	2	4A/250V	2m	0.34mm²
	Female AC/DC 2-core	CO12.21-2/P	2	4A/250V	2m	0.34mm²
	Female AC 2-core	CO12.22-2/P	2	4A/250V	2m	0.34mm²
	Female 3-core NO	CO12.3-2/P	3	4A/250V	2m	0.34mm²
	Female 3-core NO with LEDPNP	CO12.3-2/L/P	3	4A/30V	2m	0.34mm²
	Female 3-core NO with LEDNPN	CO12.3-2/LN/P	3	4A/30V	2m	0.34mm²
	Female 4-core NO/NC	CO12.4-2/P	4	4A/250V	2m	0.34mm²
	Female 4-core NO/NC with LEDPNP	CO12.4-2/L/P	4	4A/30V	2m	0.34mm²
	Female 4-core NO/NC with LEDNPN	CO12.4-2/LN/P	4	4A/30V	2m	0.34mm²
	Female 5-core NO/NC	CO12.5-2/P	5	4A/60V	2m	0.34mm²
	Female 8-core	CO12.8-2/P	8	2A/30V	2m	0.25mm²

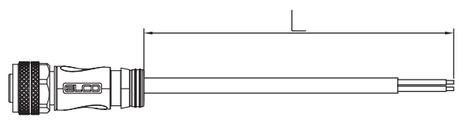
Selection Instructions

CO12.4- 2 / P
① ②

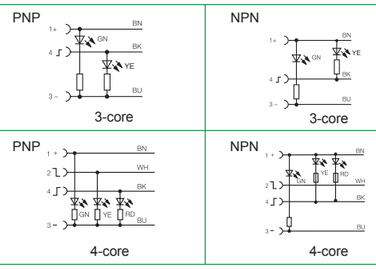
Attn： ①: Customized cable lengths are available.
②: Cable jacket or function can be customized according to the requirements.

Additional Information

Cable Length



Product with LED



Single-ended I/O Cordsets- M12 (Straight-male)

Description:

Used for sensors, I/O connector connecting. Standard M12(straight-male) threaded connection.
2, 3, 4, 5, 8-core are optional. Customized cable lengths.Degree of protection IP67.

Features:

- PVC, PUR cable are optional
- A-coded interface
- LED indicator

* All technical information about the raw cable for connectors, please refer to the “cable” section (P513).

Type Code

Cable jacket	Description	Type	Pin	Rated current/voltage	Cable length	Wire section
PVC	Male DC 2-core	C12.2-2	2	4A/250V	2m	0.34mm²
	Male AC/DC 2-core	C12.21-2	2	4A/250V	2m	0.34mm²
	Male AC 2-core	C12.22-2	2	4A/250V	2m	0.34mm²
	Male 3-core NO	C12.3-2	3	4A/250V	2m	0.34mm²
	Male 4-core NO/NC	C12.4-2	4	4A/250V	2m	0.34mm²
	Male 5-core NO/NC	C12.5-2	5	4A/60V	2m	0.34mm²
	Male 8-core	C12.8-2	8	2A/30V	2m	0.25mm²
PUR	Male DC 2-core	C12.2-2/P	2	4A/250V	2m	0.34mm²
	Male AC/DC 2-core	C12.21-2/P	2	4A/250V	2m	0.34mm²
	Male AC 2-core	C12.22-2/P	2	4A/250V	2m	0.34mm²
	Male 3-core NO	C12.3-2/P	3	4A/250V	2m	0.34mm²
	Male 4-core NO/NC	C12.4-2/P	4	4A/250V	2m	0.34mm²
	Male 5-core NO/NC	C12.5-2/P	5	4A/60V	2m	0.34mm²
	Male 8-core	C12.8-2/P	8	2A/30V	2m	0.25mm²

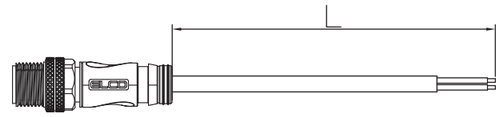
Selection Instructions

C12.4- 2 / P
① ②

Attn： ①: Customized cable lengths are available.
②: Cable jacket or function can be customized according to the requirements.

Additional Information

Cable Length



Single-ended I/O Cordsets-M12 (Angled-female)

Description:

Used for sensors, I/O connector connecting. Standard M12(angled-female) threaded connection.

2, 3, 4, 5, 8-core are optional. Customized cable lengths. Degree of protection IP67.

Features:

- PVC, PUR cable are optional
- A-coded interface
- LED indicator

* All technical information about the raw cable for connectors, please refer to the “cable” section (P513).

Type Code

Cable jacket	Description	Type	Pin	Rated current/voltage	Cable length	Wire section
PVC	Female DC 2-core	CBO12.2-2	2	4A/250V	2m	0.34mm²
	Female AC/DC 2-core	CBO12.21-2	2	4A/250V	2m	0.34mm²
	Female AC 2-core	CBO12.22-2	2	4A/250V	2m	0.34mm²
	Female 3-core NO	CBO12.3-2	3	4A/250V	2m	0.34mm²
	Female 3-core NO with LEDPNP	CBO12.3-2/L	3	4A/30V	2m	0.34mm²
	Female 3-core NO with LEDNPN	CBO12.3-2/LN	3	4A/30V	2m	0.34mm²
	Female 4-core NO/NC	CBO12.4-2	4	4A/250V	2m	0.34mm²
	Female 4-core NO/NC with LEDPNP	CBO12.4-2/L	4	4A/30V	2m	0.34mm²
	Female 4-core NO/NC with LEDNPN	CBO12.4-2/LN	4	4A/30V	2m	0.34mm²
	Female 5-core NO/NC	CBO12.5-2	5	4A/60V	2m	0.34mm²
	Female 8-core	CBO12.8-2	8	2A/30V	2m	0.25mm²
PUR	Female DC 2-core	CBO12.2-2/P	2	4A/250V	2m	0.34mm²
	Female AC/DC 2-core	CBO12.21-2/P	2	4A/250V	2m	0.34mm²
	Female AC 2-core	CBO12.22-2/P	2	4A/250V	2m	0.34mm²
	Female 3-core NO	CBO12.3-2/P	3	4A/250V	2m	0.34mm²
	Female 3-core NO with LEDPNP	CBO12.3-2/L/P	3	4A/30V	2m	0.34mm²
	Female 3-core NO with LEDNPN	CBO12.3-2/LN/P	3	4A/30V	2m	0.34mm²
	Female 4-core NO/NC	CBO12.4-2/P	4	4A/250V	2m	0.34mm²
	Female 4-core NO/NC with LEDPNP	CBO12.4-2/L/P	4	4A/30V	2m	0.34mm²
	Female 4-core NO/NC with LEDNPN	CBO12.4-2/LN/P	4	4A/30V	2m	0.34mm²
	Female 5-core NO/NC	CBO12.5-2/P	5	4A/60V	2m	0.34mm²
	Female 8-core	CBO12.8-2/P	8	2A/30V	2m	0.25mm²

Selection Instructions

CBO12.4 - 2 / P

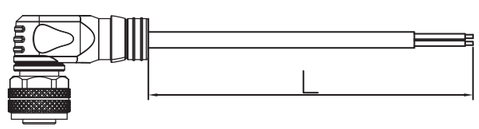
① ②

Attn： ①: Customized cable lengths are available.

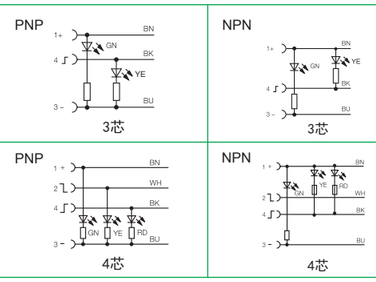
②: Cable jacket or function can be customized according to the requirements.

Additional Information

Cable Length



Product with LED



Single-ended I/O Cordsets-M12 (Angled-male)

Description:

Used for sensors, I/O connector connecting. Standard M12(angled-male) threaded connection.

2, 3, 4, 5, 8-core are optional. Customized cable lengths. Degree of protection IP67.

Features:

- PVC, PUR cable are optional
- A-coded interface
- Optional LED indicator

* All technical information about the raw cable for connectors, please refer to the “cable” section (P513).

Type Code

Cable jacket	Description	Type	Pin	Rated current/voltage	Cable length	Wire section
PVC	Male DC 2-core	CB12.2-2	2	4A/250V	2m	0.34mm²
	Male AC/DC 2-core	CB12.21-2	2	4A/250V	2m	0.34mm²
	Male AC 2-core	CB12.22-2	2	4A/250V	2m	0.34mm²
	Male 3-core NO	CB12.3-2	3	4A/250V	2m	0.34mm²
	Male 4-core NO/NC	CB12.4-2	4	4A/250V	2m	0.34mm²
	Male 5-core NO/NC	CB12.5-2	5	4A/60V	2m	0.34mm²
	Male 8-core	CB12.8-2	8	2A/30V	2m	0.25mm²
PUR	Male DC 2-core	CB12.2-2/P	2	4A/250V	2m	0.34mm²
	Male AC/DC 2-core	CB12.21-2/P	2	4A/250V	2m	0.34mm²
	Male AC 2-core	CB12.22-2/P	2	4A/250V	2m	0.34mm²
	Male 3-core NO	CB12.3-2/P	3	4A/250V	2m	0.34mm²
	Male 4-core NO/NC	CB12.4-2/P	4	4A/250V	2m	0.34mm²
	Male 5-core NO/NC	CB12.5-2/P	5	4A/60V	2m	0.34mm²
	Male 8-core	CB12.8-2/P	8	2A/30V	2m	0.25mm²

Selection Instructions

CB12.4 - 2 / P

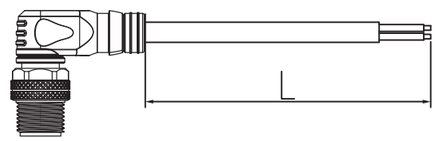
① ②

Attn： ①: Customized cable lengths are available.

②: Cable jacket or function can be customized according to the requirements.

Additional Information

Cable Length



Single-ended I/O Cordsets-M12 (Straight-female)

Description:

Used for sensors, I/O connector connecting. Standard M12(straight-female) threaded connection.

2, 3, 4, 5, 8-core are optional. Customized cable lengths. Degree of protection IP67.

Features:

- NE, shielded cable, welding spark resistance EWSR, and high flexibility cable STPE are optional
- A-coded interface
- Optional LED indicator（except NAMUR and 8-core cable）

* All technical information about the raw cable for connectors, please refer to the “cable” section (P513).

Type Code

Cable jacket	Description	Type	Pin	Rated current/voltage	Cable length	Wire section
Welding spark resistance	Female 3-core	CO12.3-2/EWSR	3	4A/250V	2m	0.34mm²
	Female 4-core	CO12.4-2/EWSR	4	4A/250V	2m	0.34mm²
	Female 5-core	CO12.5-2/EWSR	5	4A/60V	2m	0.34mm²
PVC Shielded	Female 3-core	CO12.3-2/WS	3	4A/250V	2m	0.34mm²
	Female 4-core	CO12.4-2/WS	4	4A/250V	2m	0.34mm²
	Female 5-core	CO12.5-2/WS	5	4A/60V	2m	0.34mm²
	Female 8-core	CO12.8-2/WS	8	2A/30V	2m	0.25mm²
PUR Shielded	Female 3-core	CO12.3-2/WS/P	3	4A/250V	2m	0.34mm²
	Female 4-core	CO12.4-2/WS/P	4	4A250V	2m	0.34mm²
	Female 5-core	CO12.5-2/WS/P	5	4A/60V	2m	0.34mm²
	Female 8-core	CO12.8-2/WS/P	8	2A/30V	2m	0.25mm²
	Female 12-core	CO12.12-2/WS/P	12	1.5A/30V	2m	0.25mm²

Selection Instructions

CO12.4 - 2 / WS

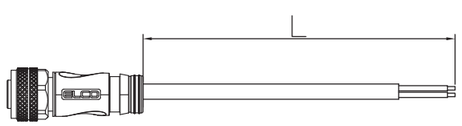
① ②

Attn： ①: Customized cable lengths are available.

②: Cable jacket or function can be customized according to the requirements.

Additional Information

Cable Length



Single-ended I/O Cordsets-M12 (Straight-male)

Description:

Used for sensors, I/O connector connecting. Standard M12(straight-male) threaded connection.

2, 3, 4, 5, 8-core are optional. Customized cable lengths. Degree of protection IP67.

Features:

- NE, shielded cable, welding spark resistance EWSR, and high flexibility cable STPE are optional
- A-coded interface
- Optional LED indicator（except NAMUR and 8-core cable）

* All technical information about the raw cable for connectors, please refer to the “cable” section (P513).

Type Code

Cable jacket	Description	Type	Pin	Rated current/voltage	Cable length	Wire section
Welding spark resistance	Male 3-core	C12.3-2/EWSR	3	4A/250V	2m	0.34mm²
	Male 4-core	C12.4-2/EWSR	4	4A/250V	2m	0.34mm²
	Male 5-core	C12.5-2/EWSR	5	4A/60V	2m	0.34mm²
PVC Shielded	Male 3-core	C12.3-2/WS	3	4A/250V	2m	0.34mm²
	Male 4-core	C12.4-2/WS	4	4A/250V	2m	0.34mm²
	Male 5-core	C12.5-2/WS	5	4A/60V	2m	0.34mm²
	Male 8-core	C12.8-2/WS	8	2A/30V	2m	0.25mm²
PUR Shielded	Male 3-core	C12.3-2/WS/P	3	4A/250V	2m	0.34mm²
	Male 4-core	C12.4-2/WS/P	4	4A/250V	2m	0.34mm²
	Male 5-core	C12.5-2/WS/P	5	4A/60V	2m	0.34mm²
	Male 8-core	C12.8-2/WS/P	8	2A/30V	2m	0.25mm²

Selection Instructions

C12.4 - 2 / WS

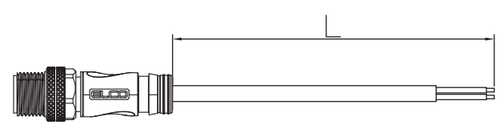
① ②

Attn： ①: Customized cable lengths are available.

②: Cable jacket or function can be customized according to the requirements.

Additional Information

Cable Length



Single-ended I/O Cordsets-M12 (Angled-female)

Description:

Used for sensors, I/O connector connecting. Standard M12(angled-female) threaded connection.

2, 3, 4, 5, 8-core are optional. Customized cable lengths. Degree of protection IP67.

Features:

- NE, shielded cable, welding spark resistance EWSR, and high flexibility cable STPE are optional
- A-coded interface
- Optional LED indicator（except NAMUR and 8-core cable）

* All technical information about the raw cable for connectors, please refer to the “cable” section (P513).

Type Code

Cable jacket	Description	Type	Pin	Rated current/voltage	Cable length	Wire section
Welding spark resistance	Female 3-core	CBO12.3-2/EWSR	3	4A/250V	2m	0.34mm²
	Female 4-core	CBO12.4-2/EWSR	4	4A/250V	2m	0.34mm²
	Female 5-core	CBO12.5-2/EWSR	5	4A/60V	2m	0.34mm²
PVC Shielded	Female 3-core	CBO12.3-2/WS	3	4A/250V	2m	0.34mm²
	Female 4-core	CBO12.4-2/WS	4	4A/250V	2m	0.34mm²
	Female 5-core	CBO12.5-2/WS	5	4A/60V	2m	0.34mm²
	Female 8-core	CBO12.8-2/WS	8	2A/30V	2m	0.25mm²
PUR Shielded	Female 3-core	CBO12.3-2/WS/P	3	4A/250V	2m	0.34mm²
	Female 4-core	CBO12.4-2/WS/P	4	4A/250V	2m	0.34mm²
	Female 5-core	CBO12.5-2/WS/P	5	4A/60V	2m	0.34mm²
	Female 8-core	CBO12.8-2/WS/P	8	2A/30V	2m	0.25mm²

Selection Instructions

CBO12.4 - 2 / WS

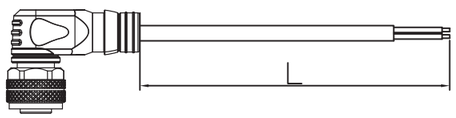
① ②

Attn： ①: Customized cable lengths are available.

②: Cable jacket or function can be customized according to the requirements.

Additional Information

Cable Length



Single-ended I/O Cordsets-M12 (Angled-male)

Description:

Used for sensors, I/O connector connecting. Standard M12(angled-male) threaded connection.

2, 3, 4, 5, 8-core are optional. Customized cable lengths. Degree of protection IP67.

Features:

- NE, shielded cable, welding spark resistance EWSR, and high flexibility cable STPE are optional
- A-coded interface
- Optional LED indicator（except NAMUR and 8-core cable）

* All technical information about the raw cable for connectors, please refer to the “cable” section (P513).

Type Code

Cable jacket	Description	Type	Pin	Rated current/voltage	Cable length	Wire section
Welding spark resistance	Male 3-core	CB12.3-2/EWSR	3	4A/250V	2m	0.34mm²
	Male 4-core	CB12.4-2/EWSR	4	4A/250V	2m	0.34mm²
	Male 5-core	CB12.5-2/EWSR	5	4A/60V	2m	0.34mm²
PVC Shielded	Male 3-core	CB12.3-2/WS	3	4A/250V	2m	0.34mm²
	Male 4-core	CB12.4-2/WS	4	4A/250V	2m	0.34mm²
	Male 5-core	CB12.5-2/WS	5	4A/60V	2m	0.34mm²
	Male 8-core	CB12.8-2/WS	8	2A/30V	2m	0.25mm²
PUR Shielded	Male 3-core	CB12.3-2/WS/P	3	4A/250V	2m	0.34mm²
	Male 4-core	CB12.4-2/WS/P	4	4A/250V	2m	0.34mm²
	Male 5-core	CB12.5-2/WS/P	5	4A/60V	2m	0.34mm²
	Male 8-core	CB12.8-2/WS/P	8	2A/30V	2m	0.25mm²

Selection Instructions

CB12.4 - 2 / WS

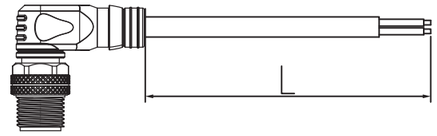
① ②

Attn： ①: Customized cable lengths are available.

②: Cable jacket or function can be customized according to the requirements.

Additional Information

Cable Length



Double-ended I/O Cordsets-M12 (female) to M12 (male)

Description:

Used for sensors, I/O connector connecting. Standard M12 threaded connection. Advanced design idea of female-to-male ends connector. Straight series and angled series are available. 3, 4, 5, 8-core are optional. Customized cable lengths. Degree of protection IP67.

Features:

- PVC, PUR cable are optional
- Optional shielded function
- A-coded interface

* All technical information about the raw cable for connectors, please refer to the “cable” section (P513).

Type Code

Cable jacket	Description	Type	Pin	Rated current/voltage	Cable length	Wire section
PVC	3-core straight to straight	CO12.3-2-C12.3	3	4A/250V	2m	0.34mm²
	3-core straight to angled	CO12.3-2-CB12.3	3	4A/250V	2m	0.34mm²
	4-core straight to straight	CO12.4-2-C12.4	4	4A/250V	2m	0.34mm²
	4-core straight to angled	CO12.4-2-CB12.4	4	4A/250V	2m	0.34mm²
	5-core straight to straight	CO12.5-2-C12.5	5	4A/60V	2m	0.34mm²
	5-core straight to angled	CO12.5-2-CB12.5	5	4A/60V	2m	0.34mm²
PUR	3-core straight to straight	CO12.3-2-C12.3/P	3	4A/250V	2m	0.34mm²
	3-core straight to angled	CO12.3-2-CB12.3/P	3	4A/250V	2m	0.34mm²
	4-core straight to straight	CO12.4-2-C12.4/P	4	4A/250V	2m	0.34mm²
	4-core straight to angled	CO12.4-2-CB12.4/P	4	4A/250V	2m	0.34mm²
	5-core straight to straight	CO12.5-2-C12.5/P	5	4A/60V	2m	0.34mm²
	5-core straight to angled	CO12.5-2-CB12.5/P	5	4A/60V	2m	0.34mm²

Selection Instructions

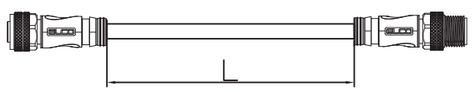
CO12.4 - 2 - C12.4/P
①　②

Attn： ①: Customized cable lengths are available.

②: Cable jacket or function can be customized according to the requirements.

Additional Information

Cable Length



Double-ended I/O Cordsets-M12 (female）to M12 (male)

Description:

Used for sensors, I/O connector connecting. Standard M12 threaded connection. Advanced design idea of female-to-male ends connector. Straight series and angled series are available. 3, 4, 5, 8-core are optional. Customized cable lengths. Degree of protection IP67.

Features:

- PVC, PUR cable are optional
- Optional shielded function
- A-coded interface

* All technical information about the raw cable for connectors, please refer to the “cable” section (P513).

Type Code

Cable jacket	Description	Type	Pin	Rated current/voltage	Cable length	Wire section
PVC	3-core angled to straight	CBO12.3-2-C12.3	3	4A/250V	2m	0.34mm²
	3-core angled to angled	CBO12.3-2-CB12.3	3	4A/250V	2m	0.34mm²
	4-core angled to straight	CBO12.4-2-C12.4	4	4A/250V	2m	0.34mm²
	4-core angled to angled	CBO12.4-2-CB12.4	4	4A/250V	2m	0.34mm²
	5-core angled to straight	CBO12.5-2-C12.5	5	4A/60V	2m	0.34mm²
	5-core angled to angled	CBO12.5-2-CB12.5	5	4A/60V	2m	0.34mm²
PUR	3-core angled to straight	CBO12.3-2-C12.3/P	3	4A/250V	2m	0.34mm²
	3-core angled to angled	CBO12.3-2-CB12.3/P	3	4A/250V	2m	0.34mm²
	4-core angled to straight	CBO12.4-2-C12.4/P	4	4A/250V	2m	0.34mm²
	4-core angled to angled	CBO12.4-2-CB12.4/P	4	4A/250V	2m	0.34mm²
	5-core angled to straight	CBO12.5-2-C12.5/P	5	4A/60V	2m	0.34mm²
	5-core angled to angled	CBO12.5-2-CB12.5/P	5	4A/60V	2m	0.34mm²

Selection Instructions

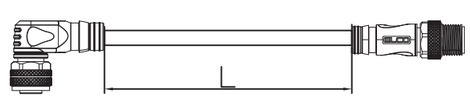
CBO12.4 - 2 - C12.4 / P
①　②

Attn： ①: Customized cable lengths are available.

②: Cable jacket or function can be customized according to the requirements.

Additional Information

Cable Length



Double-ended I/O Cordsets-M12 (female) to M8 (male)

Description:

Used for sensors, I/O connector connecting. Standard M12, M8 threaded connecting. Advanced design idea of female-to-male ends connector. Straight series, angled series and 3, 4-core are optional. Customized cable lengths. Degree of protection IP67.

Features:

- PVC, PUR cable are optional
- A-coded interface

* All technical information about the raw cable for connectors, please refer to the “cable” section (P513).

Type Code

Cable jacket	Description	Type	Pin	Rated current/voltage	Cable length	Wire section
PVC	3-core straight to straight	CO12.3-2-C8.3	3	4A/60V	2m	0.25mm²
	3-core straight to angled	CO12.3-2-CB8.3	3	4A/60V	2m	0.25mm²
	4-core straight to straight	CO12.4-2-C8.4	4	4A/30V	2m	0.25mm²
	4-core straight to angled	CBO12.4-2-CB8.4	4	4A/30V	2m	0.25mm²
PUR	3-core straight to straight	CO12.3-2-C8.3/P	3	4A/60V	2m	0.25mm²
	3-core straight to angled	CO12.3-2-CB8.3/P	3	4A/60V	2m	0.25mm²
	4-core straight to straight	CO12.4-2-C8.4/P	4	4A/30V	2m	0.25mm²
	4-core straight to angled	CO12.4-2-CB8.4/P	4	4A/30V	2m	0.25mm²

Selection Instructions

CO12.4 - 2 - C8.4 / P

① ②

Attn： ①: Customized cable lengths are available.

②: Cable jacket or function can be customized according to the requirements.

Additional Information

Cable Length

Double-ended I/O Cordsets-M12 (female) to M8 (male)

Description:

Used for sensors, I/O connector connecting. Standard M12, M8 threaded connection. Advanced design idea of female-to-male ends connector. Straight series and angled series are available. 3, 4-core are optional. Customized cable lengths. Degree of protection IP67.

Features:

- PVC, PUR cable are optional
- A-coded interface

* All technical information about the raw cable for connectors, please refer to the “cable” section (P513).

Type Code

Cable jacket	Description	Type	Pin	Rated current/voltage	Cable length	Wire section
PVC	3-core angled to straight	CBO12.3-2-C8.3	3	4A/60V	2m	0.25mm²
	3-core angled to angled	CBO12.3-2-CB8.3	3	4A/60V	2m	0.25mm²
	4-core angled to straight	CBO12.4-2-C8.4	4	4A/30V	2m	0.25mm²
	4-core angled to angled	CBO12.4-2-CB8.4	4	4A/30V	2m	0.25mm²
PUR	3-core angled to straight	CBO12.3-2-C8.3/P	3	4A/60V	2m	0.25mm²
	3-core angled to angled	CBO12.3-2-CB8.3/P	3	4A/60V	2m	0.25mm²
	4-core angled to straight	CBO12.4-2-C8.4/P	4	4A/30V	2m	0.25mm²
	4-core angled to angled	CBO12.4-2-CB8.4/P	4	4A/30V	2m	0.25mm²

Selection Instructions

CBO12.4 - 2 - C8.4 / P

① ②

Attn： ①: Customized cable lengths are available.

②: Cable jacket or function can be customized according to the requirements.

Additional Information

Cable Length

Double-ended I/O Cordsets-M12 (female) to M12 (male)

Description:

Used for sensors, I/O connector connecting. Standard M12 threaded connection. Advanced design idea of female-to-male ends connector. Straight series and angled series are available.
3, 4, 5-core are optional. Customized cable lengths. Degree of protection IP67.

Features:

- ■ PVC, PUR cable are optional
- ■ Optional shielded function
- ■ M12 (female) with LED to M12 (male)

* All technical information about the raw cable for connectors, please refer to the “cable” section (P513).

Type Code

Cable jacket	Description	Type	Pin	Rated current/voltage	Cable length	Wire section
PVC	3-core straight to straight LEDPNP	CO12.3-2-C12.3/L	3	4A/30V	2m	0.34mm²
	3-core straight to angled LEDPNP	CO12.3-2-CB12.3/L	3	4A/30V	2m	0.34mm²
	4-core straight to straight LEDPNP	CO12.4-2-C12.4/L	4	4A/30V	2m	0.34mm²
	4-core straight to angled LEDPNP	CO12.4-2-CB12.4/L	4	4A/30V	2m	0.34mm²
	3-core straight to straight LEDNPN	CO12.3-2-C12.3/LN	3	4A/30V	2m	0.34mm²
	3-core straight to angled LEDNPN	CO12.3-2-CB12.3/LN	3	4A/30V	2m	0.34mm²
	4-core straight to straight LEDNPN	CO12.4-2-C12.4/LN	4	4A/30V	2m	0.34mm²
	4-core straight to angled LEDNPN	CO12.4-2-CB12.4/LN	4	4A/30V	2m	0.34mm²
PUR	3-core straight to straight LEDPNP	CO12.3-2-C12.3/L/P	3	4A/30V	2m	0.34mm²
	3-core straight to angled LEDPNP	CO12.3-2-CB12.3/L/P	3	4A/30V	2m	0.34mm²
	4-core straight to straight LEDPNP	CO12.4-2-C12.4/L/P	4	4A/30V	2m	0.34mm²
	4-core straight to angled LEDPNP	CO12.4-2-CB12.4/L/P	4	4A/30V	2m	0.34mm²
	3-core straight to straight LEDNPN	CO12.3-2-C12.3/LN/P	3	4A/30V	2m	0.34mm²
	3-core straight to angled LEDNPN	CO12.3-2-CB12.3/LN/P	3	4A/30V	2m	0.34mm²
	4-core straight to straight LEDNPN	CO12.4-2-C12.4/LN/P	4	4A/30V	2m	0.34mm²
	4-core straight to angled LEDNPN	CO12.4-2-CB12.4/LN/P	4	4A/30V	2m	0.34mm²

Selection Instructions

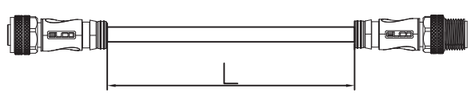
CO12.4 - 2 - C12.4 / P
①　②

Attn： ①: Customized cable lengths are available.

②: Cable jacket or function can be customized according to the requirements.

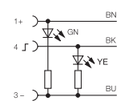
Additional Information

Cable Length



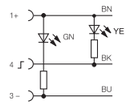
Product with LED

PNP



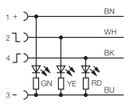
3-core

NPN



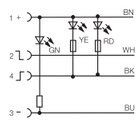
3-core

PNP



4-core

NPN



4-core

Double-ended I/O Cordsets-M12 (female) to M12 (male)

Description:

Used for sensors, I/O connector connecting. Standard M12 threaded connection. Advanced design idea of female-to-male ends connector. Straight series and angled series are available.
3, 4, 5-core are optional. Customized cable lengths. Degree of protection IP67.

Features:

- ■ PVC, PUR cable are optional
- ■ Optional shielded function
- ■ M12 (female) with LED to M12 (male)

* All technical information about the raw cable for connectors, please refer to the “cable” section (P513).

Type Code

Cable jacket	Description	Type	Pin	Rated current/voltage	Cable length	Wire section
PVC	3-core angled to straight LEDPNP	CBO12.3-2-C12.3/L	3	4A/30V	2m	0.25mm²
	3-core angled to angled LEDPNP	CBO12.3-2-CB12.3/L	3	4A/30V	2m	0.25mm²
	4-core angled to straight LEDPNP	CBO12.4-2-C12.4/L	4	4A/30V	2m	0.25mm²
	4-core angled to angled LEDPNP	CBO12.4-2-CB12.4/L	4	4A/30V	2m	0.25mm²
	3-core angled to straight LEDNPN	CBO12.3-2-C12.3/LN	3	4A/30V	2m	0.25mm²
	3-core angled to angled LEDNPN	CBO12.3-2-CB12.3/LN	3	4A/30V	2m	0.25mm²
	4-core angled to straight LEDNPN	CBO12.4-2-C12.4/LN	4	4A/30V	2m	0.25mm²
	4-core angled to angled LEDNPN	CBO12.4-2-CB12.4/LN	4	4A/30V	2m	0.25mm²
PUR	3-core angled to straight LEDPNP	CBO12.3-2-C12.3/L/P	3	4A/30V	2m	0.25mm²
	3-core angled to angled LEDPNP	CBO12.3-2-CB12.3/L/P	3	4A/30V	2m	0.25mm²
	4-core angled to straight LEDPNP	CBO12.4-2-C12.4/L/P	4	4A/30V	2m	0.25mm²
	4-core angled to angled LEDPNP	CBO12.4-2-CB12.4/L/P	4	4A/30V	2m	0.25mm²
	3-core angled to straight LEDNPN	CBO12.3-2-C12.3/LN/P	3	4A/30V	2m	0.25mm²
	3-core angled to angled LEDNPN	CBO12.3-2-CB12.3/LN/P	3	4A/30V	2m	0.25mm²
	4-core angled to straight LEDNPN	CBO12.4-2-C12.4/LN/P	4	4A/30V	2m	0.25mm²
	4-core angled to angled LEDNPN	CBO12.4-2-CB12.4/LN/P	4	4A/30V	2m	0.25mm²

Selection Instructions

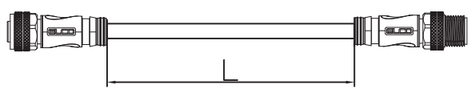
CBO12.4 - 2 - C12.4 / P
①　②

Attn： ①: Customized cable lengths are available.

②: Cable jacket or function can be customized according to the requirements.

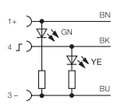
Additional Information

Cable Length



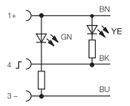
Product with LED

PNP



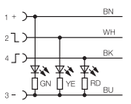
3-core

NPN



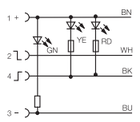
3-core

PNP



4-core

NPN



4-core

Double-ended I/O Cordsets-M12 (female) to M8 (male)

Description:

Used for sensors, I/O connector connecting. Standard M12, M8 threaded connecting. Advanced design idea of female-to-male ends connector. Straight series, angled series and 3, 4-core are optional. Customized cable lengths. Degree of protection IP67.

Features:

- PVC, PUR cable are optional
- A-coded interface
- M12 (female) with LED to M8 (male)

* All technical information about the raw cable for connectors, please refer to the “cable” section (P513).

Type Code

Cable jacket	Description	Type	Pin	Rated current/voltage	Cable length	Wire section
PVC	3-core straight to straight LEDPNP	CO12.3-2-C8.3/L	3	4A/30V	2m	0.25mm²
	3-core straight to angled LEDPNP	CO12.3-2-CB8.3/L	3	4A/30V	2m	0.25mm²
	4-core straight to straight LEDPNP	CO12.4-2-C8.4/L	4	4A/30V	2m	0.25mm²
	4-core straight to angled LEDPNP	CO12.4-2-CB8.4/L	4	4A/30V	2m	0.25mm²
	3-core straight to straight LEDNPN	CO12.3-2-C8.3/LN	3	4A/30V	2m	0.25mm²
	3-core straight to angled LEDNPN	CO12.3-2-CB8.3/LN	3	4A/30V	2m	0.25mm²
	4-core straight to straight LEDNPN	CO12.4-2-C8.4/LN	4	4A/30V	2m	0.25mm²
	4-core straight to angled LEDNPN	CO12.4-2-CB8.4/LN	4	4A/30V	2m	0.25mm²
PUR	3-core straight to straight LEDPNP	CO12.3-2-C8.3/L/P	3	4A/30V	2m	0.25mm²
	3-core straight to angled LEDPNP	CO12.3-2-CB8.3/L/P	3	4A/30V	2m	0.25mm²
	4-core straight to straight LEDPNP	CO12.4-2-C8.4/L/P	4	4A/30V	2m	0.25mm²
	4-core straight to angled LEDPNP	CO12.4-2-CB8.4/L/P	4	4A/30V	2m	0.25mm²
	3-core straight to straight LEDNPN	CO12.3-2-C8.3/LN/P	3	4A/30V	2m	0.25mm²
	3-core straight to angled LEDNPN	CO12.3-2-CB8.3/LN/P	3	4A/30V	2m	0.25mm²
	4-core straight to straight LEDNPN	CO12.4-2-C8.4/LN/P	4	4A/30V	2m	0.25mm²
	4-core straight to angled LEDNPN	CO12.4-2-CB8.4/LN/P	4	4A/30V	2m	0.25mm²

Selection Instructions

CO12.4 - 2 - C8.4 / P

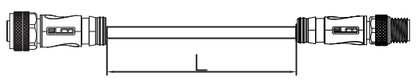
① ②

Attn： ①: Customized cable lengths are available.

②: Cable jacket or function can be customized according to the requirements.

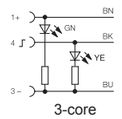
Additional Information

Cable Length



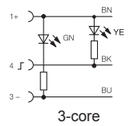
Product with LED

PNP



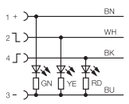
3-core

NPN



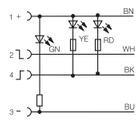
3-core

PNP



4-core

NPN



4-core

Double-ended I/O Cordsets-M12 (female) to M8 (male)

Description:

Used for sensors, I/O connector connecting. Standard M12, M8 threaded connection. Advanced design idea of female-to-male ends connector. Straight series and angled series are available. 3, 4-core are optional. Customized cable lengths. Degree of protection IP67.

Features:

- PVC, PUR cable are optional
- A-coded interface
- M12 (female) with LED to M8 (male)

* All technical information about the raw cable for connectors, please refer to the “cable” section (P513).

Type Code

Cable jacket	Description	Type	Pin	Rated current/voltage	Cable length	Wire section
PVC	3-core angled to straight LEDPNP	CBO12.3-2-C8.3/L	3	4A/30V	2m	0.25mm²
	3-core angled to angled LEDPNP	CBO12.3-2-CB8.3/L	3	4A/30V	2m	0.25mm²
	4-core angled to straight LEDPNP	CBO12.4-2-C8.4/L	4	4A/30V	2m	0.25mm²
	4-core angled to angled LEDPNP	CBO12.4-2-CB8.4/L	4	4A/30V	2m	0.25mm²
	3-core angled to straight LEDNPN	CBO12.3-2-C8.3/LN	3	4A/30V	2m	0.25mm²
	3-core angled to angled LEDNPN	CBO12.3-2-CB8.3/LN	3	4A/30V	2m	0.25mm²
	4-core angled to straight LEDNPN	CBO12.4-2-C8.4/LN	4	4A/30V	2m	0.25mm²
	4-core angled to angled LEDNPN	CBO12.4-2-CB8.4/LN	4	4A/30V	2m	0.25mm²
PUR	3-core angled to straight LEDPNP	CBO12.3-2-C8.3/L/P	3	4A/30V	2m	0.25mm²
	3-core angled to angled LEDPNP	CBO12.3-2-CB8.3/L/P	3	4A/30V	2m	0.25mm²
	4-core angled to straight LEDPNP	CBO12.4-2-C8.4/L/P	4	4A/30V	2m	0.25mm²
	4-core angled to angled LEDPNP	CBO12.4-2-CB8.4/L/P	4	4A/30V	2m	0.25mm²
	3-core angled to straight LEDNPN	CBO12.3-2-C8.3/LN/P	3	4A/30V	2m	0.25mm²
	3-core angled to angled LEDNPN	CBO12.3-2-CB8.3/LN/P	3	4A/30V	2m	0.25mm²
	4-core angled to straight LEDNPN	CBO12.4-2-C8.4/LN/P	4	4A/30V	2m	0.25mm²
	4-core angled to angled LEDNPN	CBO12.4-2-CB8.4/LN/P	4	4A/30V	2m	0.25mm²

Selection Instructions

CBO12.4 - 2 - C8.4 / P

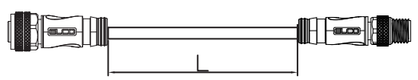
① ②

Attn： ①: Customized cable lengths are available.

②: Cable jacket or function can be customized according to the requirements.

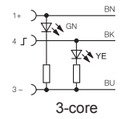
Additional Information

Cable Length



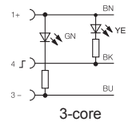
Product with LED

PNP



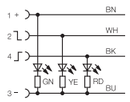
3-core

NPN



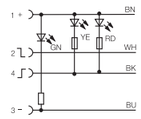
3-core

PNP



4-core

NPN



4-core

Y Splitter M12-male to M12-female

Description:

Used for sensors, I/O connector connecting. Standard M12 threaded connection. Advanced design idea of female-to-male ends connector. Straight series and angled series are available. Customized cable lengths. Degree of protection IP67.

Features:

- PVC, PUR cable are optional
- A-coded interface

* All technical information about the raw cable for connectors, please refer to the “cable” section (P513).

Type Code

Cable jacket	Description	Type	Pin	Rated current/voltage	Cable length	Wire section
PVC	Straight to 2 straight	ECS-2CO12.4-2/2	4-3/3	4A/250V	2m	0.34mm²
	Straight to 2 angled	ECS-2CBO12.4-2/2	4-3/3	4A/250V	2m	0.34mm²
	Straight to 2 straight	ECS-2CO12.4-2/2/B24	4-4/4	4A/60V	2m	0.34mm²
	Straight to 2 angled	ECS-2CBO12.4-2/2/B24	4-4/4	4A/60V	2m	0.34mm²
PUR	Straight to 2 straight	ECS-2CO12.4-2/2/P	4-3/3	4A/250V	2m	0.34mm²
	Straight to 2 angled	ECS-2CBO12.4-2/2/P	4-3/3	4A/250V	2m	0.34mm²
	Straight to 2 straight	ECS-2CO12.4-2/2/B24/P	4-4/4	4A/60V	2m	0.34mm²
	Straight to 2 angled	ECS-2CBO12.4-2/2/B24/P	4-4/4	4A/60V	2m	0.34mm²

Selection Instructions

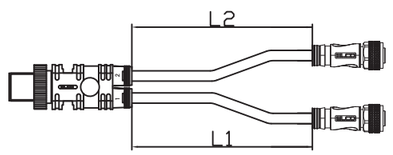
ECS-2CO12.4-2/2/P
① ②

Attn： ①: Customized cable lengths are available.

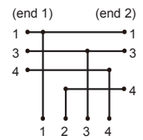
②: Cable jacket or function can be customized according to the requirements.

Additional Information

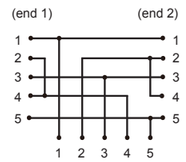
Cable Length



Wiring Diagram



Standard



A5

Y Splitter M12-male to M8-female

Description:

Used for sensors, I/O connector connecting. Standard M12 threaded connection. Advanced design idea of female-to-male ends connector. Straight series and angled series are available. Customized cable lengths. Degree of protection IP67.

Features:

- PVC, PUR cable are optional
- A-coded interface

* All technical information about the raw cable for connectors, please refer to the “cable” section (P513).

Type Code

Cable jacket	Description	Type	Pin	Rated current/voltage	Cable length	Wire section
PVC	Straight to 2 straight	ECS-2CO8.3-2/2	4-3/3	4A/60V	2m	0.25mm²
	Straight to 2 angled	ECS-2CBO8.3-2/2	4-3/3	4A/60V	2m	0.25mm²
PUR	Straight to 2 straight	ECS-2CO8.3-2/2/P	4-3/3	4A/60V	2m	0.25mm²
	Straight to 2 angled	ECS-2CBO8.3-2/2/P	4-3/3	4A/60V	2m	0.25mm²

Selection Instructions

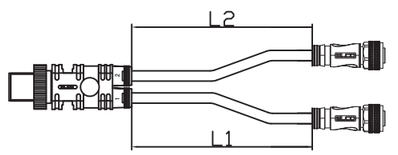
ECS-2CO8.3-2/2/P
① ②

Attn： ①: Customized cable lengths are available.

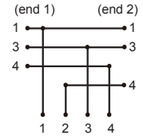
②: Cable jacket or function can be customized according to the requirements.

Additional Information

Cable Length



Wiring Diagram



Standard

Y Splitter M12-male to M12-female

Description:

Used for sensors, I/O connector connecting. Standard M12 threaded connection. Advanced design idea of female-to-male ends connector. Straight series and angled series are available.
3, 4-core are optional. Customized cable lengths. Degree of protection IP67.

Features:

- PVC, PUR cable are optional
- A-coded interface
- LED indicator

* All technical information about the raw cable for connectors, please refer to the “cable” section (P513).

Type Code

Cable jacket	Description	Type	Pin	Rated current/voltage	Cable length	Wire section
PVC	Straight to 2 straight PNP	ECS-2CO12.4-2/2/L	4-3/3	4A/30V	2m	0.34mm²
	Straight to 2 angled PNP	ECS-2CBO12.4-2/2/L	4-3/3	4A/30V	2m	0.34mm²
	Straight to 2 straight NPN	ECS-2CO12.4-2/2/LN	4-3/3	4A/30V	2m	0.34mm²
	Straight to 2 angled NPN	ECS-2CBO12.4-2/2/LN	4-3/3	4A/30V	2m	0.34mm²
PUR	Straight to 2 straight PNP	ECS-2CO12.4-2/2/L/P	4-3/3	4A/30V	2m	0.34mm²
	Straight to 2 angled PNP	ECS-2CBO12.4-2/2/L/P	4-3/3	4A/30V	2m	0.34mm²
	Straight to 2 straight NPN	ECS-2CO12.4-2/2/LN/P	4-3/3	4A/30V	2m	0.34mm²
	Straight to 2 angled NPN	ECS-2CBO12.4-2/2/LN/P	4-3/3	4A/30V	2m	0.34mm²

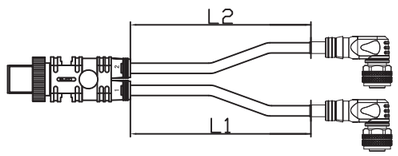
Selection Instructions

ECS-2CO12.4-2/2/P
① ②

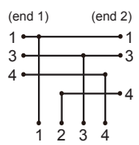
Attn： ①: Customized cable lengths are available.
②: Cable jacket or function can be customized according to the requirements.

Additional Information

Cable Length

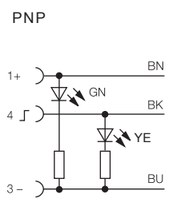


Wiring Diagram

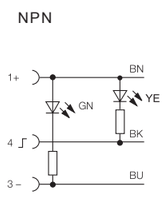


Standard

Product with LED



3-core



3-core

Y Splitter M12-male to M8-female

Description:

Used for sensors, I/O connector connecting. Standard M12 threaded connection. Advanced design idea of female-to-male ends connector. Straight series and angled series are available.
3, 4-core are optional. Customized cable lengths. Degree of protection IP67.

Features:

- PVC, PUR cable are optional
- A-coded interface
- LED indicator

* All technical information about the raw cable for connectors, please refer to the “cable” section (P513).

Type Code

Cable jacket	Description	Type	Pin	Rated current/voltage	Cable length	Wire section
PVC	Straight to 2 straight PNP	ECS-2CO8.3-2/2/L	4-3/3	4A/30V	2m	0.25mm²
	Straight to 2 angled PNP	ECS-2CBO8.3-2/2/L	4-3/3	4A/30V	2m	0.25mm²
	Straight to 2 straight NPN	ECS-2CO8.3-2/2/LN	4-3/3	4A/30V	2m	0.25mm²
	Straight to 2 angled NPN	ECS-2CBO8.3-2/2/LN	4-3/3	4A/30V	2m	0.25mm²
PUR	Straight to 2 straight PNP	ECS-2CO8.3-2/2/L/P	4-3/3	4A/30V	2m	0.25mm²
	Straight to 2 angled PNP	ECS-2CBO8.3-2/2/L/P	4-3/3	4A/30V	2m	0.25mm²
	Straight to 2 straight NPN	ECS-2CO8.3-2/2/LN/P	4-3/3	4A/30V	2m	0.25mm²
	Straight to 2 angled NPN	ECS-2CBO8.3-2/2/LN/P	4-3/3	4A/30V	2m	0.25mm²

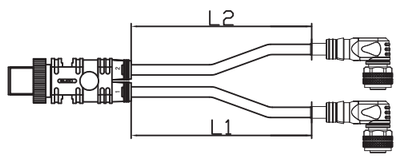
Selection Instructions

ECS-2CO8.3-2/2/L
① ②

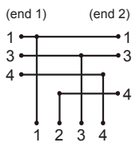
Attn： ①: Customized cable lengths are available.
②: Cable jacket or function can be customized according to the requirements.

Additional Information

Cable Length

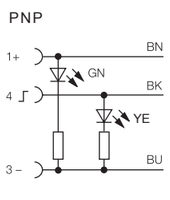


Wiring Diagram

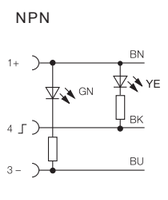


Standard

Product with LED



3-core



3-core

Y Splitter M12(M) to Homerun Cable

Description:

Used for field equipment connecting, such as sensors and solenoid valves. Standard threaded connection with two free ends, 3-core. Customized cable lengths. Degree of protection IP67.

Features:

- PVC, PUR cable are optional
- A-coded interface
- Homerun cable

* All technical information about the raw cable for connectors, please refer to the “cable” section (P513).

Type Code

Cable jacket	Description	Type	Pin	Rated current/voltage	Cable length	Wire section
PVC	Y Splitter M12(M) to Homerun Cable	ECS-2.3-2/2	4-3/3	4A/250V	2m	0.34mm²
PUR	Y Splitter M12(M) to Homerun Cable	ECS-2.3-2/2/P	4-3/3	4A/250V	2m	0.34mm²

Selection Instructions

ECS-2.3-2/2/P

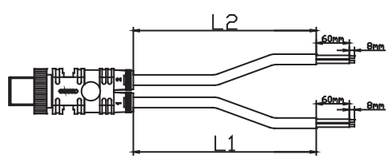
① ②

Attn： ①: Customized cable lengths are available.

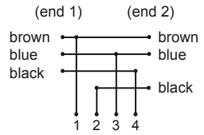
②: Cable jacket or function can be customized according to the requirements.

Additional Information

Cable Length



Wiring Diagram



Standard

Y Adapter

Description:

Standard M12, M8 threaded connection,female to male interface.

3, 4, 5-core are available. Degree of protection IP67.

Features:

- TPU covering
- A-coded interface

Type Code

Cable jacket	Description	Type	Pin	Rated current/voltage	Cable length
Standard	Universal Y adapter	ECS-CO12.3	4-3/3	4A/60V	——
	Universal Y adapter	ECS-CO8.3	4-3/3	4A/60V	——
Special	Special Y adapter	ECS-CO12.5	5-5/5	4A/60V	——
	Special Y adapter	ECS-CO12.5/B24	5-4/4	4A/60V	——

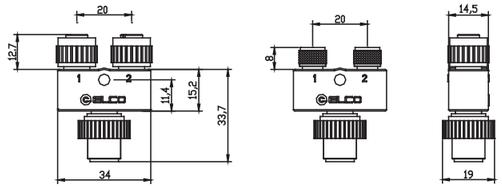
Selection Instructions

ECS-CO12.3

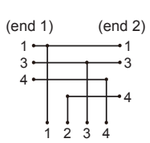
Attn： Standard.

Additional Information

Dimensions

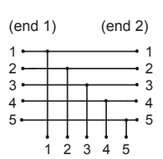


Wiring Diagram



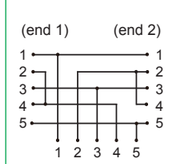
Universal

4-3



Universal

5-5



Special

5-4（A5）

Y Adapter with Cable

Description:

Standard M12 threaded connection, female to male/female interface,
4-core extended cable is available. Degree of protection IP67.

Features:

- PVC, PUR cable are optional
- A-coded interface
- M12 or M8 interface optional

* All technical information about the raw cable for connectors, please refer to the “cable” section (P513).

Type Code

Cable jacket	Description	Type	Pin	Rated current/voltage	Cable length	Wire section
Special Y adapter PVC	M12 male straight	ECS-CO12.3-2-C12.4	4-3/3	4A/60V	2m	0.34mm²
	M8 male straight	ECS-CO12.3-2-C8.4	4-3/3	4A/60V	2m	0.25mm²
	M12 male angled	ECS-CO12.3-2-CB12.4	4-3/3	4A/60V	2m	0.34mm²
	M8 male angled	ECS-CO12.3-2-CB8.4	4-3/3	4A/60V	2m	0.25mm²
Special Y adapter PUR	M12 male straight	ECS-CO12.3-2-C12.4/P	4-3/3	4A/60V	2m	0.34mm²
	M8 male straight	ECS-CO12.3-2-C8.4/P	4-3/3	4A/60V	2m	0.25mm²
	M12 male angled	ECS-CO12.3-2-CB12.4/P	4-3/3	4A/60V	2m	0.34mm²
	M8 male angled	ECS-CO12.3-2-CB8.4/P	4-3/3	4A/60V	2m	0.25mm²

Selection Instructions

ECS-CO12.3-2-C12.4

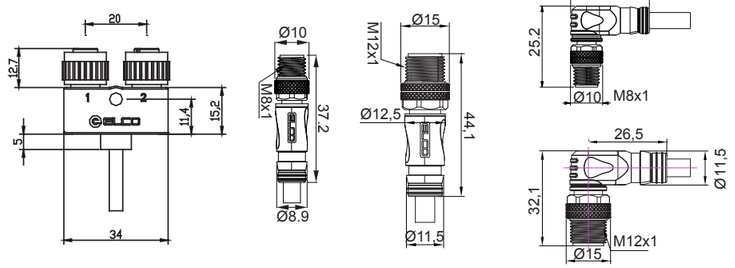
① ②

Attn： ①: Customized cable lengths are available.

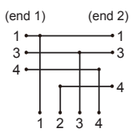
②: Customized (optional straight/angled type), M12 and M8 are optional.

Additional information

Dimensions



Wiring Diagram



Universal
4-3

Field-attachable I/O Connector-M12 (Straight-female)

Description:

Used for sensors and I/O connecting. Standard threaded connection. Designed with the female port.
4, 5, 8-core are available. PG7(4-6mm) and PG9(6-8mm) output interface are optional.
Degree of protection IP67.

Features:

- Flexible screw joints and pin contact.
- Optional transparent housing.

Type Code

Housing material	Description	Type	Pin	Rated current/voltage	Cable ϕ
PA	4-core female	LSO12.4-0/C	4	4A/250V	4-6mm
	5-core female	LSO12.5-0/C	5	4A/60V	4-6mm
	4-core female	LSO12.4-9/C	4	4A/250V	6-8mm
	5-core female	LSO12.5-9/C	5	4A/60V	6-8mm
	8-core female	LSO12.8-0/C	8	2A/30V	6-8mm

Selection Instructions

LSO12.4 - 0/C

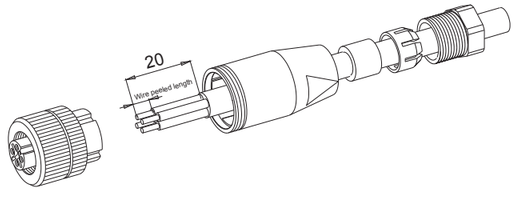
Attn： Standard

Additional information

1.Cross section of core, max.0.75mm^2.

2. If it connect to distribution box or IP67 module, please note the right match with the internal slot to avoid affecting the overall wiring.

3. The cable jacket peeled length is 20mm, and the wire peeled length is 5mm during mounting process.



Field-attachable I/O Connector-M12 (Straight-male)

Description:

Used for sensors and I/O connecting. Standard threaded connection. Designed with the male port.
4, 5, 8-core are available. PG7(4-6mm) and PG9(6-8mm) output interface are optional.
Degree of protection IP67.

Features:

- Flexible screw joints and pin contact.
- Optional transparent housing.

Type Code

Housing material	Description	Type	Pin	Rated current/voltage	Cable ϕ
PA	4-core male	LS12.4-0/C	4	4A/250V	4-6mm
	5-core male	LS12.5-0/C	5	4A/60V	4-6mm
	4-core male	LS12.4-9/C	4	4A/250V	6-8mm
	5-core male	LS12.5-9/C	5	4A/60V	6-8mm
	8-core male	LS12.8-0/C	8	2A/30V	6-8mm

Selection Instructions

LS12.4 - 0/C

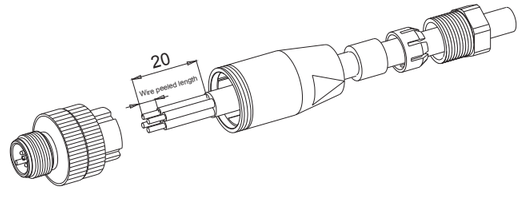
Attn： Standard

Additional information

1.Cross section of core, max.0.75mm^2.

2. If it connect to distribution box or IP67 module, please note the right match with the internal slot to avoid affecting the overall wiring.

3. The cable jacket peeled length is 20mm, and the wire peeled length is 5mm during mounting process.



Field-attachable I/O Connector-M12 (Angled-female)

Description:

Used for sensors and I/O connecting. Standard threaded connection. Designed with the female port.
4, 5, 8-core are available. PG7(4-6mm) and PG9(6-8mm) output interface are optional.
Degree of protection IP67.

Features:

- Flexible screw joints and pin contact.
- Optional transparent housing.

Type Code

Housing material	Description	Type	Pin	Rated current/voltage	Cable ϕ
PA	4-core female	LSBO12.4-0/C	4	4A/250V	4-6mm
	5-core female	LSBO12.5-0/C	5	4A/60V	4-6mm
	4-core female	LSBO12.4-9/C	4	4A/250V	6-8mm
	5-core female	LSBO12.5-9/C	5	4A/60V	6-8mm
	8-core female	LSBO12.8-0/C	8	2A/30V	6-8mm

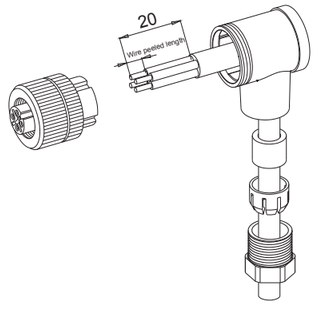
Selection Instructions

LSBO12.4 - 0/C

Attn：Standard

Additional information

1. Cross section of core, max.0.75mm^2.
2. If it connect to distribution box or IP67 module, please note the right match with the internal slot to avoid affecting the overall wiring.
3. The cable jacket peeled length is 20mm, and the wire peeled length is 5mm during mounting process.



Field-attachable I/O Connector-M12 (Angled-male)

Description:

Used for sensors and I/O connecting. Standard threaded connection. Designed with the male port.
4, 5, 8-core are available. PG7(4-6mm) and PG9(6-8mm) output interface are optional.
Degree of protection IP67.

Features:

- Flexible screw joints and pin contact.
- Optional transparent housing.

Type Code

Housing material	Description	Type	Pin	Rated current/voltage	Cable ϕ
PA	4-core male	LSB12.4-0/C	4	4A/250V	4-6mm
	5-core male	LSB12.5-0/C	5	4A/60V	4-6mm
	4-core male	LSB12.4-9/C	4	4A/250V	6-8mm
	5-core male	LSB12.5-9/C	5	4A/60V	6-8mm
	8-core male	LSB12.8-0/C	8	2A/30V	6-8mm

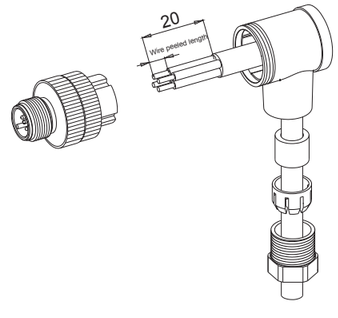
Selection Instructions

LSB12.4 - 0/C

Attn：Standard

Additional information

1. Cross section of core, max.0.75mm^2.
2. If it connect to distribution box or IP67 module, please note the right match with the internal slot to avoid affecting the overall wiring.
3. The cable jacket peeled length is 20mm, and the wire peeled length is 5mm during mounting process.



Field-attachable I/O Connector - M12(Straight/angled-female)

Description:

Used for sensors and I/O connecting. Standard M12 threaded connection. Designed with the female port. 4, 5, 8-core are available. PG7(4-6mm) and PG9(6-8mm) output interface are optional. Degree of protection IP67.

Features:

- Flexible screw joints and pin contact.
- Metal housing; shielding function.

Type Code

Housing material	Description	Type	Pin	Rated current/voltage	Cable ϕ
Nickel-plated cast zinc	4-core female straight	LSO12.4-0/M/S/C	4	4A/250V	6-8mm
	5-core female straight	LSO12.5-0/M/S/C	5	4A/60V	6-8mm
	8-core female straight	LSO12.8-0/M/S/C	8	2A/30V	6-8mm
	4-core female angled	LSBO12.4-0/M/S/C	4	4A/250V	6-8mm
	5-core female angled	LSBO12.5-0/M/S/C	5	4A/60V	6-8mm
	8-core female angled	LSBO12.8-0/M/S/C	8	2A/30V	6-8mm

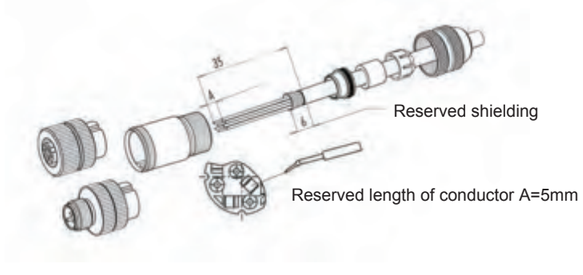
Selection Instructions

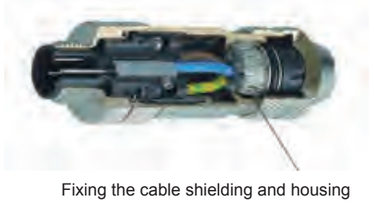
LSO12.4 - 0/M/S/C

Attn：Standard

Additional Information

1. Cross section of core, max.0.75mm^2.
2. If it connect to distribution box or IP67 module, please note the right match with the internal slot to avoid affecting the overall wiring.
3. The cable jacket peeled length is 20mm, and the wire peeled length is 5mm during mounting process.




Fixing the cable shielding and housing

Field-attachable I/O Connector - M12(Straight/angled-male)

Description:

Used for sensors and I/O connecting. Standard M12 threaded connection. Designed with the male port. 4, 5, 8-core are available. PG7(4-6mm) and PG9(6-8mm) output interface are optional. Degree of protection IP67.

Features:

- Flexible screw joints and pin contact.
- Metal housing; shielding function.

Type Code

Housing material	Description	Type	Pin	Rated current/voltage	Cable ϕ
Nickel-plated cast zinc	4-core male straight	LS12.4-0/M/S/C	4	4A/250V	6-8mm
	5-core male straight	LS12.5-0/M/S/C	5	4A/60V	6-8mm
	8-core male straight	LS12.8-0/M/S/C	8	2A/30V	6-8mm
	4-core male angled	LSB12.4-0/M/S/C	4	4A/250V	6-8mm
	5-core male angled	LSB12.5-0/M/S/C	5	4A/60V	6-8mm
	8-core male angled	LSB12.8-0/M/S/C	8	2A/30V	6-8mm

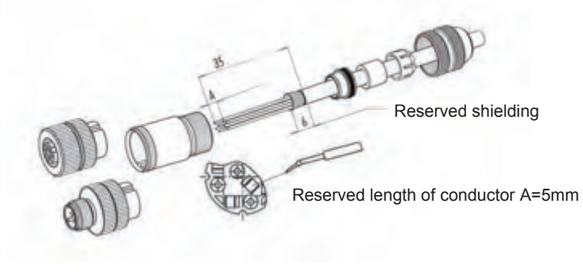
Selection Instructions

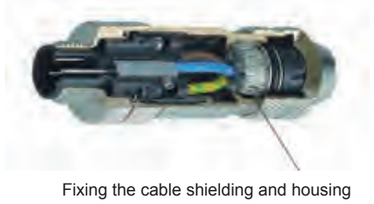
LS12.4 - 0/M/S/C

Attn：Standard

Additional Information

1. Cross section of core, max.0.75mm^2.
2. If it connect to distribution box or IP67 module, please note the right match with the internal slot to avoid affecting the overall wiring.
3. The cable jacket peeled length is 20mm, and the wire peeled length is 5mm during mounting process.




Fixing the cable shielding and housing

Single-ended I/O Cordsets-M8 (Straight-female)

Description:

Used for sensors, I/O connector connecting. Standard M8(straight-female) threaded connection.
3, 4-core are optional. Customized cable lengths. Degree of protection IP67.

Features:

- ■ PVC and PUR cable are optional
- ■ A-coded interface
- ■ LED indicator

* All technical information about the raw cable for connectors, please refer to the “cable” section (P513).

Type Code

Cable jacket	Description	Type	Pin	Rated current/voltage	Cable length	Wire section
PVC	Female 3-core	CO8.3-2	3	4A/60V	2m	0.25mm²
	Female 4-core	CO8.4-2	4	4A/30V	2m	0.25mm²
	Female 3-core PNP	CO8.3-2/L	3	4A/30V	2m	0.25mm²
	Female 3-core NPN	CO8.3-2/LN	3	4A/30V	2m	0.25mm²
	Female 4-core PNP	CO8.4-2/L	4	4A/30V	2m	0.25mm²
	Female 4-core NPN	CO8.4-2/LN	4	4A/30V	2m	0.25mm²
PUR	Female 3-core	CO8.3-2/P	3	4A/60V	2m	0.25mm²
	Female 4-core	CO8.4-2/P	4	4A/30V	2m	0.25mm²
	Female 3-core PNP	CO8.3-2/L/P	3	4A/30V	2m	0.25mm²
	Female 3-core NPN	CO8.3-2/LN/P	3	4A/30V	2m	0.25mm²
	Female 4-core PNP	CO8.4-2/L/P	4	4A/30V	2m	0.25mm²
	Female 4-core NPN	CO8.4-2/LN/P	4	4A/30V	2m	0.25mm²
PVC Shielded	Female 3-core	CO8.3-2/WS	3	4A/60V	2m	0.25mm²
	Female 4-core	CO8.4-2/WS	4	4A/30V	2m	0.25mm²
PUR Shielded	Female 3-core	CO8.3-2/WSP	3	4A/60V	2m	0.25mm²
	Female 4-core	CO8.4-2/WS/P	4	4A/30V	2m	0.25mm²

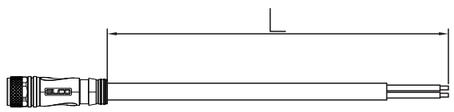
Selection Instructions

CO8.4 - 2 / P
① ②

Attn： ①: Customized cable lengths are available.
②: Cable jacket or function can be customized according to the requirements.

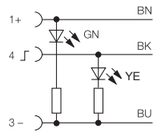
Additional Information

Cable Length



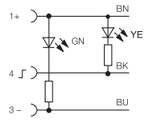
Wiring diagram

PNP



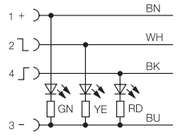
3-core

NPN



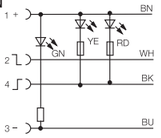
3-core

PNP



4-core

NPN



4-core

Single-ended I/O Cordsets-M8 (Straight-male)

Description:

Used for sensors, I/O connector connecting. Standard M8(straight-male) threaded connection.
3, 4-core are optional. Customized cable lengths.Degree of protection IP67.

Features:

- ■ PVC and PUR cable are optional
- ■ A-coded interface
- ■ Optional LED indicator

* All technical information about the raw cable for connectors, please refer to the “cable” section (P513).

Type Code

Cable jacket	Description	Type	Pin	Rated current/voltage	Cable length	Wire section
PVC	Male 3-core	C8.3-2	3	4A/60V	2m	0.25mm²
	Male 4-core	C8.4-2	4	4A/30V	2m	0.25mm²
PUR	Male 3-core	C8.3-2/P	3	4A/60V	2m	0.25mm²
	Male 4-core	C8.4-2/P	4	4A/30V	2m	0.25mm²
PVC Shielded	Male 3-core	C8.3-2/WS	3	4A/60V	2m	0.25mm²
	Male 4-core	C8.4-2/WS	4	4A/30V	2m	0.25mm²
PUR Shielded	Male 3-core	C8.3-2/WS/P	3	4A/60V	2m	0.25mm²
	Male 4-core	C8.4-2/WS/P	4	4A/30V	2m	0.25mm²

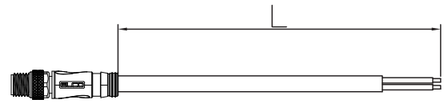
Selection Instructions

C8.4 - 2 / P
① ②

Attn： ①: Customized cable lengths are available.
②: Cable jacket or function can be customized according to the requirements.

Additional Information

Cable Length



Single-ended I/O Cordsets-M8 (Angled-female)

Description:

Used for sensors, I/O connector connecting. Standard M8(angled-female) threaded connection.
3, 4-core are optional. Customized cable lengths. Degree of protection IP67.

Features:

- ■ PVC and PUR cable are optional
- ■ A-coded interface
- ■ LED indicator

* All technical information about the raw cable for connectors, please refer to the “cable” section (P513).

Type Code

Cable jacket	Description	Type	Pin	Rated current/voltage	Cable length	Wire section
PVC	Female 3-core	CBO8.3-2	3	4A/60V	2m	0.25mm²
	Female 4-core	CBO8.4-2	4	4A/30V	2m	0.25mm²
	Female 3-core PNP	CBO8.3-2/L	3	4A/30V	2m	0.25mm²
	Female 3-core NPN	CBO8.3-2/LN	3	4A/30V	2m	0.25mm²
	Female 4-core PNP	CBO8.4-2/L	4	4A/30V	2m	0.25mm²
	Female 4-core NPN	CBO8.4-2/LN	4	4A/30V	2m	0.25mm²
PUR	Female 3-core	CBO8.3-2/P	3	4A/60V	2m	0.25mm²
	Female 4-core	CBO8.4-2/P	4	4A/30V	2m	0.25mm²
	Female 3-core PNP	CBO8.3-2/L/P	3	4A/30V	2m	0.25mm²
	Female 3-core NPN	CBO8.3-2/LN/P	3	4A/30V	2m	0.25mm²
	Female 4-core PNP	CBO8.4-2/L/P	4	4A/30V	2m	0.25mm²
	Female 4-core NPN	CBO8.4-2/LN/P	4	4A/30V	2m	0.25mm²
PVC Shielded	Female 3-core	CBO8.3-2/WS	3	4A/60V	2m	0.25mm²
	Female 4-core	CBO8.4-2/WS	4	4A/60V	2m	0.25mm²
PUR Shielded	Female 3-core	CBO8.3-2/WS/P	3	4A/60V	2m	0.25mm²
	Female 4-core	CBO8.4-2/WS/P	4	4A/60V	2m	0.25mm²

Selection Instructions

CBO8.3 - 2/P
① ②

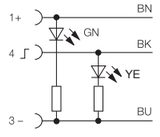
Attn： ①: Customized cable lengths are available.
②: Cable jacket or function can be customized according to the requirements.

Additional Information

Cable Length

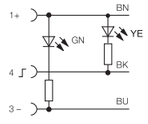
Wiring diagram

PNP



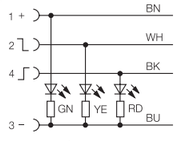
3-core

NPN



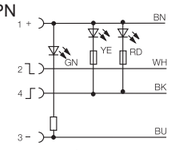
3-core

PNP



4-core

NPN



4-core

Single-ended I/O Cordsets-M8 (Angled-male)

Description:

Used for sensors, I/O connector connecting. Standard M8(angled-male) threaded connection.
3, 4-core are optional. Customized cable lengths. Degree of protection IP67.

Features:

- ■ PVC and PUR cable are optional
- ■ A-coded interface
- ■ Optional LED indicator

* All technical information about the raw cable for connectors, please refer to the “cable” section (P513).

Type Code

Cable jacket	Description	Type	Pin	Rated current/voltage	Cable length	Wire section
PVC	Male 3-core	CB8.3-2	3	4A/60V	2m	0.25mm²
	Male 4-core	CB8.4-2	4	4A/30V	2m	0.25mm²
PUR	Male 3-core	CB8.3-2/P	3	4A/60V	2m	0.25mm²
	Male 4-core	CB8.4-2/P	4	4A/30V	2m	0.25mm²
PVC Shielded	Male 3-core	CB8.3-2/WS	3	4A/60V	2m	0.25mm²
	Male 4-core	CB8.4-2/WS	4	4A/30V	2m	0.25mm²
PUR Shielded	Male 3-core	CB8.3-2/WS/P	3	4A/60V	2m	0.25mm²
	Male 4-core	CB8.4-2/WS/P	4	4A/30V	2m	0.25mm²

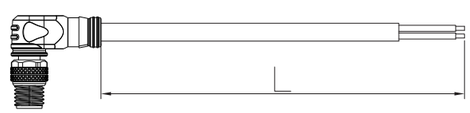
Selection Instructions

CB8.3 - 2/P
① ②

Attn： ①: Customized cable lengths are available.
②: Cable jacket or function can be customized according to the requirements.

Additional Information

Cable Length



Double-ended I/O Connector-M8 (female) to M8 (male)

Description:

Used for sensors, I/O connector connecting. Standard M8 threaded connection. Advanced design idea of female-to-male ends connector. Straight series and angled series are available.
3, 4-core are optional. Customized cable lengths. Degree of protection IP67

Features:

- PVC and PUR cable are optional
- A-coded interface

* All technical information about the raw cable for connectors, please refer to the “cable” section (P513).

Type Code

Cable jacket	Description	Type	Pin	Rated current/voltage	Cable length	Wire section
PVC	3-core straight to straight	CO8.3-2-C8.3	3	4A/60V	2m	0.25mm²
	3-core straight to angled	CO8.3-2-CB8.3	3	4A/60V	2m	0.25mm²
	4-core straight to straight	CO8.4-2-C8.4	4	4A/30V	2m	0.25mm²
	4-core straight to angled	CO8.4-2-CB8.4	4	4A/30V	2m	0.25mm²
PUR	3-core straight to straight	CO8.3-2-C8.3/P	3	4A/60V	2m	0.25mm²
	3-core straight to angled	CO8.3-2-CB8.3/P	3	4A/60V	2m	0.25mm²
	4-core straight to straight	CO8.4-2-C8.4/P	4	4A/30V	2m	0.25mm²
	4-core straight to angled	CO8.4-2-CB8.4/P	4	4A/30V	2m	0.25mm²

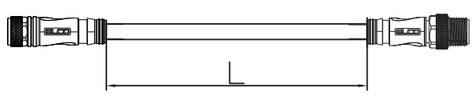
Selection Instructions

CO8.4 - 2 - C8.4 / P
①　②

Attn： ①: Customized cable lengths are available.
②: Cable jacket or function can be customized according to the requirements.

Additional Information

Cable Length



Double-ended I/O Connector-M8 (female) to M8 (male)

Description:

Used for sensors, I/O connector connecting. Standard M8 threaded connection. Advanced design idea of female-to-male ends connector. Straight series and angled series are available.
3, 4-core are optional. Customized cable lengths. Degree of protection IP67.

Features:

- PVC and PUR cable are optional
- A-coded interface

* All technical information about the raw cable for connectors, please refer to the “cable” section (P513).

Type Code

Cable jacket	Description	Type	Pin	Rated current/voltage	Cable length	Wire section
PVC	3-core angled to straight	CBO8.3-2-C8.3	3	4A/60V	2m	0.25mm²
	3-core angled to angled	CBO8.3-2-CB8.3	3	4A/60V	2m	0.25mm²
	4-core angled to straight	CBO8.4-2-C8.4	4	4A/30V	2m	0.25mm²
	4-core angled to angled	CBO8.4-2-CB8.4	4	4A/30V	2m	0.25mm²
PUR	3-core angled to straight	CBO8.3-2-C8.3/P	3	4A/60V	2m	0.25mm²
	3-core angled to angled	CBO8.3-2-CB8.3/P	3	4A/60V	2m	0.25mm²
	4-core angled to straight	CBO8.4-2-C8.4/P	4	4A/30V	2m	0.25mm²
	4-core angled to angled	CBO8.4-2-CB8.4/P	4	4A/30V	2m	0.25mm²

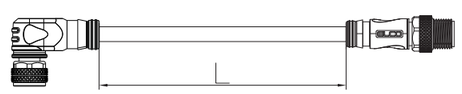
Selection Instructions

CBO8.4 - 2 - C8.4 / P
①　②

Attn： ①: Customized cable lengths are available.
②: Cable jacket or function can be customized according to the requirements.

Additional Information

Cable Length



Double-ended I/O Cordsets-M8 (female) to M12 (male)

Description:

Used for sensors, I/O connector connecting. Standard M12, M8 threaded connection. Advanced design idea of female-to-male ends connector. Straight series and angled series are available.
3, 4-core are optional. Customized cable lengths. Degree of protection IP67.

Features:

- ■ PVC and PUR cable are optional
- ■ A-coded interface

* All technical information about the raw cable for connectors, please refer to the “cable” section (P513).

Type Code

Cable jacket	Description	Type	Pin	Rated current/voltage	Cable length	Wire section
PVC	3-core straight to straight	CO8.3-2-C12.3	3	4A/60V	2m	0.25mm²
	3-core straight to angled	CO8.3-2-CB12.3	3	4A/60V	2m	0.25mm²
	4-core straight to straight	CO8.4-2-C12.4	4	4A/30V	2m	0.25mm²
	4-core straight to angled	CO8.4-2-CB12.4	4	4A/30V	2m	0.25mm²
PUR	3-core straight to straight	CO8.3-2-C12.3/P	3	4A/60V	2m	0.25mm²
	3-core straight to angled	CO8.3-2-CB12.3/P	3	4A/60V	2m	0.25mm²
	4-core straight to straight	CO8.4-2-C12.4/P	4	4A/30V	2m	0.25mm²
	4-core straight to angled	CO8.4-2-CB12.4/P	4	4A/30V	2m	0.25mm²

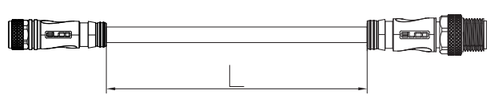
Selection Instructions

CO8.4 - 2 - C12.4 / P
①　②

Attn： ①: Customized cable lengths are available.
②: Cable jacket or function can be customized according to the requirements.

Additional Information

Cable Length



Double-ended I/O Cordsets-M8 (female) to M12 (male)

Description:

Used for sensors, I/O connector connecting. Standard M12, M8 threaded connection. Advanced design idea of female-to-male ends connector. Straight series and angled series are available.
3, 4-core are optional. Customized cable lengths. Degree of protection IP67.

Features:

- ■ PVC and PUR cable are optional
- ■ A-coded interface

* All technical information about the raw cable for connectors, please refer to the “cable” section (P513).

Type Code

Cable jacket	Description	Type	Pin	Rated current/voltage	Cable length	Wire section
PVC	3-core angled to straight	CBO8.3-2-C12.3	3	4A/60V	2m	0.25mm²
	3-core angled to angled	CBO8.3-2-CB12.3	3	4A/60V	2m	0.25mm²
	4-core angled to straight	CBO8.4-2-C12.4	4	4A/30V	2m	0.25mm²
	4-core angled to angled	CBO8.4-2-CB12.4	4	4A/30V	2m	0.25mm²
PUR	3-core angled to straight	CBO8.3-2-C12.3/P	3	4A/60V	2m	0.25mm²
	3-core angled to angled	CBO8.3-2-CB12.3/P	3	4A/60V	2m	0.25mm²
	4-core angled to straight	CBO8.4-2-C12.4/P	4	4A/30V	2m	0.25mm²
	4-core angled to angled	CBO8.4-2-CB12.4/P	4	4A/30V	2m	0.25mm²

Selection Instructions

CBO8.4 - 2 - C12.4 / P
①　②

Attn： ①: Customized cable lengths are available. C
②: able jacket or function can be customized according to the requirements.

Additional Information

Cable Length

Double-ended I/O Cordsets-M8 (female) to M8 (male)

Description:

Used for sensors, I/O connector connecting. Standard M8 threaded connection. Advanced design idea of female-to-male ends connector. Straight series and angled series are available.
3, 4-core are optional. Customized cable lengths. Degree of protection IP67.

Features:

- ■ PVC and PUR cable are optional
- ■ A-coded interface
- ■ M8 (female) with LED to M8(male)

* All technical information about the raw cable for connectors, please refer to the “cable” section (P513).

Type Code

Cable jacket	Description	Type	Pin	Rated current/voltage	Cable length	Wire section
PVC	3-core straight to straight LEDPNP	CO8.3-2-C8.3/L	3	4A/30V	2m	0.25mm²
	3-core straight to angled LEDPNP	CO8.3-2-CB8.3/L	3	4A/30V	2m	0.25mm²
	4-core straight to straight LEDPNP	CO8.4-2-C8.4/L	4	4A/30V	2m	0.25mm²
	4-core straight to angled LEDPNP	CO8.4-2-CB8.4/L	4	4A/30V	2m	0.25mm²
	3-core straight to straight LEDNPN	CO8.3-2-C8.3/LN	3	4A/30V	2m	0.25mm²
	3-core straight to angled LEDNPN	CO8.3-2-CB8.3/LN	3	4A/30V	2m	0.25mm²
	4-core straight to straight LEDNPN	CO8.4-2-C8.4/KN	4	4A/30V	2m	0.25mm²
	4-core straight to angled LEDNPN	CO8.4-2-CB8.4/LN	4	4A/30V	2m	0.25mm²
PUR	3-core straight to straight LEDPNP	CO8.3-2-C8.3/L/P	3	4A/30V	2m	0.25mm²
	3-core straight to angled LEDPNP	CO8.3-2-CB8.3/L/P	3	4A/30V	2m	0.25mm²
	4-core straight to straight LEDPNP	CO8.4-2-C8.4/L/P	4	4A/30V	2m	0.25mm²
	4-core straight to angled LEDPNP	CO8.4-2-CB8.4/L/P	4	4A/30V	2m	0.25mm²
	3-core straight to straight LEDNPN	CO8.3-2-C8.3/LN/P	3	4A/30V	2m	0.25mm²
	3-core straight to angled LEDNPN	CO8.3-2-CB8.3/LN/P	3	4A/30V	2m	0.25mm²
	4-core straight to straight LEDNPN	CO8.4-2-C8.4/LN/P	4	4A/30V	2m	0.25mm²
	4-core straight to angled LEDNPN	CO8.4-2-CB8.4/LN/P	4	4A/30V	2m	0.25mm²

Selection Instructions

CO8.4 - 2 - C8.4 / P
①　②

Attn： ①: Customized cable lengths are available.

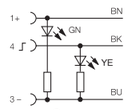
②: Cable jacket or function can be customized according to the requirements.

Additional Information

Cable Length

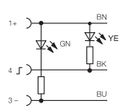
Product with LED

PNP



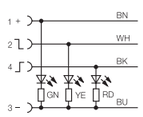
3-core

NPN



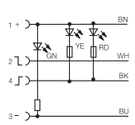
3-core

PNP



4-core

NPN



4-core

Double-ended I/O Cordsets-M8 (female) to M8 (male)

Description:

Used for sensors, I/O connector connecting. Standard M8 threaded connection. Advanced design idea of female-to-male ends connector. Straight series and angled series are available.
3, 4-core are optional. Customized cable lengths. Degree of protection IP67.

Features:

- ■ PVC and PUR cable are optional
- ■ A-coded interface
- ■ M8 (female) with LED to M8(male)

* All technical information about the raw cable for connectors, please refer to the “cable” section (P513).

Type Code

Cable jacket	Description	Type	Pin	Rated current/voltage	Cable length	Wire section
PVC	3-core angled to straight LEDPNP	CBO8.3-2-C8.3/L	3	4A/30V	2m	0.25mm²
	3-core angled to angled LEDPNP	CBO8.3-2-CB8.3/L	3	4A/30V	2m	0.25mm²
	4-core angled to straight LEDPNP	CBO8.4-2-C8.4/L	4	4A/30V	2m	0.25mm²
	4-core angled to angled LEDPNP	CBO8.4-2-CB8.4/L	4	4A/30V	2m	0.25mm²
	3-core angled to straight LEDNPN	CBO8.3-2-C8.3/LN	3	4A/30V	2m	0.25mm²
	3-core angled to angled LEDNPN	CBO8.3-2-CB8.3/LN	3	4A/30V	2m	0.25mm²
	4-core angled to straight LEDNPN	CBO8.4-2-C8.4/LN	4	4A/30V	2m	0.25mm²
	4-core angled to angled LEDNPN	CBO8.4-2-CB8.4/LN	4	4A/30V	2m	0.25mm²
PUR	3-core straight to straight LEDPNP	CBO8.3-2-C8.3/LP	3	4A/30V	2m	0.25mm²
	3-core straight to angled LEDPNP	CBO8.3-2-CB8.3/L/P	3	4A/30V	2m	0.25mm²
	4-core straight to straight LEDPNP	CBO8.4-2-C8.4/L/P	4	4A/30V	2m	0.25mm²
	4-core straight to angled LEDPNP	CBO8.4-2-CB8.4/L/P	4	4A/30V	2m	0.25mm²
	3-core straight to straight LEDNPN	CBO8.3-2-C8.3/LN/P	3	4A/30V	2m	0.25mm²
	3-core straight to angled LEDNPN	CBO8.3-2-CB8.3/LN/P	3	4A/30V	2m	0.25mm²
	4-core straight to straight LEDNPN	CBO8.4-2-C8.4/LN/P	4	4A/30V	2m	0.25mm²
	4-core straight to angled LEDNPN	CBO8.4-2-CB8.4/LN/P	4	4A/30V	2m	0.25mm²

Selection Instructions

CBO8.4 - 2 - C8.4 / P
①　②

Attn： ①: Customized cable lengths are available.

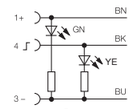
②: Cable jacket or function can be customized according to the requirements.

Additional Information

Cable Length

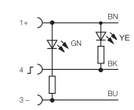
Product with LED

PNP



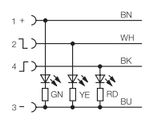
3-core

NPN



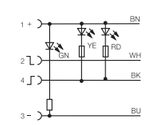
3-core

PNP



4-core

NPN



4-core

Double-ended I/O Cordsets-M8 (female) to M12 (male)

Description:

Used for sensors, I/O connector connecting. Standard M12, M8 threaded connection. Advanced design idea of female-to-male ends connector. Straight series and angled series are available. 3, 4-core are optional. Customized cable lengths. Degree of protection IP67.

Features:

- PVC and PUR cable are optional
- A-coded interface
- M8 (female) with LED to M12(male)

* All technical information about the raw cable for connectors, please refer to the “cable” section (P513).

Type Code

Cable jacket	Description	Type	Pin	Rated current/voltage	Cable length	Wire section
PVC	3-core straight to straight LEDPNP	CO8.3-2-C12.3/L	3	4A/30V	2m	0.25mm²
	3-core straight to angled LEDPNP	CO8.3-2-CB12.3/L	3	4A/30V	2m	0.25mm²
	4-core straight to straight LEDPNP	CO8.4-2-C12.4/L	4	4A/30V	2m	0.25mm²
	4-core straight to angled LEDPNP	CO8.4-2-CB12.4/L	4	4A/30V	2m	0.25mm²
	3-core straight to straight LEDNPN	CO8.3-2-C12.3/LN	3	4A/30V	2m	0.25mm²
	3-core straight to angled LEDNPN	CO8.3-2-CB12.3/LN	3	4A/30V	2m	0.25mm²
	4-core straight to straight LEDNPN	CO8.4-2-C12.4/LN	4	4A/30V	2m	0.25mm²
	4-core straight to angled LEDNPN	CO8.4-2-CB12.4/LN	4	4A/30V	2m	0.25mm²
PUR	3-core straight to straight LEDPNP	CO8.3-2-C12.3/L/P	3	4A/30V	2m	0.25mm²
	3-core straight to angled LEDPNP	CO8.3-2-CB12.3/L/P	3	4A/30V	2m	0.25mm²
	4-core straight to straight LEDPNP	CO8.4-2-C12.4/L/P	4	4A/30V	2m	0.25mm²
	4-core straight to angled LEDPNP	CO8.4-2-CB12.4/L/P	4	4A/30V	2m	0.25mm²
	3-core straight to straight LEDNPN	CO8.3-2-C12.3/LN/P	3	4A/30V	2m	0.25mm²
	3-core straight to angled LEDNPN	CO8.3-2-CB12.3/LN/P	3	4A/30V	2m	0.25mm²
	4-core straight to straight LEDNPN	CO8.4-2-C12.4/LN/P	4	4A/30V	2m	0.25mm²
	4-core straight to angled LEDNPN	CO8.4-2-CB12.4/LN/P	4	4A/30V	2m	0.25mm²

Selection Instructions

CO8.4 - 2 - C12.4 / P

① ②

Attn： ①: Customized cable lengths are available.

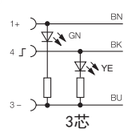
②: Cable jacket or function can be customized according to the requirements.

Additional Information

Cable Length

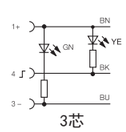
Product with LED

PNP



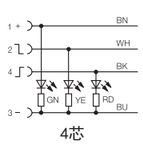
3芯

NPN



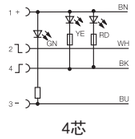
3芯

PNP



4芯

NPN



4芯

Double-ended I/O Cordsets-M8 (female) to M12 (male)

Description:

Used for sensors, I/O connector connecting. Standard M12, M8 threaded connection. Advanced design idea of female-to-male ends connector. Straight series and angled series are available. 3, 4-core are optional. Customized cable lengths. Degree of protection IP67.

Features:

- PVC and PUR cable are optional
- A-coded interface
- M8 (female) with LED to M12(male)

* All technical information about the raw cable for connectors, please refer to the “cable” section (P513).

Type Code

Cable jacket	Description	Type	Pin	Rated current/voltage	Cable length	Wire section
PVC	3-core angled to straight LEDPNP	CBO8.3-2-C12.3/L	3	4A/30V	2m	0.25mm²
	3-core angled to angled LEDPNP	CBO8.3-2-CB12.3/L	3	4A/30V	2m	0.25mm²
	4-core angled to straight LEDPNP	CBO8.4-2-C12.4/L	4	4A/30V	2m	0.25mm²
	4-core angled to angled LEDPNP	CBO8.4-2-CB12.4/L	4	4A/30V	2m	0.25mm²
	3-core angled to straight LEDNPN	CBO8.3-2-C12.3/LN	3	4A/30V	2m	0.25mm²
	3-core angled to angled LEDNPN	CBO8.3-2-CB12.3/LN	3	4A/30V	2m	0.25mm²
	4-core angled to straight LEDNPN	CBO8.4-2-C12.4/LN	4	4A/30V	2m	0.25mm²
	4-core angled to angled LEDNPN	CBO8.4-2-CB12.4/LN	4	4A/30V	2m	0.25mm²
PUR	3-core angled to straight LEDPNP	CBO8.3-2-C12.3/L/P	3	4A/30V	2m	0.25mm²
	3-core angled to angled LEDPNP	CBO8.3-2-CB12.3/L/P	3	4A/30V	2m	0.25mm²
	4-core angled to straight LEDPNP	CBO8.4-2-C12.4/L/P	4	4A/30V	2m	0.25mm²
	4-core angled to angled LEDPNP	CBO8.4-2-CB12.4/L/P	4	4A/30V	2m	0.25mm²
	3-core angled to straight LEDNPN	CBO8.3-2-C12.3/LN/P	3	4A/30V	2m	0.25mm²
	3-core angled to angled LEDNPN	CBO8.3-2-CB12.3/LN/P	3	4A/30V	2m	0.25mm²
	4-core angled to straight LEDNPN	CBO8.4-2-C12.4/LN/P	4	4A/30V	2m	0.25mm²
	4-core angled to angled LEDNPN	CBO8.4-2-CB12.4/LN/P	4	4A/30V	2m	0.25mm²

Selection Instructions

CBO8.4 - 2 - C12.4 / P

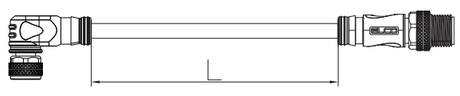
① ②

Attn： ①: Customized cable lengths are available.

②: Cable jacket or function can be customized according to the requirements.

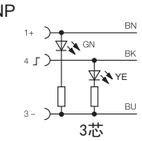
Additional Information

Cable Length



Product with LED

PNP



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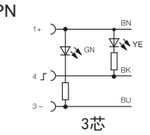
NPN



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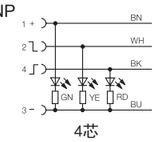
PNP



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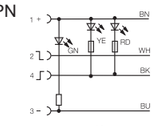


4芯

Y Splitter M8-male to M8-female

Description:

Used for sensors, I/O connector connecting. Standard threaded connection.
Straight series and angled series are available. 3, 4-core are optional.
Customized cable lengths. Degree of protection IP67.

Features:

- PVC, PUR are optional
- A-coded interface
- Optional LED indicator

* All technical information about the raw cable for connectors, please refer to the “cable” section (P513).

Type Code

Cable jacket	Description	Type	Pin	Rated current/voltage	Cable length	Wire section
PVC	Straight to 2 straight	ECS-E2CO8.3-2/2	4-3/3	4A/30V	2m	0.25mm²
	Straight to 2 angled	ECS-E2CBO8.3-2/2	4-3/3	4A/30V	2m	0.25mm²
PUR	Straight to 2 straight	ECS-E2CO8.3-2/2/P	4-3/3	4A/30V	2m	0.25mm²
	Straight to 2 angled	ECS-E2CBO8.3-2/2/P	4-3/3	4A/30V	2m	0.25mm²

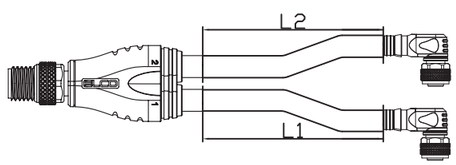
Selection Instructions

ECS-E2CO8.3 - 2/2 / P
① ②

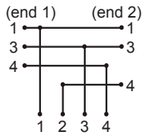
Attn： ①: Customized cable lengths are available.
②: Cable jacket or function can be customized according to the requirements.

Additional Information

Cable Length



Wiring Diagram



Standard

Y Splitter M8-male to M12-female

Description:

Used for sensors, I/O connector connecting. Standard threaded connection.
Straight series and angled series are available. 3, 4-core are optional.
Customized cable lengths. Degree of protection IP67.

Features:

- PVC, PUR are optional
- A-coded interface
- Optional LED indicator

* All technical information about the raw cable for connectors, please refer to the “cable” section (P513).

Type Code

Cable jacket	Description	Type	Pin	Rated current/voltage	Cable length	Wire section
PVC	Straight to 2 straight	ECS-E2CO12.3-2/2	4-3/3	4A/30V	2m	0.25mm²
	Straight to 2 angled	ECS-E2CBO12.3-2/2	4-3/3	4A/30V	2m	0.25mm²
PUR	Straight to 2 straight	ECS-E2CO12.3-2/2/P	4-3/3	4A/30V	2m	0.25mm²
	Straight to 2 angled	ECS-E2CBO12.3-2/2/P	4-3/3	4A/30V	2m	0.25mm²

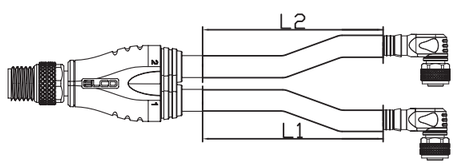
Selection Instructions

ECS-E2CO12.3-2/2/P
① ②

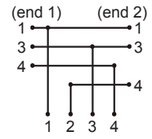
Attn： ①: Customized cable lengths are available.
②: Cable jacket or function can be customized according to the requirements.

Additional Information

Cable Length



Wiring Diagram



Standard

Y Splitter M8-male to M8-female

Description:

Used for sensors, I/O connector connecting. Standard threaded connection. Advanced design idea of female terminal to male terminal. Straight series and angled series are available.
3, 4-core are optional. Customized cable lengths. Degree of protection IP67.

Features:

- PVC and PUR cable are optional
- A-coded interface
- LED indicator

* All technical information about the raw cable for connectors, please refer to the “cable” section (P513).

Type Code

Cable jacket	Description	Type	Pin	Rated current/voltage	Cable length	Wire section
PVC	Straight to 2 straight PNP	ECS-E2CO8.3-2/2/L	4-3/3	4A/30V	2m	0.25mm²
	Straight to 2 angled PNP	ECS-E2CBO8.3-2/2/L	4-3/3	4A/30V	2m	0.25mm²
	Straight to 2 straight NPN	ECS-E2CO8.3-2/2/LN	4-3/3	4A/30V	2m	0.25mm²
	Straight to 2 angled NPN	ECS-E2CBO8.3-2/2/LN	4-3/3	4A/30V	2m	0.25mm²
PUR	Straight to 2 straight PNP	ECS-E2CO8.3-2/2/L/P	4-3/3	4A/30V	2m	0.25mm²
	Straight to 2 angled PNP	ECS-E2CBO8.3-2/2/L/P	4-3/3	4A/30V	2m	0.25mm²
	Straight to 2 straight NPN	ECS-E2CO8.3-2/2/LN/P	4-3/3	4A/30V	2m	0.25mm²
	Straight to 2 angled NPN	ECS-E2CBO8.3-2/2/LN/P	4-3/3	4A/30V	2m	0.25mm²

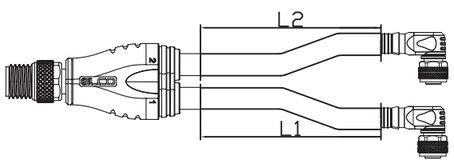
Selection Instructions

ECS-E2CO8.3 - 2/2 / P
① ②

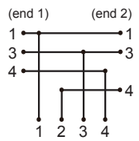
Attn： ①: Customized cable lengths are available.
②: Cable jacket or function can be customized according to the requirements.

Additional Information

Cable Length



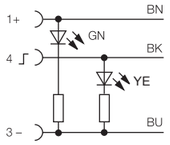
Wiring Diagram



Standard

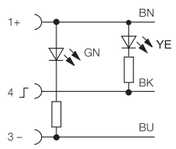
Product with LED

PNP



3-core

NPN



3-core

Y Splitter M8-male to M12-female

Description:

Used for sensors, I/O connector connecting. Standard threaded connection. Advanced design idea of female terminal to male terminal. Straight series and angled series are available.
3, 4-core are optional. Customized cable lengths. Degree of protection IP67.

Features:

- PVC and PUR cable are optional
- A-coded interface
- LED indicator

* All technical information about the raw cable for connectors, please refer to the “cable” section (P513).

Type Code

Cable jacket	Description	Type	Pin	Rated current/voltage	Cable length	Wire section
PVC	Straight to 2 straight PNP	ECS-E2CO12.3-2/2/L	4-3/3	4A/30V	2m	0.25mm²
	Straight to 2 angled PNP	ECS-E2CBO12.3-2/2/L	4-3/3	4A/30V	2m	0.25mm²
	Straight to 2 straight NPN	ECS-E2CO12.3-2/2/LN	4-3/3	4A/30V	2m	0.25mm²
	Straight to 2 angled NPN	ECS-E2CBO12.3-2/2/LN	4-3/3	4A/30V	2m	0.25mm²
PUR	Straight to 2 straight PNP	ECS-E2CO12.3-2/2/L/P	4-3/3	4A/30V	2m	0.25mm²
	Straight to 2 angled PNP	ECS-E2CBO12.3-2/2/L/P	4-3/3	4A/30V	2m	0.25mm²
	Straight to 2 straight NPN	ECS-E2CO12.3-2/2/LN/P	4-3/3	4A/30V	2m	0.25mm²
	Straight to 2 angled NPN	ECS-E2CBO12.3-2/2/LN/P	4-3/3	4A/30V	2m	0.25mm²

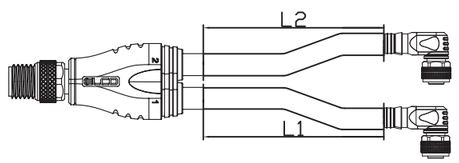
Selection Instructions

ECS-E2CO12.3-2/2/L/P
① ②

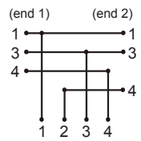
Attn： ①: Customized cable lengths are available.
②: Cable jacket or function can be customized according to the requirements.

Additional Information

Cable Length



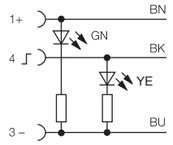
Wiring Diagram



Standard

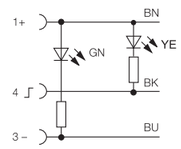
Product with LED

PNP



3-core

NPN



3-core

Y Splitter M8(M) to Homerun Cable

Description:

Used for field equipment connecting, such as sensors and solenoid valves. Standard threaded connection with homerun cable, 3-core. Standard cable length 2m, optional cable lengths. Degree of protection IP67.

Features:

- PVC and PUR cable are optional
- A-coded interface
- Open-ended wires

* All technical information about the raw cable for connectors, please refer to the “cable” section (P513).

Type Code

Cable jacket	Description	Type	Pin	Rated current/voltage	Cable length	Wire section
PVC	Y Splitter M8(M) to homerun cable	ECS-E2.3-2/2	4-3/3	4A/60V	2m	0.25mm²
PUR	Y Splitter M8(M) to homerun cable	ECS-E2.3-2/2/P	4-3/3	4A/60V	2m	0.25mm²

Selection Instructions

ECS-E2.3 - 2/2 / P

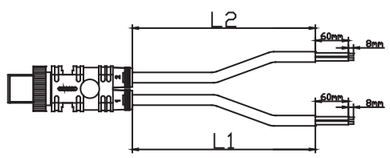
① ②

Attn : ①: Customized cable lengths are available.

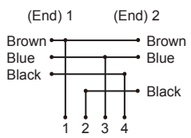
②: Cable jacket or function can be customized according to the requirements.

Additional Information

Cable Length



Wiring Diagram



Standard

Field-attachable I/O Connector-M8 (Straight-female)

Description:

Used for sensors and I/O connecting. Standard threaded connection. Designed with the female port.
3,4-core are available. Degree of protection IP67.

Features:

■ Screw connection, quickly and flexibly

Type Code

Cable jacket	Description	Type	Pin	Rated current/voltage	Cable ϕ
PA	Female 3-core	LSO8.3-0/C	3	4A/60V	3.5-5mm
	Female 4-core	LSO8.4-0/C	4	4A/30V	3.5-5mm

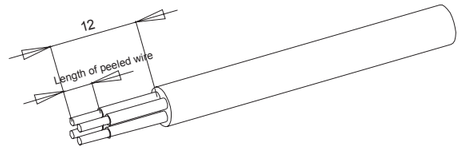
Selection Instructions

LSO8.4 - 0/C

Attn: Standard

Additional Information

1. Cross section of core for welded connection , max.0.75mm^2; Cross section of core for screwed connection , Max.0.5mm^2.
2. To connected into distribution box or IP 67 modular, match the internal mistake-proofing slot.
3. “00” connector : length of peeled jacket 12mm, length of peeled wire 4mm.
4. “A6” connector : length of peeled jacket 12mm, length of peeled wire 3mm.



Field-attachable I/O Connector-M8 (Straight-male)

Description:

Used for sensors and I/O connecting. Standard threaded connection. Designed with the male port.
3,4-core are available. Degree of protection IP67.

Features:

■ Screw connection, quickly and flexibly

Type Code

Cable jacket	Description	Type	Pin	Rated current/voltage	Cable ϕ
PA	Male 3-core	LS8.3-0/C	3	4A/60V	3.5-5mm
	Male 4-core	LS8.4-0/C	4	4A/30V	3.5-5mm

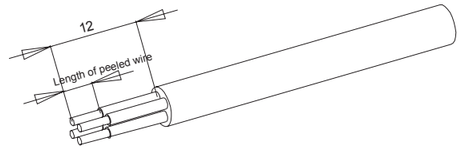
Selection Instructions

LS8.4 - 0/C

Attn: Standard

Additional Information

1. Cross section of core for welded connection , max.0.75mm^2; Cross section of core for screwed connection , Max.0.5mm^2.
2. To connected into distribution box or IP 67 modular, match the internal mistake-proofing slot.
3. “00” connector : length of peeled jacket 12mm, length of peeled wire 4mm.
4. “A6” connector : length of peeled jacket 12mm, length of peeled wire 3mm.



Field-attachable I/O Connector-M8 (Angled-female)

Description:

Used for sensors and I/O connecting. Standard threaded connection. Designed with the female port.
3,4-core are available. Degree of protection IP67.

Features:

■ Flexible welding joints and pin contact.

Type Code

Cable jacket	Description	Type	Pin	Rated current/voltage	Cable ϕ
PA	Female 3-core	LSBO8.3-0/C	3	4A/60V	3.5-5mm
	Female 4-core	LSBO8.4-0/C	4	4A/30V	3.5-5mm

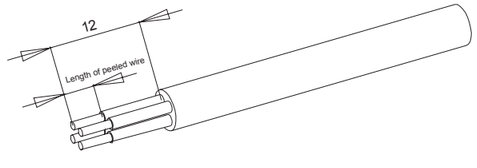
Selection Instructions

LSBO8.4 - 0

Attn: Standard

Additional Information

1. Cross section of core for welded connection , max.0.25mm²
2. To connected into distribution box or IP 67 modular, match the internal mistake-proofing slot.
3. “A6” connector : length of peeled jacket 12mm, length of peeled wire 3mm.



Field-attachable I/O Connector-M8 (Angled-male)

Description:

Used for sensors and I/O connecting. Standard threaded connection. Designed with the male port.
3,4-core are available. Degree of protection IP67.

Features:

■ Flexible welding joints and pin contact.

Type Code

Cable jacket	Description	Type	Pin	Rated current/voltage	Cable ϕ
PA	Male 3-core	LSB8.3-0/C	3	4A/60V	3.5-5mm
	Male 4-core	LSB8.4-0/C	4	4A/30V	3.5-5mm

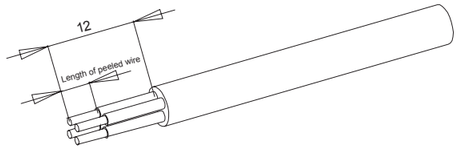
Selection Instructions

LSB8.4 - 0

Attn: Standard

Additional Information

1. Cross section of core for welded connection , max.0.25mm²
2. To connected into distribution box or IP 67 modular, match the internal mistake-proofing slot.
3. “A6” connector : length of peeled jacket 12mm, length of peeled wire 3mm.



Single-ended I/O Cordsets- Φ8 (Straight- female)

Description:

Used for sensors, I/O connector connecting. Standard Φ8(straight-female) threaded connection.
3, 4, 5-core are optional. Customized cable lengths. Degree of protection IP67.

Features:

- PVC, PUR cable are optional
- A-coded (3-,4-core) interface
- A-coded (5-core) interface
- LED indicator is optional

* All technical information about the raw cable for connectors, please refer to the “cable” section (P513).

Type Code

Cable jacket	Description	Type	Pin	Rated current/voltage	Cable length	Wire section
PVC	Female 3-core	QO8.3-2	3	4A/60V	2m	0.25mm²
	Female 4-core	QO8.4-2	4	4A/30V	2m	0.25mm²
PUR	Female 3-core	QO8.3-2/P	3	4A/60V	2m	0.25mm²
	Female 4-core	QO8.4-2/P	4	4A/30V	2m	0.25mm²
	Female 5-core	QO8.5-2/P	5	2A/30V	2m	0.25mm²

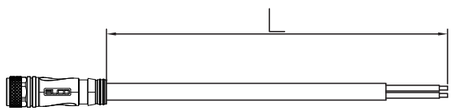
Selection Instructions

QO8.3 - 2 / P
① ②

Attn： ①: Customized cable lengths are available.
②: Cable jacket or function can be customized according to the requirements.

Additional Information

Cable Length



Single-ended I/O Cordsets- Φ8 (Straight- male)

Description:

Used for sensors, I/O connector connecting. Standard Φ8(straight-male) threaded connection.
3, 4, 5-core are optional. Customized cable lengths. Degree of protection IP67.

Features:

- PVC, PUR cable are optional
- A-coded (3-,4-core) interface
- A-coded (5-core) interface
- LED indicator is optional

* All technical information about the raw cable for connectors, please refer to the “cable” section (P513).

Type Code

Cable jacket	Description	Type	Pin	Rated current/voltage	Cable length	Wire section
PVC	Male 3-core	Q8.3-2	3	4A/60V	2m	0.25mm²
	Male 4-core	Q8.4-2	4	4A/30V	2m	0.25mm²
PUR	Male 3-core	Q8.3-2/P	3	4A/60V	2m	0.25mm²
	Male 4-core	Q8.4-2/P	4	4A/30V	2m	0.25mm²
	Male 5-core	Q8.5-2/P	3	2A/30V	2m	0.25mm²

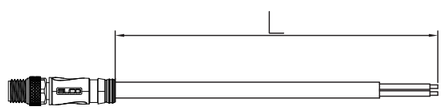
Selection Instructions

Q8.3 - 2 / P
① ②

Attn： ①: Customized cable lengths are available.
②: Cable jacket or function can be customized according to the requirements.

Additional Information

Cable Length



Single-ended I/O Cordsets- Φ8 (Angled- female)

Description:

Used for sensors, I/O connector connecting. Standard Φ8(angled-female) threaded connection. 3, 4, 5-core are optional. Customized cable lengths. Degree of protection IP67.

Features:

- PVC, PUR are optional
- A-coded (3-,4-core) interface
- A-coded (5-core) interface
- LED indicator is optional

* All technical information about the raw cable for connectors, please refer to the “cable” section (P513).

Type Code

Cable jacket	Description	Type	Pin	Rated current/voltage	Cable length	Wire section
PVC	Female 3-core	QBO8.3-2	3	4A/60V	2m	0.25mm²
	Female 3-core	QBO8.4-2	4	4A/30V	2m	0.25mm²
PUR	Female 3-core	QBO8.3-2/P	3	4A/60V	2m	0.25mm²
	Female 4-core	QBO8.4-2/P	4	4A/30V	2m	0.25mm²
	Female 5-core	QBO8.5-2/P	5	2A/30V	2m	0.25mm²

Selection Instructions

QBO8.3 - 2 / P

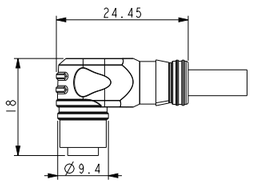
① ②

Attn： ①: Customized cable lengths are available.

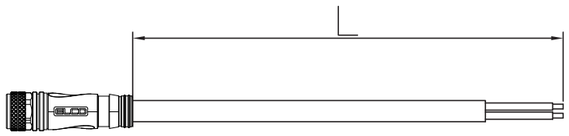
②: Cable jacket or function can be customized according to the requirements.

Additional Information

Dimensions



Cable Length



Single-ended I/O Cordsets- Φ8 (Angled- male)

Description:

Used for sensors, I/O connector connecting. Standard Φ8(angled-male) threaded connection. 3, 4, 5-core are optional. Customized cable lengths. Degree of protection IP67.

Features:

- PVC, PUR are optional
- A-coded (3-,4-core) interface
- A-coded (5-core) interface
- LED indicator is optional

* All technical information about the raw cable for connectors, please refer to the “cable” section (P513).

Type Code

Cable jacket	Description	Type	Pin	Rated current/voltage	Cable length	Wire section
PVC	Male 3-core	QB8.3-2	3	4A/60V	2m	0.25mm²
	Male 3-core	QB8.4-2	4	4A/30V	2m	0.25mm²
PUR	Male 3-core	QB8.3-2/P	3	4A/60V	2m	0.25mm²
	Male 4-core	QB8.4-2/P	4	4A/30V	2m	0.25mm²
	Male 5-core	QB8.5-2/P	5	2A/30V	2m	0.25mm²

Selection Instructions

QB8.3 - 2 / P

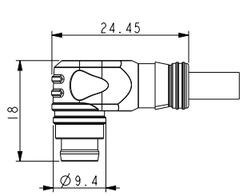
① ②

Attn： ①: Customized cable lengths are available.

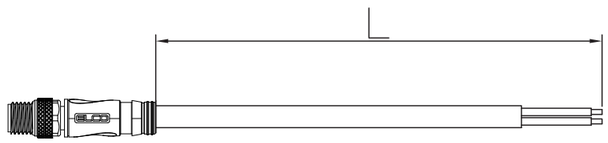
②: Cable jacket or function can be customized according to the requirements.

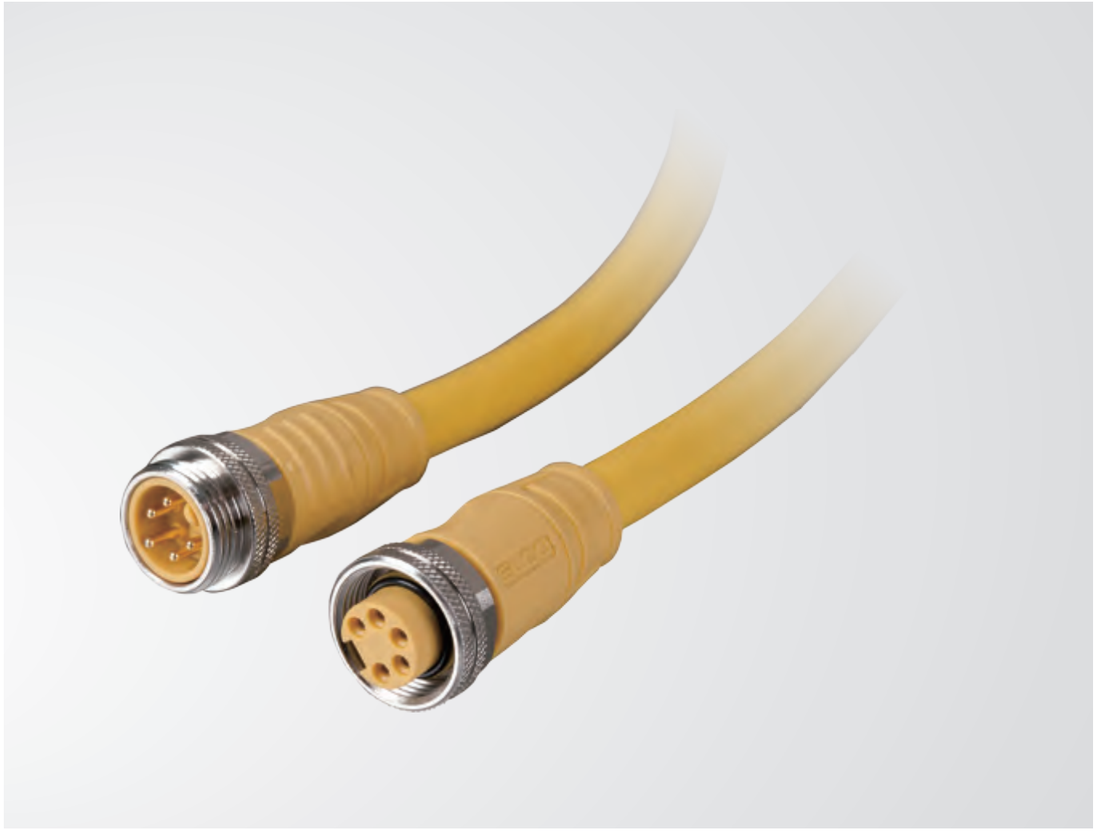
Additional Information

Dimensions



Cable Length





7/8" Connectors

ELCO provides pre-wired power connectors and bus connectors for industrial automation field. The pre-wired cordsets are easy for the installation of filed bus, reducing wiring errors or incomplete shielding in the process of field wiring, to ensure that the bus connection is correct and normal communication.

Single-ended and double-ended cordsets are available, which are used for power supply, communication of Profibus/ProfiNet, DeviceNet module. Straight or angled type are optional, customized cable length according to the field configuration, 7/8'' thread interface.

- Profibus/ProfiNet power supply: Mini-Change (5P), field-attachable connectors.
- DeviceNet power supply: Minichange (4P), field-attachable connectors.

Functions:

- Profibus/ProfiNet power supply
- Flexible cable
- Mini Change (7/8") interface

Technical Data

Electrical Data	
Voltage	600V AC/DC
Current	8A
Cable Specifications	
Diameter	12.9 mm
Material	PVC
Contact Carrier	PVC
Molded Head	Copper Nickel Plating
Coupling Nut	Yellow
Cable Color	
Using Grade	IP67
Protection Class	

Type List

Cross Section	Single-ended Straight		Single-ended Angled		Double-ended Straight		Double-ended Angled	
	Type	Fig.	Type	Fig.	Type	Fig.	Type	Fig.
Male 1- WHITE (OUTPUT POWER V-) 2- RED (BUS/INPUT POWER V-) 3- GREEN (EARTH GROUND) 4- ORANGE (BUS/INPUT POWER V+) 5- BLACK (OUTPUT POWER V+)	105006A01M010	Fig. 1	105007A01M010	Fig. 2	115030A01M010	Fig. 5	115033A01M010	Fig. 6
Female 1- WHITE (OUTPUT POWER V-) 2- RED (BUS/INPUT POWER V-) 3- GREEN (EARTH GROUND) 4- ORANGE (BUS/INPUT POWER V+) 5- BLACK (OUTPUT POWER V+)	105000A01M010	Fig. 3	105001A01M010	Fig. 4				

Order Code

115030A01Mxxx

Cable
Single-ended Pre-wire..... 10
Double-ended Pre-wire..... 11

Connector
Single-ended Female Straight 000
Single-ended Female Angled..... 001
Single-ended Male Straight 006
Single-ended Male Angled..... 007
Female Straight/Male Straight..... 030
Female Angled/Male Angled..... 033

Cable Material
PVC 01
PUR 03

Length
0.6 m 006
1 m 010
2 m 020
5 m 050

Dimensions

Fig. 1

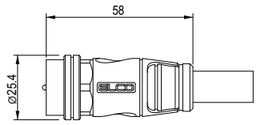


Fig. 2

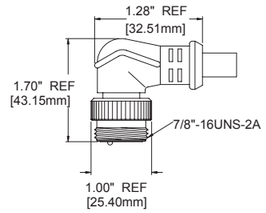


Fig. 3

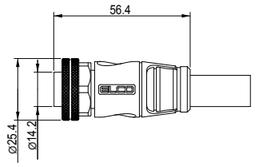


Fig. 4

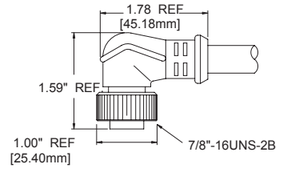


Fig. 5

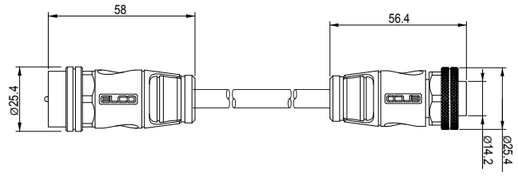
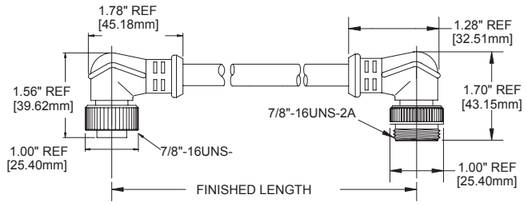
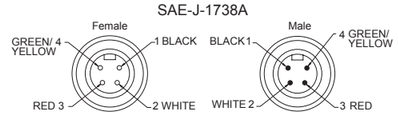
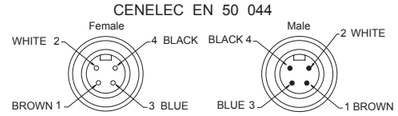


Fig. 4



- Mini-Change interface
- Single-ended pre-wire, female/male, straight/angled
- Double-ended pre-wire, female/male, straight/angled

4P Mini-Change Auxiliary Power Cordsets

Cross Section	SAE-J-1738A	CENELEC EN 50 044
		

Female	Fig.	Single-ended Pre-wire	
Straight	1	104000A01Mxxx	104000A38Mxxx
Angled	2	104001A01Mxxx	104001A38Mxxx
Male	**Fig.**	**Single-ended Pre-wire**	
Straight	3	104006A01Mxxx	104006A38Mxxx
Angled	4	104007A01Mxxx	104007A38Mxxx
Female/Male	**Fig.**	**Double-ended Pre-wire**	
Straight/Straight	1AND3	114030A01Mxxx	114030A38Mxxx
Angled/Angled	2AND4	114033A01Mxxx	114033A38Mxxx
		Field-attachable	
Female Straight		1A4000-34	
Male Straight		1A4006-34	

Order Code

1x4xxxxxxMxxx

Model		Connector		Cable		Length	
Single-ended Pre-wire	0	Single-ended Pre-wire		PVC Cable		Single-ended Pre-wire	
Double-ended Pre-wire	1	Female Straight	000	NEC Color		2 m	020
		Female Angled	001	SAE-J-1738A PINOUT	A01	4 m	040
		Male Straight	006	PVC Cable		5 m	050
		Male Angled	007	IEC Color		6 m	060
		Double-ended Pre-wire		CENELEC EN 50 044		10 m	100
		(Female/Male)		PINOUT	A38	Double-ended Pre-wire	
		Straight/Straight	030	Flexible Cable		0.5 m	005
		Angled/Angled	033	IEC Color		1 m	010
				CENELEC EN 50 044	K12	2 m	020
						3 m	030
						4 m	040
						5 m	050

Dimensions

Fig. 1
Female Straight

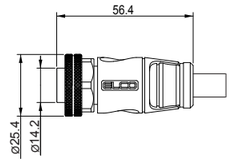


Fig. 2
Female Angled

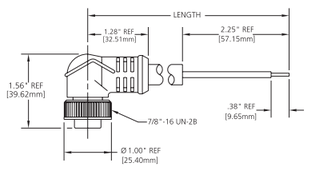


Fig. 3
Male Straight

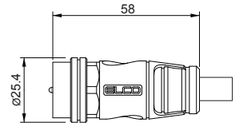
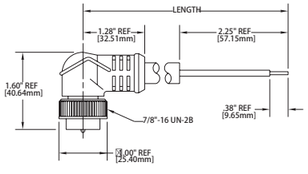


Fig. 4
Male Angled



Connectivity

Profibus/ProfiNet/DeviceNet Field-attachable Connectors

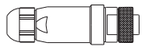
Functions:

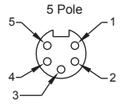
- Mini-Change (7/8") field-attachable connector for standard module
- Micro (M12) field-attachable connector for compact module

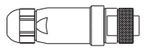
Technical Data

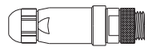
Electrical Data	
Voltage	600V AC/DC
Current	8A
Material	
Contact Carrier	PU
Molded Head	Nylon
Coupling Nut	Copper Nickel Plating
Using Grade	
Protection Class	IP67

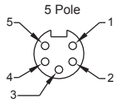
Type list



Cross section	Max. Current	Voltage Rating	Cable Diameter	Mini Female Type	Mini Female Fig.	Mini Male Type	Mini Male Fig.
5 Pole 	8.0A	600V AC/DC	5.08-11.43mm	1A5000-34	Fig.1	1A5006-34	Fig.2





Cross section	Max. Current	Voltage Rating	Cable Diameter	Micro Female Type	Micro Female Fig.	Micro Male Type	Micro Male Fig.
5 Pole 	8.0A	600V AC/DC	5.08-11.43mm	1A5000-34DN	Fig. 3	1A5006-34DN	Fig. 4

Dimensions

Fig. 1

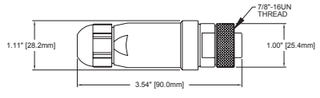


Fig. 2

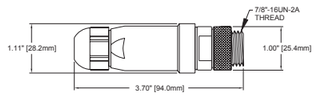


Fig. 3

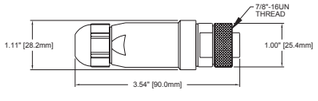
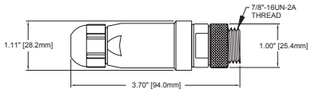


Fig. 4



Profibus/ProfiNet Power Tee

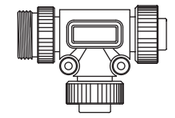
Functions:

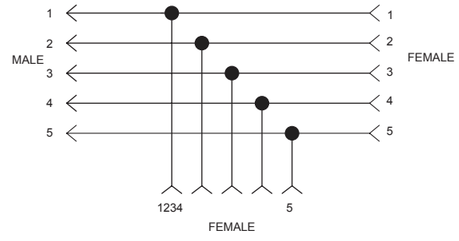
- Power supply for trunk line
- Tap power for Profibus module

Technical Data

Electrical Data	
Voltage	600V
Current	8.0A
Material	
Contact Carrier	PVC
Molded Head	Nylon
Coupling Nut	Copper Nickel Plating
Using Grade	
Protection Class	IP67

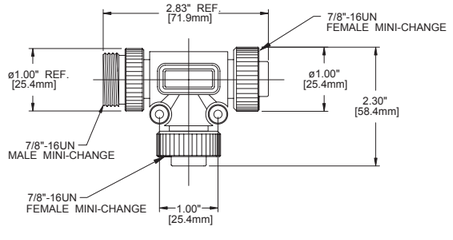
Type list



Male		Wiring Diagram	Type	Fig
5 Pole	1-Output Power V- 2-Bus/Input Power V- 3-Earth Ground 4-Bus/Input Power V+ 5-Output Power V+		PBAPT	Fig.1
5 Pole				
5 Pole				

Dimensions

Fig. 1



- Auxiliary power Tee
- Auxiliary power Tee with break
- E-stop terminal

Power+E-Stop Tee

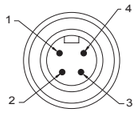
Male (left)		Female(right)		Female	
					

Fig.	Auxiliary Power Tee
1	DNETAUXPT
Fig.	Auxiliary Power Tee with Diagnosis
1	DNETAUXPT-PM-1
1	DNETAUXPT-PM-3
Fig.	Auxiliary Power Tee 24VDC
3	DNAPT
Fig.	Online Adapter with Power Diagnosis
4	114011A-PM-3

Fig.	Online Adapter with Power Diagnosis
4	114011A-PM-3

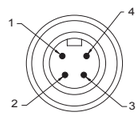
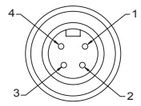
Male (left)		Female(right)		Female	
					

Fig.	Stop+Power Tee
2 AND 5	DNEST
Female	

Dimensions

Fig. 1
Auxiliaty Power Tee (DNETAUXPT)

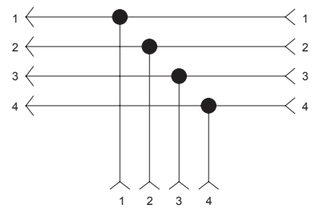


Fig. 2
E-Stop Tee (DNEST)

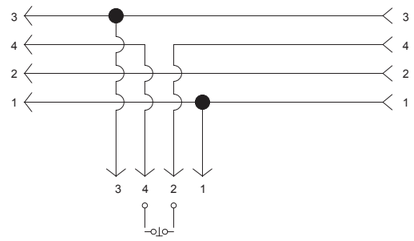


Fig. 3
Auxiliary Power Tee (DNAPT)

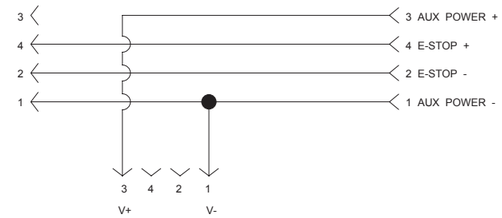
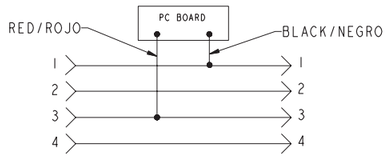
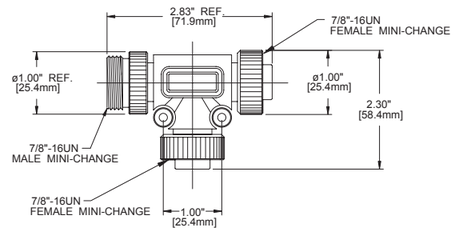


Fig. 4
Online Adapter with Power Diagnosis (114011A-PM-3)



Dimensions

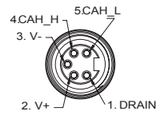
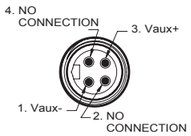
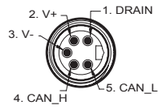
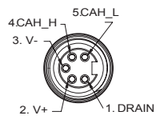
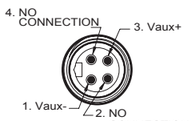
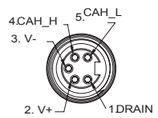
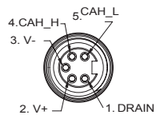
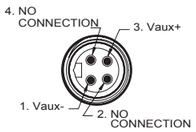
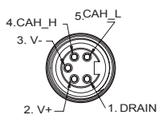
Fig. 5
Tee



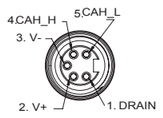
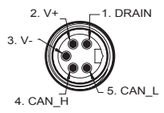
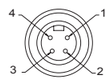
Connectivity

- Female-Male, connect to trunk line
- Female-Female, connect to trunk line
- Male-Female, connect to trunk line

Power Model (Mini-Change Connections)

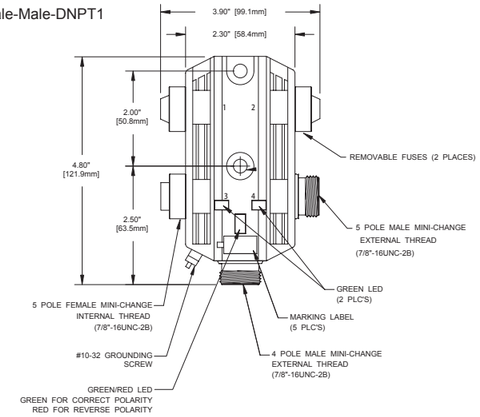
		Left Bus-in Female	Power interface	Right Bus-out Male
Cross Section				
Female/Male	Fig. 1 AND 4	DN-PT1		
Cross Section				
Female/Female	Fig. 2 AND 4	DN-PT2		
Cross Section				
Male/Female	Fig. 4	DN-PT3		

Power Tee

Left Trunk Line Female		Right Trunk Line Male		Power Female	
					
Fig. 1 AND 4	DN3030-PT-1				

Dimensions

Fig. 1
Female-Male-DNPT1



Note: For DNPT-3 reverse bus in/out connections

Fig. 2
Female-Female–DNPT2

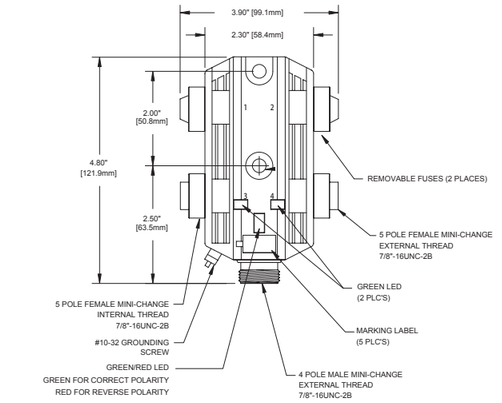


Fig. 3
DN3030-PT-1

Wiring Diagram

Fig. 4
Female-Male–DNPT1 / Female-Female– DNPT2

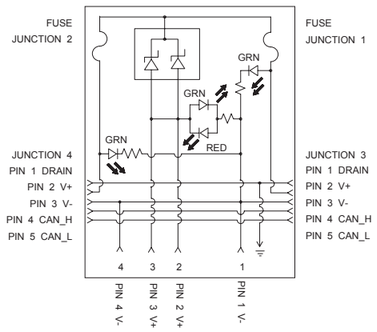
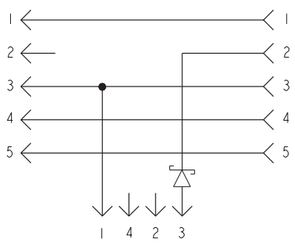


Fig. 5
DN3030-PT-1



Automation Connectors

ELCO provides pre-wired power connectors and bus connectors for industrial automation field. The pre-wired cordsets are easy for the installation of filed bus, reducing wiring errors or incomplete shielding in the process of field wiring, to ensure that the bus connection is correct and normal communication.
Single-ended and double-ended cordsets are available, which are used for power supply, communication of Profibus/ProfiNet, DeviceNet module. Straight or angled type are optional, customized cable lengths according to the field configuration, M12 threaded interface.

- Profibus M12(B-coded), field-attachable connectors.
- DeviceNet Minichange, M12(A-coded), field-attachable connectors.
- ProfiNet M12(D-coded), RJ45 cordsets, field-attachable connectors.

Profibus – Cable

	Profibus Flexible Cable	**Profibus Drag Chain Cable**
Type	85-0003	85-0005
Condition	Flexible installation，22AWG	Drag chain installation，26AWG
Rated Voltage	300V	300V
Ambient Temperature	-30...80℃	-30...80℃
Max. diameter	8.0mm±0.4mm	8.5mm±0.4mm
Conductor	Multi-strand bare copper （11*0.14mm）	Multi-strand bare copper （19*0.14mm）
Impedence	16.5 Ω / 1k.feet	16.5 Ω / 1k.feet
Wire	Double twist wires, inner jacket	Double twist wires,filler
Shielding	Aluminum foil + tinned-copper braid （density 65%）	Aluminum foil + tinned-copper braid （density 85%）
Outer Jacket	PVC，Violet	TPU，Blue
Flame Resistance	IEC 60332-1-2	IEC 60332-1-2
Bending Resistance	IEC 60811-1-4	IEC 60811-1-4
Bending Diameter	10*Cable diameter	10*Cable diameter
Bending life	—	3 million times

* MOQ：100m

Profibus - Single-ended Cordsets

ELCO INDUSTRIAL AUTOMATION

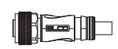
Features:

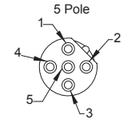
- PVC(TPU) jacket for chemical and oil resistance
- Low-resistance contact design
- 360° shielded

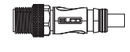
Technical Data

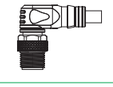
Material		Cable	
Contact Carrier	Nylon	Outside Diameter	8.00±0.4mm
Molded Head	PUR	Jacket	PVC (TPU)
O-ring	Nitrile rubber	Conductor Insulation	PE
Coupling Nut	Nickel-plated brass	Shielding	PETP/AV foil 100%
Using Grade			Tinned copper braid 65%（90%）
Protection Class	IP67	Conductor	Twisted pair 22（24）AWG
Ambient Temperature	-30-+80℃	Cable Flex Information	
		PVC	15 x cable diameter
		TPU	10 x cable diameter

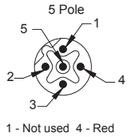
Type List



Pin Assignment	Max. current	Max. voltage	Cable type	Cable jacket	Wire size	Length	Female/Straight Type	Female/Straight Fig.	Female/Angled Type	Female/Angled Fig.
 1 - Not used 4 - Red 2 - Green (Bus B) (Bus A) 5 - Shield 3 - Not used	4.0A	300VAC/DC	Twisted pair	PVC	22	1.0m	B05S00PP6M010	Fig.1	B05S01PP6M010	Fig.2
				TPU	26		B05S00PP8M010		B05S01PP8M010	





Pin Assignment	Max. current	Max. voltage	Cable type	Cable jacket	Wire size	Length	Male/Straight Type	Male/Straight Fig.	Male/Angled Type	Male/Angled Fig.
 1 - Not used 4 - Red 2 - Green (Bus B) (Bus A) 5 - Shield 3 - Not used	4.0A	300VAC/DC	Twisted pair	PVC	22	1.0m	B05S06PP6M010	Fig.1	B05S07PP6M010	Fig.2
				TPU	26		B05S06PP8M010		B05S07PP8M010	

Order Code

B05S01PP6Mxxx

Connection type		PP6 / PP8	Cable Length	
Straight Female	00	PP6：85-0003 cable	1 m	010
Angled Female	01	PP8：85-0005 cable	2 m	020
Straight Male	06		3 m	030
Angled Male	07		5 m	040

Connectivity

Profibus - Double-ended Cordsets

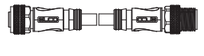
Features:

- PVC(TPU) jacket for chemical and oil resistance
- Low-resistance contact design
- 360° shielded

Technical Data

Material		Cable	
Contact Carrier	Nylon	Outside Diameter	8.00±0.2mm
Molded Head	PUR	Jacket	PVC (TPU)
O-ring	Nitrile rubber	Conductor Insulation	PE
Coupling Nut	Nickel-plated brass	Shielding	PETP/AV foil 100%
Using Grade			Tinned copper braid 65%（90%）
Protection Class	IP67	Conductor	Twisted pair 22（24）AWG
Ambient Temperature	-30 - +80℃	Cable Flex Information	
		PVC	15 x cable diameter
		TPU	10 x cable diameter

Type List



Pin Assignment	Max. current	Max. voltage	Cable type	Cable jacket	Wire size	Length	Straight Type	Straight Fig.	Angled Type	Angled Fig.
5 Pole 1 - Not used 4 - Red 2 - Green (Bus B) (Bus A) 5 - Shield 3 - Not used	4.0A	250VAC/DC	Twisted pair	PVC	22	1.0m	BB5S30PP6M010	Fig.1	BB5S33PP6M010	Fig.2
				TPU	26		BB5S30PP8M010		BB5S33PP8M010	

Order Code

BB5S30PP6Mxxx

Connection type	
Double-ended straight.....	30
Double-ended angled.....	33

PP6 : 85-0003 cable
PP8 : 85-0005 cable

Cable Length	
0.3m.....	003
0.6m.....	006
1m.....	010
2m.....	020

Profibus - M12/D Cordsets

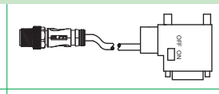
Features:

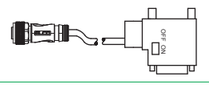
- PVC(PUR) jacket for chemical and oil resistance
- Low-resistance contact design
- 360° shielded

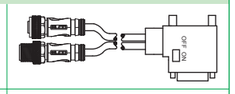
Technical Data

Material		Shielding	PETP/AV foil 100%
Contact Carrier	Nylon		Tinned copper braid 65%（90%）
Molded Head	PUR	Conductor	Twisted pair 22（24）AWG
O-ring	Nitrile rubber	Cable Flex Information	
Coupling nut	Nickel-plated brass	PVC	15 x cable diameter
Using Grade		TPU	10 x cable diameter
Protection Class	IP67	9-Pin D-Sub Connector	
Ambient Temperature	-30 - +80℃	Rated Voltage	250V AC/DC
Cable		Material	ABS
Outside Diameter	8.00±0.2mm	Ambient temperature	0-60℃
Jacket	PVC (TPU)	Protection Class	IP40
Conductor Insulation	PE		

Type List







Pin Assignment	Configuration (D-Sub)	Male/Straight+D-Sub Type	Male/Straight+D-Sub Fig.	Female/Straight+D-Sub Type	Female/Straight+D-Sub Fig.	1 Female /1 Male+D-Sub Type	1 Female /1 Male+D-Sub Fig.
1 2 3 4 5 6 7 8 9 1 - Not used 6 - Not used 2 - Not used 7 - Not used 3 - Red (Bus B) 8 - Green (Bus A) 4 - Not used 9 - Not used 5 - Not used	D9T, programming port	BM5S62PP6M010	Fig.3	BM5S32PP6M010	Fig.4	BM5G72PP6M010	Fig.5
5 Pole 1 - Not used 4 - Red 2 - Green (Bus B) (Bus A) 5 - Shield 3 - Not used							

Order Code

BM5G72PP6Mxxx

PP6 : 85-0003 cable
PP8 : 85-0005 cable

Cable Length	
1 m.....	010
2 m.....	020
5 m.....	050

Dimensions

Fig. 1

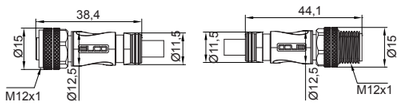


Fig. 2

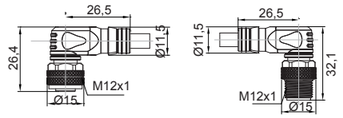


Fig. 3

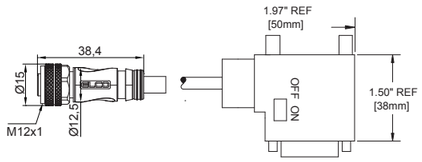


Fig. 4

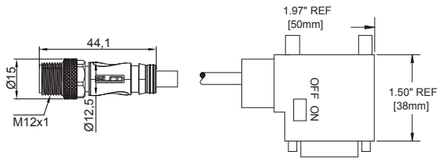
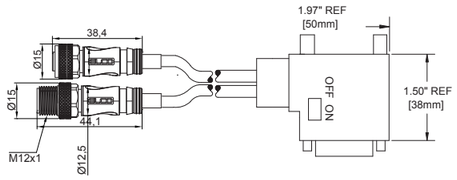


Fig. 5



ELCO INDUSTRIAL AUTOMATION

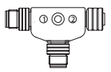
Features:

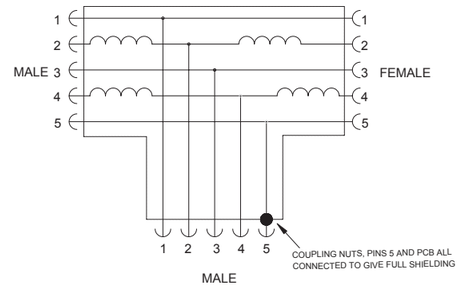
- For quick disconnect / recovery data bus
- Use with IP67 distributed module

Technical Data

Material	
Contact Carrier	Nylon
Molded Head	PVC
O-ring	Rubber
Coupling Nut	Nickel Plated Copper
Using Grade	
Protection Class	IP67
Electrical Data	
Rated Voltage	30V AC/36V DC
Rated Current	4.0A

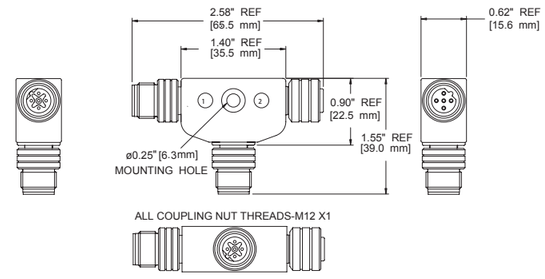
Type List



Pin Assignment	Wiring Diagram	Type	Fig.
5 Pole 4 1 3 5 2 Bus In Male Face View		PDTS01	Fig. 1
5 Pole 1 5 4 2 3 Bus Out Female FaceView			
5 Pole 2 3 1 5 4 Drop Bus Male Face View			

Order Code

Fig. 1



Connectivity

Profibus - Fieldbus Connectors

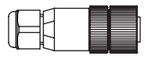
Features:

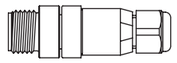
- Used for M12 Profibus Connector
- Designed with shield 5Pin
- Screw connecting

Technical Data

Material	
Contact Carrier	PUR
Molded Head	Nickel-plated copper
Contact	Silver-plated
Coupling Nut	Nickel-plated brass
O-ring	Nitrile rubber
Conductor	4.10-8.10mm
Using Grade	
Protection Class	IP67

Type List





Pin Assignment	Max. current	Max. voltage	Cable diameter range	Female/Straight Type	Female/Straight Fig.	Male/Straight Type	Male/Straight Fig.
5 Pole Female 1 - Not used 4 - Red 2 - Green (Bus B) (Bus A) 5 - Shield 3 - Not used	4.0A	250V AC/DC	4.10-8.10mm	BA5S00-32	Fig.1		
5 Pole Male 1 - Not used 4 - Red 2 - Green (Bus B) (Bus A) 5 - Shield 3 - Not used						BA5S06-32	Fig.2

Dimensions

Fig. 1

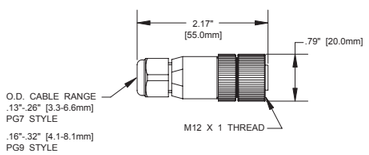
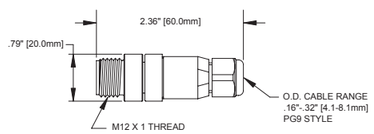


Fig. 2



Profibus -Termination Resistors

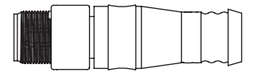
Features:

- M12 B-coded male
- Used with IP67 Distributed I/O module
- Profibus fieldbus termination

Technical Data

Material	
Contact Carrier	Nylon
Molded Head	PVC
O-Ring	Rubber
Coupling Nut	Nickel Plated Copper
Using Grade	
Protection Class	IP67
Electrical Data	
Rated Voltage	250V AC/DC
Rated Current	4.0A

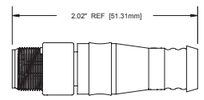
Type List



Pin Assignment	Wiring Diagram	Type	Fig.
5 Pole 1 - 5VDC 4 - Bus-B 2 - Bus-A 5 - Shield 3 - Ground	220Ω 1/4 W 330Ω 1/4 W 330Ω 1/4 W	B05S06	Fig.1

Dimensions

Fig.1



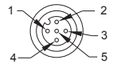
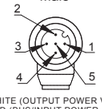
Features:

- Used for Profibus/ProfiNet compact module
- Flexible cable
- Micro Change (M12) interface

Technical Data

Electrical Data	
Rated Voltage	250V AC/DC
Rated Current	4A
Conductor	5.2 mm
Material	
Contact Carrier	PVC
Molded Head	PVC
Coupling Nut	Nickel Plated Copper
Cable Color	Gray
Using Grade	
Protection Class	IP67

Type List

Pin Assignment	Single-ended Straight		Single-ended Angled		Double-ended Straight		Double-ended Angled	
	Type	Fig.	Type	Fig.	Type	Fig.	Type	Fig.
Female  1- WHITE (OUTPUT POWER V-) 2- RED (BUS/INPUT POWER V-) 3- GREEN (EARTH GROUND) 4- ORANGE (BUS/INPUT POWER V+) 5- BLACK (OUTPUT POWER V+)	805000A09M010	Fig. 1	805001A09M010	Fig. 2	885030A09M010	Fig. 1 Fig. 3	885033A09M010	Fig. 2 Fig. 4
Male  1- WHITE (OUTPUT POWER V-) 2- RED (BUS/INPUT POWER V-) 3- GREEN (EARTH GROUND) 4- ORANGE (BUS/INPUT POWER V+) 5- BLACK (OUTPUT POWER V+)	805006A09M010	Fig. 3	805007A09M010	Fig. 4				

Order Code

8x5xxxA09Mxxx

Type

Single-ended Pre-wire	0
Double-ended Pre-wire	8

Connector

Single-ended Pre-wire	
Female Straight	000
Female Angled	001
Male Straight	006
Male Angled	007
Double-ended Pre-wire	
Female/Male Straight/Straight	030
Angled/Angled	033

Length

Single-ended Pre-wire	
2 m	020
4 m	040
5 m	050
6 m	060
10m	100
Double-ended Pre-wire	
0.6 m	006
1 m	010
2 m	020
3 m	030
4 m	040
5 m	050

Dimensions

Fig. 1

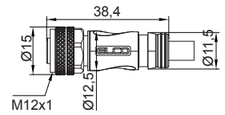


Fig. 2

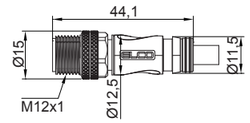


Fig. 3

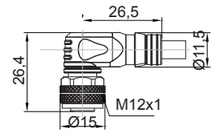
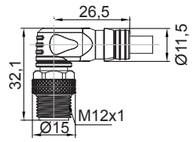


Fig. 4

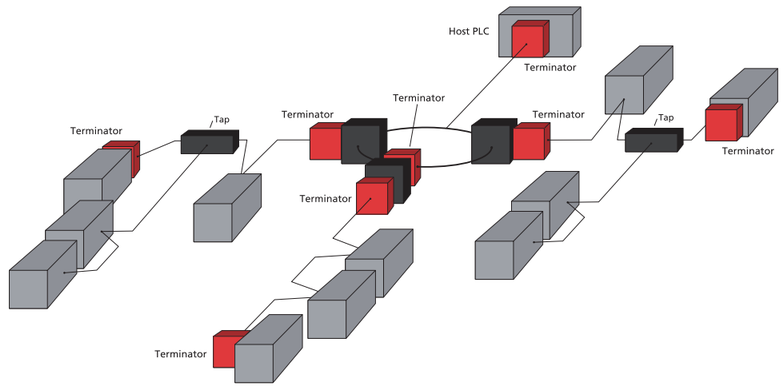


DeviceNet Bus Repeater

DeviceNet extender can extend the cable length of the trunk and branch line. In addition, the extender can create a star topology based on DeviceNet.

DeviceNet extender can isolate other devices, such as frequency converter, DC power etc.

Type List	
Model	DNETEXT-C
Description	DEVICENET DeviceNet Bus Extender
Topology Figure	



DeviceNet Cable

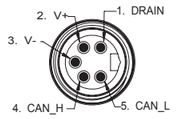
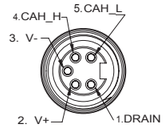
	DeviceNet Standard Thick Cable	DeviceNet Flexible Thin Cable	DeviceNet Flexible Thick Cable
Type	86-0001	86-0003	86-0005
Condition	Fixed installation 2x18AWG+2x15AWG	Fixed installation 2x24AWG+2x22AWG	Drag chain installation 2x24AWG+2x22AWG
Rated Voltage	300V		
Ambient Temperature	-30...80℃		
Max. diameter	12.2±0.3 mm	6.9±0.3 mm	12.2±0.3 mm
Conductor	multi-strand tin copper		
Impedence	Power：3.6 ohms/100ft	Power：16.5 ohms/100ft	Power：3.6 ohms/100ft
	Data：6.9 ohms/100ft	Data：28 ohms/100ft	Data：6.9 ohms/100ft
Wire	Two wires side by side, copper and aluminum package		
Shielding	Tinned copper braid		
Outer Jacket	PVC，Gray	PVC，Gray	TPU，Gray
Power Cable Color	Red+black		
Communication Cable Color	White+blue		
Bending Diameter	15 * Cable diameter	15 * Cable diameter	10 * Cable diameter
Bending Life	—	-	1.4 million times

* MOQ：100m

DeviceNet Single-ended Fieldbus Cordsets (7/8")

■ Male/female Mini -Change single-ended cordsets

Single-ended

Diagram	Male	Female
		

5 Pole		1- BARE (SHIELD) 2- RED (V+) 3- BLACK (V-) 4- WHITE (CAN-H) 5- BLUE (CAN-L)
Male	Fig.	Single-ended
Straight	1	DN01A-Mxxx
Angled	2	DN09A-Mxxx
Female	Fig.	Single-ended
Straight	3	DN10A-Mxxx
Angled	4	DN90A-Mxxx

Order Code

DN□01A-Mxxx

Cable Specification

DEVICENET thin cable	ADD D
DEVICENET thick STPE	ADD F

Cable Length

2m	020
4m	040
5m	050
6m	060
10m.....	100

Dimensions

Fig. 1

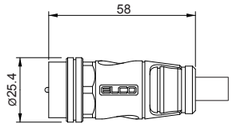


Fig. 2

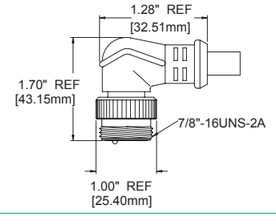


Fig. 3

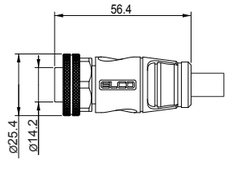
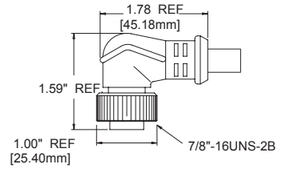


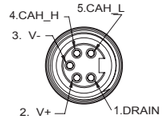
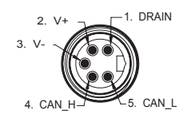
Fig. 3



DeviceNet - Double-ended Fieldbus Cordsets (7/8" - 7/8")

■ Mini-Change-Mini-Change

Double-ended

Diagram	Female	Male
		

5 Pole		1- BARE (SHIELD) 2- RED (V+) 3- BLACK (V-) 4- WHITE (CAN-H) 5- BLUE (CAN-L)
Female/Male	Fig.	Double-ended
Straight/Straight	1	DN11A-Mxxx
Angled/Straight	2	DN91A-Mxxx
Straight/Angled	3	DN19A-Mxxx
Angled/Angled	4	DN99A-Mxxx

Order Code

DN□11A-Mxxx

Cable Specification

DEVICENET thin cable	ADD D
DEVICENET thick STPE	ADD F

Cable Length

0.6m.....	006
1 m.....	010
2 m.....	020
3 m.....	030
4 m.....	040
5 m.....	050
10 m.....	100

Dimensions

Fig. 1
Female straight/Female straight

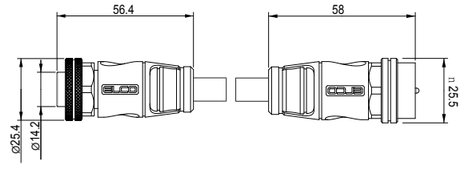


Fig. 2
Female straight/ Male Angled

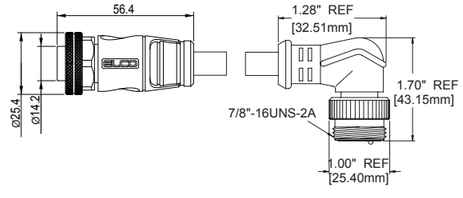


Fig. 3
Female Angled/ Male straight

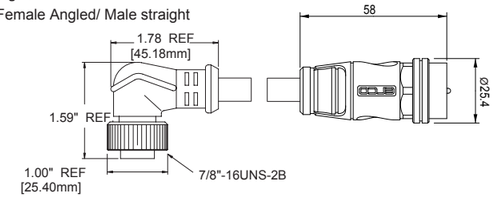
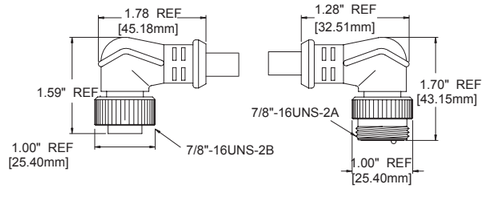


Fig. 3
Female Angled/Male Angled



Connectivity

- Mini-Change Trunk Tee
- Mini-Change Trunk Tee
- Micro-Change Trunk Tee

Trunk Tee/Y Splitter

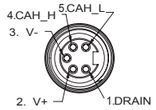
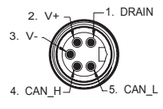
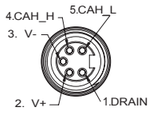
Female (left)		Male (right)		Female	

	Fig.	
MINI-CHANGE Trunk Tee	1 AND 6	DN3020
MINI-CHANGE Trunk Tee	2 AND 6	DN3200

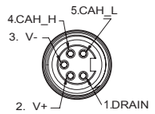
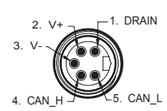
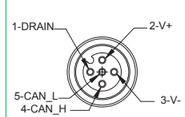
Female (left)		Male (right)		Female	

	Fig.	
MICRO-CHANGE Trunk Tee	3 AND 6	DND3020

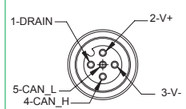
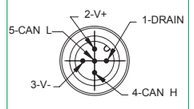
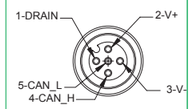
Female (left)		Male (right)		Female	

	Fig.	
MICRO-MICRO MICRO Trunk Tee	4 AND 6	MICT555

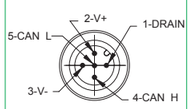
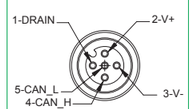
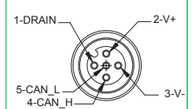
Female (left)		Male (right)		Female	

	Fig.	
MICRO-CHANGE Tee	5 AND 7	DNYG001

ELCO INDUSTRIAL AUTOMATION

Dimensions

Fig. 1
Trunk Tee

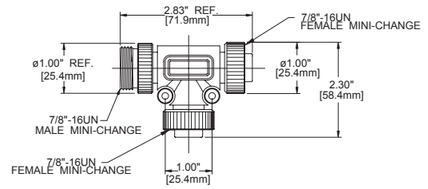


Fig. 2
Y Splitter

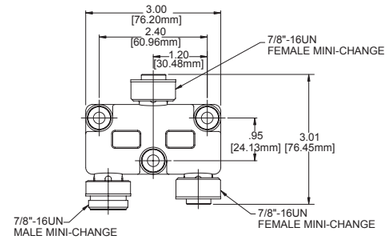


Fig. 3
Trunk to Branch T Tee

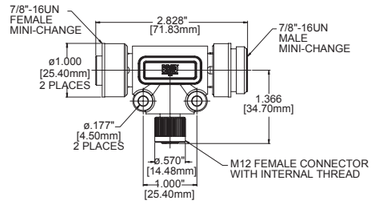


Fig. 4
Branch T Tee

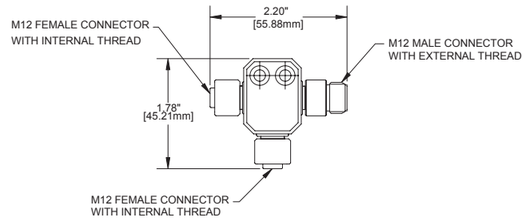
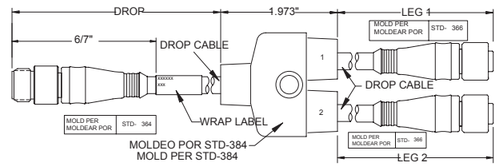


Fig. 5
Male-Female/female Tee



Wiring Diagram

Fig. 6
Trunk T Tee

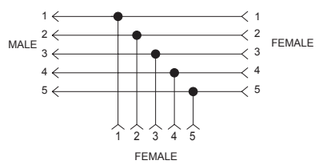
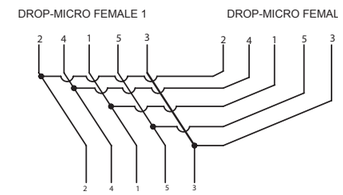


Fig. 7
Male-Female/female Tee



Connectivity

- Mini-Change T tee
- Status indicator

Diagnosis T Tee

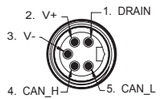
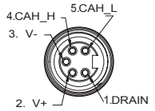
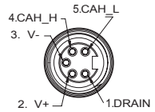
Male (left)		Female(right)		Female	

	Fig.	Standard trunk diagnosis T tee
Male(left) Female(right)	1	DN3020PM-1

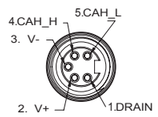
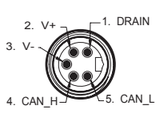
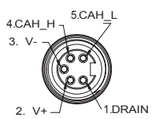
Male (left)		Female(right)		Female	

	Fig.	Standard trunk diagnosis T tee
	1	DN3020PM-3

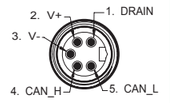
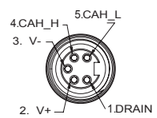
Male (left)		Female(right)		

	Fig.	Online Tee with Power Diagnosis
Male(left) Female(right)	2	115011A-PM-1

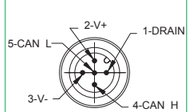
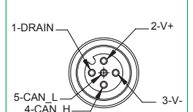
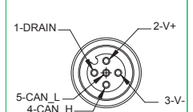
Male (left)		Female(right)		Female	

	Fig.	Online Tee with Power Diagnosis
Male(left) Female(right)	2	115011A-PM-3

Dimensions

Fig. 1
Diagnosis T Tee

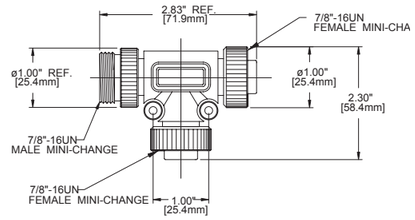


Fig. 2
Diagnosis Tee

Diagnosis T Tee

Code	LED Status	Description
OK	GREEN	Normal
HI	RED	Over Voltage
LO	BLUE	Under Voltage
HI	FLASHING RED	Surge / within 24 hours
LO	FLASHING BLUE	Under Voltage / within 24 hours
AC	FLASHING YELLOW	Power Failure / within 24 hours

DeviceNet - Distribution Box for Fieldbus(BUS IN)

- 4-port Mini-Change block
- 6-port Mini-Change block
- 8-port Mini-Change block

Distribution Box

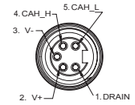
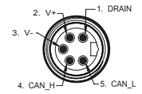
Port configuration	Female	Male (BUS IN)
		

	Fig.	
4 port	1 AND 4	DN4000
5 port	2 AND 5	DN6000
6 port	3 AND 6	DN8000

Dimensions

Fig. 1
4 Port

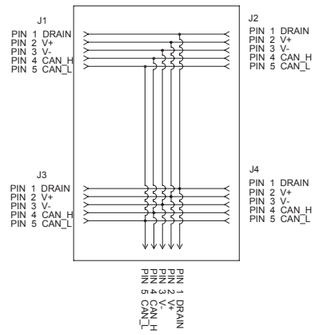


Fig. 2
6 Port

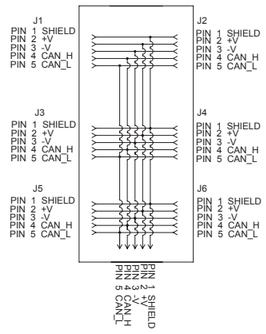
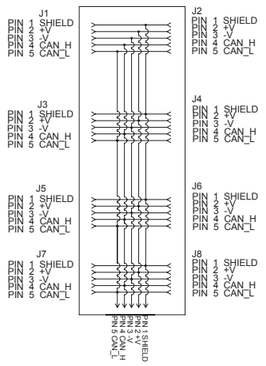


Fig. 3
8 Port



Diagram

Fig. 4
4 Port

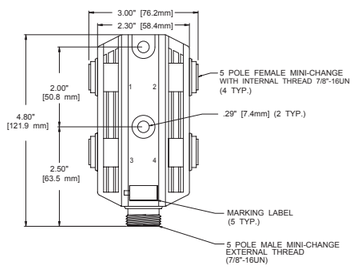


Fig. 5
6 Port

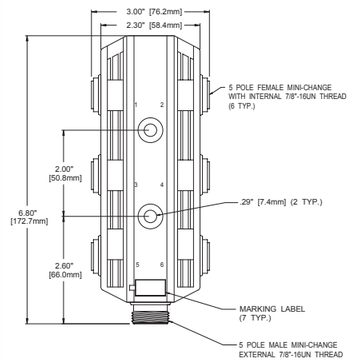
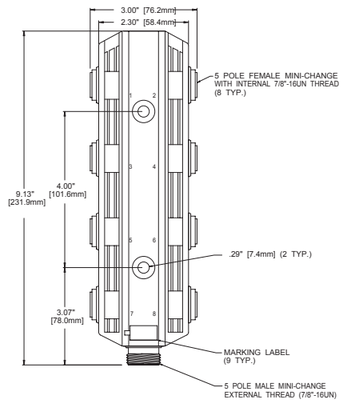


Fig. 6
8 Port



DeviceNet – Distribution Box for Fieldbus(BUS IN/OUT)

- 4-port Mini-Change block
- 6-port Mini-Change block
- 8-port Mini-Change block

Distribution Box

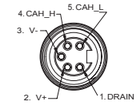
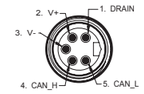
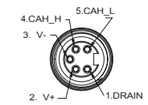
Port configuration	Female	Male (BUS IN)	Female (BUS OUT)
			

	Fig.	
2 port	1 AND 4	DN2100
4 port	2 AND 5	DN4100
6 port	3 AND 6	DN6100

Dimensions

Fig. 1
2 Port

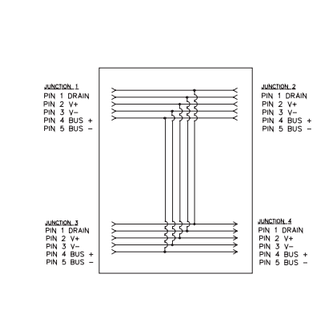


Fig. 2
4 Port

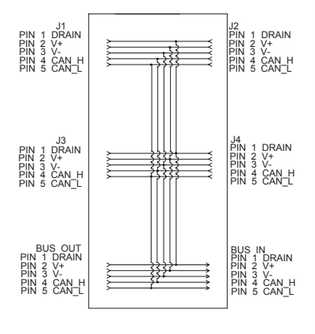
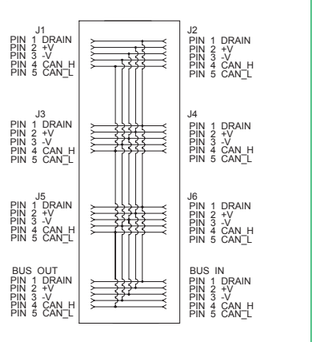


Fig. 3
6 Port



Diagram

Fig. 4
2 Port

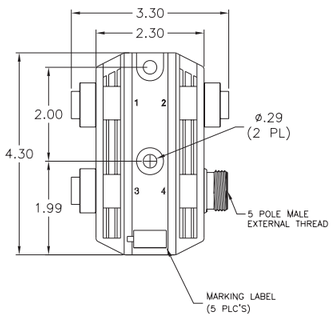


Fig. 5
4 Port

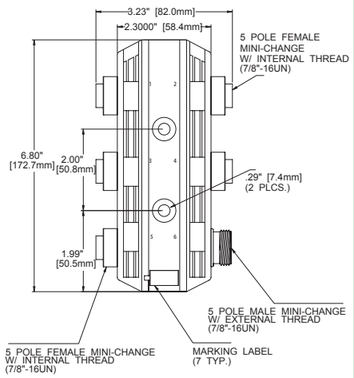
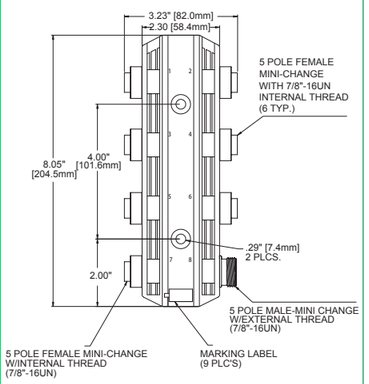


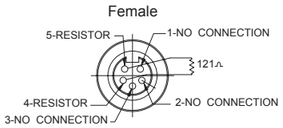
Fig. 6
6 Port

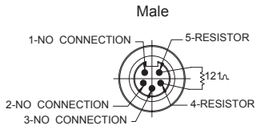


- Male/Female
- Mini-Change/Micro-Change
- LED diagnosis

Mini-Change and Micro-Change terminal resistance

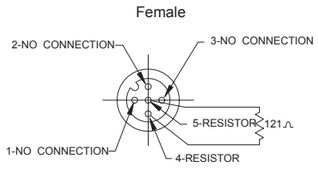
Pin Assignment

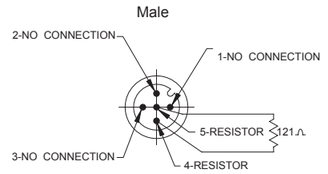




Female	Fig.	MINI-CHANGE
With LED	1	DN150L
Without LED	1	DN150
Male	Fig.	MINI-CHANGE
With LED	2	DN100L
Without LED	2	DN100

Pin Assignment





Female	Fig.	MICRO-CHANGE
Standard	3	DND150
Male	Fig.	MICRO-CHANGE
Standard	4	DND100

Dimensions

Fig. 1
Female Mini-Change

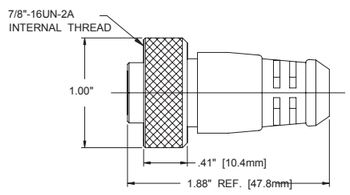


Fig. 2
Male Mini-Change

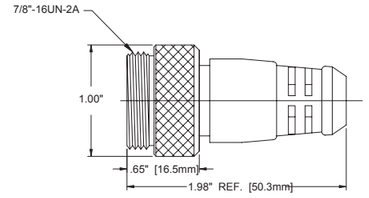


Fig. 3
Female Micro-Change

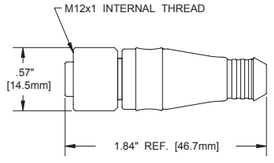
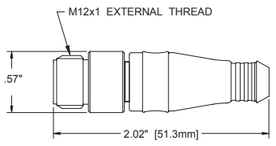


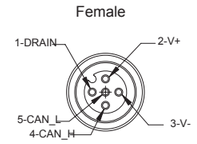
Fig. 4
Male Micro-Change

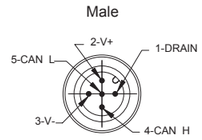


- Male/Female Micro-Change Single-ended Cordsets

5P

Pin Assignment





Female	Fig.	Single-ended with branch (thin cable)
Straight	1	DND02A-Mxxx
Angled	2	DND03A-Mxxx
Male	Fig.	Single-ended with branch (thin cable)
Straight	3	DND20A-Mxxx
Angled	4	DND30A-Mxxx

Order Code

DND□02A-M□xxx

Cable Specification
DEVICENET thin STPE .....ADD F

Cable Length
2 m 020
4 m 040
5 m 050
6 m 060
10 m..... 100

Dimensions

Fig. 1
Straight Female

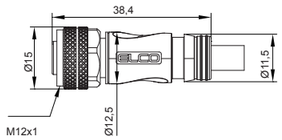


Fig. 2
Angled Female

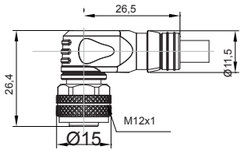


Fig. 3
Straight Male

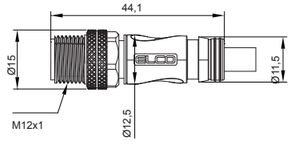
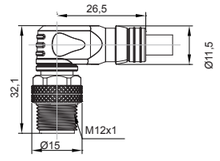


Fig. 3
Angled Male



- Micro-Change - Micro-Change
- Micro-Change (female) - Mini-Change (male)

Double-ended

Pin Assignment

MICRO-CHANGE – MICRO-CHANGE

Female / Male	Fig.	Double-ended Thin cable
Straight / Straight	1	DND22A-Mxxx
Angled / Straight	2	DND32A-Mxxx
Straight / Angled	3	DND23A-Mxxx
Angled / Angled	4	DND33A-Mxxx

Pin Assignment

MICRO-CHANGE – MINI-CHANGE

Female MICROCHANGE/ Male MINI-CHANGE		Double-ended Thin cable
Straight / Straight	5	DND21A-Mxxx
Angled / Straight	6	DND31A-Mxxx
Straight / Angled	7	DND29A-Mxxx
Angled / Angled	8	DND39A-Mxxx

Order Code

DND■22A-M■xxx

Cable Specification

DEVICENET thin STPE ..... ADD F

Cable Length

0.6m.....	006
1 m.....	010
2 m.....	020
3 m.....	030
4 m.....	040
5 m.....	050
10 m.....	100

DeviceNet - Double-ended Fieldbus Cordsets (M12 - M12; M12 - 7/8")

Dimensions

Fig. 1
Straight socket Micro-Change / Straight male Micro-Change

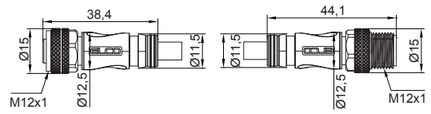


Fig. 2
Angled socket Micro-Change/ Straight male Micro-Change

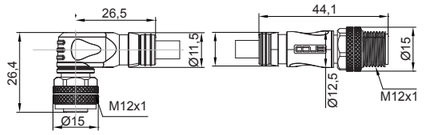


Fig. 3
Straight female Micro-Change / Angled male Micro-Change

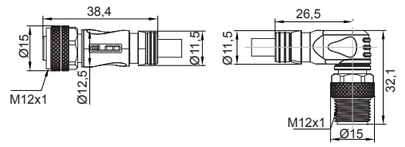


Fig. 4
Angled female Micro-Change / Angled male Micro-Change

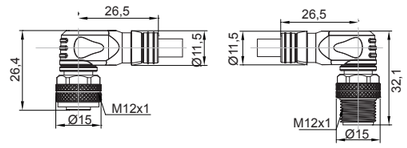


Fig. 5
Straight female Micro-Change / Straight male Mini-Change

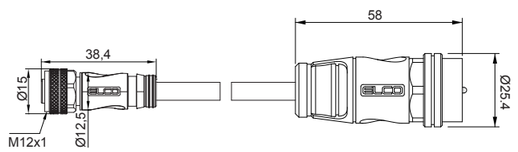


Fig. 6
Angled female Micro-Change / Straight male Mini-Change

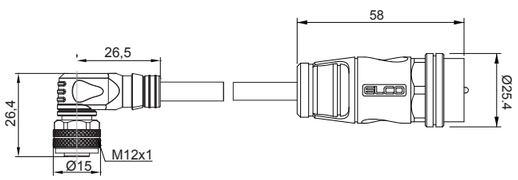


Fig. 7
Straight female Micro-Change / Angled male Mini-Change

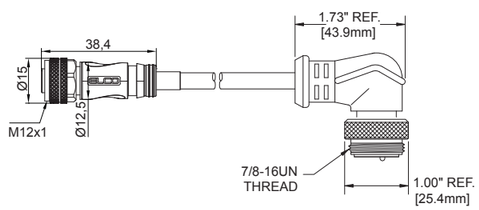
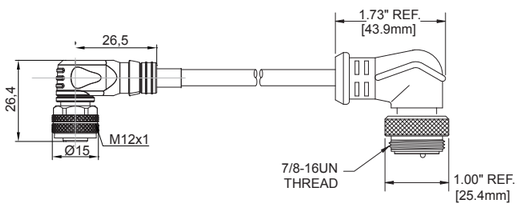


Fig. 8
Angled female Micro-Change / Angled male Mini-Change

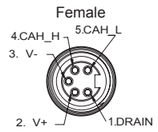


DeviceNet - Double-ended Fieldbus Cordsets (7/8" - M12)

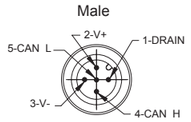
■ Mini-Change（female）- Micro-Change（male）

Double-ended

Pin Assignment



MINI-CHANGE



MICRO-CHANGE

Female (MINI-CHANGE) / male (MICRO-CHANGE)		Double-ended Thin cable
Straight / Straight	1	DND12A-Mxxx
Straight / Angled	2	DND13A-Mxxx
Angled / Straight	3	DND92A-Mxxx
Angled / Angled	4	DND93A-Mxxx

Order Code

DND 12A-Mxxx

Cable Specification

DEVICENET thin STPE ..... ADD F

Cable Length

0.6m.....	006
1 m.....	010
2 m.....	020
3 m.....	030
4 m.....	040
5 m.....	050
10 m.....	100

Dimensions

Fig. 1

Straight female Mini-Change/ Straight male Micro-Change

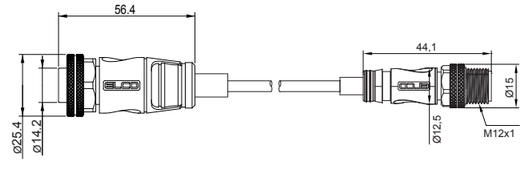


Fig. 2

Straight female Mini-Change / Angled male Micro-Change

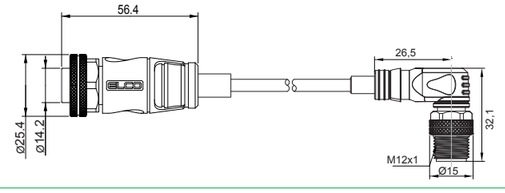


Fig. 3

Angled female Mini-Change / Straight male Micro-Change

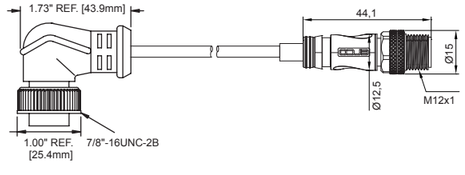
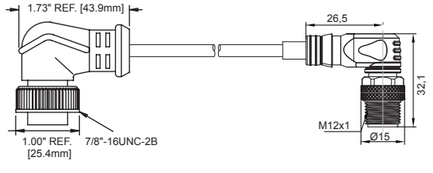


Fig. 4

Angled female Mini-Change / Angled male Micro-Change



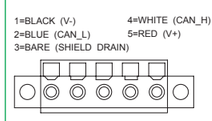
DeviceNet - Open Cordsets

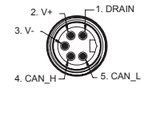
■ Open Single-ended Cordsets

■ Open - Mini-Change or Micro-Change

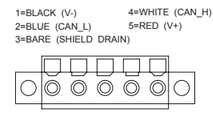
Open Cordsets

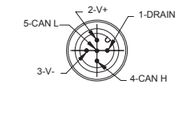
Pin Assignment





MINI-CHANGE





MICRO-CHANGE

Female	Fig.	Open Single-ended Cordsets
OPEN thick cable	2	DN40-Mxxx
OPEN thin cable	2	DND40-Mxxx
Female/Male	**Fig.**	**Open Double-ended Cordsets Thin cCable**
OPEN / MINI-CHANGE	1	DND41A-Mxxx
OPEN / MICRO-CHANGE	3	DND42A-Mxxx
OPEN / Angled MINI-CHANGE	*	DND49A-Mxxx
OPEN / Angled MICRO-CHANGE	**	DND43A-Mxxx

Order Code

DND41A-Mxxx

Cable Length

0.5m.....	005
2 m.....	020
5 m.....	050

Dimensions

Fig. 1

Open/Mini-Change male double-ended cordsets

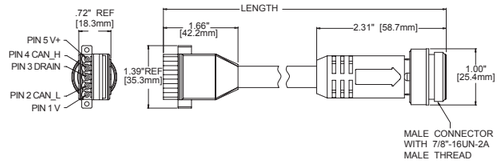


Fig. 2

Open single-ended cordsets

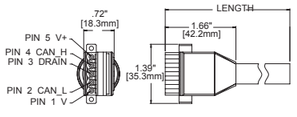
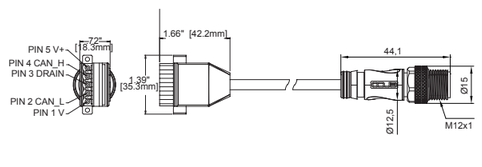


Fig. 3

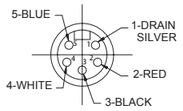
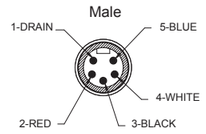
Open/Micro-Change male double-ended cordsets



DeviceNet -- Field-attachable Connector

- Mini-Change interface
- Micro-Change interface

5P

Pin Assignment	Female	Male
		

Voltage		600V AC / DC
Current		8A
Cable diameter		0.20" - 0.48" (5 - 12 mm) OD (THIN,THICK and MID CABLES)
Female	Fig.	Mini-Change interface
Cable connection	1	1A5000-34DN
Male	Fig.	Mini-Change interface
Cable connection	2	1A5006-34DN
Female		Micro-Change interface
Cable connection		8A5000-32DN
Male		Micro-Change interface
Cable connection		8A5006-32DN

Dimensions

Fig. 1
Female Straight w/ Internal Threads

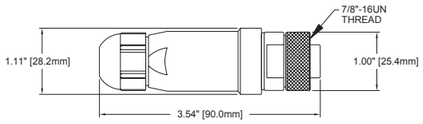
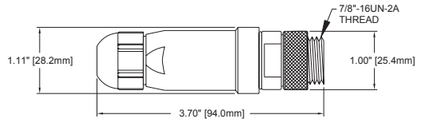


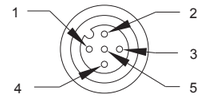
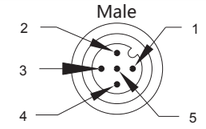
Fig. 1
Male Straight w/ External Threads



DeviceNet - Auxiliary Power Cordsets - M12

- Mini-Change (M12) cordsets, suitable for compact I/O module
- Single-ended cordsets: female/male straight / Angled
- Double-ended cordsets: female/male straight / Angled

4P Micro-Change (M12) Power Cable

Pin Assignment	Female	Male
		

Female	Fig.	Single-ended cordsets
Straight	1	804000A09Mxxx
Angled	2	804001A09Mxxx
Male	Fig.	Single-ended cordsets
Straight	3	804006A09Mxxx
Angled	4	804007A09Mxxx
Female / Male	Fig.	Double-ended cordsets
Straight / Straight	1AND3	884030A09Mxxx
Angled / Angled	2AND4	884033A09Mxxx
	Fig.	Field-attachable
Female Straight	5	8A4000-32
Male Straight	6	8A4006-32

Order Code

8x4xxxA09Mxxx

Type		Connector		Cable		Standard length	
Single-ended cordsets	0	Single-ended pre-wired		PVC ,IEC Color		Single-ended cordsets	
Double-ended cordsets	8	Female Straight	000	0.34MM（#22AWG)		2 m	020
		Female Angled	001	Yellow 105C（4A/250V),		4 m	040
		Male straight	006	UL(US Norm）	A09	5 m	050
		Male Angled	007			6 m	060
		Double-ended pre-wired (Female/Male)				10 m	100
		Straight/Straight	030			Double-ended cordsets	
		Angled / Angled	033			0.6 m	006
						1 m	010
						2 m	020
						3 m	030
						4 m	040
						5 m	050

Dimensions

Fig. 1
Female Straight

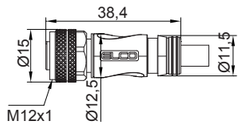


Fig. 2
Female Angled

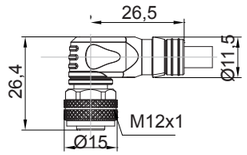


Fig. 3
Male Straight

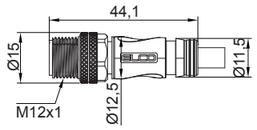


Fig. 4
Male Angled

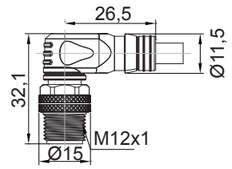


Fig. 5
Female Straight

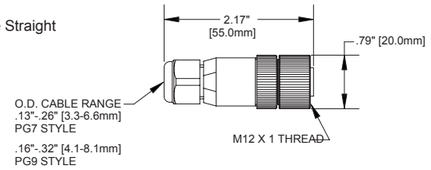
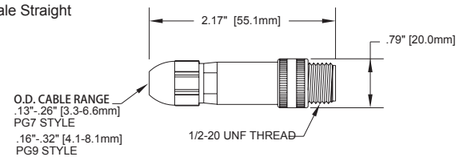


Fig. 6
Male Straight



Type Code

E 1 W R 1 W B D 0 4 001 M xxx

Ethernet connector

Connection Type (compulsory)
1: M12, male
2: M12, female
6: RJ45
8: M8, male
9: M8, female

Shape (optional)
Null: Straight
W: Angled (M8, M12)
L: Left outlet cable (RJ45)
R: Right outlet cable (RJ45)

Flange (optional)
Null: No flange
R: Front plate flange
B: Back plate flange

Connection Type (compulsory)
0: Homerun cable
1: M12, male
2: M12, female
6: RJ45
8: M8, male
9: M8, female

Shape (optional)
Null: Straight
W: Angled (M8, M12)
L: Left outlet cable (RJ45)
R: Right outlet cable (RJ45)

Flange (optional)
Null: No flange
R: Front plate flange
B: Back plate flange

Connection Code
D: D-code
X: X-code

No. of pin
4: 4-pin
8: 8-pin

0: Field-attachable RJ45
A: Pre-wired RJ45, Cat 5e
B: Pre-wired RJ45, Cat 6

Cable No.
001: 84-0001
003: 84-0003
005: 84-0005
009: 84-0009
011: 88-0011
601: 88-0001
602: 88-0005
603: 88-0003
* : For other cable information, please inquire

Length Unit
M: m

Length
020: 2m
040: 4m
050: 5m

EtherNet/IP	PROFINET	EtherCAT	sercos the automation bus	CC-Link IE
Automation application of industrial control technology	Production and process automization of automation industry	Automation techniques	Motion control	Automation technology
Star topology structure in active state	Star-, line-, tree-, loop-structure as well as mixed structure	Line-, tree-, star-structure as well as mixed structure	Line-, loop-, layer/level-structure	Line-, tree- and star topology-structure
Max. 100 Mbps	100 Mbps to 1 Gbps	100 Mbps	Fast Ethernet 100 Mbps	Gigabit Ethernet
4-pin or 8-pin	4-pin	4-pin	4-pin	8-pin

Signal Indication	Plug Connector RJ45	Plug Connector M12
TD+	1	1
TD -	2	3
RD+	3	2
RD -	6	4

Color of cable core	Signal
WH/OG	TD+
OG	TD-
WH/BL	
BL	
WH/GN	RD+
GN	RD-
WH/BN	
BN	

Signal Indication	Plug Connector RJ45	Plug Connector M12
TD+	1	1
TD -	2	3
RD+	3	2
RD -	6	4

Color of cable core	Signal
YL	TD+
OG	TD-
WH	RD+
BL	RD-

Signal Indication	Plug Connector RJ45	Plug Connector M12
TD+	1	1
TD -	2	3
RD+	3	2
RD -	6	4

Color of cable core	Signal
YL	TD+
OG	TD-
WH	RD+
BL	RD-

Signal Indication	Plug Connector RJ45	Plug Connector M12
TD+	1	1
TD -	2	3
RD+	3	2
RD -	6	4

Color of cable core	Signal
YL	TD+
OG	TD-
WH	RD+
BL	RD-

Signal Indication	Plug Connector RJ45	Plug Connector M12
TD+	2	3
TD -	1	2
RD+	3	5
RD -	6	8

Color of cable core	Signal
WH/OG	TD+
OG	TD-
WH/BL	
BL	
WH/GN	RD+
GN	RD-
WH/BN	
BN	

Profinet Cable

	Type	Condition	Rated Voltage	Ambient Temperature	Max. diameter	Conductor	Impedence	Shielding	Outer Jacket	Communication Cable Color	Bending Diameter	Bending Life
Profinet Standard Cable	84-0001	Fixed installation 2x2x22 AWG	30V	-30...+80℃	6.5±0.2 mm	Solid bare copper wire （0.65mm）	17.5 ohms/100ft	Tined copper braid	PVC，Green	Red+Yellow+ White+Blue	15* Cable diameter	—
Profinet Drag Chain Cable	84-0003	Drag chain installation 2x2x22 AWG	30V	-30...+80℃	6.5±0.2 mm	Tin Stranded wire （7*0.25mm）	16.5 ohms/100ft	Tined copper braid	TPU，Green	Red+Yellow+ White+Blue	10* Cable diameter	3 million times
Profinet Flexible Cable	84-0005	Flexible installation 2x2x22 AWG	30V	-30...+80℃	6.5±0.2 mm	Tin Stranded wire （7*0.25mm）	16.5 ohms/100ft	Tined copper braid	PVC，Green	Red+Yellow+ White+Blue	10* Cable diameter	—
	84-0009	For M8 connector 2x2x26 AWG19	30V	-30...+80℃	4.9±0.2 mm	Bare copper wire （7*0.167mm）	—	Tined copper braid	PVC，Green	Red+Yellow+ White+Blue	7* Cable diameter	—
Profinet Standard Cable	84-0007	Customized for EtherCAT wiring 2x2x22 AWG1	30V	-30...+80℃	6.5±0.2 mm	Solid bare copper wire （0.65mm）	17.5 ohms/100ft	Tined copper braid	PVC，Yellow	Red+Yellow+ White+Blue	15* Cable diameter	—
Profinet Standard Cable	84-0008	Customized for Sercos wiring, 2x2x22 AWG1	30V	-30...+80℃	6.5±0.2 mm	Solid bare copper wire （0.65mm）	17.5 ohms/100ft	Tined copper braid	PVC，Red	Red+Yellow+ White+Blue	15* Cable diameter	—
	88-0011	Fixed installation 4x2x26 AWG7	30V	-30...+80℃	6.0±0.3 mm	Bare copper wire （7*0.167mm）	—	Tined copper braid	PVC，Orange	Orange+White/Orange+ Blue+White/Blue+ Green+White/Green+ Brown+White/Brown	12* Cable diameter	—
Profinet Standard Cable	88-0001	Fixed installation 4x2x24 AWG1	30V	-30...+80℃	8.0±0.2 mm	Bare copper wire （0.51mm）	—	Tined copper braid	PVC，Green	Orange+White/Orange+ Blue+White/Blue+ Green+White/Green+ Brown+White/Brown	5* Cable diameter	—
Profinet Flexible Cable	88-0005	Flexible installation 4x2x24 AWG7	30V	-30...+80℃	8.0±0.2 mm	Bare copper wire （7*0.6mm）	—	Tined copper braid	PUR，Green	Orange+White/Orange+ Blue+White/Blue+ Green+White/Green+ Brown+White/Brown	5* Cable diameter	—
Profinet Drag Chain Cable	88-0003	For application with high load and moving 4x2x26 AWG19	30V	-30...+80℃	7.8±0.2 mm	Tin Stranded wire （19*0.55mm）	—	Tined copper braid	TPU，Green	Orange+White/Orange+ Blue+White/Blue+ Green+White/Green+ Brown+White/Brown	5* Cable diameter	3 million times

Profinet - M12/M12 (Pin) Pre-wired Cable

Double-ended M12 D-code Pre-wired Cable

Cat 5e, 100Mbit/S, 4-pin, IP67

Support: PROFINET EtherCAT EtherNet/IP ETHERNET POWERLINK sercos the automation bus

Apply to: Connection of devices on field.

Technical Data	
Material	
Circular Cordsets	PUR
Contact	Gold plated
Connecting Nut/Bolt	Nickel plated brass
Cable	For details, see cable list.
Rated Voltage	250V
Rated Current	4A
Conductor	2x2x22AWG，shielded twisted pair
TIA/EIA Grade	Cat5e
Certificate	CE，UL
Protection Class	IP67
Ambient Temperature	-30...+80℃
Mechanical Life	>100

Type List

Pin Assignment			
	Cable material	Specification	Type
	PVC	22 AWG	E11D04001M020
	TPU	22 AWG	E11D04003M020
	PVC	22 AWG	E11D04005M020

4 Pole

1-Yellow(TD+) 4-Blue(RD-)
2-White(RD+) 5-D-Code
3-Orange(TD-)

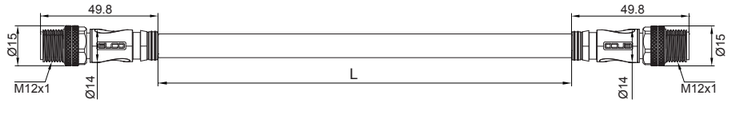
Order Code

E11D04001Mxxx

11: Double - ended M12
10: Single - ended M12

001: 84 - 0001 cable
005: 84 - 0005 cable
003: 84 - 0003 cable

Dimensions



Profinet - RJ45/ RJ45 Pre-wired Cable

Double-ended RJ45 Pre-wired Cable

Cat 5e, 100Mbit/S, 4-pin, IP20

Support: PROFINET EtherCAT EtherNet/IP

Apply to: Connection between the devices in cabinet, the controller and switch.

Technical Data	
Material	
Square Injection Molding Body	TPU
Contact Carrier	Gold plated
Cable	For details, see cable list.
Rated Voltage	250V
Rated Current	4A
Conductor	2x2x22AWG，shielded twisted pair
TIA/EIA Grade	Cat5e
Certificate	CE，UL
Protection Class	IP67
Ambient Temperature	-30...+80℃
Mechanical Life	>100

Type List

	Cable material	Specification	Type	Type
	PVC	22 AWG	E66DA4001M020	E6L6LDA4001M020
	TPU	22 AWG	E66DA4003M020	E6L6LDA4003M020
	PVC	22 AWG	E66DA4005M020	E6L6LDA4005M020

100Base-TX(4wire)
Male

1. Yellow(TD+)
2. Orange(TD-)
3. White(RD+)
4. N/C
5. N/C
6. Blue(RD-)
7. N/C
8. N/C

12345678

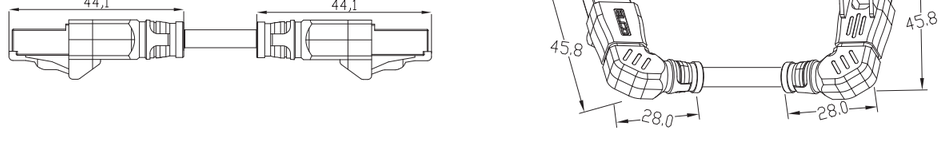
Order Code

E66DA4001Mxxx

66: Double - ended RJ45
60: Single - ended RJ45

001: 84 - 0001 cable
005: 84 - 0005 cable
003: 84 - 0003 cable

Dimensions



Profinet - RJ45/M12 Double-ended Pre-wired Cable

Double-ended RJ45-M12 Pre-wired Cable

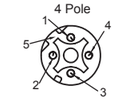
Cat 5e, 100Mbit/S, 4-pin, IP67->IP20

Support: PROFINET EtherCAT EtherNet/IP ETHERNET POWERLINK sercos the automation bus

Apply to: Star topology of field devices; connection between the field devices, the controller and switch.

Technical Data	
Material	
Square Injection Molding Body	TPU
Contact Carrier	Gold plated
Circular Cordsets	PUR
Contact	Gold plated
Connecting Nut/Bolt	Nickel plated brass
Cable	For details, see cable list.
Rated Voltage	250V
Rated Current	4A
Conductor	2x2x22AWG，shielded twisted pair
TIA/EIA Grade	Cat 5e
Certificate	CE，UL
Protection Class	IP67
Ambient Temperature	-30...+80℃
Mechanical Life	>100

Type List

Pin Assignment				
 1-Yellow(TD+) 4-Blue(RD-) 2-White(RD+) 5-D-Code 3-Orange(TD-)	1. Yellow(TD+) 2. Orange(TD-) 3. White(RD+) 6. Blue(RD-)	Cable material	Specification	Type
		PVC	22 AWG	E16DA4001M020
		TPU	22 AWG	E16DA4003M020
		PVC	22 AWG	E16DA4005M020

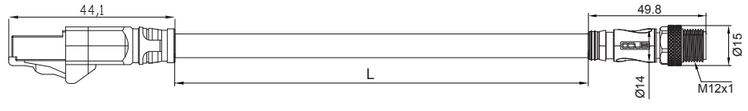
Order Code

E16DA4001Mxxx

16: M12 - RJ45

001: 84 - 0001 cable
005: 84 - 0005 cable
003: 84 - 0003 cable

Dimensions



Profinet - RJ45-M12 Flange Pre-wired Cable

Double-ended RJ45-M12 Flange Pre-wired Cable

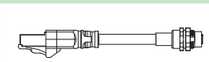
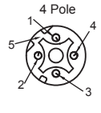
Cat 5e, 100Mbit/, 4-pin, IP67->IP20

Support: PROFINET EtherCAT EtherNet/IP

Apply to: Connection of panel and cabinet.

Technical Data	
Material	
Square Injection Molding Body	TPU
Contact Carrier	Gold plated
Flange	Metal
Contact	Gold plated
Connecting Nut/Bolt	Nickel plated brass
Cable	For details, see cable list.
Rated Voltage	250V
Rated Current	4A
Conductor	2x2x22AWG，shielded twisted pair
TIA/EIA Grade	Cat 5e
Certificate	CE，UL
Protection Class	IP67
Ambient Temperature	-30...+80℃
Mechanical Life	>100

Type List

Pin Assignment				
 1-Yellow(TD+) 4-Blue(RD-) 2-White(RD+) 5-D-Code 3-Orange(TD-)	1. Yellow(TD+) 2. Orange(TD-) 3. White(RD+) 6. Blue(RD-)	Cable material	Specification	Type
		PVC	22 AWG	E2R6DA4001M020
		TPU	22 AWG	E2R6DA4003M020
		PVC	22 AWG	E2R6DA4005M020

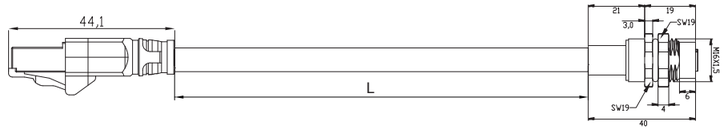
Order Code

E2R6DA4001Mxxx

2R6: RJ45 - M12 Flange

001: 84 - 0001 cable
003: 84 - 0003 cable
005: 84 - 0005 cable

Dimensions



Profinet - M12-M12 Flange Double-ended Pre-wired Cable

Double-ended M12-M12 Flange Pre-wired Cable

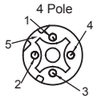
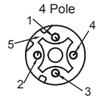
Cat 5e, 100Mbit/S, 4-pin, IP67->IP20

Support: PROFINET EtherCAT EtherNet/IP ETHERNET POWERLINK sercos the automation bus

Apply to: Connection of panel and external devices of cabinet.

Technical Data	
Material	
Circular Cordsets	PUR
Flange	Metal
Contact	Gold plated
Connecting Nut/Bolt	Nickel plated brass
Cable	For details, see cable list.
Rated Voltage	250V
Rated Current	4A
Conductor	2x2x22AWG，shielded twisted pair
TIA/EIA Grade	Cat5e
Certificate	CE，UL
Protection Class	IP67
Ambient Temperature	-30...+80℃
Mechanical Life	>100

Type List

Pin Assignment		Cable material	Specification	Type
 1-Yellow(TD+) 4-Blue(RD-) 2-White(RD+) 5-D-Code 3-Orange(TD-)	 1-Yellow(TD+) 4-Blue(RD-) 2-White(RD+) 5-D-Code 3-Orange(TD-)	PVC	22 AWG	E2R1D04001M020
		TPU	22 AWG	E2R1D04003M020
		PVC	22 AWG	E2R1D04005M020

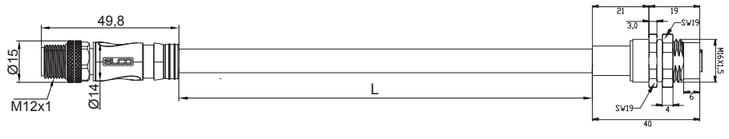
Order Code

E2R1D04001Mxxx

2R1:M12 - M12 Flange

001: 84 - 0001 cable
003: 84 - 0003 cable
005: 84 - 0005 cable

Dimensions



Profinet - M8-M8 Double-ended Pre-wired Cable

Double-ended M8-M8 Pre-wired Cable

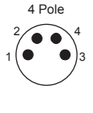
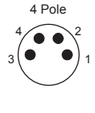
Cat 5e, 100Mbit/S, 4-pin, IP67->IP20

Support: PROFINET EtherCAT EtherNet/IP ETHERNET POWERLINK sercos the automation bus

Apply to: Connection of panel and cabinet.

Technical Data	
Material	
Circular Cordsets	PUR
Contact	Gold plated
Connecting Nut/Bolt	Nickel plated brass
Cable	For details, see cable list.
Rated Voltage	250V
Rated Current	4A
Conductor	2x2x26AWG，shielded twisted pair
TIA/EIA Grade	Cat5e
Certificate	CE，UL
Protection Class	IP67
Ambient Temperature	-30...+80℃
Mechanical Life	>100

Type List

Pin Assignment		Cable material	Specification	Type
 1-Yellow(TD+) 2-White(RD+) 3-Blue(RD-) 4-Orange(TD-)	 1-Yellow(TD+) 2-White(RD+) 3-Blue(RD-) 4-Orange(TD-)	PVC	26 AWG	E88D04009M020
		PVC	26 AWG	E88D04009M050
		PVC	26 AWG	E88D04009M100

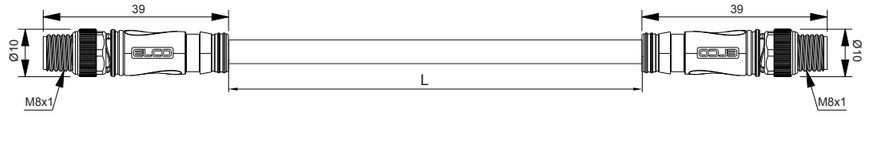
Order Code

E88D04009Mxxx

88: Double - ended M8

009: 84 - 0009 cable

Dimensions



Profinet - RJ45-M8 Double-ended Pre-wired Cable

Double-ended RJ45-M8 Pre-wired Cable

Cat 5e, 100Mbit/S, 4-pin, IP67->IP20

Support: PROFINET EtherCAT EtherNet/IP ETHERNET POWERLINK sercos the automation bus

Apply to: Star topology of field devices; connection between the field devices, the controller and switch.

Technical Data

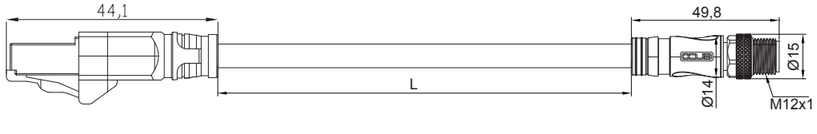
Material	
Square Injection Molding Body	TPU
Contact Carrier	Gold plated
Circular Cordsets	PUR
Contact	Gold plated
Connecting Nut/Bolt	Nickel plated brass
Cable	For details, see cable list.
Rated Voltage	250V
Rated Current	4A
Conductor	2x2x26AWG，shielded twisted pair
TIA/EIA Grade	Cat5e
Certificate	CE，UL
Protection Class	IP67
Ambient Temperature	-30...+80℃
Mechanical Life	>100

Type List

Pin Assignment				
4 Pole	100Base-TX(4wire) Male	Cable material	Specification	Type
		PVC	26 AWG	E86DA4009M020
1-Yellow(TD+) 2-White(RD+) 3-Blue(RD-) 4-Orange(TD-)	1. Yellow(TD+) 2. Orange(TD-) 3. White(RD+) 6. Blue(RD-)	PVC	26 AWG	E86DA4009M050
		PVC	26 AWG	E86DA4009M100

Order Code

Dimensions



Profinet - M8-M12 Double-ended Pre-wired Cable

Double-ended M8-M12 Pre-wired Cable

Cat 5e, 100Mbit/, 4-pin, IP67->IP20

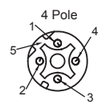
Support: PROFINET EtherCAT EtherNet/IP

Apply to: Connection of panel and cabinet.

Technical Data

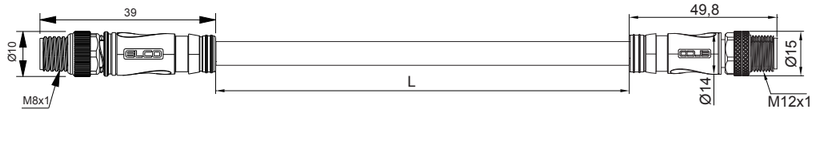
Material	
Circular Cordsets	PUR
Contact	Gold plated
Connecting Nut/Bolt	Nickel plated brass
Cable	For details, see cable list.
Rated Voltage	250V
Rated Current	4A
Conductor	2x2x26AWG，shielded twisted pair
TIA/EIA Grade	Cat5e
Certificate	CE，UL
Protection Class	IP67
Ambient Temperature	-30...+80℃
Mechanical Life	>100

Type List

Pin Assignment				
4 Pole	4 Pole	Cable material	Specification	Type
		PVC	26 AWG	E18D04009M020
1-Yellow(TD+) 2-White(RD+) 3-Orange(TD-) 4-Blue(RD-)	1-Yellow(TD+) 2-White(RD+) 3-Blue(RD-) 4-Orange(TD-)	PVC	26 AWG	E18D04009M050
		PVC	26 AWG	E18D04009M100

Order Code

Dimensions



Profinet - RJ45-M12 Double-ended Pre-wired Cable

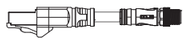
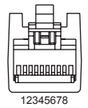
Double-ended RJ45-M12 Pre-wired Cable

Cat 5e, 1000Mbit/S, 8-pin, IP67->IP20, orange

Apply to: Connection of devices on field.

Technical Data	
Material	
Square Injection Molding Body	TPU
Contact Carrier	Gold plated
Circular Cordsets	PUR
Contact	Gold plated
Connecting Nut/Bolt	Nickel plated brass
Cable	For details, see cable list.
Operating Voltage	60V
Operating Current	0.5 A
Conductor	4x2x26AWG，shielded twisted pair
TIA/EIA Grade	Cat5e
Certificate	CE，UL
Protection Class	IP67
Ambient Temperature	-30...+80℃
Mechanical Life	>100

Type List

Pin Assignment				
8 Pole 1. wh/or 2. or 3. wh/gn 4. gn 5. wh/bn 6. bn 7. wh/bu 8. bu	100Base-TX(8wire) Male  12345678 1. wh/or 2. or 3. wh/gn 4. bu 5. wh/bu 6. gn 7. wh/bn 8. bn	Cable material	Specification	Type
		PVC	26 AWG	E16XA8011M020
		PVC	26 AWG	E16XA8011M050
		PVC	26 AWG	E16XA8011M100

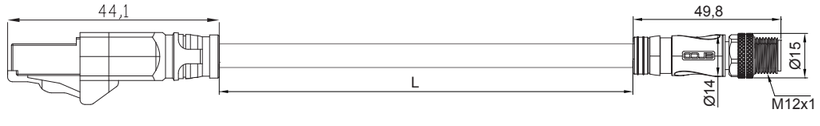
Order Code

E16XA8011Mxxx

66: RJ45 - M12

011: 84 - 0011 cable

Dimensions



Profinet - M12-M12 Double-ended Pre-wired Cable

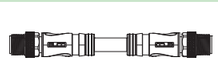
Double-ended M12 X-code Pre-wired Cable

Cat 6, 1000Mbit/S, 8-pin, IP67

Apply to: Connection of devices on field.

Technical Data	
Material	
Circular Cordsets	PUR
Contact	Gold plated
Connecting Nut/Bolt	Nickel plated brass
Cable	For details, see cable list.
Operating Voltage	60V
Operating Current	0.5 A
Conductor	4x2x24/26AWG，shielded twisted pair
TIA/EIA Grade	Cat5e
Certificate	CE，UL
Protection Class	IP67
Ambient Temperature	-30...+80℃
Mechanical Life	>100

Type List

Pin Assignment				
8 Pole 1. wh/or 2. or 3. wh/gn 4. gn 5. wh/bn 6. bn 7. wh/bu 8. bu	8 Pole 1. wh/or 2. or 3. wh/gn 4. gn 5. wh/bn 6. bn 7. wh/bu 8. bu	Cable material	Specification	Type
		PVC	24 AWG	E11X08601M020
		TPU	24 AWG	E11X08602M020
		TPU	26 AWG	E11X08603M020

Order Code

E11X08601Mxxx

11: Double - ended M12

10: Single - ended M12

X: X - code

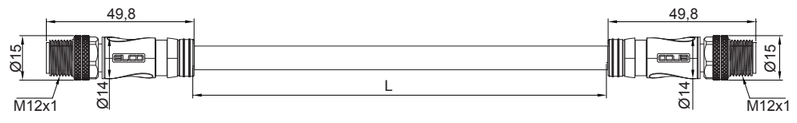
A: A - code

601: 88 - 0001 cable

602: 88 - 0005 cable

603: 88 - 0003 cable

Dimensions

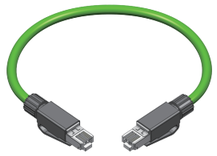


Profinet - RJ45 Field-attachable Cable

Double-ended RJ45 Field-attachable Cable

Cat 6, 1000Mbit/S, 8-pin, IP20

Apply to: Connection between the devices in cabinet, the controller and switch.



Technical Data	
Material	
Square Injection Molding Body	PA
Contact Carrier	Gold plated
Cable	For details, see cable list.
Operating Voltage	60V
Operating Current	0.5 A
Conductor	4x2x24/26AWG，shielded twisted pair
TIA/EIA Grade	Cat5e
Certificate	CE，UL
Protection Class	IP67
Ambient Temperature	-30...+80℃
Mechanical Life	>100

Type List

Pin Assignment				
1000Base-TX(8wire) Male 1. wh/or 2. or 3. wh/gn 4. bu 5. wh/bu 6. gn 7. wh/bn 8. bn 12345678	1000Base-TX(8wire) Male 1. wh/or 2. or 3. wh/gn 4. bu 5. wh/bu 6. gn 7. wh/bn 8. bn 12345678	Cable material	Specification	Type
		PVC	24 AWG	E66X08601M020
		TPU	24 AWG	E66X08602M020
		TPU	26 AWG	E66X08603M020

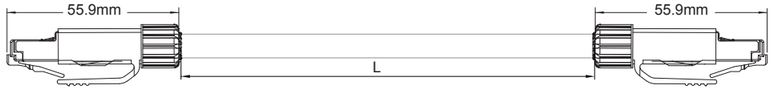
Order Code

E66X08601Mxxx

66: Double-ended RJ45
60: Single-ended RJ45

601: 88-0001 cable
602: 88-0005 cable
603: 88-0003 cable

Dimensions

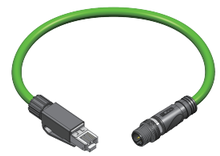


Profinet - RJ45 Field-attachable Cable/M12 Pre-wired Cable

Double-ended RJ45 Field-attachable Cable-M12 Pre-wired Cable

Cat 6, 1000Mbit/S, 8-pin, IP67->IP20

Apply to: Star topology of field devices; connection between the field devices, the controller and switch.



Technical Data	
Material	
Square Injection Molding Body	PA
Contact Carrier	Gold plated
Circular Cordsets	PUR
Contact	Gold plated
Connecting Nut/Bolt	Nickel plated brass
Cable	For details, see cable list.
Operating Voltage	60V
Operating Current	0.5 A
Conductor	4x2x24/26AWG，shielded twisted pair
TIA/EIA Grade	Cat5e
Certificate	CE，UL
Protection Class	IP67
Ambient Temperature	-30...+80℃
Mechanical Life	>100

Type List

Pin Assignment				
8 Pole 1. wh/or 2. or 3. wh/gn 4. gn 5. wh/bn 6. bn 7. wh/bu 8. bu	1000Base-TX(8wire) Male 1. wh/or 2. or 3. wh/gn 4. bu 5. wh/bu 6. gn 7. wh/bn 8. bn 12345678	Cable material	Specification	Type
		PVC	24 AWG	E16X08601M020
		TPU	24 AWG	E16X08602M020
		TPU	26 AWG	E16X08603M020

Order Code

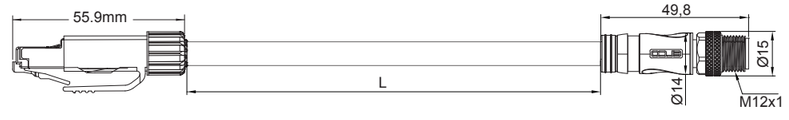
E16X08601Mxxx

E16: M12-RJ45

X: X-code
A: A-code

601: 88-0001 cable
602: 88-0005 cable
603: 88-0003 cable

Dimensions



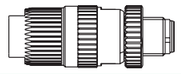
Functions:

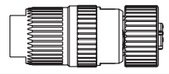
- For Profinet field connection
- M12 D-coded interface

Technical Data

Material	
Nut	Nickel plated brass
Housing	Nickel plated brass
Contact	Gold-plated
Cable	
Cable Material	22-24 AWG
	0.25-0.34mm2
Outer Diameter	5.5-7.2mm
Using Grade	
Protection Class	IP67
Ambient Temperature	-30...+80℃

Type List





Cross section	Max. current	Voltage	Outer diameter	Male straight		Female straight	
				Type	Fig.	Type	Fig.
4 Pole 1 - Yellow (TD+) 2 - White (RD+) 3 - Orange (TD-) 4 - Blue (RD-)	4.0A	32V	5.50-7.20mm	ES06-52	Fig. 1	ES00-52	Fig. 2

Dimensions

Fig.1

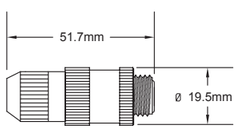
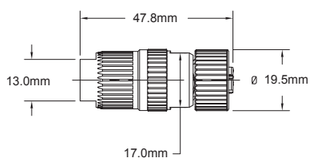


Fig. 2



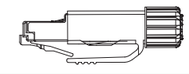
Functions:

- For Profinet field connection
- RJ45 interface

Technical Data

Material	
Housing	PA
Contact Carrier	Nickel plated brass
Contact	Gold-plated
Cable	
Cable Material	22-24 AWG
	0.25-0.34mm2
Outer Diameter	6.0-6.9mm
Using Grade	
Protection Class	IP20
Ambient Temperature	-30...+80℃

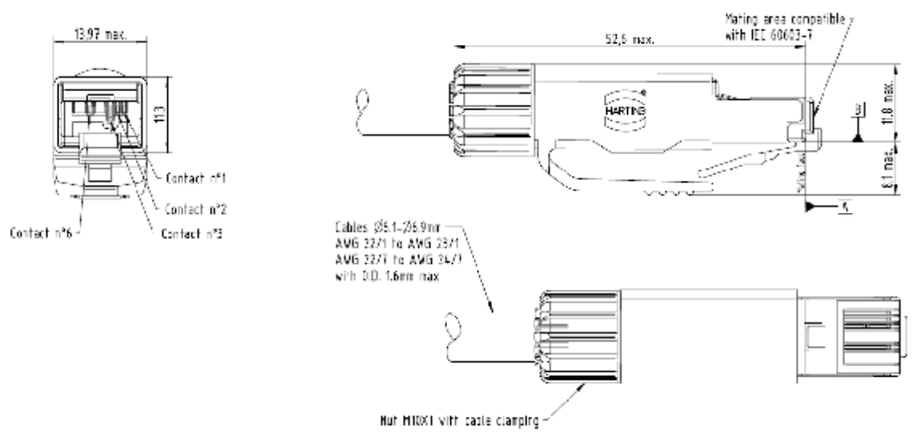
Type List



Cross section	Max. current	Voltage	Outer diameter	Type	Fig.
100Base-TX(4wire) Male 1. Yellow(TD+) 2. Orange(TD-) 3. White(RD+) 4. N/C 5. N/C 6. Blue(RD-) 7. N/C 8. N/C 12345678	1.75A	60V	6.0-6.9mm	ENS45	Fig. 1

Dimensions

Fig. 1



CC-Link Cable

	CC-Link Standard Cable	**CC-Link Flexible Cable**	
Type	87-0001	87-0003	
Condition	Fixed installation 3x20 AWG	Drag chain installation 3x20 AWG	
Rated Voltage	300V		
Ambient Temperature	-30...80℃		
Max. diameter	7.7±0.3 mm	8.5±0.3 mm	
Conductor	Bare copper wire (7*0.32mm)	Bare copper wire (71*0.1mm)	
Impedence	17.5 ohms/100ft	16.5 ohms/100ft	
Wire	3 wires stranded cable		
Shield	Tined copper braid		
Jacket	PVC , Red	TPU , Red	
Communication cable color	Yellow+White+Blue		
Bending diameter	10*Cable diameter	7.5*Cable diameter	
Bending life	—	1.5 million times	

* MOQ : 100m

CC-Link - Single - ended Cordsets

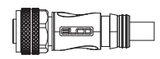
Features:

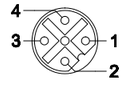
- PVC(TPU), waterproof(oil-proof)
- Low impedance design
- 360° shielded

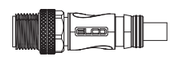
Technical Data

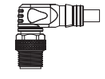
Material		Material	PVC (TPU)
Contact Carrier	Nylon	Conductor Insulation	PE
Molded Head	PUR	Shielding	PETP/AV(100%)
O-ring	Nitrile rubber		Tinned copper braid 65% (90%)
Coupling Nut	Nickel-plated brass	Condctor	20 AWG Three pair
Using Grade		Cable flex information	
Protection Class	IP67	PVC	10 xCable diameter
Ambient Temperature	-30-+80℃	TPU	7.5 x Cable diameter
Cable			
Outer Diameter	7.7±0.3mm		

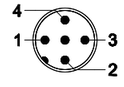
Type List



Pin Assignment	Max. current	Max. voltage	Cable type	Cable material	Wire size	Length	Female/Straight Type	Female/Straight Fig.	Female/Angled Type	Female/Angled Fig.
 1 - Shield SLD 2 - Bus DB 3 - Bus DG 4 - Bus DA	4.0A	250VAC/DC	Three pair	PVC	20	1.0m	A05S00C01M010	Fig. 1	A05S01C01M010	Fig. 2
				TPU			A05S00C03M010		A05S01C03M010	





Pin Assignment	Max. current	Max. voltage	Cable type	Cable material	Wire size	Length	Male/Straight Type	Male/Straight Fig.	Male/Angled Type	Male/Angled Fig.
 1 - Shield SLD 2 - Bus DB 3 - Bus DG 4 - Bus DA	4.0A	250VAC/DC	Three pair	PVC	20	1.0m	A05S06C01M010	Fig. 1	A05S07C01M010	Fig. 2
				TPU			A05S06C03M010		A05S07C03M010	

Order Code

A05S01C01 Mxxx

Connection type
Female Straight 00
Female Angled..... 01
Male Straight..... 06
Male Angled..... 07

C01 : PVC,UL,violet,3x20AWG
C03 : PUR,UL,high flexible,violet, 3x20AWG

Length
1 m..... 010
2 m..... 020
3 m..... 030
5 m..... 040

CC-Link - Double-ended Cordsets

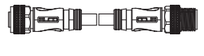
Features:

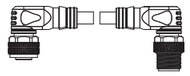
- PVC(TPU), waterproof(oil-proof)
- Low impedance design
- 360° shielded

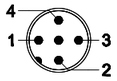
Technical Data

Material		Material	PVC (TPU)
Contact Carrier	Nylon	Conductor Insulation	PE
Molded Head	PUR	Shielding	PETP/AV(100%)
O-ring	Nitrile rubber		Tinned copper braid 65% (90%)
Coupling Nut	Nickel-plated brass	Condctor	20 AWG Three pair
Using Grade		Cable flex information	
Protection Class	IP67	PVC	10 x Cable diameter
Ambient Temperature	-30-+80℃	TPU	7.5 x Cable diameter
Cable			
Outer Diameter	7.7±0.3mm		

Type List





Pin Assignment	Max. currentv	Max. voltage	Cable type	Cable material	Wire size	Length	Female/Straight Type	Female/Straight Fig.	Female/Angled Type	Female/Angled Fig.
 1 - Shield SLD 2 - Bus DB 3 - Bus DG 4 - Bus DA	4.0A	250VAC/DC	Three pair	PVC	20	1.0m	AA5S30C01M010	Fig. 1	AA5S33C01M010	Fig. 2
				TPU			AA5S30C03M010		AA5S33C03M010	

Order Code

AA5S30C01 Mxxx

Connection type
Double-ended Straight..... 30
Double-ended Angled..... 33

C01 : PVC,UL,violet,2XAWG 22
C03 : PUR,UL,high flexible,violet, 2XAWG 24

Length
0.3 m..... 003
0.6 m..... 006
1 m..... 010
2 m..... 020

Dimensions

Fig. 1

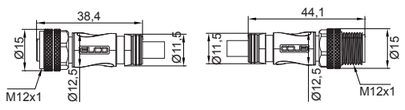
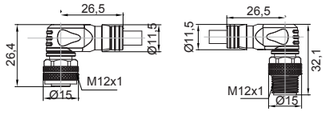


Fig. 2



CC-Link --Fieldbus connector

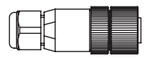
Features:

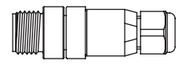
- Used for M12 CC-Link connector
- 5-pin Shield
- Screw connecting

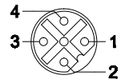
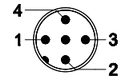
Technical Data

Material	
Contact Carrier	PU
Housing material	Nickel plated brass
Contact	Silver-plated
Coupling Nut	Nickel plated brass
O-Ring	Rubber
Cable	4.10-8.10mm
Using Grade	
Protection Class	IP67

Type List





Pin Assignment	Max. current	Max. voltage	Cable diameter	Female/Straight Type	Female/Straight Fig.	Female/Male+D-Sub Type	Female/Male+D-Sub Fig.
 1 - Shield SLD 2 - Bus DB 3 - Bus DG 4 - Bus DA	4.0A	250V AC/DC	4.10-8.10mm	AA5S00-32	Fig. 1		
 1 - Shield SLD 2 - Bus DB 3 - Bus DG 4 - Bus DA						AA5S06-32	Fig. 2

Dimensions

Fig. 1

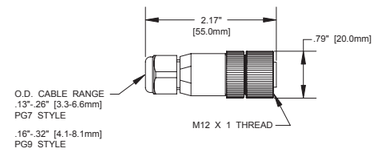
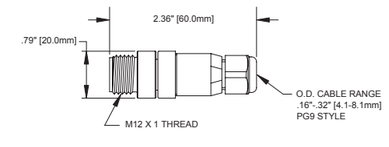


Fig. 2



Flange socket connector - M12 female (F)

Description:

Used for fixed I/O connecting such as panel and cabinet. Standard M12(female) threaded connection.
4, 5, 8-core are optional.

Features:

- Optional front/rear panel installation
- Customized cable lengths

Technical Data

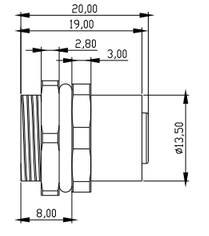
Cable jacket	Description	Type	Pin	Rated current/voltage	Dia. of cable
Brass zine nickel plating	Female 4-core rear panel installation	FO12.4-0/M16	4	4A/250V	0.25-1mm²
	Female 4-core front panel installation	FO12.4-0/M16/F	4	4A/250V	0.25-1mm²
	Female 5-core rear panel installation	FO12.5-0/M16	5	4A/60V	0.25-0.75mm²
	Female 5-core front panel installation	FO12.5-0/M16/F	5	4A/60V	0.25-0.75mm²
	Female 8-core rear panel installation	FO12.8-0/M16	8	2A/30V	Max.0.25mm²
	Female 8-core front panel installation	FO12.8-0/M16/F	8	2A/30V	Max.0.25mm²

Selection Instructions

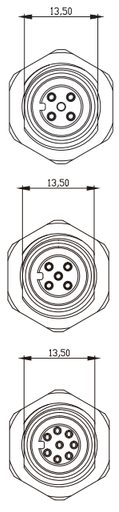
FO12.4 - 0/M16

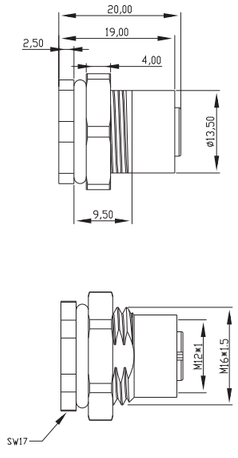
Attn: Standard

Dimensions



Rear panel installation





Front panel installation

Flange socket connector - M12 male (M)

Description:

Used for fixed I/O connecting such as panel and cabinet. Standard M12(male) threaded connection.
4, 5, 8-core are optional.

Features:

- Optional front/rear panel installation
- Customized cable lengths

Technical Data

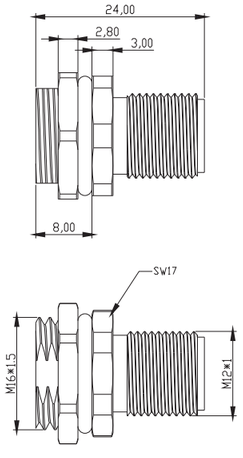
Cable jacket	Description	Type	Pin	Rated current/voltage	Dia. of cable
Brass zine nickel plating	Male 4-core rear panel installation	F12.4-0/M16	4	4A/250V	0.25-1mm²
	Male 4-core front panel installation	F12.4-0/M16/F	4	4A/250V	0.25-1mm²
	Male 5-core rear panel installation	F12.5-0/M16	5	4A/60V	0.25-0.75mm²
	Male 5-core front panel installation	F12.5-0/M16/F	5	4A/60V	0.25-0.75mm²
	Male 8-core rear panel installation	F12.8-0/M16	8	2A/30V	Max.0.25mm²
	Male 8-core front panel installation	F12.8-0/M16/F	8	2A/30V	Max.0.25mm²

Selection Instructions

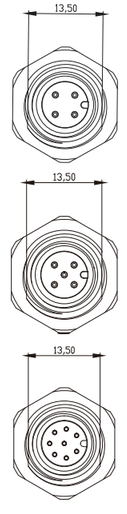
F12.4 - 0/M16

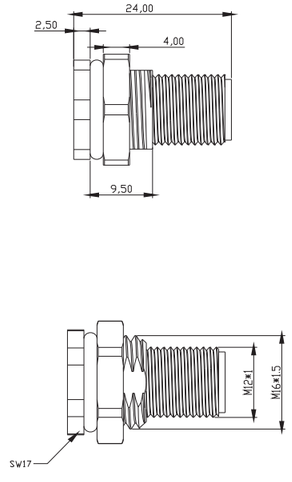
Attn: Standard

Dimensions



Rear panel installation





Front panel installation

Flange socket connector - M8 female (F)

Description:

Used for fixed I/O connecting such as panel and cabinet. Standard M8(female) threaded connection.
3, 4-core are optional.

Features:

- Optional front/rear panel installation
- Customized cable lengths

Technical Data

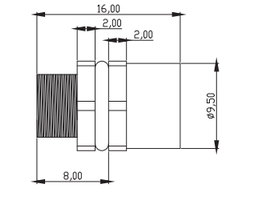
Cable jacket	Description	Type	Pin	Rated current/voltage	Dia. of cable
Brass zine nickel plating	Female 3-core rear panel installation	FO8.3-0/M8	3	3A/30V	0.25mm²
	Female 3-core front panel installation	FO8.3-0/M11/F	3	3A/30V	0.25mm²
	Female 4-core rear panel installation	FO8.4-0/M8	4	3A/30V	0.25mm²
	Female 4-core front panel installation	FO8.4-0/M11/F	4	3A/30V	0.25mm²

Order Code

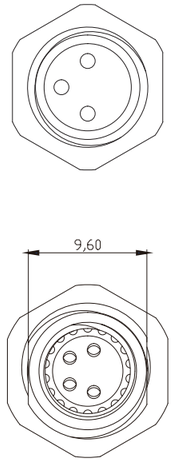
FO8.3-0/M8

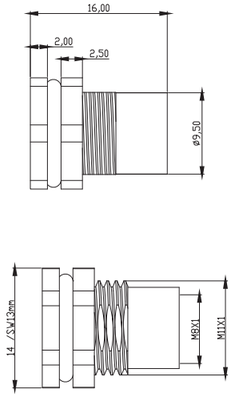
Attn: Standard

Dimensions



Rear panel installation





Front panel installation

Flange socket connector - M8 male (M)

Description:

Used for fixed I/O connecting such as panel and cabinet. Standard M8(male) threaded connection.
3, 4-core are optional.

Features:

- Optional front/rear panel installation
- Customized cable lengths

Technical Data

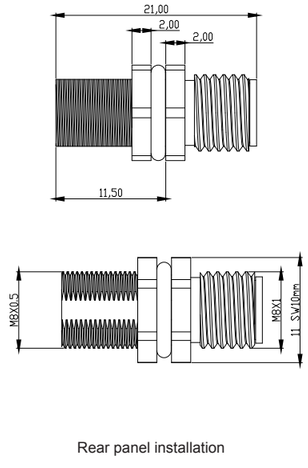
Cable jacket	Description	Type	Pin	Rated current/voltage	Dia. of cable
Brass zine nickel plating	Male 3-core rear panel installation	F8.3-0/M8	3	3A/30V	0.25mm²
	Male 3-core front panel installation	F8.3-0/M8/F	3	3A/30V	0.25mm²
	Male 4-core rear panel installation	F8.4-0/M8	4	3A/30V	0.25mm²
	Male 4-core front panel installation	F8.4-0/M8/F	4	3A/30V	0.25mm²

Order Code

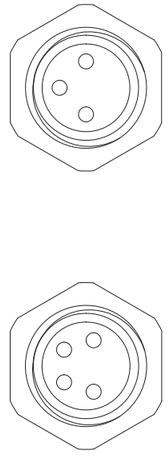
F8.3-0/M8

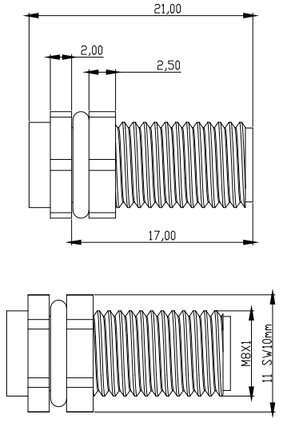
Attn: Standard

Dimensions



Rear panel installation





Front panel installation

Flange socket connector - 7/8" female (F)

Description:

Used for fixed I/O connecting such as panel and cabinet. Standard 7/8"(female) threaded connection.
3, 4, 5-core are optional.

Features:

- Optional front/rear panel installation
- Customized cable lengths

Technical Data

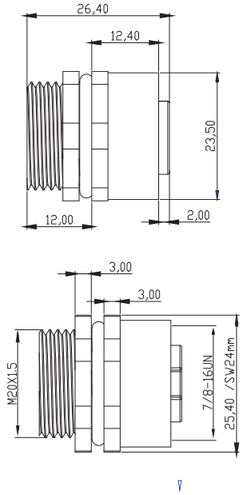
Cable jacket	Description	Type	Pin	Rated current / voltage	Dia. of cable
Brass zine nickel plating	Female 3-core rear panel installation	FO7.3-0/M20	3	8A/600V	Max1.5mm²
	Female 4-core rear panel installation	FO7.4-0/M20	4	8A/600V	Max1.5mm²
	Female 5-core rear panel installation	FO7.5-0/M20	5	8A/600V	Max1.5mm²

Order Code

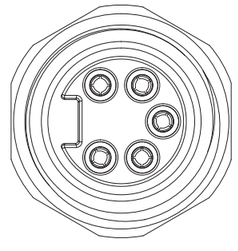
FO7.3-0/M16

Attn: Standard

Dimensions



Rear panel installation



Flange socket connector - 7/8" Male (M)

Description:

Used for fixed I/O connecting such as panel and cabinet. Standard 7/8"(male) threaded connection.
3, 4, 5-core are optional.

Features:

- Optional front/rear panel installation
- Customized cable lengths

Technical Data

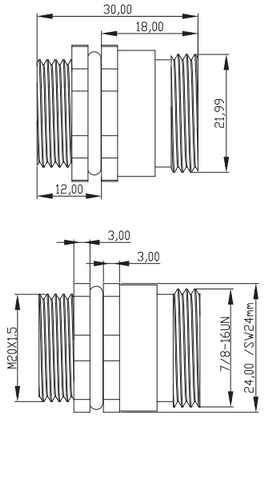
Cable jacket	Description	Type	Pin	Rated current / voltage	Dia. of cable
Brass zine nickel plating	Male 3-core rear panel installation	F7.3-0/M20	3	8A/600V	Max1.5mm²
	Male 4-core rear panel installation	F7.4-0/M20	4	8A/600V	Max1.5mm²
	Male 5-core rear panel installation	F7.5-0/M20	5	8A/600V	Max1.5mm²

Order Code

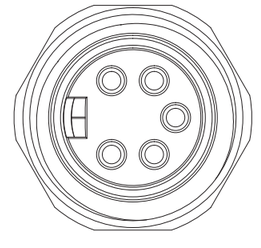
F7.4-0/M16

Attn: Standard

Dimensions



Rear panel installation



Distribution Box

Elco supplies metal and plastic housing junction box. Metal junction box is circular connector wiring, while plastic junction box is divided into straight wiring and terminal wiring products. All junction box products up to IP67 provide economical and practical wiring system in the sensors and actuators working area. Sensing and executive signal need transferring and extending, and the junction box is imperative, because it can connect with large criss-cross controlling system easily and quickly. Meanwhile, Elco has multi-branch box for DeviceNet, incluing 4 6 8 terminal inlet and 2 4 6 terminal inlet\outlet products.

- LED indicator for diagnosing input signal and power error of all products.
- Juntion box interface for selection: M8 M12
- Supplying 4 and 8 channel products for selection.
- Wiring type: pre-wired, M23 interface wiring and terminal wiring
- Metal and plastic housing for selection
- One I/O interface importing 2 signals
- Field wiring products with plastic terminal choosing 2-zone power mode
- Indication function: PNP NPN

Distribution Box Type Code

ELCO INDUSTRIAL AUTOMATION

ES P 8 — 12 — 3 P — 3 / P

Products Type
Distribution Box

Housing Material and Connection
P: Plastic Housing Threaded Connection

I/O Port No.
4:4-way
6:6-way
8:8-way
10:10-way

Size
8：M8*1
12：M12*1

Output Function
2：1 Signal
3：2 Signals

LED Indicator
P：PNP
N：NPN

Connection Type
Null：Standard 3m cable(optional length)
Q12: Top M12×1
Q23: Top M23×1

Special Instruction and Cable Material
Null：No Special Function
/P: PUR/PP

Plastic distribution box ESP4 series (M8 socket, with M12 plug connector)

Description:

Plastic housing, distributed design, 4-way, single/double signal.

Features:

- Optional output (PNP/NPN)
- LED indicator and high protection class IP67
- Compact size - 93mm, especially suitable for small space installation
- Standard 3m PUR cable for M12 connector, optional cable material and length

Type List	ESP4-8-2P-Q12	ESP4-8-2N-Q12	ESP4-8-3P-Q12	ESP4-8-3N-Q12
Technical Data				
Output Function	1 signal		2 signals	
Output Type	PNP	NPN	PNP	NPN
Connection for Sensors/Actuators	3-pin M8 female		4-pin M8 female	
Locking Sockets	Threaded M8x1			
Dimensions	Fig.1,3		Fig.2,3	
Pin Assignment	Fig.4		Fig.5	
Wiring Diagram	Fig.9	Fig.10	Fig.11	Fig.12
Supply Voltage	10...30VDC (24VDC)			
Supply Voltage Indicator	LED green			
I/O Channels	4			
Signals per Port	1		2	
Status Indicators	LED yellow		LED yellow / red	
Operating Current	Max. 1.5A			
Current Parameter	Max. 1.5A			
	Please do not operate cables above max. load capacity.			
Housing Material	Plastic			
	PC + ABS			
Protection Class	IP67			
Temperature Range	-40...+80°C			
Resistance	Good resistance against chemicals and oils. The resistance to aggressive media should be individually verified for your application.			
Connector	M12(12pins)			

Dimensions

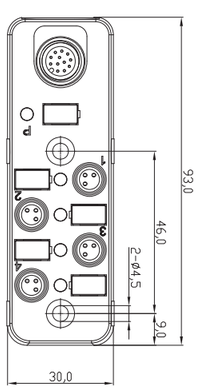


Fig. 1

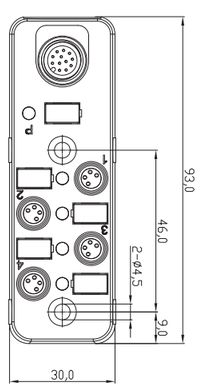


Fig. 2

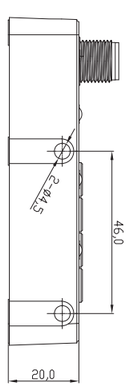
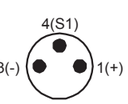


Fig. 3

Pin Assignment

Fig. 4



3-pin PNP/NPN 1 signal

Fig. 5

4-pin PNP/NPN 2 signals

Accessories of Distribution Box -Connector

Type List		
Type	CO12.12-3 / P	CBO12.12-3 / P
Description	Straight pre-wired connector	Angled pre-wired connector
Cable Material	Standard PUR / PP Bending≥5 million	Standard PUR / PP Bending≥5 million
Cable Length	3m	3m
Dimensions	Fig. 6	Fig. 7
Pin Assignment	Fig. 8	

Dimensions

Fig. 6

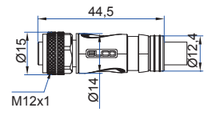
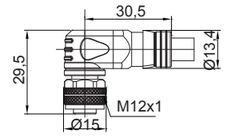
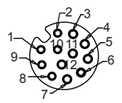


Fig. 7



Pin Assignment

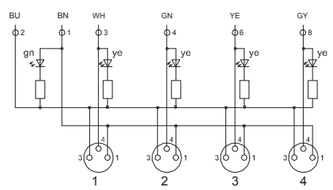
Fig. 8



12-pin M12 Male	Suggested Cable Color
1	BN
2	BU
3	WH
4	GN
5	PK
6	YE
7	BK
8	GY
9	RD
10	VT
11	GY/PK
12	RD/BU

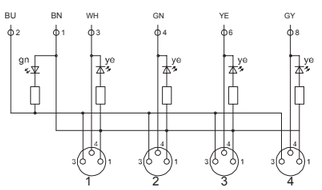
Wiring Diagram

Fig. 9
Connector



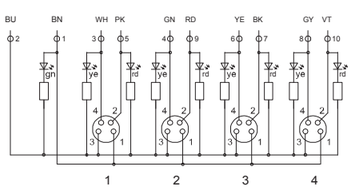
LED indicator PNP

Fig. 10
Connector



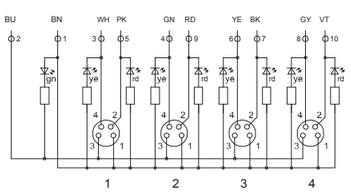
LED indicator NPN

Fig. 11
Connector



LED indicator PNP

Fig. 12
Connector



LED indicator NPN

Connectivity

Plastic distribution box ESP4 series (M8 socket, with pre-wired cable)

Description:

Plastic housing, 4-way, pre-wired cable, single/double signal.

Features:

- Optional output (PNP/NPN)
- LED indicator and high protection class IP67
- Compact size - 93mm, especially suitable for small space installation
- Standard 3m PUR cable, optional cable length

Type List	ESP4-8-2P-3 / P	ESP4-8-2N-3 / P	ESP4-8-3P-3 / P	ESP4-8-3N-3 / P
Technical Data				
Output Function	1 signal		2 signals	
Output Type	PNP	NPN	PNP	NPN
Connection for Sensors/Actuators	3-pin M8 female		4-pin M8 female	
Locking Sockets	Threaded M8x1			
Dimensions	Fig.1,3		Fig.2,3	
Pin Assignment	Fig.4		Fig.5	
Wiring Diagram	Fig. 6	Fig. 7	Fig. 8	Fig. 9
Supply Voltage	10...30VDC (24VDC)			
Supply Voltage Indicator	LED green			
I/O Channels	4			
Signals per Port	1		2	
Status Indicators	LED yellow		LED yellow / red	
Operating Current	Max. 2A			
Current Parameter	Max. 8A			
	Please do not operate cables above max. load capacity.			
Housing Material	Plastic			
	PC + ABS			
Protection Class	IP67			
Temperature Range	-40...+80°C			
Resistance	Good resistance against chemicals and oils. The resistance to aggressive media should be individually verified for your application.			
Cable Material	Standard PUR / PP Bending≥5 million			
Length	3m			

Dimensions

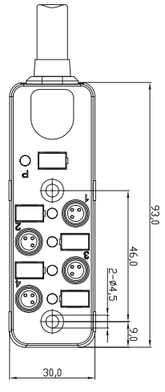


Fig. 1

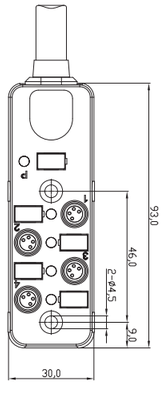


Fig. 2

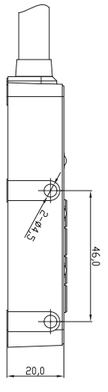
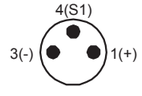


Fig. 3

Pin Assignment

Fig. 4



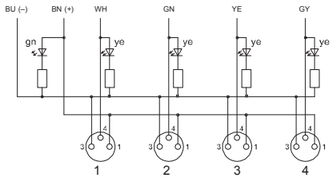
3-pin PNP/NPN 1 signal

Fig. 5

4-pin PNP/NPN 2 signals

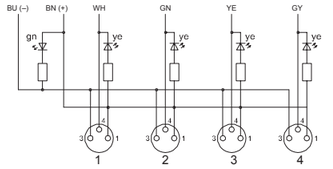
Wiring Diagram

Fig. 6
Cable



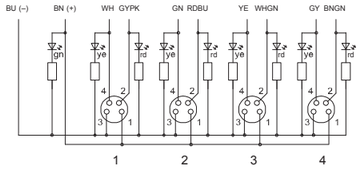
LED indicator PNP

Fig. 7
Cable



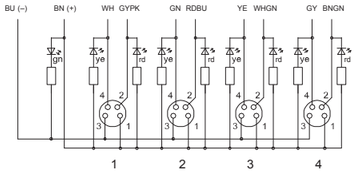
LED indicator NPN

Fig. 8
Cable



LED indicator PNP

Fig. 9
Cable



LED indicator NPN

Connectivity

Plastic distribution box ESP6 series (M8 socket, with M12 plug connector)

Description:

Plastic housing, distributed design, 6-way, single signal.

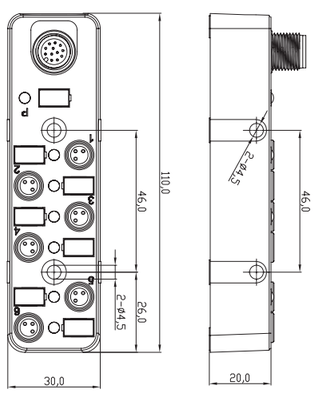
Features:

- Optional output (PNP/NPN)
- LED indicator and high protection class IP67
- Compact size - 110mm, especially suitable for small space installation
- Standard 3m PUR cable for M12 connector, optional cable material and length

Type List	ESP6-8-2P-Q12	ESP6-8-2N-Q12
Technical Data		
Output Function	1 signal	
Output Type	PNP	NPN
Connection for Sensors/Actuators	3-pin M8 female	
Locking Sockets	Threaded M8x1	
Dimensions	Fig. 1	
Pin Assignment	Fig. 2	
Wiring Diagram	Fig. 6	Fig. 7
Supply Voltage	10...30VDC (24VDC)	
Supply Voltage Indicator	LED green	
I/O Channels	6	
Signals per Port	1	
Status Indicators	LED yellow	
Operating Current	Max. 1.5A	
Current Parameter	Max. 1.5A	
	Please do not operate cables above max. load capacity.	
Housing Material	Plastic	
	PC + ABS	
Protection Class	IP67	
Temperature Range	-40...+80℃	
Resistance	Good resistance against chemicals and oils. The resistance to aggressive media should be individually verified for your application.	
Connector	M12(12pins)	

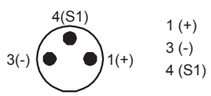
Dimensions

Fig. 1



Pin Assignment

Fig. 2



3-pin PNP/NPN 1 signal

Accessories of Distribution Box -Connector

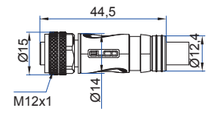
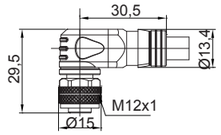
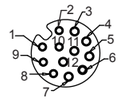
Type List		
Type	CO12.12-3 / P	CBO12.12-3 / P
Description	Straight pre-wired connector	Angled pre-wired connector
Cable Material	Standard PUR / PP Bending≥5 million	Standard PUR / PP Bending≥5 million
Cable Length	3m	3m
Dimensions	Fig. 3	Fig. 4
Pin Assignment	Fig. 5	Fig. 5
Dimensions		
Pin Assignment	Fig. 3 	Fig. 4 

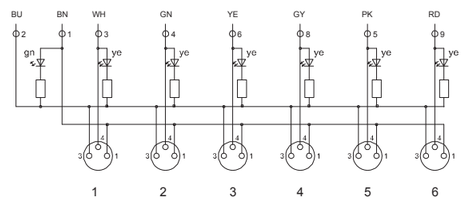
Fig. 5



12-pin M12 Male	Suggested Cable Color
1	BN
2	BU
3	WH
4	GN
5	PK
6	YE
7	BK
8	GY
9	RD
10	VT
11	GY/PK
12	RD/BU

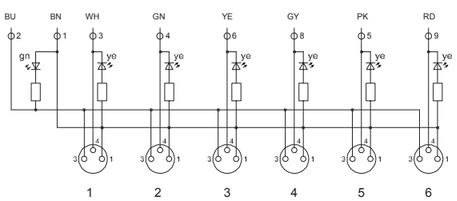
Wiring Diagram

Fig. 6
Connector



LED indicator PNP

Fig. 7
Connector



LED indicator NPN

Connectivity

Plastic distribution box ESP6 series (M8 socket, with pre-wired cable)

Description:

Plastic housing, 6-way, pre-wired cable, single/double signal.

Features:

- Optional output (PNP/NPN)
- LED indicator and high protection class IP67
- Compact size - 110mm, especially suitable for small space installation
- Standard 3m PUR cable, optional cable length

Type List	ESP6-8-2P-3 / P	ESP6-8-2N-3 / P	ESP6-8-3P-3 / P	ESP6-8-3N-3 / P
Technical Data				
Output Function	1 signal		2 signals	
Output Type	PNP	NPN	PNP	NPN
Connection for Sensors/Actuators	3-pin M8 female		4-pin M8 female	
Locking Sockets	Threaded M8x1			
Dimensions	Fig.1,3		Fig.2,3	
Pin Assignment	Fig.4		Fig.5	
Wiring Diagram	Fig.6	Fig.7	Fig.8	Fig.9
Supply Voltage	10...30VDC (24VDC)			
Supply Voltage Indicator	LED green			
I/O Channels	6			
Signals per Port	1		2	
Status Indicators	LED yellow		LED yellow / red	
Operating Current	Max. 2A			
Current Parameter	Max. 8A			
	Please do not operate cables above max. load capacity.			
Housing Material	Plastic			
	PC + ABS			
Protection Class	IP67			
Temperature Range	-40...+80˚C			
Resistance	Good resistance against chemicals and oils. The resistance to aggressive media should be individually verified for your application.			
Cable Material	Standard PUR / PP Bending≥5 million			
Length	3m			

Dimensions

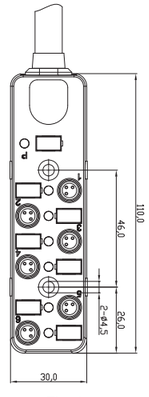


Fig. 1

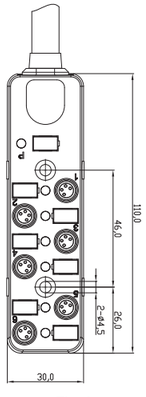


Fig. 2

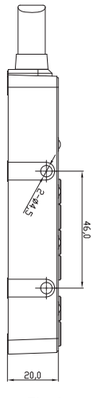
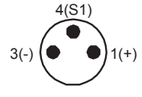


Fig. 3

Pin Assignment

Fig. 4



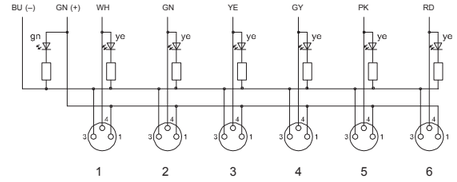
3-pin PNP/NPN 1 signal

Fig. 5

4-pin PNP/NPN 2 signals

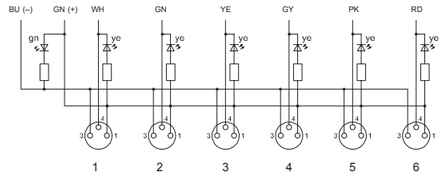
Wiring Diagram

Fig. 6
Cable



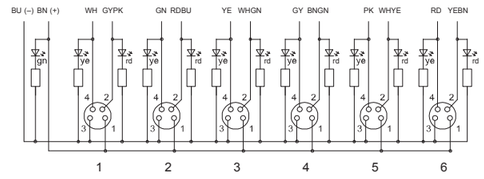
LED indicator PNP

Fig. 7
Cable



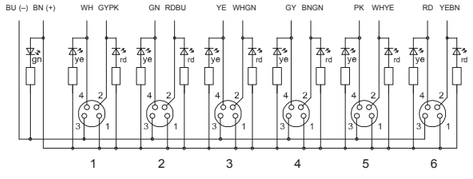
LED indicator NPN

Fig. 8
Cable



LED indicator PNP

Fig. 9
Cable



LED indicator NPN

Connectivity

Plastic distribution box ESP8 series (M8 socket, with M12 plug connector)

Description:

Plastic housing, distributed design, 8-way, single signal.

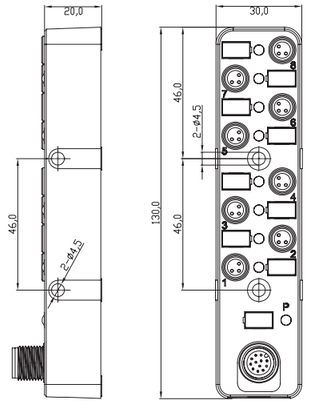
Features:

- Optional output (PNP/NPN)
- LED indicator and high protection class IP67
- Compact size - 130mm, especially suitable for small space installation
- Standard 3m PUR cable for M12 connector, optional cable material and length

Type List	ESP8-8-2P-Q12	ESP8-8-2N-Q12
Technical Data		
Output Function	1 signal	
Output Type	PNP	NPN
Connection for Sensors/Actuators	3-pin M8 female	
Locking Sockets	Threaded M8x1	
Dimensions	Fig.1	
Pin Assignment	Fig.2	
Wiring Diagram	Fig.6	Fig.7
Supply Voltage	10...30VDC (24VDC)	
Supply Voltage Indicator	LED green	
I/O Channels	8	
Signals per Port	1	
Status Indicators	LED yellow	
Operating Current	Max. 1.5A	
Current Parameter	Max. 1.5A	
	Please do not operate cables above max. load capacity.	
Housing Material	Plastic	
	PC + ABS	
Protection Class	IP67	
Temperature Range	-40...+80℃	
Resistance	Good resistance against chemicals and oils. The resistance to aggressive media should be individually verified for your application.	
Connector	M12(12pins)	

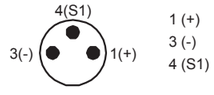
Dimensions

Fig. 1



Pin Assignment

Fig. 2



1 (+)
3 (-)
4 (S1)

3-pin PNP/NPN 1 signal

Accessories of Distribution Box -Connector

Type List		
Type	CO12.12-3 / P	CBO12.12-3 / P
Description	Straight pre-wired connector	Angled pre-wired connector
Cable Material	Standard PUR / PP Bending≥5 million	Standard PUR / PP Bending≥5 million
Cable Length	3m	3m
Dimensions	Fig. 3	Fig. 4
Pin Assignment	Fig. 5	Fig. 5

Dimensions

Fig. 3

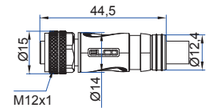
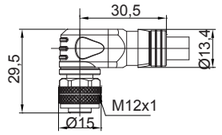
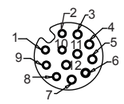


Fig. 4



Pin Assignment

Fig. 5

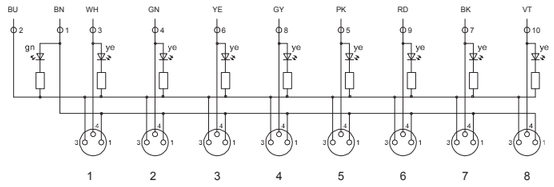


12-pin M12 Male	Suggested Cable Color
1	BN
2	BU
3	WH
4	GN
5	PK
6	YE
7	BK
8	GY
9	RD
10	VT
11	GY/PK
12	RD/BU

Wiring Diagram

Fig. 6

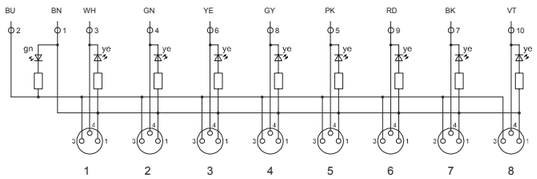
Connector



LED indicator PNP

Fig. 7

Connector



LED indicator NPN

Connectivity

Plastic distribution box ESP8 series (M8 socket, with pre-wired cable)

Description:

Plastic housing, 8-way, pre-wired cable, single/double signal.

Features:

- Optional output (PNP/NPN)
- LED indicator and high protection class IP67
- Compact size - 130mm, especially suitable for small space installation
- Standard 3m PUR cable, optional cable length

Type List	ESP8-8-2P-3 / P	ESP8-8-2N-3 / P	ESP8-8-3P-3 / P	ESP8-8-3N-3 / P
Technical Data				
Output Function	1 signal		2 signals	
Output Type	PNP	NPN	PNP	NPN
Connection for Sensors/Actuators	3-pin M8 female		4-pin M8 female	
Locking Sockets	Threaded M8x1			
Dimensions	Fig.1,3		Fig.2,3	
Pin Assignment	Fig.4		Fig.5	
Wiring Diagram	Fig.6	Fig.7	Fig.8	Fig.9
Supply Voltage	10...30VDC (24VDC)			
Supply Voltage Indicator	LED green			
I/O Channels	8			
Signals per Port	1		2	
Status Indicators	LED yellow		LED yellow / red	
Operating Current	Max. 2A			
Current Parameter	Max. 8A			
	Please do not operate cables above max. load capacity.			
Housing Material	Plastic			
	PC + ABS			
Protection Class	IP67			
Temperature Range	-40...+80˚C			
Resistance	Good resistance against chemicals and oils. The resistance to aggressive media should be individually verified for your application.			
Cable Material	Standard PUR / PP Bending≥5 million			
Length	3m			

Dimensions

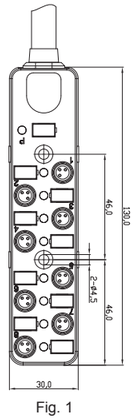


Fig. 1

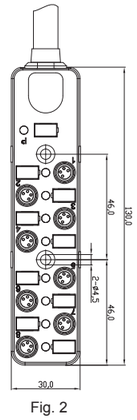


Fig. 2

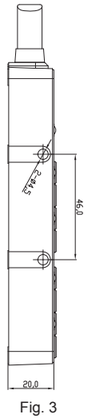
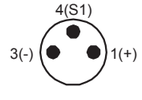


Fig. 3

Pin Assignment

Fig. 4



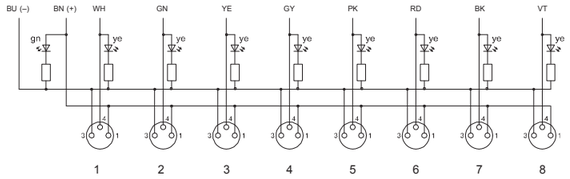
3-pin PNP/NPN 1 signal

Fig. 5

4-pin PNP/NPN 2 signals

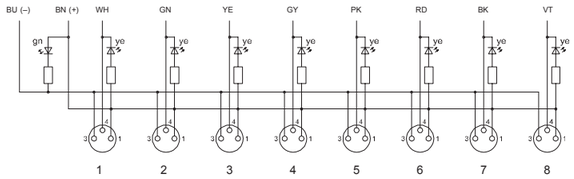
Wiring Diagram

Fig. 6
Cable



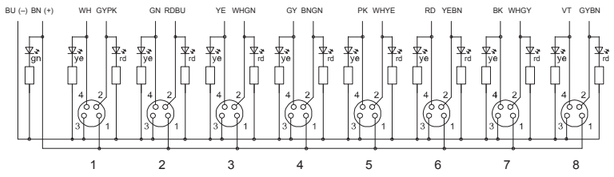
LED indicator PNP

Fig. 7
Cable



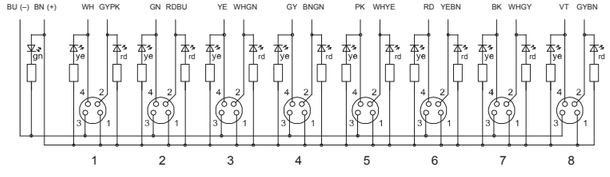
LED indicator NPN

Fig. 8
Cable



LED indicator PNP

Fig. 9
Cable



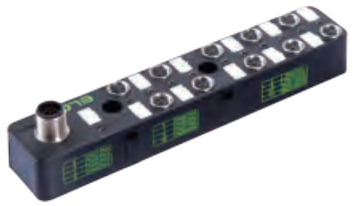
LED indicator NPN

Connectivity

Plastic distribution box ESP10 series (M8 socket, with M12 plug connector)

Description:

Plastic housing, distributed design, 10-way, single signal.



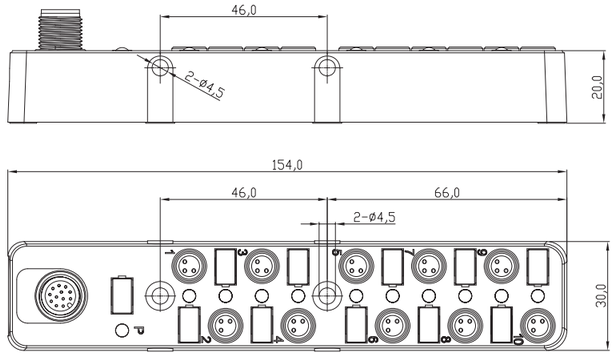
Features:

- Optional output (PNP/NPN)
- LED indicator and high protection class IP67
- Compact size - 154mm, especially suitable for small space installation
- Standard 3m PUR cable for M12 connector, optional cable material and length

Type List	ESP10-8-2P-Q12	ESP10-8-2N-Q12
Technical Data		
Output Function	1 signal	
Output Type	PNP	NPN
Connection for Sensors/Actuators	3-pin M8 female	
Locking Sockets	Threaded M8x1	
Dimensions	Fig.1	
Pin Assignment	Fig.2	
Wiring Diagram	Fig.6	Fig.7
Supply Voltage	10...30VDC (24VDC)	
Supply Voltage Indicator	LED green	
I/O Channels	10	
Signals per Port	1	
Status Indicators	LED yellow	
Operating Current	Max. 1.5A	
Current Parameter	Max. 1.5A	
	Please do not operate cables above max. load capacity.	
Housing Material	Plastic	
	PC + ABS	
Protection Class	IP67	
Temperature Range	-40...+80℃	
Resistance	Good resistance against chemicals and oils. The resistance to aggressive media should be individually verified for your application.	
Connector	M12(12pins)	

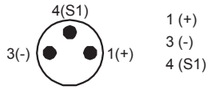
Dimensions

Fig. 1



Pin Assignment

Fig. 2



3-pin PNP/NPN 1 signal

Accessories of Distribution Box -Connector

Type List		
Type	CO12.12-3 / P	CBO12.12-3 / P
Description	Straight pre-wired connector	Angled pre-wired connector
Cable Material	Standard PUR / PP Bending≥5 million	Standard PUR / PP Bending≥5 million
Cable Length	3m	3m
Dimensions	Fig. 3	Fig. 4
Pin Assignment	Fig. 5	Fig. 5

Dimensions

Fig. 3

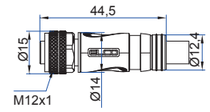
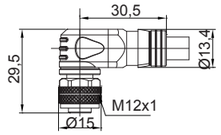
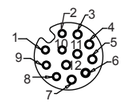


Fig. 4



Pin Assignment

Fig. 5

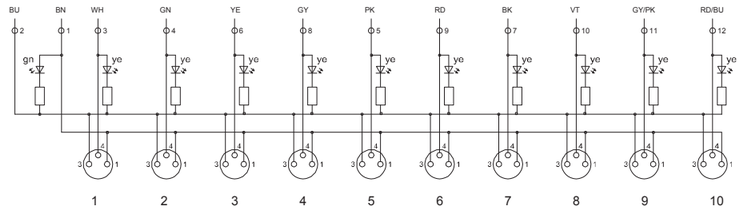


12-pin M12 Male	Suggested Cable Color
1	BN
2	BU
3	WH
4	GN
5	PK
6	YE
7	BK
8	GY
9	RD
10	VT
11	GY/PK
12	RD/BU

Wiring Diagram

Fig. 6

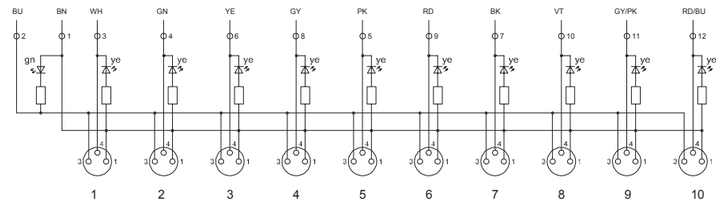
Connector



LED indicator PNP

Fig. 7

Connector



LED indicator NPN

Connectivity

Plastic distribution box ESP10 series (M8 socket, with pre-wired cable)

Description:

Plastic housing, 10-way, pre-wired cable, single/double signal.

Features:

- Optional output (PNP/NPN)
- LED indicator and high protection class IP67
- Compact size - 154mm, especially suitable for small space installation
- Standard 3m PUR cable, optional cable length

Type List	ESP10-8-2P-3 / P	ESP10-8-2N-3 / P	ESP10-8-3P-3 / P	ESP10-8-3N-3 / P
Technical Data				
Output Function	1 signal		2 signals	
Output Type	PNP	NPN	PNP	NPN
Connection for Sensors/Actuators	3-pin M8 female		4-pin M8 female	
Locking Sockets	Threaded M8x1			
Dimensions	Fig.1,3		Fig.2,3	
Pin Assignment	Fig.4		Fig.5	
Wiring Diagram	Fig.6	Fig.7	Fig.8	Fig.9
Supply Voltage	10...30VDC (24VDC)			
Supply Voltage Indicator	LED green			
I/O Channels	10			
Signals per Port	1		2	
Status Indicators	LED yellow		LED yellow / red	
Operating Current	Max. 2A			
Current Parameter	Max. 8A			
	Please do not operate cables above max. load capacity.			
Housing Material	Plastic			
	ABS			
Protection Class	IP67			
Temperature Range	-40...+80˚C			
Resistance	Good resistance against chemicals and oils. The resistance to aggressive media should be individually verified for your application.			
Cable Material	Standard PUR / PP Bending≥5 million			
Length	3m			

Dimensions

Fig. 1

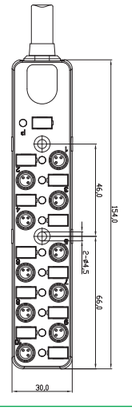


Fig. 2

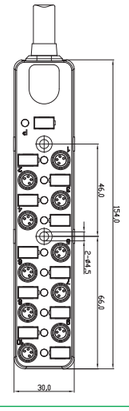
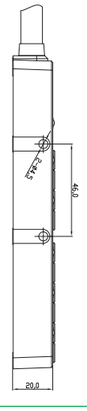
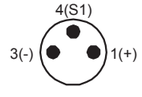


Fig. 3



Pin Assignment

Fig. 4



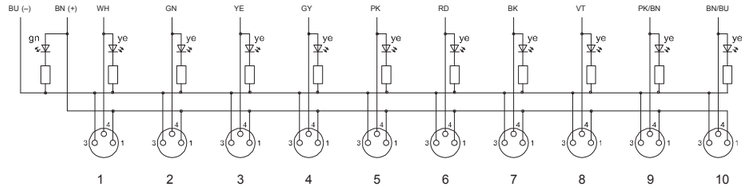
3-pin PNP/NPN 1 signal

Fig. 5

4-pin PNP/NPN 2 signals

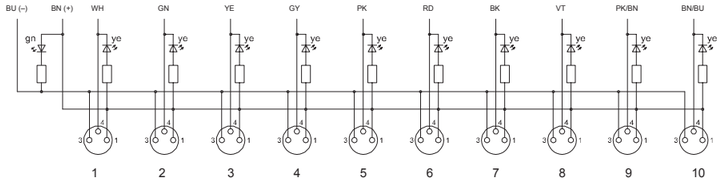
Wiring Diagram

Fig. 6
Cable



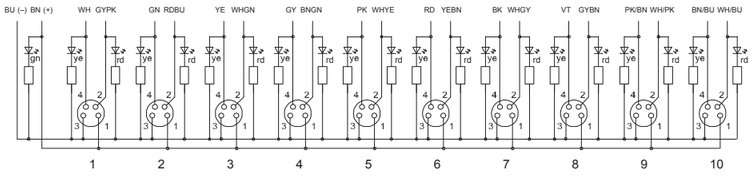
LED indicator PNP

Fig. 7
Cable



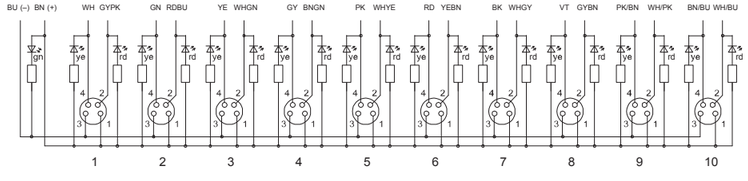
LED indicator NPN

Fig. 8
Cable



LED indicator PNP

Fig. 9
Cable



LED indicator NPN

Connectivity

Plastic distribution box ESP12 series (M8 socket, with pre-wired cable)

Description:

Plastic housing, 12-way, pre-wired cable, single signal.

Features:

- Optional output (PNP/NPN)
- LED indicator and high protection class IP67
- Standard 3m PUR cable, optional cable length

Type List	ESP12-8-2P-3 / P	ESP12-8-2N-3 / P
Technical Data		
Output Function	1 signal	
Output Type	PNP	NPN
Connection for Sensors/Actuators	3-pin M8 female	
Locking Sockets	Threaded M8x1	
Dimensions	Fig.1,2	
Pin Assignment	Fig.3	
Wiring Diagram	Fig.4	Fig.5
Supply Voltage	10...30VDC (24VDC)	
Supply Voltage Indicator	LED green	
I/O Channels	12	
Signals per Port	1	
Status Indicators	LED yellow	
Operating Current	Max. 2A	
Current Parameter	Max. 8A	
	Please do not operate cables above max. load capacity.	
Housing Material	Plastic	
	ABS	
Protection Class	IP67	
Temperature Range	-40...+80℃	
Resistance	Good resistance against chemicals and oils. The resistance to aggressive media should be individually verified for your application.	
Cable Material	Standard PUR / PP Bending≥5 million	
Length	3m	

Dimensions

Fig. 1

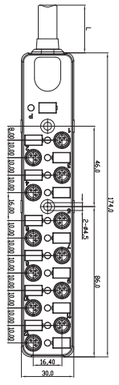
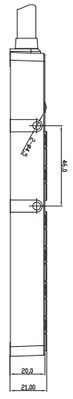
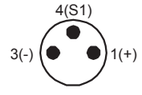


Fig. 2



Pin Assignment

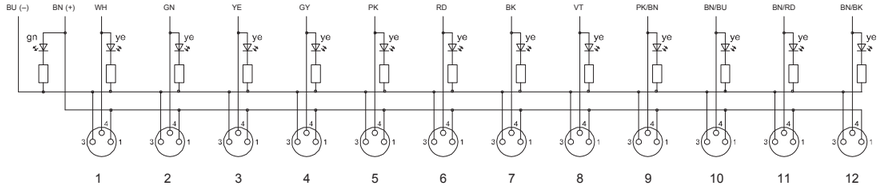
Fig. 3



3-pin PNP/NPN 1 signal

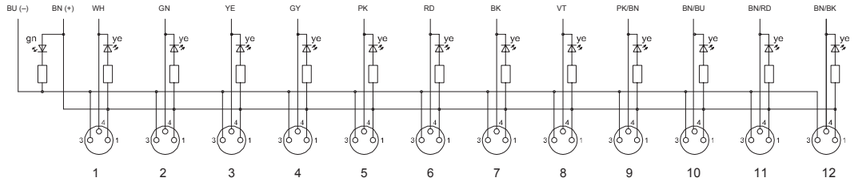
Wiring Diagram

Fig. 4
Cable



LED indicator PNP

Fig. 5
Cable



LED indicator NPN

Plastic distribution box ESP4 series (M12 socket, with M12 plug connector)

Description:

Plastic housing, distributed design, 4-way, single/double signal.

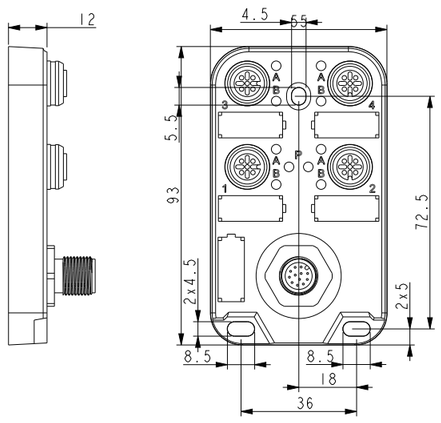
Features:

- Optional output (PNP/NPN)
- LED indicator and high protection class IP67
- Standard 3m PUR cable for M12 connector, optional cable material and length

Type List	ESP4-12-2P-Q12	ESP4-12-2N-Q12	ESP4-12-3P-Q12	ESP4-12-3N-Q12
Technical Data				
Output Function	1 signal		2 signals	
Output Type	PNP	NPN	PNP	NPN
Connection for Sensors/Actuators	4-pin M12 female		5-pin M12 female	
Locking Sockets	Threaded M12x1			
Dimensions	Fig. 1			
Pin Assignment	Fig. 2		Fig. 3	
Wiring Diagram	Fig. 7	Fig. 8	Fig. 9	Fig.10
Supply Voltage	10...30VDC (24VDC)			
Supply Voltage Indicator	LED green			
I/O Channels	4			
Signals per Port	1		2	
Status Indicators	LED yellow			
Operating Current	Max. 1.5A / per contact			
Current Parameter	Max. 1.5A			
	Please do not operate cables above max. load capacity.			
Housing Material	Plastic			
	PC + ABS			
Protection Class	IP67			
Temperature Range	-40...+80℃			
Resistance	Good resistance against chemicals and oils. The resistance to aggressive media should be individually verified for your application.			
Connector	M12(12pins)			

Dimensions

Fig. 1



Pin Assignment

Fig. 2

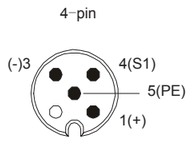
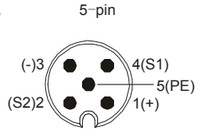


Fig. 3



1(+) 2(S2)
3(-) 4(S1)
5(PE)

Accessories of Distribution Box -Connector

Type List		
Type	CO12.12-3 / P	CBO12.12-3 / P
Description	Straight pre-wired connector	Angled pre-wired connector
Cable Material	Standard PUR / PP Bending≥5 million	Standard PUR / PP Bending≥5 million
Cable Length	3m	3m
Dimensions	Fig. 4	Fig. 5
Pin Assignment	Fig. 6	Fig. 6

Dimensions

Fig. 4

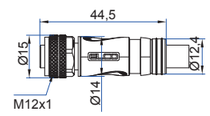
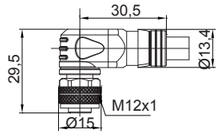
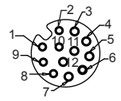


Fig. 5



Pin Assignment

Fig. 6



12-pin M12 Male	Suggested Cable Color
1	BN
2	BU
3	WH
4	GN
5	PK
6	YE
7	BK
8	GY
9	RD
10	VT
11	GY/PK
12	RD/BU

Wiring Diagram

Fig. 7
Connector

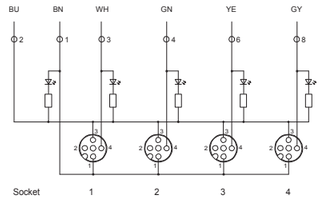


Fig. 8
Connector

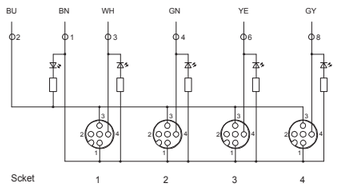


Fig. 9
Connector

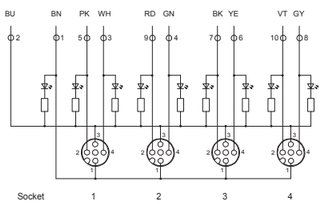
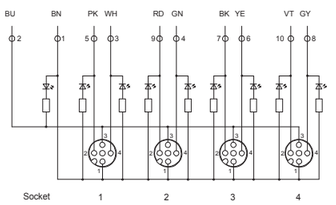


Fig. 10
Connector



Plastic distribution box ESP4 series (M12 socket, with M23 plug connector)

Description:

Plastic housing, distributed design, 4-way, single/double signal.

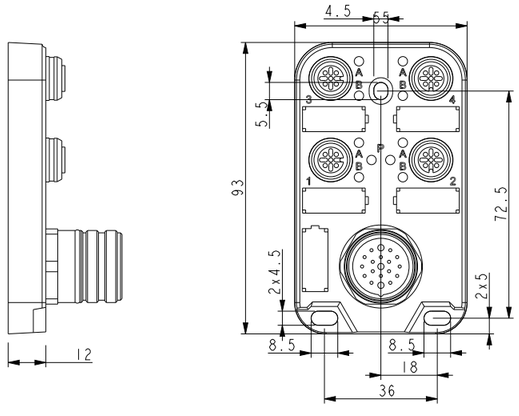
Features:

- Optional output (PNP/NPN)
- LED indicator and high protection class IP67
- Standard 3m PUR cable for M23 connector, optional cable material and length

Type List	ESP4-12-2P-Q23	ESP4-12-2N-Q23	ESP4-12-3P-Q23	ESP4-12-3N-Q23
Technical Data				
Output Function	1 signal		2 signals	
Output Type	PNP	NPN	PNP	NPN
Connection for Sensors/Actuators	4-pin M12 female		5-pin M12 female	
Locking Sockets	Threaded M12x1			
Dimensions	Fig. 1			
Pin Assignment	Fig. 2		Fig. 3	
Wiring Diagram	Fig. 8	Fig. 9	Fig. 10	Fig. 11
Supply Voltage	10...30VDC (24VDC)			
Supply Voltage Indicator	LED green			
I/O Channels	4			
Signals per Port	1		2	
Status Indicators	LED yellow			
Operating Current	Max. 2A / per contact			
Current Parameter	Max. 8A			
	Please do not operate cables above max. load capacity.			
Housing Material	Plastic			
	PC + ABS			
Protection Class	IP67			
Temperature Range	-40...+80℃			
Resistance	Good resistance against chemicals and oils. The resistance to aggressive media should be individually verified for your application.			
Connector	M23(19pins)			

Dimensions

Fig. 1



Pin Assignment

Fig. 2

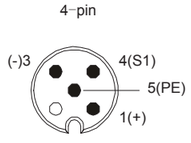
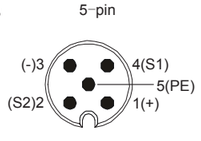


Fig. 3



1(+) 2(S2)
3(-) 4(S1)
5(PE)

Accessories of Distribution Box -Connector

Type List			
Type	LSO23.19-0	LSBO23.19-0	CO23.19-3/P
Description	Straight field-attachment connector	Angled field-attachment connector	Straight pre-wired connector
Cable Material	--	--	Standard PUR/ PP Bending≥5 million
Cable Length	--	--	3m
Dimensions	Fig. 4	Fig. 5	Fig. 6
Pin Assignment	Fig. 7	Fig. 7	Fig. 7

Dimensions

Fig. 4

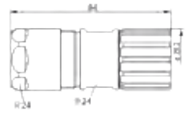


Fig. 5

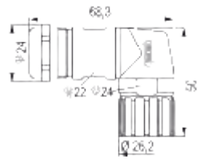
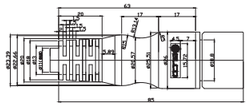
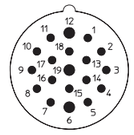


Fig. 6



Pin Assignment

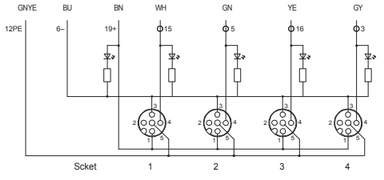
Fig. 7



19-pin M19 Male	Suggested Cable Color	19-pin M19 Male	Suggested Cable Color
1	VT	13	YE/BN
2	RD	14	BN/GN
3	GY	15	WH
4	RD/BU	16	YE
5	GN	17	PK
6	BU	18	GY/BN
7	GY/PK	19	BN
8	WH/GN		
9	WH/YE		
10	WH/GY		
11	BK		
12	GN/YE		

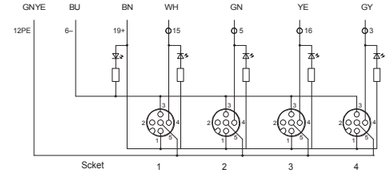
Wiring Diagram

Fig. 8
Connector



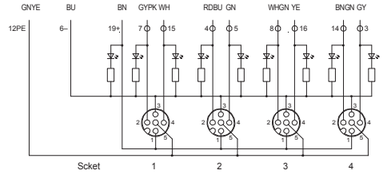
LED indicator PNP

Fig. 9
Connector



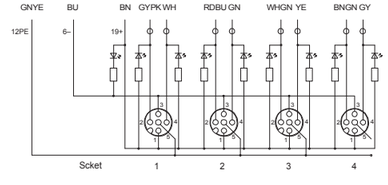
LED indicator NPN

Fig. 10
Connector



LED indicator PNP

Fig. 11
Connector



LED indicator NPN

Connectivity

Plastic distribution box ESP4 series (M12 socket, with pre-wired cable)

Description:

Plastic housing, 4-way, pre-wired cable, single/double signal.

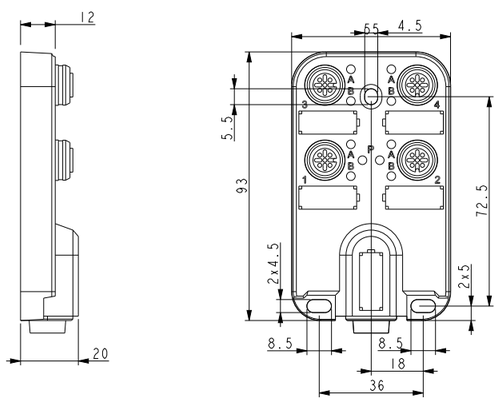
Features:

- Optional output (PNP/NPN)
- LED indicator and high protection class IP67
- Standard 3m PUR cable, optional cable length

Type List	ESP4-12-2P-3 / P	ESP4-12-2N-3 / P	ESP4-12-3P-3 / P	ESP4-12-3N-3 / P
Technical Data				
Output Function	1 signal		2 signals	
Output Type	PNP	NPN	PNP	NPN
Connection for Sensors/Actuators	4-pin M12 female		5-pin M12 female	
Locking Sockets	Threaded M12x1			
Dimensions	Fig.1			
Pin Assignment	Fig.2		Fig.3	
Wiring Diagram	Fig.4	Fig.5	Fig.6	Fig.7
Supply Voltage	10...30VDC (24VDC)			
Supply Voltage Indicator	LED green			
I/O Channels	4			
Signals per Port	1		2	
Status Indicators	LED yellow			
Operating Current	Max. 2A			
Current Parameter	Max. 8A			
	Please do not operate cables above max. load capacity.			
Housing Material	Plastic			
	PC + ABS			
Protection Class	IP67			
Temperature Range	-40...+80°C			
Resistance	Good resistance against chemicals and oils. The resistance to aggressive media should be individually verified for your application.			
Cable Material	Standard PUR / PP Bending≥5 million			
Length	3m			

Dimensions

Fig. 1



Pin Assignment

Fig. 2

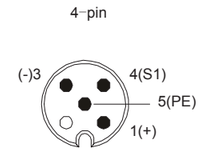
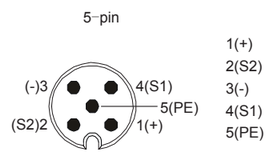
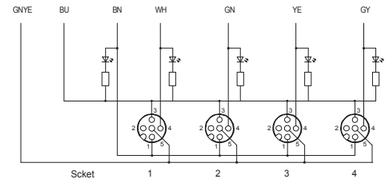


Fig. 3



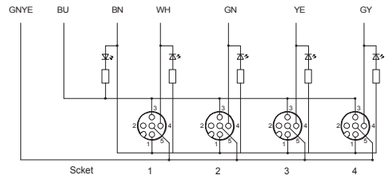
Wiring Diagram

Fig. 4
Cable



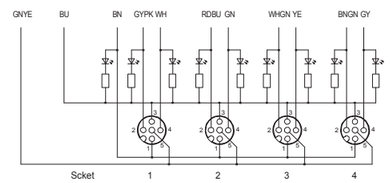
LED indicator PNP

Fig. 5
Cable



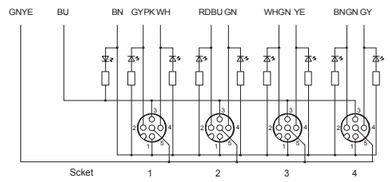
LED indicator NPN

Fig. 6
Cable



LED indicator PNP

Fig. 7
Cable



LED indicator NPN

Plastic distribution box ESP6 series (M12 socket, with M12 plug connector)

Description:

Plastic housing, distributed design, 6-way, single signal.

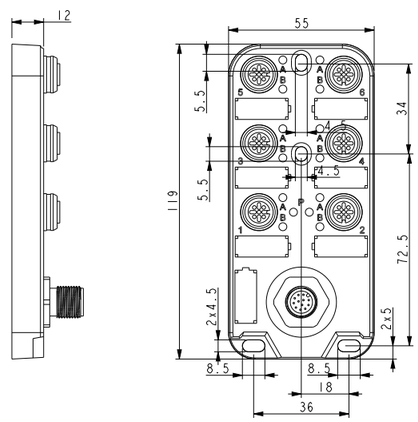
Features:

- Optional output (PNP/NPN)
- LED indicator and high protection class IP67
- Standard 3m PUR cable for M12 connector, optional cable material and length

Type List	ESP6-12-2P-Q12	ESP6-12-2N-Q12
Technical Data		
Output Function	1 signal	
Output Type	PNP	NPN
Connection for Sensors/Actuators	4-pin M12 female	
Locking Sockets	Threaded M12x1	
Dimensions	Fig. 1	
Pin Assignment	Fig. 2	
Wiring Diagram	Fig. 6	Fig. 7
Supply Voltage	10...30VDC (24VDC)	
Supply Voltage Indicator	LED green	
I/O Channels	6	
Signals per Port	1	
Status Indicators	LED yellow	
Operating Current	Max. 1.5A / per contact	
Current Parameter	Max. 1.5A	
	Please do not operate cables above max. load capacity.	
Housing Material	Plastic	
	PC + ABS	
Protection Class	IP67	
Temperature Range	-40...+80℃	
Resistance	Good resistance against chemicals and oils. The resistance to aggressive media should be individually verified for your application.	
Connector	M12(12pins)	

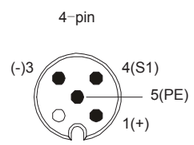
Dimensions

Fig. 1



Pin Assignment

Fig. 2



Accessories of Distribution Box -Connector

Type List		
Type	CO12.12-3 / P	CBO12.12-3 / P
Description	Straight pre-wired connector	Angled pre-wired connector
Cable Material	Standard PUR / PP Bending≥5 million	Standard PUR / PP Bending≥5 million
Cable Length	3m	3m
Dimensions	Fig. 3	Fig. 4
Pin Assignment	Fig. 5	Fig. 5

Dimensions

Fig. 3

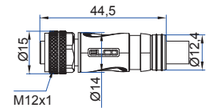
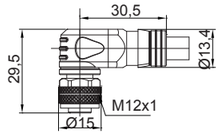
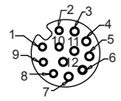


Fig. 4



Pin Assignment

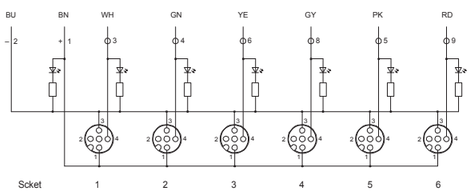
Fig. 5



12-pin M12 Male	Suggested Cable Color
1	BN
2	BU
3	WH
4	GN
5	PK
6	YE
7	BK
8	GY
9	RD
10	VT
11	GY/PK
12	RD/BU

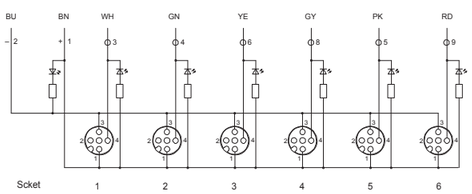
Wiring Diagram

Fig. 6
Connector



LED indicator PNP

Fig. 7
Connector



LED indicator NPN

Connectivity

Plastic distribution box ESP6 series (M12 socket, with M23 plug connector)

Description:

Plastic housing, distributed design, 6-way, single/double signal.

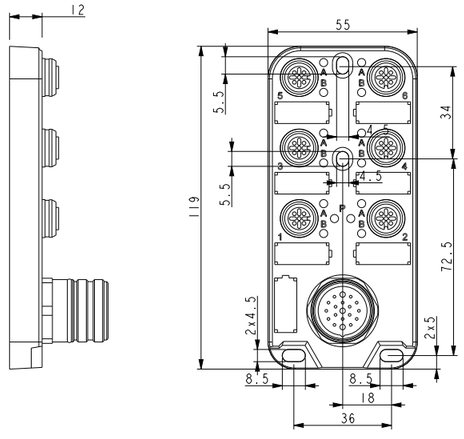
Features:

- Optional output (PNP/NPN)
- LED indicator and high protection class IP67
- Standard 3m PUR cable for M23 connector, optional cable material and length

Type List	ESP6-12-2P-Q23	ESP6-12-2N-Q23	ESP6-12-3P-Q23	ESP6-12-3N-Q23
Technical Data				
Output Function	1 signal		2 signals	
Output Type	PNP	NPN	PNP	NPN
Connection for Sensors/Actuators	4-pin M12 female		5-pin M12 female	
Locking Sockets	Threaded M12x1			
Dimensions	Fig. 1			
Pin Assignment	Fig. 2		Fig. 3	
Wiring Diagram	Fig. 8	Fig. 9	Fig. 10	Fig. 11
Supply Voltage	10...30VDC (24VDC)			
Supply Voltage Indicator	LED green			
I/O Channels	6			
Signals per Port	1		2	
Status Indicators	LED yellow			
Operating Current	Max. 2A / per contact			
Current Parameter	Max. 8A			
	Please do not operate cables above max. load capacity.			
Housing Material	Plastic			
	PC + ABS			
Protection Class	IP67			
Temperature Range	-40...+80℃			
Resistance	Good resistance against chemicals and oils. The resistance to aggressive media should be individually verified for your application.			
Connector	M23(19pins)			

Dimensions

Fig. 1



Pin Assignment

Fig. 2

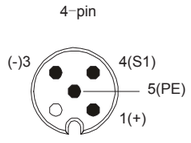
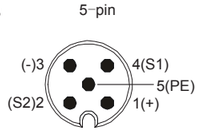


Fig. 3



1(+) 2(S2)
3(-) 4(S1)
5(PE)

Accessories of Distribution Box -Connector

Type List			
Type	LSO23.19-0	LSBO23.19-0	CO23.19-3/P
Description	Straight field-attachment connector	Angled field-attachment connector	Straight pre-wired connector
Cable Material	--	--	Standard PUR/ PP Bending≥5 million
Cable Length	--	--	3m
Dimensions	Fig. 4	Fig. 5	Fig. 6
Pin Assignment	Fig. 7	Fig. 7	Fig. 7

Dimensions

Fig. 4

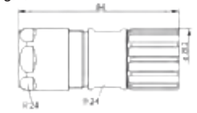


Fig. 5

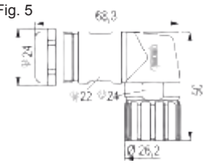
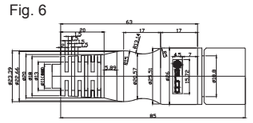
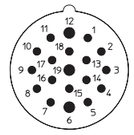


Fig. 6



Pin Assignment

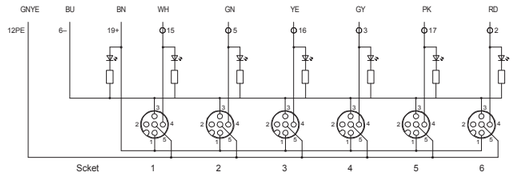
Fig. 7



19-pin M19 Male	Suggested Cable Color	19-pin M19 Male	Suggested Cable Color
1	VT	13	YE/BN
2	RD	14	BN/GN
3	GY	15	WH
4	RD/BU	16	YE
5	GN	17	PK
6	BU	18	GY/BN
7	GY/PK	19	BN
8	WH/GN		
9	WH/YE		
10	WH/GY		
11	BK		
12	GN/YE		

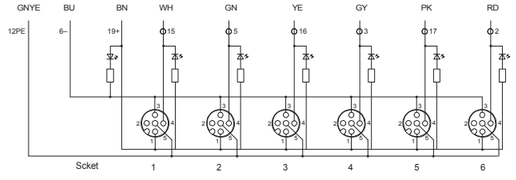
Wiring Diagram

Fig. 8
Connector



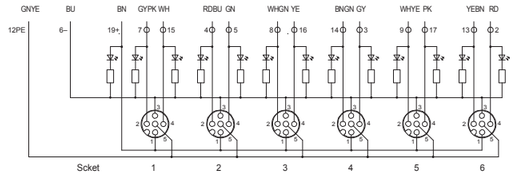
LED indicator PNP

Fig. 9
Connector



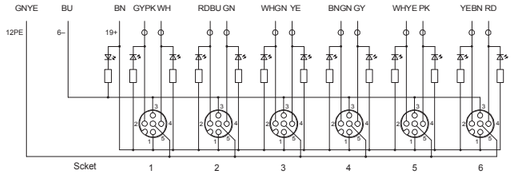
LED indicator NPN

Fig. 10
Cable



LED indicator PNP

Fig. 11
Cable



LED indicator NPN

Connectivity

Plastic distribution box ESP6 series (M12 socket, with pre-wired cable)

Description:

Plastic housing, 6-way, pre-wired cable, single/double signal.

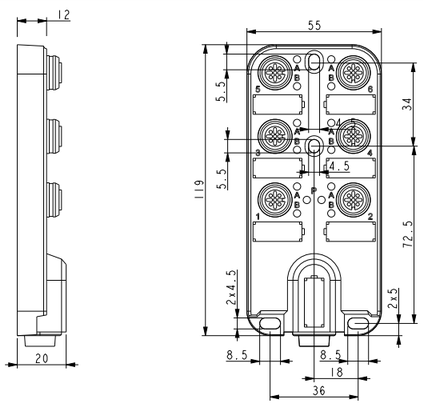
Features:

- Optional output (PNP/NPN)
- LED indicator and high protection class IP67
- Standard 3m PUR cable, optional cable length

Type List	ESP6-12-2P-3 / P	ESP6-12-2N-3 / P	ESP6-12-3P-3 / P	ESP6-12-3N-3 / P
Technical Data				
Output Function	1 signal		2 signals	
Output Type	PNP	NPN	PNP	NPN
Connection for Sensors/Actuators	4-pin M12 female		5-pin M12 female	
Locking Sockets	Threaded M12x1			
Dimensions	Fig.1			
Pin Assignment	Fig.2		Fig.3	
Wiring Diagram	Fig.4	Fig.5	Fig.4	Fig.5
Supply Voltage	10...30VDC (24VDC)			
Supply Voltage Indicator	LED green			
I/O Channels	6			
Signals per Port	1		2	
Status Indicators	LED yellow			
Operating Current	Max. 2A / per contact			
Current Parameter	Max. 8A			
	Please do not operate cables above max. load capacity.			
Housing Material	Plastic			
	PC + ABS			
Protection Class	IP67			
Temperature Range	-40...+80°C			
Resistance	Good resistance against chemicals and oils. The resistance to aggressive media should be individually verified for your application.			
Cable Material	Standard PUR / PP Bending≥5 million			
Length	3m			

Dimensions

Fig. 1



Pin Assignment

Fig. 2

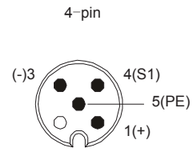
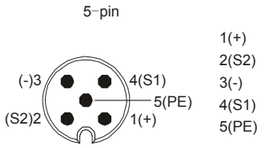
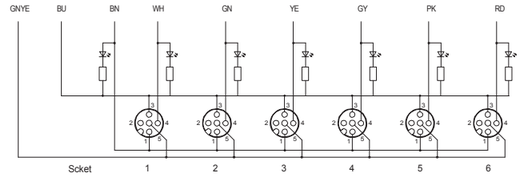


Fig. 3



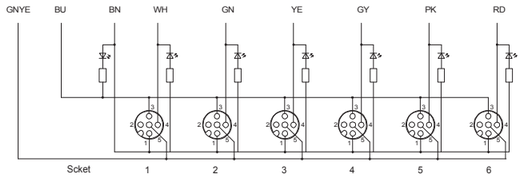
Wiring Diagram

Fig. 4
Cable



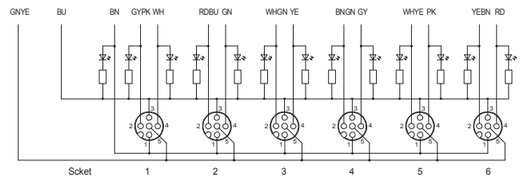
LED indicator PNP

Fig. 5
Cable



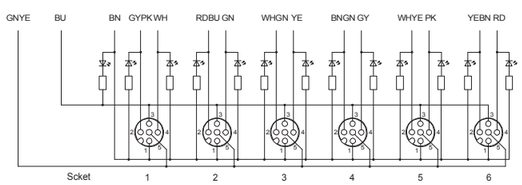
LED indicator NPN

Fig. 6
Cable



LED indicator PNP

Fig. 7
Cable



LED indicator NPN

Plastic distribution box ESP8 series (M12 socket, with M12 plug connector)

Description:

Plastic housing, distributed design, 8-way, single signal.

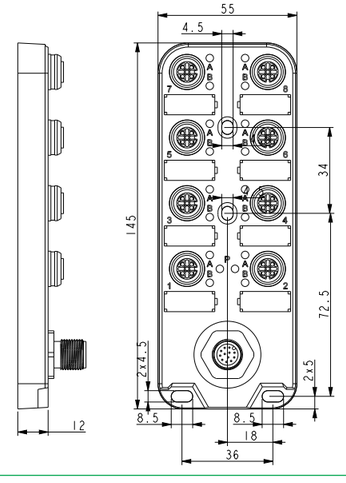
Features:

- Optional output (PNP/NPN)
- LED indicator and high protection class IP67
- Standard 3m PUR cable for M12 connector, optional cable material and length

Type List	ESP8-12-2P-Q12	ESP8-12-2N-Q12
Technical Data		
Output Function	1 signal	
Output Type	PNP	NPN
Connection for Sensors/Actuators	4-pin M12 female	
Locking Sockets	Threaded M12x1	
Dimensions	Fig. 1	
Pin Assignment	Fig. 2	
Wiring Diagram	Fig. 6	Fig. 7
Supply Voltage	10...30VDC (24VDC)	
Supply Voltage Indicator	LED green	
I/O Channels	8	
Signals per Port	1	
Status Indicators	LED yellow	
Operating Current	Max. 1.5A / per contact	
Current Parameter	Max. 1.5A	
	Please do not operate cables above max. load capacity.	
Housing Material	Plastic	
	PC + ABS	
Protection Class	IP67	
Temperature Range	-40...+80℃	
Resistance	Good resistance against chemicals and oils. The resistance to aggressive media should be individually verified for your application.	
Connector	M12(12pins)	

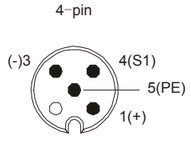
Dimensions

Fig. 1



Pin Assignment

Fig. 2



Accessories of Distribution Box -Connector

Type List		
Type	CO12.12-3 / P	CBO12.12-3 / P
Description	Straight pre-wired connector	Angled pre-wired connector
Cable Material	Standard PUR / PP Bending≥5 million	Standard PUR / PP Bending≥5 million
Cable Length	3m	3m
Dimensions	Fig. 3	Fig. 4
Pin Assignment	Fig. 5	Fig. 5

Dimensions

Fig. 3

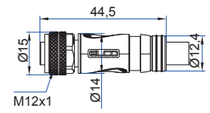
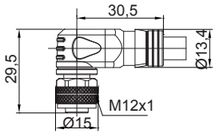
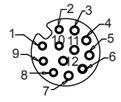


Fig. 4



Pin Assignment

Fig. 5

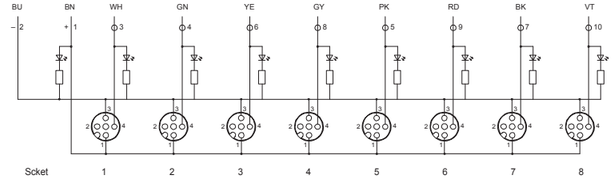


12-pin M12 Male	Suggested Cable Color
1	BN
2	BU
3	WH
4	GN
5	PK
6	YE
7	BK
8	GY
9	RD
10	VT
11	GY/PK
12	RD/BU

Wiring Diagram

Fig. 6

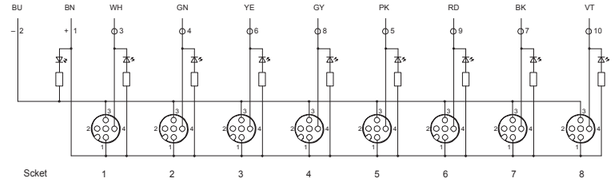
Connector



LED indicator PNP

Fig. 7

Connector



LED indicator NPN

Connectivity

Plastic distribution box ESP8 series (M12 socket, with M23 plug connector)

Description:

Plastic housing, distributed design, 8-way, single/double signal.

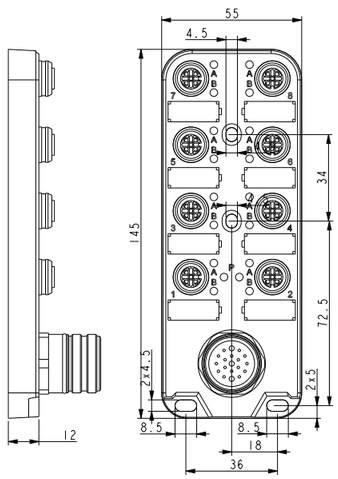
Features:

- Optional output (PNP/NPN)
- LED indicator and high protection class IP67
- Standard 3m PUR cable for M23 connector, optional cable material and length

Type List	ESP8-12-2P-Q23	ESP8-12-2N-Q23	ESP8-12-3P-Q23	ESP8-12-3N-Q23
Technical Data				
Output Function	1 signal		2 signals	
Output Type	PNP	NPN	PNP	NPN
Connection for Sensors/Actuators	4-pin M12 female		5-pin M12 female	
Locking Sockets	Threaded M12x1			
Dimensions	Fig. 1			
Pin Assignment	Fig. 2		Fig. 3	
Wiring Diagram	Fig. 8	Fig. 9	Fig. 10	Fig. 11
Supply Voltage	10...30VDC (24VDC)			
Supply Voltage Indicator	LED green			
I/O Channels	8			
Signals per Port	1		2	
Status Indicators	LED yellow			
Operating Current	Max. 2A / per contact			
Current Parameter	Max. 8A			
	Please do not operate cables above max. load capacity.			
Housing Material	Plastic			
	PC + ABS			
Protection Class	IP67			
Temperature Range	-40...+80℃			
Resistance	Good resistance against chemicals and oils. The resistance to aggressive media should be individually verified for your application.			
Connector	M23(19pins)			

Dimensions

Fig. 1



Pin Assignment

Fig. 2

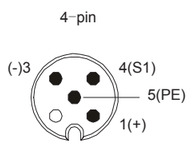
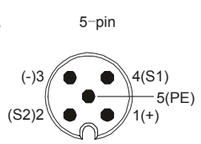
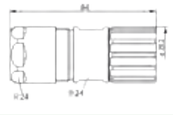
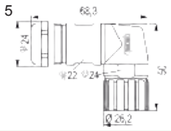
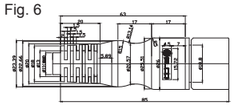


Fig. 3



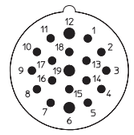
1(+) 2(S2)
3(-) 4(S1)
5(PE)

Accessories of Distribution Box -Connector

Type List			
Type	LSO23.19-0	LSBO23.19-0	CO23.19-3/P
Description	Straight field-attachment connector	Angled field-attachment connector	Straight pre-wired connector
Cable Material	--	--	Standard PUR/ PP Bending≥5 million
Cable Length	--	--	3m
Dimensions	Fig. 4	Fig. 5	Fig. 6
Pin Assignment	Fig. 7	Fig. 7	Fig. 7
Dimensions			
	Fig. 4 	Fig. 5 	Fig. 6 

Pin Assignment

Fig. 7



19-pin M19 Male	Suggested Cable Color	19-pin M19 Male	Suggested Cable Color
1	VT	13	YE/BN
2	RD	14	BN/GN
3	GY	15	WH
4	RD/BU	16	YE
5	GN	17	PK
6	BU	18	GY/BN
7	GY/PK	19	BN
8	WH/GN		
9	WH/YE		
10	WH/GY		
11	BK		
12	GN/YE		

Wiring Diagram

Fig. 8
Connector
LED indicator PNP

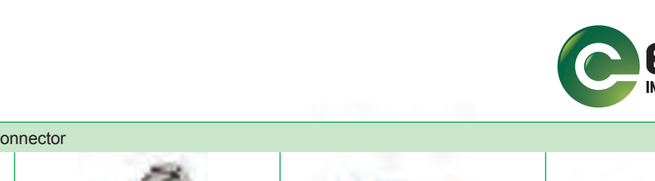


Fig. 9
Connector
LED indicator NPN

Fig. 10
Connector
LED indicator PNP

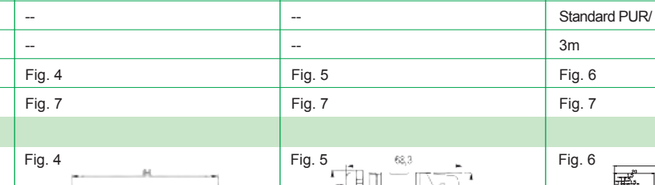
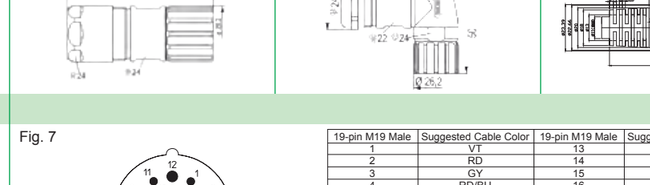


Fig. 11
Connector
LED indicator NPN



Plastic distribution box ESP8 series (M12 socket, with pre-wired cable)

Description:

Plastic housing, 8-way, pre-wired cable, single/double signal.

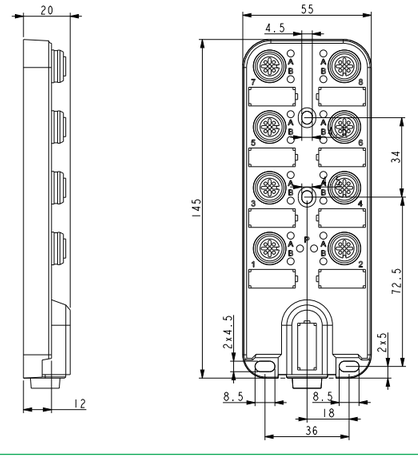
Features:

- Optional output (PNP/NPN)
- LED indicator and high protection class IP67
- Standard 3m PUR cable, optional cable length

Type List	ESP8-12-2P-3 / P	ESP8-12-2N-3 / P	ESP8-12-3P-3 / P	ESP8-12-3N-3 / P
Technical Data				
Output Function	1 signal		2 signals	
Output Type	PNP	NPN	PNP	NPN
Connection for Sensors/Actuators	4-pin M12 female		5-pin M12 female	
Locking Sockets	Threaded M12x1			
Dimensions	Fig.1			
Pin Assignment	Fig.2		Fig.3	
Wiring Diagram	Fig.4	Fig.5	Fig.4	Fig.5
Supply Voltage	10...30VDC (24VDC)			
Supply Voltage Indicator	LED green			
I/O Channels	8			
Signals per Port	1		2	
Status Indicators	LED yellow			
Operating Current	Max. 2A			
Current Parameter	Max. 8A			
	Please do not operate cables above max. load capacity.			
Housing Material	Plastic			
	PC + ABS			
Protection Class	IP67			
Temperature Range	-40...+80˚C			
Resistance	Good resistance against chemicals and oils. The resistance to aggressive media should be individually verified for your application.			
Cable Material	Standard PUR / PP Bending≥5 million			
Length	3m			

Dimensions

Fig. 1



Pin Assignment

Fig. 2

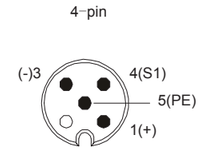
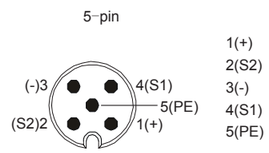
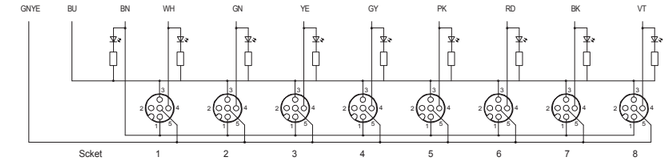


Fig. 3



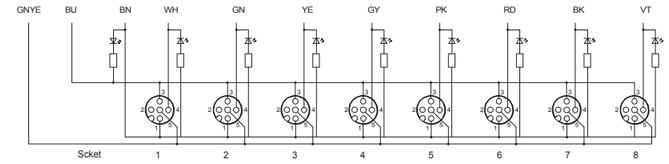
Wiring Diagram

Fig. 4
Cable



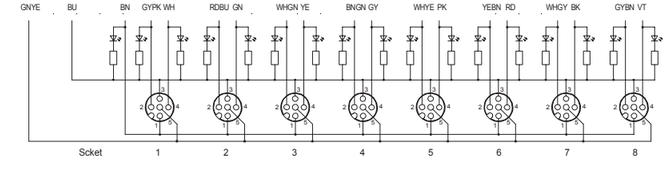
LED indicator PNP

Fig. 5
Cable



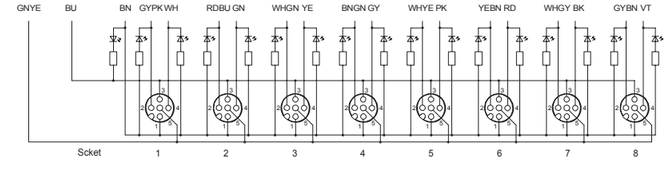
LED indicator NPN

Fig. 4
Cable

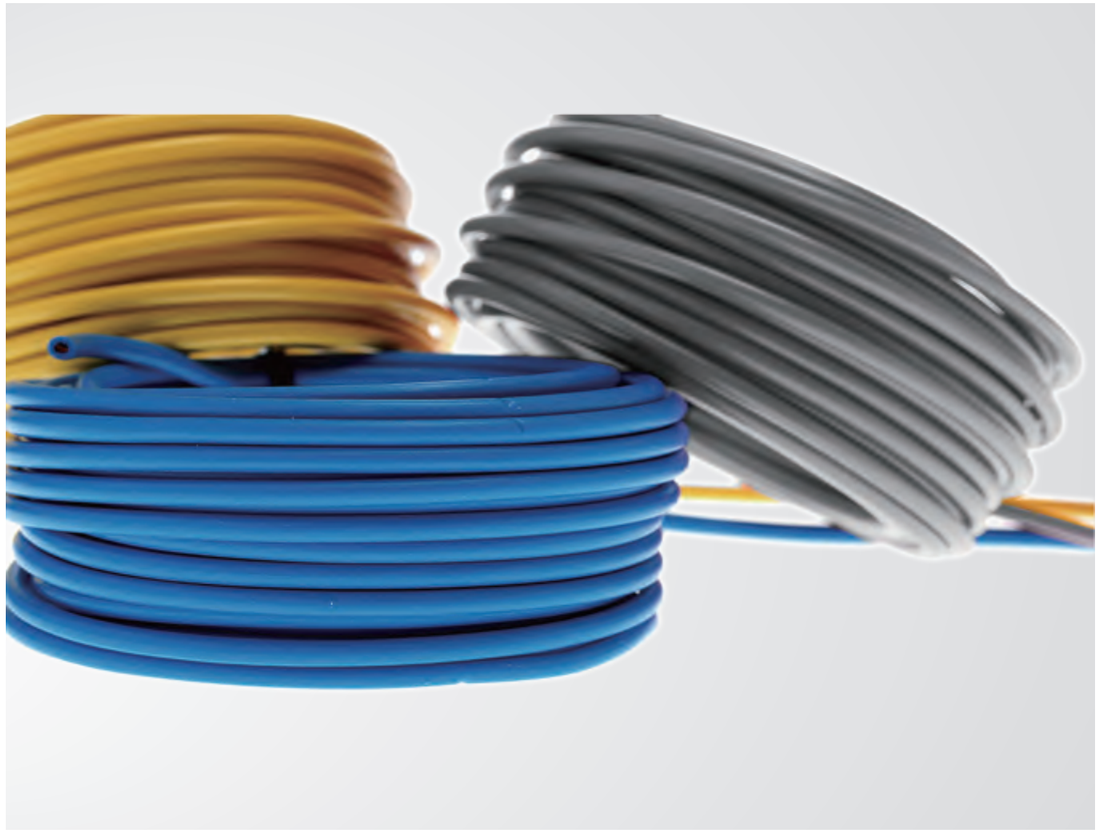


LED indicator PNP

Fig. 5
Cable



LED indicator NPN



Cable

ELCO provides PVC, PUR cable and other cables with special specifications and functions, which can meet the requirement of flexible field wiring. With the field-attachable connector and distribution box with spring clamp terminal, ELCO can provide a complete solution for the customer.

Description

L200 / E127

Category

L1：……

……：Standard 1m

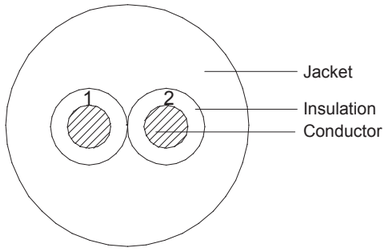
L200：200m/reel

L300：300m/reel

L500：500m/reel

Material no.

Refer to the material no. in following data sheet

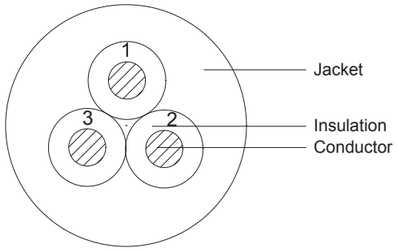


Color code	Color	Core
BN		1
BU		2

Type List	L1/E129	L200/E129	L300/E129	L500/E129
Specification	1m (optional cable length)	200m/reel	300m/reel	500m/reel

Technical parameters				
Structure		Product description		
No. of core	2-core	Rated temperature (℃)	-40...105	
Conductor	Bare stranded copper conductor	Electrical characteristic		
Cross section (mm^2)	0.34mm^2	Max. DC resistance 20℃ (Ω/km)	55	
Structure (mm)	43/0.10	Rated voltage	300V/80℃	
OD of Conductor (mm)	0.75(Ref)	Mechanical property		
Insulation		Test object	Insulation	Jacket
Material	PVC(LF)	Test material	PVC(LF)	PVC(LF)
Thickness of thinnest point (mm)	0.35	Before aging		
Standard thickness (mm)	0.44	Tensile strength (kg/mm^2)	≧1.05	≧1.05
Insulation O.D. (±0.08mm)	1.80	Elongation (%)	≧100	≧100
Color	1 Blue 2 Brown	Aging condition	113±2℃ X 168hr	
Cable	YES	After aging		
Stranding direction	S	Tensile strength(kg/mm^2)	≧70%(Original value)	≧70%(Original value)
Jacket		Elongation(%)	≧65%(Original value)	≧65%(Original value)
Material	PVC(LF)	Combustion test	VW-1	
Thickness of thinnest point (mm)	0.85	Application	Apply to internal and external wiring	
Standard thickness (mm)	1.06		for electronic equipment	
O.D. (±0.15mm)	5.20			
Jacket color	Gray			

I/O Cable - PVC



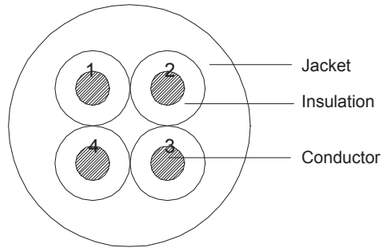
Color code	Color	Core
BN		1
BU		3
BK		4

Type List	L1/E140	L200/E140	L300/E140	L500/E140
Specification	1m (optional cable length)	200m/reel	300m/reel	500m/reel

Technical parameters

Structure		Product description		
No. of core	3-core	Rated temperature (℃)	-40...105	
Conductor	Bare stranded copper conductor	Electrical characteristic		
Cross section (mm²)	0.25mm²	Max. DC resistance 20℃ (Ω/km)	80.15	
Cross section (mm²)	32/0.10	Ampacity20℃（A）	5	
OD of Conductor (mm)	0.65(Ref)	Rated voltage	300v/80℃	
Insulation		Mechanical property		
Material	PVC(LF)	Test object	Insulation	Jacket
Thickness of thinnest point (mm)	0.24	Test material	PVC(LF)	PVC(LF)
Standard thickness (mm)	0.30	Before aging		
Insulation O.D. (±0.08mm)	1.25	Tensile strength (kg/mm²)	≧1.05	≧1.05
Color	1.Black 2.Blue 3.Brown	Elongation (%)	≧100	≧100
Cable	YES	Aging condition	113±2℃ X 168hr	
Jacket		After aging		
Material	PVC(LF)	Tensile strength(kg/mm²)	≧70%(Original value)	≧70%(Original value)
Thickness of thinnest point (mm)	0.68	Elongation(%)	≧70%(Original value)	≧65%(Original value)
Standard thickness (mm)	0.85	Combustion test	VW-1,FT1	
O.D. (±0.15mm)	4.40	Application	Apply to internal and external wiring	
Jacket color	Gray		for electronic equipment, and	
			connector connection	

I/O Cable - PVC



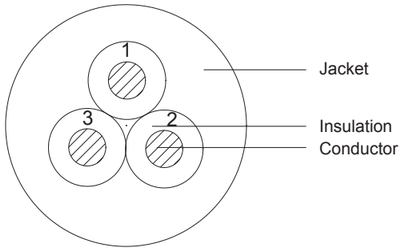
Color code	Color	Core
BN		1
WH		2
BU		3
BK		4

Type List	L1/E141	L200/E141	L300/E141	L500/E141
Specification	1m (optional cable length)	200m/reel	300m/reel	500m/reel

Technical parameters

Structure		Product description		
No. of core	4-core	Rated temperature (℃)	-40...105	
Conductor	Bare stranded copper conductor	Electrical characteristic		
Cross section (mm²)	0.25mm²	Max. DC resistance 20℃ (Ω/km)	80.15	
Cross section (mm²)	32/0.10	Rated voltage	300V/80℃	
OD of Conductor (mm)	0.65(Ref)	Mechanical property		
Insulation		Test object	Insulation	Jacket
Material	PVC(LF)	Test material	PVC(LF)	PVC(LF)
Thickness of thinnest point (mm)	0.24	Before aging		
Standard thickness (mm)	0.30	Tensile strength (kg/mm²)	≧1.05	≧1.05
Insulation O.D. (±0.08mm)	1.25	Elongation (%)	≧100	≧100
Color	1.White 2.Black 3.Blue 4.Brown	Aging condition	113±2℃ X 168hr	
Cable	YES	After aging		
Stranding direction	S	Tensile strength(kg/mm²)	≧70%(Original value)	≧70%(Original value)
Jacket		Elongation(%)	≧70%(Original value)	≧65%(Original value)
Material	PVC(LF)	Combustion test	VW-1,FT1	
Thickness of thinnest point (mm)	0.55	Application	Apply to internal and external wiring for	
Standard thickness (mm)	0.69		electronic equipment, and connector	
O.D. (±0.15mm)	4.40		connection	
Jacket color	Gray			

I/O Cable - PVC

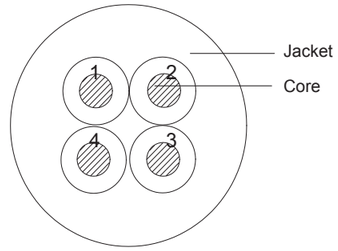


Color code	Color	Core
BN		1
BU		3
BK		4

Type List	L1/E127	L200/E127	L300/E127	L500/E127
Specification	1m (optional cable length)	200m/reel	300m/reel	500m/reel

Technical parameters				
Structure		Product description		
No. of core	3-core	Rated temperature (℃)	-40...105	
Conductor	Bare stranded copper conductor	Electrical characteristic		
Cross section (mm²)	0.34mm²	Max. DC resistance 20℃ (Ω/km)	55	
Structure (mm)	43/0.10	Ampacity20℃（A）	5	
OD of Conductor (mm)	0.75(Ref)	Rated voltage	300V/80℃	
Insulation		Mechanical property		
Material	PVC(LF)	Test object	Insulation	Jacket
Thickness of thinnest point (mm)	0.32	Test material	PVC(LF)	PVC(LF)
Standard thickness (mm)	0.40	Before aging		
Insulation O.D. (±0.08mm)	1.55	Tensile strength (kg/mm²)	≧1.05	≧1.05
Color	1.Black 2.Brown 3.Blue	Elongation (%)	≧100	≧100
Cable	YES	Aging condition	113±2℃ X 168hr	
Jacket		After aging		
Material	PVC(LF)	Tensile strength(kg/mm²)	≧70%(Original value)	≧70%(Original value)
Thickness of thinnest point (mm)	0.58	Elongation(%)	≧65%(Original value)	≧65%(Original value)
Standard thickness (mm)	0.73	Combustion test	VW-1,FT1	
O.D. (±0.15mm)	5.20	Application	Apply to internal and external wiring	
Jacket color	Gray		for electronic equipment	

I/O Cable - PVC

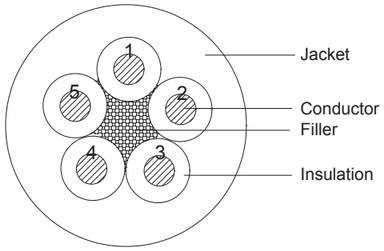


Color code	Color	Core
BN		1
WH		2
BU		3
BK		4

Type List	L1/E126	L200/E126	L300/E126	L500/E126
Specification	1m (optional cable length)	200m/reel	300m/reel	500m/reel

Technical parameters				
Structure		Product description		
No. of core	4-core	Rated temperature (℃)	-40...105	
Conductor	Bare stranded copper conductor	Electrical characteristic		
Cross section (mm²)	0.34mm²	Max. DC resistance 20℃ (Ω/km)	55	
Cross section (mm²)	43/0.10	Ampacity20℃（A）	5	
OD of Conductor (mm)	0.75(Ref)	Rated voltage	300V/80℃	
Insulation		Mechanical property		
Material	PVC(LF)	Test object	Insulation	Material
Thickness of thinnest point (mm)	0.32	Test material	PVC(LF)	PVC(LF)
Standard thickness (mm)	0.40	Before aging		
Insulation O.D. (±0.08mm)	1.55	Tensile strength (kg/mm²)	≧1.05	≧1.05
Color	1.Black 2. Brown 3.White 4.Blue	Elongation (%)	≧100	≧100
Cable	YES	Aging condition	113±2℃ X 168hr	
Jacket		After aging		
Material	PVC(LF)	Tensile strength(kg/mm²)	≧70%(Original value)	≧70%(Original value)
Thickness of thinnest point (mm)	0.58	Elongation(%)	≧65%(Original value)	≧65%(Original value)
Standard thickness (mm)	0.73	Combustion test	VW-1,FT1	
O.D. (±0.15mm)	5.20	Application	Apply to internal and external wiring	
Jacket color	Gray		for electronic equipment	

I/O Cable - PVC



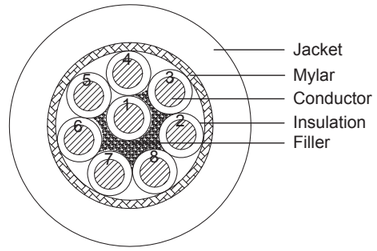
Color code	Color	Core
BN		1
WH		2
BU		3
BK		4
GY		5

Type List	L1/E131	L200/E131	L300/E131	L500/E131
Specification	1m (optional cable length)	200m/reel	300m/reel	500m/reel

Technical parameters

Structure		Product description		
No. of core	5-core	Rated temperature (℃)	-40...105	
Conductor	Bare stranded copper conductor	Electrical characteristic		
Cross section (mm²)	0.34mm²	Max. DC resistance 20℃ (Ω/km)	53.14	
Cross section (mm²)	43/0.10	Rated voltage	300V/80℃	
OD of Conductor (mm)	0.75(Ref)	Mechanical property		
Insulation		Test object	Insulation	Material
Material	PVC(LF)	Test material	PVC(LF)	PVC(LF)
Thickness of thinnest point (mm)	0.26	Before aging		
Standard thickness (mm)	0.33	Tensile strength (kg/mm²)	≧1.05	≧1.05
Insulation O.D. (±0.08mm)	1.40	Elongation (%)	≧100	≧100
Color	1.Black 2. Brown 3.White 4.Blue 5. Gray	Aging condition	113±2℃ X 168hr	
Cable	YES	After aging		
Jacket		Tensile strength(kg/mm²)	≧70%(Original value)	≧70%(Original value)
Material	PVC(LF)	Elongation(%)	≧65%(Original value)	≧65%(Original value)
Thickness of thinnest point (mm)	0.57	Combustion test	VW-1,FT1	
Standard thickness (mm)	0.71	Application	Apply to internal and external wiring	
O.D. (±0.15mm)	5.20		for electronic equipment, and	
Jacket color	Gray		connector connection	

I/O Cable - 8-core PVC Unshielded



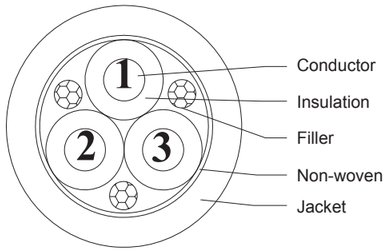
Color code	Color	Core
WH		1
BN		2
GN		3
YE		4
GY		5
PK		6
BU		7
RD		8

Type List	L1/E219	L200/E219	L300/E219	L500/E219
Specification	1m (optional cable length)	200m/reel	300m/reel	500m/reel

Technical parameters

Structure		Product description		
No. of core	8-core	Rated temperature (℃)	-40...105	
Conductor	Bare stranded copper conductor	Electrical characteristic		
Cross section (mm²)	0.25mm²	Max. DC resistance 20℃ (Ω/km)	55	
Cross section (mm²)	32/0.10	Ampacity20℃（A）	5	
OD of Conductor (mm)	0.653(Ref)	Rated voltage	300V/80℃	
Insulation		Mechanical property		
Material	PVC(LF)	Test object	Insulation	Jacket
Thickness of thinnest point (mm)	0.24	Test material	PVC(LF)	PVC(LF)
Standard thickness (mm)	0.30	Before aging		
Insulation O.D. (±0.08mm)	1.25	Tensile strength (kg/mm²)	≧1.05	≧1.05
Color	1.Brown 2.White 3.Green 4.Yellow	Elongation (%)	≧100	≧100
	5.Gray 6. Pink 7.Blue 8.Red	Aging condition	113±2℃ X 168hr	
Cable	YES	After aging		
Jacket		Tensile strength(kg/mm²)	≧70%(Original value)	≧70%(Original value)
Material	PVC(LF)	Elongation(%)	≧65%(Original value)	≧65%(Original value)
Thickness of thinnest point (mm)	0.64	Combustion test	VW-1,FT1	
Standard thickness (mm)	0.80	Application	Apply to internal and external wiring for	
O.D. (±0.15mm)	6.00		electronic equipment, especially suitable	
Jacket color	Gray		for welding spark splash conditions, such	
			as automotive welding workshop	

I/O Cable - PUR

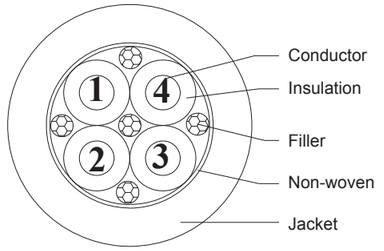


Color code	Color	Core
BK		1
BN		2
BU		3

Type List	L1/E344	L200/E344	L300/E344	L500/E344
Specification	1m (optional cable length)	200m/reel	300m/reel	500m/reel

Technical parameters			
Structure	3C×24AWG(44/0.08B)+W	Electrical characteristic	
Conductor		Rated voltage	300V
Material	Bare copper stranded	Rated temperature	-40～80℃
Size	44/0.08±0.008mm	Max. DC conductor resistance(at 20℃)	87.6Ω/km
O.D.（Ref）	0.61mm	Voltage withstand test	AC 2.0kV/1min
Insulation		Min.bending radius	Flexing 10×OD
Material	PP		Flxed 5×OD
Min.average thickness	0.23mm	Oil Resistant Condition(IRM 902)	100℃×24hrs
Min.thickness at any point	0.18mm	Tensile strength	≥60% of original
O.D.	1.15±0.10mm	Elongation(%)	≥60% of original
Cabling		Physical properties	
Filler	Cotton	Tensile strength	≥10.3MPa
Material	Non-woven	Elongation	≥100%
Jacket		Aged condition	113±1℃×168h
Material	PUR	Percent of original tensile strength	≥70%
Min.average thickness	0.76mm	Percent of original elongation	≥65%
Min.thickness at any point	0.61mm	Flame test	FT1, IEC 60332-1
O.D.	4.40±0.20mm	Chain test	20times/minute, distance：1.0m，
		Bending radius	100mm ≥5 million times
			Halogen free
		Color code	
		Insulation	1.black 2.brown 3.blue
		Jacket	Gray

I/O Cable - PUR

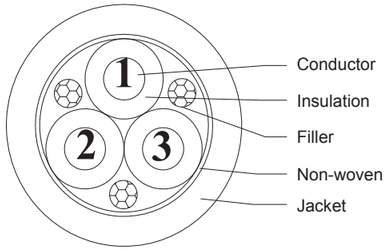


Color code	Color	Core
WH		1
BK		2
BU		3
BN		4

Type List	L1/E345	L200/E345	L300/E345	L500/E345
Specification	1m (optional cable length)	200m/reel	300m/reel	500m/reel

Technical parameters			
Structure	4C×24AWG(44/0.08B)+W	Electrical characteristic	
Conductor		Rated voltage	300V
Material	Bare copper stranded	Rated temperature	-40～80℃
Size	44/0.08±0.008mm	Max. DC conductor resistance(at 20℃)	87.6Ω/km
O.D.（Ref）	0.61mm	Voltage withstand test	AC 2.0kV/1min
Insulation		Min.bending radius	Flexing 10×OD
Material	PP		Flxed 5×OD
Min.average thickness	0.23mm	Oil Resistant Condition(IRM 902)	100℃×24hrs
Min.thickness at any point	0.18mm	Tensile strength	≥60% of original
O.D.	1.15±0.10mm	Elongation(%)	≥60% of original
Cabling		Physical properties	
Filler	Cotton	Tensile strength	≥10.3MPa
Material	Non-woven	Elongation	≥100%
Jacket		Aged condition	113±1℃×168h
Material	PUR	Percent of original tensile strength	≥70%
Min.average thickness	0.76mm	Percent of original elongation	≥65%
Min.thickness at any point	0.61mm	Flame test	FT1, IEC 60332-1
O.D.	4.40±0.20mm	Chain test	20times/minute, distance：1.0m，
		Bending radius	100mm ≥5 million times
			Halogen free
		Color code	
		Insulation	1.white 2.black 3.blue 4.brown
		Jacket	Gray

I/O Cable - PUR

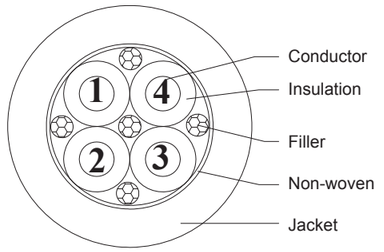


Color code	Color	Core
BK		1
BN		2
BU		3

Type List	L1/E346	L200/E346	L300/E346	L500/E346
Specification	1m (optional cable length)	200m/reel	300m/reel	500m/reel

Technical parameters			
Structure	3C×22AWG(65/0.08B)+W	Electrical characteristic	
Conductor		Rated voltage	300V
Material	Bare copper stranded	Rated temperature	-40～80℃
Size	65/0.08±0.008mm	Max. DC conductor resistance(at 20℃)	55.4Ω/km
O.D.（Ref）	0.74mm	Voltage withstand test	AC 2.0kV/1min
Insulation		Min.bending radius	Flexing 10×OD
Material	PP		Flxed 5×OD
Min.average thickness	0.23mm	Oil Resistant Condition(IRM 902)	100℃×24hrs
Min.thickness at any point	0.18mm	Tensile strength	≥60% of original
O.D.	1.25±0.10mm	Elongation(%)	≥60% of original
Cabling		Physical properties	
Filler	Cotton	Tensile strength	≥10.3MPa
Material	Non-woven	Elongation	≥100%
Jacket		Aged condition	113±1℃×168h
Material	PUR	Percent of original tensile strength	≥70%
Min.average thickness	0.80mm	Percent of original elongation	≥65%
Min.thickness at any point	0.64mm	Flame test	FT1, IEC 60332-1
O.D.	5.20±0.20mm	Chain test	20times/minute, distance：1.0m，
		Bending radius	100mm ≥5 million times
			Halogen free
		Color code	
		Insulation	1.black 2.brown 3.blue
		Jacket	Gray

I/O Cable - PUR

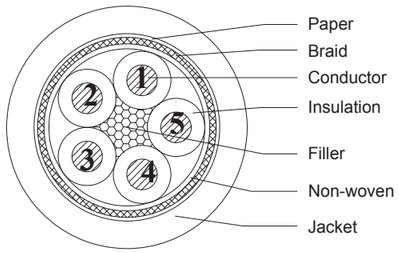


Color code	Color	Core
WH		1
BK		2
BU		3
BN		4

Type List	L1/E347	L200/E347	L300/E347	L500/E347
Specification	1m (optional cable length)	200m/reel	300m/reel	500m/reel

Technical parameters			
Structure	4C×22AWG(65/0.08B)+W	Electrical characteristic	
Conductor		Rated voltage	300V
Material	Bare copper stranded	Rated temperature	-40～80℃
Size	65/0.08±0.008mm	Max. DC conductor resistance(at 20℃)	55.4Ω/km
O.D.（Ref）	0.74mm	Voltage withstand test	AC 2.0kV/1min
Insulation		Min.bending radius	Flexing 10×OD
Material	PP		Flxed 5×OD
Min.average thickness	0.23mm	Oil Resistant Condition(IRM 902)	100℃×24hrs
Min.thickness at any point	0.18mm	Tensile strength	≥60% of original
O.D.	1.25±0.10mm	Elongation(%)	≥60% of original
Cabling		Physical properties	
Filler	Cotton	Tensile strength	≥10.3MPa
Material	Non-woven	Elongation	≥100%
Jacket		Aged condition	113±1℃×168h
Material	PUR	Percent of original tensile strength	≥70%
Min.average thickness	0.80mm	Percent of original elongation	≥65%
Min.thickness at any point	0.64mm	Flame test	FT1, IEC 60332-1
O.D.	5.20±0.20mm	Chain test	20times/minute, distance：1.0m，
		Bending radius	100mm ≥5 million times
			Halogen free
		Color code	
		Insulation	1.white 2.black 3.blue 4.brown
		Jacket	Gray

I/O Cable - PUR

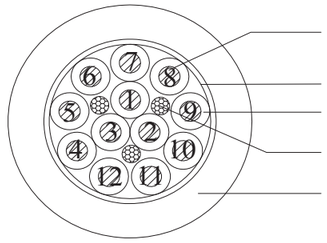


Color code	Color	Core
BN		1
WH		2
BU		3
BK		4
GY		5

Type List	L1/E348	L200/E348	L300/E348	L500/E348
Specification	1m (optional cable length)	200m/reel	300m/reel	500m/reel

Technical parameters			
Structure	5C×0.34mm² (65/0.08B)+W	Electrical characteristic	
Conductor		Rated voltage	300V
Material	Bare copper stranded	Rated temperature	-40～80℃
Size	65/0.08±0.008mm	Max. DC conductor resistance(at 20℃)	55.4Ω/km
O.D.（Ref）	0.74mm	Voltage withstand test	AC 2.0kV/1min
Insulation		Min.bending radius	Flexing 10×OD
Material	PP		Flxed 5×OD
Min.average thickness	0.23mm	Oil Resistant Condition(IRM 902)	100℃×24hrs
Min.thickness at any point	0.18mm	Tensile strength	≥60% of original
O.D.	1.15±0.10mm	Elongation(%)	≥60% of original
Cabling		Physical properties	
Filler	Cotton	Tensile strength	≥10.3MPa
Material	Non-woven	Elongation	≥100%
Braid		Aged condition	113±1℃×168h
Material	Tinned copper	Percent of original tensile strength	≥70%
Size	0.10mm(80% min.)	Percent of original elongation	≥65%
Jacket		Flame test	FT1, IEC 60332-1
Material	Paper	Chain test	20times/minute, distance：1.0m，
Material	PUR	Bending radius	100mm ≥5 million times
Min.average thickness	0.76mm		Halogen free
Min.thickness at any point	0.61mm	Color code	
O.D.	6.00±0.20mm	Insulation	1.brown 2.blue 3.gray 4.white 5.black
		Jacket	Gray

I/O Cable - PUR

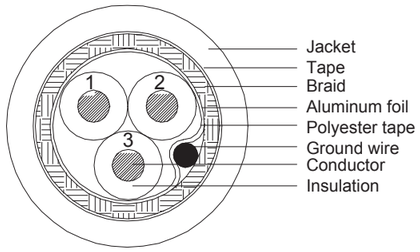


Color code	Color	Core	Color code	Color	Core
BN		1	RD		9
BU		2	VI		10
WH		3	GY/PK		11
GN		4	RD/BU		12
PK		5			
YE		6			
BK		7			
GY		8			

Type List	L1/E363	L200/E363	L300/E363	L500/E363
Specification	1m (optional cable length)	200m/reel	300m/reel	500m/reel

Technical parameters			
Structure	12C×0.25mm²(44/0.08B)+W	Electrical characteristic	
Conductor		Rated voltage	300V
Material	Bare copper stranded	Rated temperature	-40～80℃
Size	44/0.08±0.008mm	Max. DC conductor resistance(at 20℃)	87.6Ω/km
O.D.（Ref）	0.61mm	Voltage withstand test	AC 2.0kV/1min
Insulation		Min.bending radius	Flexing 10×OD
Material	PP		Flxed 5×OD
Min.average thickness	0.23mm	Oil Resistant Condition(IRM 902)	100℃×24hrs
Min.thickness at any point	0.18mm	Tensile strength	≥60% of original
O.D.	1.15±0.10mm	Elongation(%)	≥60% of original
Cabling		Physical properties	
Filler	Cotton	Tensile strength	≥10.3MPa
Material	Non-woven	Elongation	≥100%
Jacket		Aged condition	113±1℃×168h
Material	PUR	Percent of original tensile strength	≥70%
Min.average thickness	0.76mm	Percent of original elongation	≥65%
Min.thickness at any point	0.61mm	Flame test	FT1, IEC 60332-1
O.D.	5.60±0.20mm	Chain test	20times/minute, distance：1.0m，
		Bending radius	100mm ≥5 million times
			Halogen free
		Color code	
		Insulation	1.white 2.brown 3.green 4.yellow
			5.gray 6.pink 7.blue8.red 9.black
			10.purple 11.gray/pink 12.red/blue
		Jacket	Gray

I/O Cable - PVC Shielded



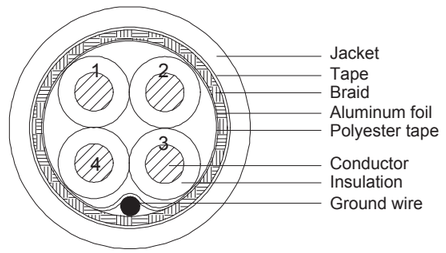
Color code	Color	Core
BN		1
BU		3
BK		4

Type List	L1/E145	L200/E145	L300/E145	L500/E145
Specification	1m (optional cable length)	200m/reel	300m/reel	500m/reel

Technical parameters

Structure		Product description		
No. of core	3C×0.34mm²	Rated temperature (℃)	-40...105	
Conductor	Bare stranded copper conductor	Electrical characteristic		
Structure (mm)	43/0.10	Max. DC resistance 20℃ (Ω/km)	55	
OD of Conductor (mm)	0.75(Ref)	Rated voltage	300V/80℃	
Insulation		Mechanical property		
Material	PVC(LF)	Test object	Insulation	Jacket
Thickness of thinnest point (mm)	0.20	Test material	PVC(LF)	PVC(LF)
Standard thickness (mm)	0.25	Before aging		
Insulation O.D.(±0.05mm)	1.25	Tensile strength (kg/mm²)	≧1.05	≧1.05
Color	1.Brown 2.Blue 3.Black	Elongation (%)	≧100	≧100
Cable	YES	Aging condition	113±2℃ X 168hr	113±2℃ X 168hr
Stranding direction	S	After aging		
Polyester tape isolation (overlap rate,%)	≥25	Tensile strength(kg/mm²)	≧70%(Original value)	≧70%(Original value)
Ground wire (between aluminum foil and braid)	Tinned stranded copper wire	Elongation(%)	≧70%(Original value)	≧65%(Original value)
Structure (mm)	7/0.254	Combustion test	VW-1，FT1	VW-1，FT1
OD of Conductor (mm)	0.76(Ref)	Application	Apply to internal and external wiring	
Foil shield (overlap rate,%)	≥25		for electronic equipment, and	
Braid shield	Tinned copper wire		connector connection, especially	
Braid structure（mm）	16/7/0.12		suitable for the environment of	
Braid density (%)	≧90		shielding electromagnetic signal	
Jacket				
Material	PVC(LF)			
Thickness of thinnest point (mm)	0.75			
Standard thickness (mm)	0.94			
O.D. (±0.15mm)	5.20			
Jacket color	Gray			

I/O Cable - PVC Shielded



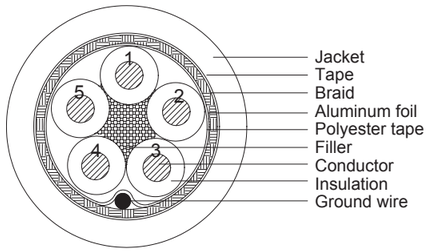
Color code	Color	Core
BN		1
WH		2
BU		3
BK		4

Type List	L1/E146	L200/E146	L300/E146	L500/E146
Specification	1m (optional cable length)	200m/reel	300m/reel	500m/reel

Technical parameters

Structure		Product description		
No. of core	4C×0.25mm²	Rated temperature (℃)	-40...105	
Conductor	Bare stranded copper conductor	Electrical characteristic		
Structure (mm)	43/0.10	Max. DC resistance 20℃ (Ω/km)	55	
OD of Conductor (mm)	0.75(Ref)	Rated voltage	300V/80℃	
Insulation		Mechanical property		
Material	PVC(LF)	Test object	Insulation	Jacket
Thickness of thinnest point (mm)	0.20	Test material	PVC(LF)	PVC(LF)
Standard thickness (mm)	0.25	Before aging		
Insulation O.D.(±0.05mm)	1.40	Tensile strength (kg/mm²)	≧1.05	≧1.05
Color	1.Brown 2.Blue 3. White 4.Black	Elongation (%)	≧100	≧100
Cable	YES	Aging condition	113±2℃ X 168hr	113±2℃ X 168hr
Stranding direction	S	After aging		
Polyester tape isolation (overlap rate,%)	≥25	Tensile strength(kg/mm²)	≧70%(Original value)	≧70%(Original value)
Ground wire (between aluminum foil and braid)	Tinned stranded copper wire	Elongation(%)	≧70%(Original value)	≧65%(Original value)
Structure (mm)	0.76(Ref)	Combustion test	VW-1，FT1	VW-1，FT1
OD of Conductor (mm)	7/0.254	Application	Apply to internal and external wiring	
Foil shield (overlap rate,%)	≥25		for electronic equipment, and	
Braid shield	Tinned copper wire		connector connection, especially	
Braid structure（mm）	16/8/0.10		suitable for the environment of	
Braid density (%)	≧85		shielding electromagnetic signal	
Jacket				
Material	PVC(LF)			
Thickness of thinnest point (mm)	0.62			
Standard thickness (mm)	0.78			
O.D. (±0.15mm)	5.20			
Jacket color	Gray			

I/O Cable - PVC Shielded



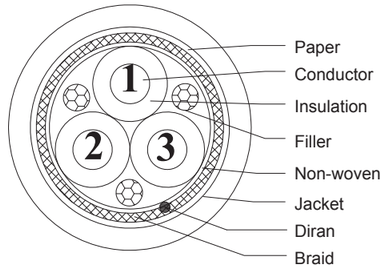
Color code	Color	Core
BN		1
WH		2
BU		3
BK		4
GY		5

Type List	L1/E147	L200/E147	L300/E147	L500/E147
Specification	1m (optional cable length)	200m/reel	300m/reel	500m/reel

Technical parameters

Structure		Product description		
No. of core	5C×0.34mm²	Rated temperature (℃)	-40...105	
Conductor	Bare stranded copper conductor	Electrical characteristic		
Structure (mm)	43/0.10	Max. DC resistance 20℃ (Ω/km)	55	
OD of Conductor (mm)	0.75(Ref)	Rated voltage	300V/80℃	
Insulation		Mechanical property		
Material	PVC(LF)	Test object	Insulation	Jacket
Thickness of thinnest point (mm)	0.20	Test material	PVC(LF)	PVC(LF)
Standard thickness (mm)	0.25	Before aging		
Insulation O.D.(±0.08mm)	1.25	Tensile strength (kg/mm²)	≧1.05	≧1.05
Color	1.Brown 2.Blue 3.Gray 4.White 5.Black	Elongation (%)	≧100	≧100
Cable	YES	Aging condition	113±2℃ X 168hr	113±2℃ X 168hr
Stranding direction	S	After aging		
Polyester tape isolation (overlap rate,%)	≥25	Tensile strength(kg/mm²)	≧70%(Original value)	≧70%(Original value)
Ground wire (between aluminum foil and braid)	Tinned stranded copper wire	Elongation(%)	≧70%(Original value)	≧65%(Original value)
Structure (mm)	7/0.254	Combustion test	VW-1，FT1	VW-1，FT1
OD of Conductor (mm)	0.76(Ref)	Application	Apply to internal and external wiring	
Foil shield (overlap rate,%)	≥25		for electronic equipment, and	
Braid shield	Tinned copper wire		connector connection, especially	
Braid structure（mm）	16/7/0.10		suitable for the environment of	
Braid density (%)	≧79		shielding electromagnetic signal	
Jacket				
Material	PVC(LF)			
Thickness of thinnest point (mm)	0.48			
Standard thickness (mm)	0.60			
O.D. (±0.15mm)	5.20			
Jacket color	Gray			

I/O Cable - PUR Shielded



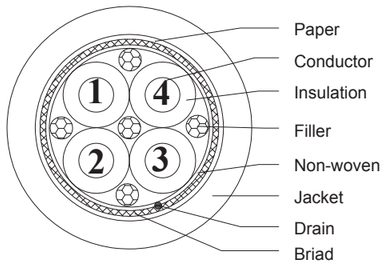
Color code	Color	Core
BN		1
BU		3
BK		4

Type List	L1/E366	L200/E366	L300/E366	L500/E366
Specification	1m (optional cable length)	200m/reel	300m/reel	500m/reel

Technical parameters

Structure	3C×0.25mm² (44/0.08B)+WB	Electrical characteristic	
Conductor		Rated voltage	300V
Material	Bare copper stranded	Rated temperature	-40～80℃
Size	44/0.08±0.008mm	Max. DC conductor resistance(at 20℃)	87.6Ω/km
O.D.（Ref）	0.61mm	Voltage withstand test	AC 2.0kV/1min
Insulation		Min.bending radius	Flexing 10×OD
Material	PP		Flxed 5×OD
Min.average thickness	0.23mm	Oil Resistant Condition(IRM 902)	100℃×24hrs
Min.thickness at any point	0.18mm	Tensile strength	≥60% of original
O.D.	1.15±0.10mm	Elongation(%)	≥60% of original
Cabling		Physical properties	
Filler	Cotton	Tensile strength	≥10.3MPa
Material	Non-woven	Elongation	≥100%
Drain	Tinned copper, 32/0.10±0.008mm	Aged condition	113±1℃×168h
Braid		Percent of original tensile strength	≥70%
Material	Tinned copper stranded	Percent of original elongation	≥65%
Size	0.10mm , 80% min.	Flame test	FT1, IEC 60332-1
Jacket		Chain test	20times/minute, distance：1.0m，
Material	Paper	Bending radius	100mm ≥5 million times
Material	PUR		Halogen free
Min.average thickness	0.76mm	Color code	
Min.thickness at any point	0.61mm	Insulation	1.brown 2.blue 3.black
O.D.	4.80±0.20mm	Jacket	Gray

I/O Cable - PUR Shielded



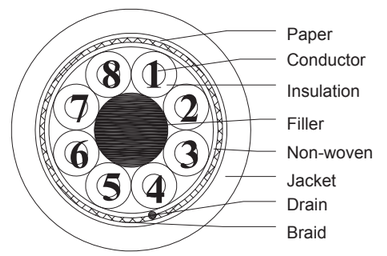
Color code	Color	Core
BN		1
WH		2
BU		3
BK		4

Type List	L1/E367	L200/E367	L300/E367	L500/E367
Specification	1m (optional cable length)	200m/reel	300m/reel	500m/reel

Technical parameters

Structure	4C×0.25mm² (44/0.08B)+WB	Electrical characteristic	
Conductor		Rated voltage	300V
Material	Bare copper stranded	Rated temperature	-40～80℃
Size	44/0.08±0.008mm	Max. DC conductor resistance(at 20℃)	87.6Ω/km
O.D.（Ref）	0.61mm	Voltage withstand test	AC 2.0kV/1min
Insulation		Min.bending radius	Flexing 10×OD
Material	PP		Flxed 5×OD
Min.average thickness	0.23mm	Oil Resistant Condition(IRM 902)	100℃×24hrs
Min.thickness at any point	0.18mm	Tensile strength	≥60% of original
O.D.	1.15±0.10mm	Elongation(%)	≥60% of original
Cabling		Physical properties	
Filler	Cotton	Tensile strength	≥10.3MPa
Material	Non-woven	Elongation	≥100%
Drain	Tinned copper，32/0.10±0.008mm	Aged condition	113±1℃×168h
Braid		Percent of original tensile strength	≥70%
Material	Tinned copper stranded	Percent of original elongation	≥65%
Size	0.10mm , 80% min.	Flame test	FT1, IEC 60332-1
Jacket		Chain test	20times/minute, distance：1.0m，
Material	Paper	Bending radius	100mm ≥5 million times
Material	PUR		Halogen free
Min.average thickness	0.76mm	Color code	
Min.thickness at any point	0.61mm	Insulation	1.brown 2.blue 3.black 4.white
O.D.	5.20±0.20mm	Jacket	Gray

I/O Cable - PUR Shielded



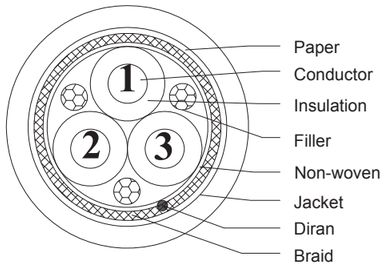
Color code	Color	Core
WH		1
BU		2
GN		3
YE		4
GY		5
PK		6
BN		7
RD		8

Type List	L1/E371	L200/E371	L300/E371	L500/E371
Specification	1m (optional cable length)	200m/reel	300m/reel	500m/reel

Technical parameters

Structure	8C×0.25mm² (44/0.08B)	Electrical characteristic	
Conductor		Rated voltage	300V
Material	Bare copper stranded	Rated temperature	-40～80℃
Size	44/0.08±0.008mm	Max. DC conductor resistance(at 20℃)	87.6Ω/km
O.D.（Ref）	0.61mm	Voltage withstand test	AC 2.0kV/1min
Insulation		Min.bending radius	Flexing 10×OD
Material	PP		Flxed 5×OD
Min.average thickness	0.23mm	Oil Resistant Condition(IRM 902)	100℃×24hrs
Min.thickness at any point	0.18mm	Tensile strength	≥60% of original
O.D.	1.15±0.10mm	Elongation(%)	≥60% of original
Cabling		Physical properties	
Filler	Cotton	Tensile strength	≥10.3MPa
Material	Non-woven	Elongation	≥100%
Drain	Tinned copper, 32/0.10±0.008mm	Aged condition	113±1℃×168h
Braid		Percent of original tensile strength	≥70%
Material	Tinned copper stranded	Percent of original elongation	≥65%
Size	0.10mm , 80% min.	Flame test	FT1, IEC 60332-1
Jacket		Chain test	20times/minute, distance：1.0m，
Material	Paper	Bending radius	100mm ≥5 million times
Material	PUR		Halogen free
Min.average thickness	0.76mm	Color code	
Min.thickness at any point	0.61mm	Insulation	1.white 2.brown 3.green 4.yellow
O.D.	6.80±0.25mm		5.gray 6.pink 7.blue 8.red
		Jacket	Gray

I/O Cable - PUR Shielded

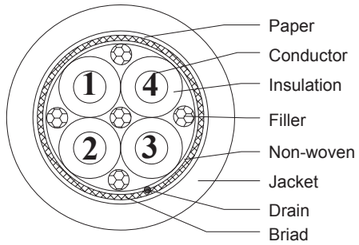


Color code	Color	Core
BN		1
BU		3
BK		4

Type List	L1/E368	L200/E368	L300/E368	L500/E368
Specification	1m (optional cable length)	200m/reel	300m/reel	500m/reel

Technical parameters			
Structure	3C×0.34mm² (65/0.08B)+WB	Electrical characteristic	
Conductor		Rated voltage	300V
Material	Bare copper stranded	Rated temperature	-40～80℃
Size	65/0.08±0.008mm	Max. DC conductor resistance(at 20℃)	55.4Ω/km
O.D.（Ref）	0.74mm	Voltage withstand test	AC 2.0kV/1min
Insulation		Min.bending radius	Flexing 10×OD
Material	PP		Flxed 5×OD
Min.average thickness	0.23mm	Oil Resistant Condition(IRM 902)	100℃×24hrs
Min.thickness at any point	0.18mm	Tensile strength	≥60% of original
O.D.	1.15±0.10mm	Elongation(%)	≥60% of original
Cabling		Physical properties	
Filler	Cotton	Tensile strength	≥10.3MPa
Material	Non-woven	Elongation	≥100%
Drain	Tinned copper，43/0.10±0.008mm	Aged condition	113±1℃×168h
Braid		Percent of original tensile strength	≥70%
Material	Tinned copper stranded	Percent of original elongation	≥65%
Size	0.10mm , 80% min.	Flame test	FT1, IEC 60332-1
Jacket		Chain test	20times/minute, distance：1.0m，
Material	Paper	Bending radius	100mm ≥5 million times
Material	PUR		Halogen free
Min.average thickness	0.76mm	Color code	
Min.thickness at any point	0.61mm	Insulation	1.brown 2.blue 3.black
O.D.	5.20±0.20mm	Jacket	Gray

I/O Cable - PUR Shielded

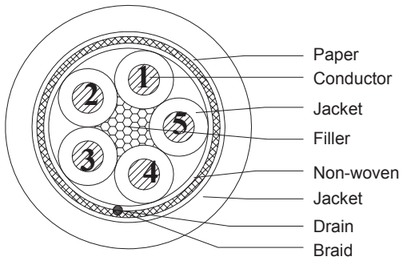


Color code	Color	Core
BN		1
WH		2
BU		3
BK		4

Type List	L1/E369	L200/E369	L300/E369	L500/E369
Specification	1m (optional cable length)	200m/reel	300m/reel	500m/reel

Technical parameters			
Structure	4C×0.34mm² (65/0.08B)+WB	Electrical characteristic	
Conductor		Rated voltage	300V
Material	Bare copper stranded	Rated temperature	-40～80℃
Size	65/0.08±0.008mm	Max. DC conductor resistance(at 20℃)	55.4Ω/km
O.D.（Ref）	0.74mm	Voltage withstand test	AC 2.0kV/1min
Insulation		Min.bending radius	Flexing 10×OD
Material	PP		Flxed 5×OD
Min.average thickness	0.23mm	Oil Resistant Condition(IRM 902)	100℃×24hrs
Min.thickness at any point	0.18mm	Tensile strength	≥60% of original
O.D.	1.25±0.10mm	Elongation(%)	≥60% of original
Cabling		Physical properties	
Filler	Cotton	Tensile strength	≥10.3MPa
Material	Non-woven	Elongation	≥100%
Drain	Tinned copper，43/0.10±0.008mm	Aged condition	113±1℃×168h
Braid		Percent of original tensile strength	≥70%
Material	Tinned copper stranded	Percent of original elongation	≥65%
Size	0.10mm , 80% min.	Flame test	FT1, IEC 60332-1
Jacket		Chain test	20times/minute, distance：1.0m，
Material	Paper	Bending radius	100mm ≥5 million times
Material	PUR		Halogen free
Min.average thickness	0.76mm	Color code	
Min.thickness at any point	0.61mm	Insulation	1.brown 2.blue 3.black 4.white
O.D.	5.60±0.25mm	Jacket	Gray

I/O Cable - PUR Shielded



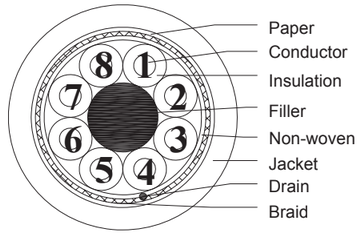
Color code	Color	Core
BN		1
WH		2
BU		3
BK		4
GY		5

Type List	L1/E370	L200/E370	L300/E370	L500/E370
Specification	1m (optional cable length)	200m/reel	300m/reel	500m/reel

Technical parameters

Structure	5C×0.34mm²(65/0.08B)+WB	Electrical characteristic	
Conductor		Rated voltage	300V
Material	Bare copper stranded	Rated temperature	-40～80℃
Size	65/0.08±0.008mm	Max. DC conductor resistance(at 20℃)	55.4Ω/km
O.D.（Ref）	0.74mm	Voltage withstand test	AC 2.0kV/1min
Insulation		Min.bending radius	Flexing 10×OD
Material	PP		Flxed 5×OD
Min.average thickness	0.23mm	Oil Resistant Condition(IRM 902)	100℃×24hrs
Min.thickness at any point	0.18mm	Tensile strength	≥60% of original
O.D.	1.25±0.10mm	Elongation(%)	≥60% of original
Cabling		Physical properties	
Filler	Cotton	Tensile strength	≥10.3MPa
Material	Non-woven	Elongation	≥100%
Drain	Tinned copper，43/0.10±0.008mm	Aged condition	113±1℃×168h
Braid		Percent of original tensile strength	≥70%
Material	Tinned copper stranded	Percent of original elongation	≥65%
Size	0.10mm , 80% min.	Flame test	FT1, IEC 60332-1
Jacket		Chain test	20times/minute, distance：1.0m，
Material	Paper	Bending radius	100mm ≥5 million times
Material	PUR		Halogen free
Min.average thickness	0.76mm	Color code	
Min.thickness at any point	0.61mm	Insulation	1.brown 2.blue 3.black 4.white 5.gray
O.D.	5.60±0.25mm	Jacket	Gray

I/O Cable - PUR Shielded



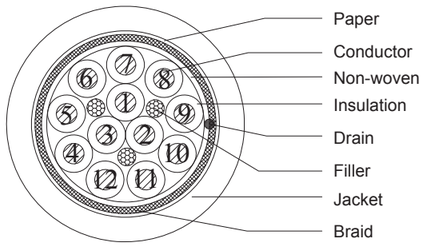
Color code	Color	Core
WH		1
BN		2
GN		3
YE		4
GY		5
PK		6
BU		7
RD		8

Type List	L1/E372	L200/E372	L300/E372	L500/E372
Specification	1m (optional cable length)	200m/reel	300m/reel	500m/reel

Technical parameters

Structure	8C×0.34mm² (65/0.08B)+WB	Electrical characteristic	
Conductor		Rated voltage	300V
Material	Bare copper stranded	Rated temperature	-40～80℃
Size	65/0.08±0.008mm	Max. DC conductor resistance(at 20℃)	55.4Ω/km
O.D.（Ref）	0.74mm	Voltage withstand test	AC 2.0kV/1min
Insulation		Min.bending radius	Flexing 10×OD
Material	PP		Flxed 5×OD
Min.average thickness	0.23mm	Oil Resistant Condition(IRM 902)	100℃×24hrs
Min.thickness at any point	0.18mm	Tensile strength	≥60% of original
O.D.	1.25±0.10mm	Elongation(%)	≥60% of original
Cabling		Physical properties	
Filler	Cotton	Tensile strength	≥10.3MPa
Material	Non-woven	Elongation	≥100%
Drain	Tinned copper，43/0.10±0.008mm	Aged condition	113±1℃×168h
Braid		Percent of original tensile strength	≥70%
Material	Tinned copper stranded	Percent of original elongation	≥65%
Size	0.10mm , 80% min.	Flame test	FT1, IEC 60332-1
Jacket		Chain test	20times/minute, distance：1.0m，
Material	Paper	Bending radius	100mm ≥5 million times
Material	PUR		Halogen free
Min.average thickness	0.76mm	Color code	
Min.thickness at any point	0.61mm	Insulation	1.white 2.brown 3.green 4.yellow
O.D.	7.10±0.30mm		5.gray 6.pink 7.blue 8.red
		Jacket	Gray

I/O Cable - PUR Shielded



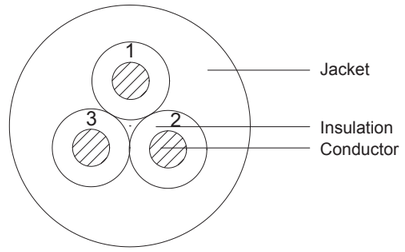
Color code	Color	Core	Color code	Color	Core
BN		1	RD		9
BU		2	VI		10
WH		3	GY/PK		11
GN		4	RD/BU		12
PK		5			
YE		6			
BK		7			
GY		8			

Type List	L1/E389	L200/E389	L300/E389	L500/E389
Specification	1m (optional cable length)	200m/reel	300m/reel	500m/reel

Technical parameters

Structure	12C×0.25mm2(32/0.10B)+WDBP	Electrical characteristic	
Conductor		Rated voltage	300V
Material	Bare copper stranded	Rated temperature	-40～80℃
Size	32/0.10±0.008mm	Max. DC conductor resistance(at 20℃)	87.6Ω/km
O.D.（Ref）	0.65mm	Voltage withstand test	AC 2.0kV/1min
Insulation		Min.bending radius	Flexing 15×OD
Material	PP		Flxed 7.5×OD
Min.average thickness	0.23mm	Physical properties	
Min.thickness at any point	0.18mm	Tensile strength	≥10.3MPa
O.D.	1.25±0.10mm	Elongation	≥100%
Cabling		Aged condition	113±1℃×168h
Filler	Cotton	Percent of original tensile strength	≥70%
Material	Non-woven	Percent of original elongation	≥65%
Drain	Tinned copper stranded，32/0.10±0.008mm	Flame test	FT1, IEC 60332-1
Braid		Chain test	20times/minute, distance：1.0m，
Material	Tinned copper	Bending radius	100mm ≥5 million times
Size	0.10mm , 80% min.		Halogen free
Jacket		Color code	
Material	Paper	Insulation	1.white 2.brown 3.green 4.yellow
Material	PUR		5.gray 6.pink 7.blue8.red 9.black
Min.average thickness	0.76mm		10.purple 11.gray/pink 12.red/blue
Min.thickness at any point	0.61mm	Jacket	Gray
O.D.	8.00±0.40mm		

I/O Cable - EWSR Spark Resistant



Color code	Color	Core
BN		1
BU		3
BK		4

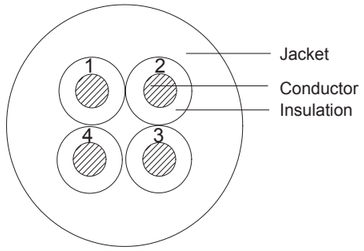
Type List	L1/E157	L200/E157	L300/E157	L500/E157
Specification	1m (optional cable length)	200m/reel	300m/reel	500m/reel

Technical parameters

Structure		Product description		
No. of core	3-core	Rated temperature (℃)	-30...105	
Conductor	Bare stranded copper conductor	Electrical characteristic		
Cross section (mm²)	0.34mm²	Max. DC resistance 20℃ (Ω/km)	55	
Structure (mm)	43/0.10	Ampacity20℃（A）	5	
OD of Conductor (mm)	0.75(Ref)	Rated voltage	300V/80℃	
Insulation		Mechanical property		
Material	PVC(LF)	Test object	Insulation	Jacket
Thickness of thinnest point (mm)	0.32	Test material	PVC(LF)	PVC(LF)
Standard thickness (mm)	0.40	Before aging		
Insulation O.D. (±0.10mm)	1.55	Tensile strength (kg/mm²)	≧1.05	≧1.05
Color	1.Black 2.Brown 3.Blue	Elongation (%)	≧100	≧100
Cable	YES	Aging condition	113±2℃ X 168hr	
Jacket		After aging		
Material	PVC(LF)	Tensile strength(kg/mm²)	≧70%(Original value)	≧70%(Original value)
Thickness of thinnest point (mm)	0.58	Elongation(%)	≧65%(Original value)	≧65%(Original value)
Standard thickness (mm)	0.73	Combustion test	VW-1,FT1	
O.D. (±0.15mm)	5.20	Application	Apply to internal and external wiring for	
Jacket color	Orange		electronic equipment, especially suitable	
			for welding spark splash conditions, such	
			as automotive welding workshop	

Connectivity

I/O Cable - EWSR Spark Resistant

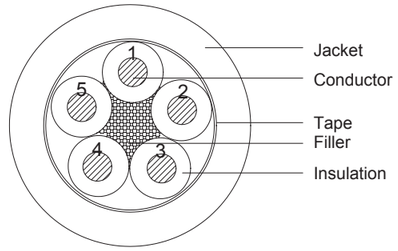


Color code	Color	Core
BN		1
WH		2
BU		3
BK		4

Type List	L1/E156	L200/E156	L300/E156	L500/E156
Specification	1m (optional cable length)	200m/reel	300m/reel	500m/reel

Technical parameters				
Structure		Product description		
No. of core	4-core	Rated temperature (℃)	-30...105	
Conductor	Bare stranded copper conductor	Electrical characteristic		
Cross section (mm²)	0.34mm²	Max. DC resistance 20℃ (Ω/km)	55	
Structure (mm)	43/0.10	Ampacity20℃（A）	5	
OD of Conductor (mm)	0.75(Ref)	Rated voltage	300V/80℃	
Insulation		Mechanical property		
Material	PVC(LF)	Test object	Insulation	Jacket
Thickness of thinnest point (mm)	0.32	Test material	PVC(LF)	PVC(LF)
Standard thickness (mm)	0.40	Before aging		
Insulation O.D. (±0.10mm)	1.55	Tensile strength (kg/mm²)	≧1.05	≧1.05
Color	1.Black 2.Brown 3.White 4.Blue	Elongation (%)	≧100	≧100
Cable	YES	Aging condition	113±2℃ X 168hr	
Jacket		After aging		
Material	PVC(LF)	Tensile strength(kg/mm²)	≧70%(Original value)	≧70%(Original value)
Thickness of thinnest point (mm)	0.58	Elongation(%)	≧65%(Original value)	≧65%(Original value)
Standard thickness (mm)	0.73	Combustion test	VW-1,FT1	
O.D. (±0.15mm)	5.20	Application	Apply to internal and external wiring for	
Jacket color	Orange		electronic equipment, especially suitable	
			for welding spark splash conditions, such	
			as automotive welding workshop	

I/O Cable - EWSR Spark Resistant

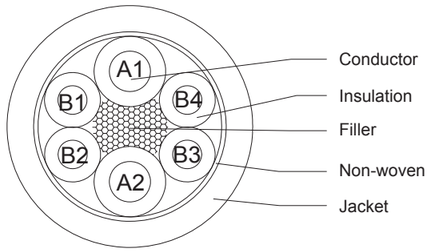


Color code	Color	Core
BN		1
WH		2
BU		3
BK		4
GY		5

Type List	L1/E168	L200/E168	L300/E168	L500/E168
Specification	1m (optional cable length)	200m/reel	300m/reel	500m/reel

Technical parameters				
Structure		Product description		
No. of core	5-core	Rated temperature (℃)	-30...105	
Conductor	Bare stranded copper conductor	Electrical characteristic		
Cross section (mm²)	0.34mm²	Max. DC resistance 20℃ (Ω/km)	55	
Cross section (mm²)	43/0.10	Ampacity20℃（A）	5	
OD of Conductor (mm)	0.75(Ref)	Rated voltage	300V/80℃	
Insulation		Mechanical property		
Material	PVC(LF)	Test object	Insulation	Jacket
Thickness of thinnest point (mm)	0.32	Test material	PVC(LF)	PVC(LF)
Standard thickness (mm)	0.40	Before aging		
Insulation O.D. (±0.10mm)	1.55	Tensile strength (kg/mm²)	≧1.05	≧1.05
Color	1.Brown 2.Blue 3.Gray 4.White 5.Black	Elongation (%)	≧100	≧100
Cable	YES	Aging condition	113±2℃ X 168hr	
Jacket		After aging		
Material	PVC(LF)	Tensile strength(kg/mm²)	≧70%(Original value)	≧70%(Original value)
Thickness of thinnest point (mm)	0.58	Elongation(%)	≧65%(Original value)	≧65%(Original value)
Standard thickness (mm)	0.73	Combustion test	VW-1,FT1	
O.D. (±0.15mm)	5.20	Application	Apply to internal and external wiring for	
Jacket color	Orange		electronic equipment, especially suitable	
			for welding spark splash conditions, such	
			as automotive welding workshop	

I/O Cable - PUR(for Distribution Box)



Color code	Color	Core	Color code	Color	Core
BN		A1	WH		B1
BU		A2	GN		B2
			YE		B3
			GY		B4

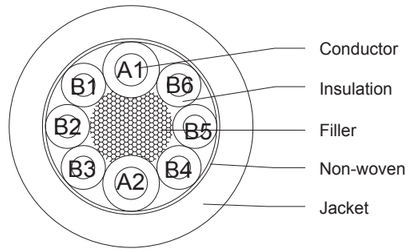
Type List	L1/E358	L200/E358	L300/E358	L500/E358
Specification	1m (optional cable length)	200m/reel	300m/reel	500m/reel

Technical parameters

Structure	A:2C×AWG 20 (0.5024mm²)	B:4C×AWG 24 (0.2211mm²)
Conductor		
Material	Bared Copper Stranded	
Size	100/0.08±0.008mm	44/0.08±0.008mm
O.D.（Ref）	0.92mm	0.61mm
Insulation		
Material	PP	PP
Min.average thickness	0.23mm	0.23mm
Min.thickness at any point	0.18mm	0.18mm
O.D.	1.60±0.10mm	1.25±0.10mm
Cabling		
Filler	Cotton	
Material	Non-woven	
Jacket		
Material	PUR	
Min.average thickness	0.76mm	
Min.thickness at any point	0.61mm	
O.D.	6.80±0.30mm	

Electrical characteristic	
Rated voltage	300V
Rated temperature	-40～80℃
Max. DC conductor resistance(at 20℃)	A：43.6Ω/km B：87.6Ω/km1.5kV/1min
Voltage withstand test	AC 2.0kV/1min
Oil Resistant Condition(IRM 902)	100℃×24hrs
Tensile strength	≥60% of original
Elongation(%)	≥60% of original
Physical properties	
Tensile strength	≥10.3MPa
Elongation	≥100%
Aged condition	113±1℃×168h
Percent of original tensile strength	≥70%
Percent of original elongation	≥65%
Flame test	FT1, IEC 60332-1
Chain test	20times/minute, distance：1.0m，
Bending radius	100mm ≥5 million times
	Halogen free
Color code	
Insulation	A1.brown A2.blue
	B1.white B2.green B3.yellow B4.gray
Jacket	Gray

I/O Cable - PUR(for Distribution Box)



Color code	Color	Core	Color code	Color	Core
BN		A1	WH		B1
BU		A2	GN		B2
			YE		B3
			GY		B4
			PK		B5
			RD		B6

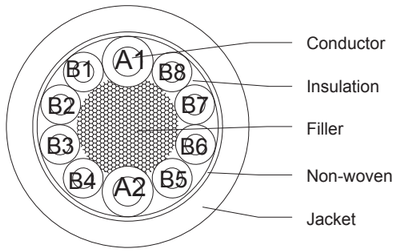
Type List	L1/E360	L200/E360	L300/E360	L500/E360
Specification	1m (optional cable length)	200m/reel	300m/reel	500m/reel

Technical parameters

Structure	A:2C×AWG 20 (0.5024mm²)	B:6C×AWG 24 (0.2211mm²)
Conductor		
Material	Bared Copper Stranded	
Size	100/0.08±0.008mm	44/0.08±0.008mm
O.D.（Ref）	0.92mm	0.61mm
Insulation		
Material	PP	PP
Min.average thickness	0.23mm	0.23mm
Min.thickness at any point	0.18mm	0.18mm
O.D.	1.60±0.10mm	1.25±0.10mm
Cabling		
Filler	Cotton	
Material	Non-woven	
Jacket		
Material	PUR	
Min.average thickness	0.76mm	
Min.thickness at any point	0.61mm	
O.D.	8.00±0.30mm	

Electrical characteristic	
Rated voltage	300V
Rated temperature	-40～80℃
Max. DC conductor resistance(at 20℃)	A：43.6Ω/km B：87.6Ω/km
Voltage withstand test	AC 2.0kV/1min
Oil Resistant Condition(IRM 902)	100℃×24hrs
Tensile strength	≥60% of original
Elongation(%)	≥60% of original
Physical properties	
Tensile strength	≥10.3MPa
Elongation	≥100%
Aged condition	113±1℃×168h
Percent of original tensile strength	≥70%
Percent of original elongation	≥65%
Flame test	FT1, IEC 60332-1
Chain test	20times/minute, distance：1.0m，
Bending radius	100mm ≥5 million times
	Halogen free
Color code	
Insulation	A1.brown A2.blue
	B1.white B2.green B3.yellow
	B4.gray B5.pink B6.red
Jacket	Gray

I/O Cable - PUR(for Distribution Box)



Color code	Color	Core	Color code	Color	Core
BN		A1	WH		B1
BU		A2	GN		B2
			YE		B3
			GY		B4
			GYPK		B5
			RDBU		B6
			WHGN		B7
			BNGN		B8

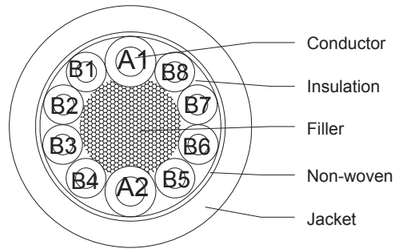
Type List	L1/E359	L200/E359	L300/E359	L500/E359
Specification	1m (optional cable length)	200m/reel	300m/reel	500m/reel

Technical parameters

Structure	A:2C×AWG 20 (0.5024mm²)	B:8C×AWG 24 (0.2211mm²)
Conductor		
Material	Bared Copper Stranded	
Size	100/0.08±0.008mm	44/0.08±0.008mm
O.D.（Ref）	0.92mm	0.61mm
Insulation		
Material	PP	PP
Min.average thickness	0.23mm	0.23mm
Min.thickness at any point	0.18mm	0.18mm
O.D.	1.60±0.10mm	1.25±0.10mm
Cabling		
Filler	Cotton	
Material	Non-woven	
Jacket		
Material	PUR	
Min.average thickness	0.76mm	
Min.thickness at any point	0.61mm	
O.D.	8.00±0.30mm	

Electrical characteristic	
Rated voltage	300V
Rated temperature	-40～80℃
Max. DC conductor resistance(at 20℃)	A : 43.6Ω/km B : 87.6Ω/km
Voltage withstand test	AC 2.0kV/1min
Oil Resistant Condition(IRM 902)	100℃×24hrs
Tensile strength	≥60% of original
Elongation(%)	≥60% of original
Physical properties	
Tensile strength	≥10.3MPa
Elongation	≥100%
Aged condition	113±1℃×168h
Percent of original tensile strength	≥70%
Percent of original elongation	≥65%
Flame test	FT1, IEC 60332-1
Chain test	20times/minute, distance：1.0m，
Bending radius	100mm ≥5 million times
	Halogen free
Color code	
Insulation	A1.brown A2.blue
	B1.white B2.green B3.yellow B4.gray
	B5.gray/pink B6.red/blue
	B7.white/green B8.brown/green
Jacket	Gray

I/O Cable - PUR(for Distribution Box)



Color code	Color	Core	Color code	Color	Core
BN		A1	WH		B1
BU		A2	GN		B2
			YE		B3
			GY		B4
			PK		B5
			RD		B6
			BK		B7
			VI		B8

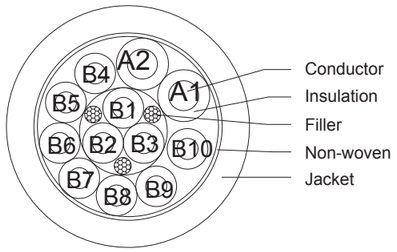
Type List	L1/E354	L200/E354	L300/E354	L500/E354
Specification	1m (optional cable length)	200m/reel	300m/reel	500m/reel

Technical parameters

Structure	A:2C×AWG 20 (0.5024mm²)	B:8C×AWG 24 (0.2211mm²)
Conductor		
Material	Bared Copper Stranded	
Size	100/0.08±0.008mm	44/0.08±0.008mm
O.D.（Ref）	0.92mm	0.61mm
Insulation		
Material	PP	PP
Min.average thickness	0.23mm	0.23mm
Min.thickness at any point	0.18mm	0.18mm
O.D.	1.60±0.10mm	1.25±0.10mm
Cabling		
Filler	Cotton	
Material	Non-woven	
Jacket		
Material	PUR	
Min.average thickness	0.76mm	
Min.thickness at any point	0.61mm	
O.D.	8.00±0.30mm	

Electrical characteristic	
Rated voltage	300V
Rated temperature	-40～80℃
Max. DC conductor resistance(at 20℃)	A : 43.6Ω/km B : 87.6Ω/km
Voltage withstand test	AC 2.0kV/1min
Oil Resistant Condition(IRM 902)	100℃×24hrs
Tensile strength	≥60% of original
Elongation(%)	≥60% of original
Physical properties	
Tensile strength	≥10.3MPa
Elongation	≥100%
Aged condition	113±1℃×168h
Percent of original tensile strength	≥70%
Percent of original elongation	≥65%
Flame test	FT1, IEC 60332-1
Chain test	20times/minute, distance：1.0m，
Bending radius	100mm ≥5 million times
	Halogen free
Color code	
Insulation	A1.brown A2.blue
	B1.white B2.green B3.yellow B4.gray
	B5.pink B6.red B7.black B8.violet
Jacket	Gray

I/O Cable - PUR(for Distribution Box)



Color code	Color	Core	Color code	Color	Core
BN		A1	WH		B1
BU		A2	GN		B2
			YE		B3
			GY		B4
			PK		B5
			RD		B6
			BK		B7
			VI		B8
			PKBN		B9
			BNBU		B10

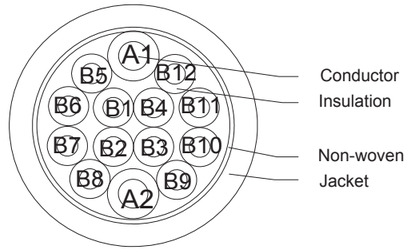
Type List	L1/E349	L200/E349	L300/E349	L500/E349
Specification	1m (optional cable length)	200m/reel	300m/reel	500m/reel

Technical parameters

Structure	A:2C×AWG 20 (0.5024mm²)	B:10C×AWG 24 (0.2211mm²)
Conductor		
Material	Bared Copper Stranded	
Size	100/0.08±0.008mm	
O.D.（Ref）	0.92mm	44/0.08±0.008mm
Insulation		0.61mm
Material	PP	
Min.average thickness	0.23mm	PP
Min.thickness at any point	0.18mm	0.23mm
O.D.	1.60±0.10mm	0.18mm
Cabling	1.25±0.10mm	
Filler	Cotton	
Material	Non-woven	
Jacket		
Material	PUR	
Min.average thickness	0.76mm	
Min.thickness at any point	0.61mm	
O.D.	8.00±0.30mm	

Electrical characteristic	
Rated voltage	300V
Rated temperature	-40～80℃
Max. DC conductor resistance(at 20℃)	A : 43.6Ω/km B : 87.6Ω/km
Voltage withstand test	AC 2.0kV/1min
Oil Resistant Condition(IRM 902)	100℃×24hrs
Tensile strength	≥60% of original
Elongation(%)	≥60% of original
Physical properties	
Tensile strength	≥10.3MPa
Elongation	≥100%
Aged condition	113±1℃×168h
Percent of original tensile strength	≥70%
Percent of original elongation	≥65%
Flame test	FT1, IEC 60332-1
Chain test	20times/minute, distance：1.0m，
Bending radius	100mm ≥5 million times
	Halogen free
Color code	
Insulation	A1.brown A2.blue
	B1.white B2.green B3.yellow B4.gray
	B5.pink B6.red B7.black
	B8.violet B9.pink/brown B10.brown/blue
Jacket	Gray

I/O Cable - PUR(for Distribution Box)



Color code	Color	Core	Color code	Color	Core
BN		A1	WHGN		B9
BU		A2	BNGN		B10
WH		B1	WHYE		B11
GN		B2	YEBN		B12
YE		B3			
GY		B4			
PK		B5			
RD		B6			
GYPK		B7			
RDBU		B8			

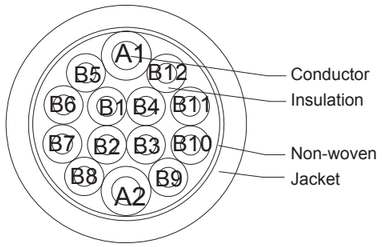
Type List	L1/E361	L200/E361	L300/E361	L500/E361
Specification	1m (optional cable length)	200m/reel	300m/reel	500m/reel

Technical parameters

Structure	A:2C×AWG 20 (0.5024mm²)	B:12C×AWG 24 (0.2211mm²)
Conductor		
Material	Bared Copper Stranded	
Size	100/0.08±0.008mm	44/0.08±0.008mm
O.D.（Ref）	0.92mm	0.61mm
Insulation		
Material	PP	PP
Min.average thickness	0.23mm	0.23mm
Min.thickness at any point	0.18mm	0.18mm
O.D.	1.60±0.10mm	1.25±0.10mm
Cabling		
Filler	Optional	
Material	Non-woven	
Jacket		
Material	PUR	
Min.average thickness	0.76mm	
Min.thickness at any point	0.61mm	
O.D.	8.00±0.30mm	

Electrical characteristic	
Rated voltage	300V
Rated temperature	-40～80℃
Max. DC conductor resistance(at 20℃)	A : 43.6Ω/km B : 87.6Ω/km
Voltage withstand test	AC 2.0kV/1min
Oil Resistant Condition(IRM 902)	100℃×24hrs
Tensile strength	≥60% of original
Elongation(%)	≥60% of original
Physical properties	
Tensile strength	≥10.3MPa
Elongation	≥100%
Aged condition	113±1℃×168h
Percent of original tensile strength	≥70%
Percent of original elongation	≥65%
Flame test	FT1, IEC 60332-1
Chain test	20times/minute, distance：1.0m，
Bending radius	100mm ≥5 million times
	Halogen free
Color code	
Insulation	A1.brown A2.blue
	B1.white B2.green B3.yellow B4.gray
	B5.pink B6.redB7.gray/pink B8.red/blue
	B9.white/green B10.brown/green
	B11.white/yellow B12.yellow/brown
Jacket	Gray

I/O Cable - PUR(for Distribution Box)



Color code	Color	Core	Color code	Color	Core
BN		A1	PKBN		B9
BU		A2	BNBU		B10
WH		B1	BNRD		B11
GN		B2	BNBK		B12
YE		B3			
GY		B4			
PK		B5			
RD		B6			
BK		B7			
VT		B8			

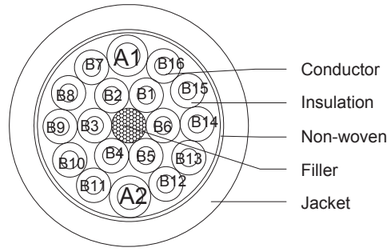
Type List	L1/E380	L200/E380	L300/E380	L500/E380
Specification	1m (optional cable length)	200m/reel	300m/reel	500m/reel

Technical parameters

Structure	A:2C×AWG 20 (0.5024mm²)	B:12C×AWG 24 (0.2211mm²)
Conductor		
Material	Bared Copper Stranded	
Size	100/0.08±0.008mm	44/0.08±0.008mm
O.D.（Ref）	0.92mm	0.61mm
Insulation		
Material	PP	PP
Min.average thickness	0.23mm	0.23mm
Min.thickness at any point	0.18mm	0.18mm
O.D.	1.60±0.10mm	1.25±0.10mm
Cabling		
Filler	Optional	
Material	Non-woven	
Jacket		
Material	PUR	
Min.average thickness	0.76mm	
Min.thickness at any point	0.61mm	
O.D.	8.00±0.30mm	

Electrical characteristic	
Rated voltage	300V
Rated temperature	-40～80℃
Max. DC conductor resistance(at 20℃)	A : 36.0Ω/km B : 87.6Ω/km
Voltage withstand test	AC 2.0kV/1min
Oil Resistant Condition(IRM 902)	100℃×24hrs
Tensile strength	≥60% of original
Elongation(%)	≥60% of original
Physical properties	
Tensile strength	≥10.3MPa
Elongation	≥100%
Aged condition	113±1℃×168h
Percent of original tensile strength	≥70%
Percent of original elongation	≥65%
Flame test	FT1, IEC 60332-1
Chain test	20times/minute, distance：1.0m，
Bending radius	100mm ≥5 million times
	Halogen free
Color code	
Insulation	A1.brown A2.blue
	B1.white B2.green B3.yellow B4.gray
	B5.pink B6.red B7.black B8.violet
	B9.pink /brown B10.brown/blue
	B11.brown/red B12.brown/black
Jacket	Gray

I/O Cable - PUR(for Distribution Box)



Color code	Color	Core	Color code	Color	Core
BN		A1	GYPK		B9
BU		A2	RDBU		B10
WH		B1	WHGN		B11
GN		B2	BNGN		B12
YE		B3	WHYE		B13
GY		B4	YEBN		B14
PK		B5	WHGY		B15
RD		B6	GYBN		B16
BK		B7			
VI		B8			

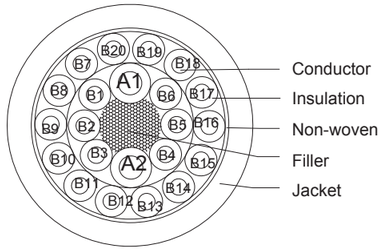
Type List	L1/E355	L200/E355	L300/E355	L500/E355
Specification	1m (optional cable length)	200m/reel	300m/reel	500m/reel

Technical parameters

Structure	A:2C×AWG 20 (0.5024mm²)	B:16C×AWG 24 (0.2211mm²)
Conductor		
Material	Bared Copper Stranded	
Size	100/0.08±0.008mm	44/0.08±0.008mm
O.D.（Ref）	0.92mm	0.61mm
Insulation		
Material	PP	PP
Min.average thickness	0.23mm	0.23mm
Min.thickness at any point	0.18mm	0.18mm
O.D.	1.60±0.10mm	1.25±0.10mm
Cabling		
Filler	Cotton	
Material	Non-woven	
Jacket		
Material	PUR	
Min.average thickness	0.76mm	
Min.thickness at any point	0.61mm	
O.D.	9.60±0.30mm	

Electrical characteristic	
Rated voltage	300V
Rated temperature	-40～80℃
Max. DC conductor resistance(at 20℃)	A : 43.6Ω/km B : 87.6Ω/km
Voltage withstand test	AC 2.0kV/1min
Oil Resistant Condition(IRM 902)	100℃×24hrs
Tensile strength	≥60% of original
Elongation(%)	≥60% of original
Physical properties	
Tensile strength	≥10.3MPa
Elongation	≥100%
Aged condition	113±1℃×168h
Percent of original tensile strength	≥70%
Percent of original elongation	≥65%
Flame test	FT1, IEC 60332-1
Chain test	20times/minute, distance：1.0m，
Bending radius	100mm ≥5 million times
	Halogen free
Color code	
Insulation	A1.brown A2.blue
	B1.white B2.green B3.yellow B4.gray
	B5.pink B6.red B7.blackB8.violet
	B9.gray/pink B10.red/blue B11.white/green
	B12.brown/greenB13.white/yellow
	B14.yellow/brown B15.white/gray
	B16.gray/brown
Jacket	Gray

I/O Cable - PUR(for Distribution Box)

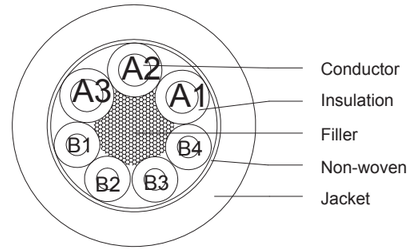


Color code	Color	Core	Color code	Color	Core	Color code	Color	Core
BN		A1	GYPK		B9	WHBU		B19
BU		A2	RDBU		B10	BNBU		B20
WH		B1	WHGN		B11			
GN		B2	BNGN		B12			
YE		B3	WHYE		B13			
GY		B4	YEBN		B14			
PK		B5	WHGY		B15			
RD		B6	GYBN		B16			
BK		B7	WHPK		B17			
VI		B8	PKBN		B18			

Type List	L1/E350	L200/E350	L300/E350	L500/E350
Specification	1m (optional cable length)	200m/reel	300m/reel	500m/reel

Technical parameters				
Structure	A:2C×AWG 20 (0.5024mm²)	B:20C×AWG 24 (0.2211mm²)	Electrical characteristic	
Conductor			Rated voltage	300V
Material	Bared Copper Stranded		Rated temperature	-40～80℃
Size	100/0.08±0.008mm	44/0.08±0.008mm	Max. DC conductor resistance(at 20℃)	A : 43.6Ω/km B : 87.6Ω/km
O.D.（Ref）	0.92mm	0.61mm	Voltage withstand test	AC 2.0kV/1min
Insulation			Oil Resistant Condition(IRM 902)	100℃×24hrs
Material	PP	PP	Tensile strength	≥60% of original
Min.average thickness	0.23mm	0.23mm	Elongation(%)	≥60% of original
Min.thickness at any point	0.18mm	0.18mm	Physical properties	
O.D.	1.60±0.10mm	1.25±0.10mm	Tensile strength	≥10.3MPa
Cabling			Elongation	≥100%
Filler	Optional		Aged condition	113±1℃×168h
Material	Non-woven		Percent of original tensile strength	≥70%
Jacket			Percent of original elongation	≥65%
Material	PUR		Flame test	FT1, IEC 60332-1
Min.average thickness	0.76mm		Chain test	20times/minute, distance：1.0m，
Min.thickness at any point	0.61mm		Bending radius	100mm ≥5 million times
O.D.	10.00±0.40mm			Halogen free
			Color code	
			Insulation	A1.brown A2.blue
				B1.white B2.green B3.yellow B4.gray B5.pink
				B6.red B7.blackB8.violet B9.gray/pink
				B10.red/blue B11.white/green B12.brown/green
				B13.white/yellow B14.yellow/brown
				B15.white/gray B16.gray/brown
				B17.white/pink B18.pink/brown
				B19.white/blue B20.brown/blue
			Jacket	Gray

I/O Cable - PUR(for Distribution Box)

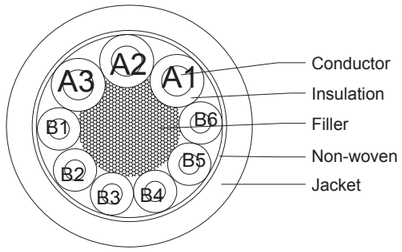


Color code	Color	Core	Color code	Color	Core
BN		A1	WH		B1
BU		A2	GN		B2
YEGN		A3	YE		B3
			GY		B4

Type List	L1/E352	L200/E352	L300/E352	L500/E352
Specification	1m (optional cable length)	200m/reel	300m/reel	500m/reel

Technical parameters				
Structure	A：3C×AWG 19(0.7536mm²)	B:4C×AWG 22(0.3266mm²)	Electrical characteristic	
Conductor			Rated voltage	300V
Material	Bared Copper Stranded		Rated temperature	-40～80℃
Size	150/0.08±0.008mm	65/0.08±0.008mm	Max. DC conductor resistance(at 20℃)	A : 27.4Ω/km B : 55.4Ω/km
O.D.（Ref）	1.13mm	0.76mm	Voltage withstand test	AC 2.0kV/1min
Insulation			Oil Resistant Condition(IRM 902)	100℃×24hrs
Material	PP	PP	Tensile strength	≥60% of original
Min.average thickness	0.30mm	0.30mm	Elongation(%)	≥60% of original
Min.thickness at any point	0.24mm	0.24mm	Physical properties	
O.D.	1.90±0.10mm	1.60±0.10mm	Tensile strength	≥10.3MPa
Cabling			Elongation	≥100%
Filler	Cotton		Aged condition	113±1℃×168h
Material	Non-woven		Percent of original tensile strength	≥70%
Jacket			Percent of original elongation	≥65%
Material	PUR		Flame test	FT1, IEC 60332-1
Min.average thickness	0.76mm		Chain test	20times/minute, distance：1.0m，
Min.thickness at any point	0.61mm		Bending radius	100mm ≥5 million times
O.D.	8.00±0.40mm			Halogen free
			Color code	
			Insulation	A1.brown A2.blue A3.yellow/green
				B1.white B2.green B3.yellow B4.gray
			Jacket	Gray

I/O Cable - PUR(for Distribution Box)



Color code	Color	Core	Color code	Color	Core
BN		A1	WH		B1
BU		A2	GN		B2
YEGN		A3	YE		B3
			GY		B4
			PK		B5
			RD		B6

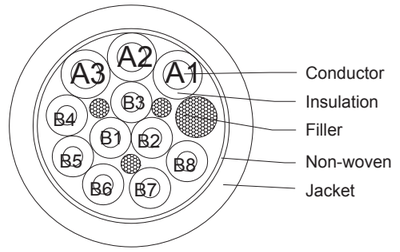
Type List	L1/E356	L200/E356	L300/E356	L500/E356
Specification	1m (optional cable length)	200m/reel	300m/reel	500m/reel

Technical parameters

Structure	A : 3C×AWG 19(0.7536mm²)	B:6C×AWG 22 (0.3266mm²)
Conductor		
Material	Bared Copper Stranded	
Size	150/0.08±0.008mm	65/0.08±0.008mm
O.D.（Ref）	1.13mm	0.76mm
Insulation		
Material	PP	PP
Min.average thickness	0.30mm	0.30mm
Min.thickness at any point	0.24mm	0.24mm
O.D.	1.90±0.10mm	1.60±0.10mm
Cabling		
Filler	Optional	
Material	Non-woven	
Jacket		
Material	PUR	
Min.average thickness	0.76mm	
Min.thickness at any point	0.61mm	
O.D.	8.80±0.30mm	

Electrical characteristic	
Rated voltage	300V
Rated temperature	-40～80℃
Max. DC conductor resistance(at 20℃)	A : 27.4Ω/km B : 55.4Ω/km
Voltage withstand test	AC 2.0kV/1min
Oil Resistant Condition(IRM 902)	100℃×24hrs
Tensile strength	≥60% of original
Elongation(%)	≥60% of original
Physical properties	
Tensile strength	≥10.3MPa
Elongation	≥100%
Aged condition	113±1℃×168h
Percent of original tensile strength	≥70%
Percent of original elongation	≥65%
Flame test	FT1, IEC 60332-1
Chain test	20times/minute, distance：1.0m，
Bending radius	100mm ≥5 million times
	Halogen free
Color code	
Insulation	A1.brown A2.blue A3.yellow/green
	B1.white B2.green B3.yellow
	B4.gray B5.pink B6.red
Jacket	Gray

I/O Cable - PUR(for Distribution Box)



Color code	Color	Core	Color code	Color	Core
BN		A1	WH		B1
BU		A2	GN		B2
YEGN		A3	YE		B3
			GY		B4
			GYPK		B5
			RDBU		B6
			WHGN		B7
			BNGN		B8

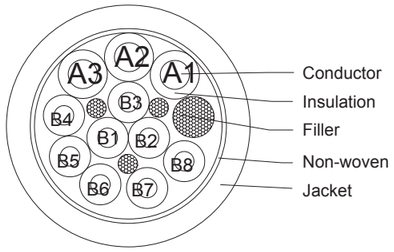
Type List	L1/E351	L200/E351	L300/E351	L500/E351
Specification	1m (optional cable length)	200m/reel	300m/reel	500m/reel

Technical parameters

Structure	A : 3C×AWG 19(0.7536mm²)	B:8C×AWG 22 (0.3266mm²)
Conductor		
Material	Bared Copper Stranded	
Size	150/0.08±0.008mm	65/0.08±0.008mm
O.D.（Ref）	1.13mm	0.76mm
Insulation		
Material	PP	PP
Min.average thickness	0.30mm	0.30mm
Min.thickness at any point	0.24mm	0.24mm
O.D.	1.90±0.10mm	1.60±0.10mm
Cabling		
Filler	Cotton	
Material	Non-woven	
Jacket		
Material	PUR	
Min.average thickness	0.76mm	
Min.thickness at any point	0.61mm	
O.D.	9.60±0.40mm	

Electrical characteristic	
Rated voltage	300V
Rated temperature	-40～80℃
Max. DC conductor resistance(at 20℃)	A : 27.4Ω/km B : 55.4Ω/km
Voltage withstand test	AC 2.0kV/1min
Oil Resistant Condition(IRM 902)	100℃×24hrs
Tensile strength	≥60% of original
Elongation(%)	≥60% of original
Physical properties	
Tensile strength	≥10.3MPa
Elongation	≥100%
Aged condition	113±1℃×168h
Percent of original tensile strength	≥70%
Percent of original elongation	≥65%
Flame test	FT1, IEC 60332-1
Chain test	20times/minute, distance：1.0m，
Bending radius	100mm ≥5 million times
	Halogen free
Color code	
Insulation	A1.brown A2.blue A3.yellow/green
	B1.white B2.green B3.yellow B4.gray
	B5.gray/pink B6.red/blue
	B7.white/green B8.brown/green
Jacket	Gray

I/O Cable - PUR(for Distribution Box)



Color code	Color	Core	Color code	Color	Core
BN		A1	WH		B1
BU		A2	GN		B2
YEGN		A3	YE		B3
			GY		B4
			PK		B5
			RD		B6
			BK		B7
			VI		B8

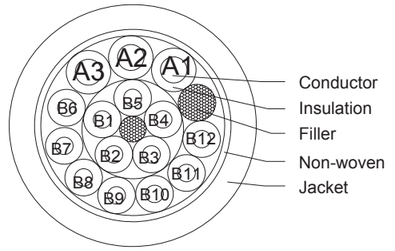
Type List	L1/E353	L200/E353	L300/E353	L500/E353
Specification	1m (optional cable length)	200m/reel	300m/reel	500m/reel

Technical parameters

Structure	A:3C×AWG 19(0.7536mm²)	B:8C×AWG 22(0.3266mm²)
Conductor		
Material	Bared Copper Stranded	
Size	150/0.08±0.008mm	65/0.08±0.008mm
O.D.（Ref）	1.13mm	0.76mm
Insulation		
Material	PP	PP
Min.average thickness	0.30mm	0.30mm
Min.thickness at any point	0.24mm	0.24mm
O.D.	1.90±0.10mm	1.60±0.10mm
Cabling		
Filler	Cotton	
Material	Non-woven	
Jacket		
Material	PUR	
Min.average thickness	0.76mm	
Min.thickness at any point	0.61mm	
O.D.	9.60±0.40mm	

Electrical characteristic	
Rated voltage	300V
Rated temperature	-40～80℃
Max. DC conductor resistance(at 20℃)	A：27.4Ω/km B：55.4Ω/km
Voltage withstand test	AC 2.0kV/1min
Oil Resistant Condition(IRM 902)	100℃×24hrs
Tensile strength	≥60% of original
Elongation(%)	≥60% of original
Physical properties	
Tensile strength	≥10.3MPa
Elongation	≥100%
Aged condition	113±1℃×168h
Percent of original tensile strength	≥70%
Percent of original elongation	≥65%
Flame test	FT1, IEC 60332-1
Chain test	20times/minute, distance：1.0m，
Bending radius	100mm ≥5 million times
	Halogen free
Color code	
Insulation	A1.brown A2.blue A3.yellow/green
	B1.white B2.green B3.yellow B4.gray
	B5.pink B6.red B7.blackB8.violet
Jacket	Gray

I/O Cable - PUR(for Distribution Box)



Color code	Color	Core	Color code	Color	Core
BN		A1	RDBU		B8
BU		A2	WHGN		B9
YEGN		A3	BNGN		B10
WH		B1	WHYE		B11
GN		B2	YEBN		B12
YE		B3			
GY		B4			
PK		B5			
RD		B6			
GYPK		B7			

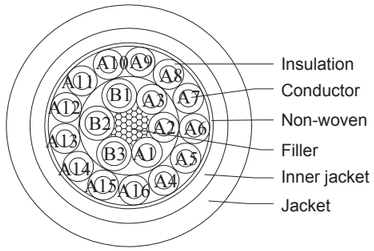
Type List	L1/E357	L200/E357	L300/E357	L500/E357
Specification	1m (optional cable length)	200m/reel	300m/reel	500m/reel

Technical parameters

Structure	A:3C×AWG 19(0.7536mm²)	B:12C×AWG 22(0.3266mm²)
Conductor		
Material	Bared Copper Stranded	
Size	150/0.08±0.008mm	65/0.08±0.008mm
O.D.（Ref）	1.13mm	0.76mm
Insulation		
Material	PP	PP
Min.average thickness	0.30mm	0.30mm
Min.thickness at any point	0.24mm	0.24mm
O.D.	1.90±0.10mm	1.60±0.10mm
Cabling		
Filler	Cotton	
Material	Non-woven	
Jacket		
Material	PUR	
Min.average thickness	0.76mm	
Min.thickness at any point	0.61mm	
O.D.	10.00±0.40mm	

Electrical characteristic	
Rated voltage	300V
Rated temperature	-40～80℃
Max. DC conductor resistance(at 20℃)	A：27.4Ω/km B：55.4Ω/km
Voltage withstand test	AC 2.0kV/1min
Oil Resistant Condition(IRM 902)	100℃×24hrs
Tensile strength	≥60% of original
Elongation(%)	≥60% of original
Physical properties	
Tensile strength	≥10.3MPa
Elongation	≥100%
Aged condition	113±1℃×168h
Percent of original tensile strength	≥70%
Percent of original elongation	≥65%
Flame test	FT1, IEC 60332-1
Chain test	20times/minute, distance：1.0m，
Bending radius	100mm ≥5 million times
	Halogen free
Color code	
Insulation	A1.brown A2.blue A3.yellow/green
	B1.white B2.green B3.yellow B4.gray
	B5.pink B6.red B7.gray/pink
	B8.red/blue B9.white/green
	B10.brown/green B11.white/yellow
	B12.yellow/brown
Jacket	Gray

I/O Cable - PUR(for Distribution Box)



Color code	Color	Core	Color code	Color	Core
GN		A1	YEBN		A11
WHGN		A2	RD		A12
YE		A3	WHGY		A13
BNGN		A4	BK		A14
PKGY		A5	GYBN		A15
WH		A6	VI		A16
RDBU		A7	YEGN		B1
GY		A8	BN		B2
WHYE		A9	BU		B3
PK		A10			

Type List	L1/E362	L200/E362	L300/E362	L500/E362
Specification	1m (optional cable length)	200m/reel	300m/reel	500m/reel

Technical parameters				
Structure	3C×AWG 19(0.7536mm²)	16C×AWG 22 (0.3266mm²)	Electrical characteristic	
Conductor			Rated voltage	300V
Material	Bared Copper Stranded		Rated temperature	-40～80℃
Size	150/0.08±0.008mm	65/0.08±0.008mm	Max. DC conductor resistance(at 20℃)	A:55.4Ω/km B：27.1Ω/km
O.D.（Ref）	1.13mm	0.76mm	Voltage withstand test	AC 2.0kV/1min
Insulation			Min.bending radius	Flexing 10×OD
Material	PP	PP		Flxed 5×OD
Min.average thickness	0.23mm	0.30mm	Oil Resistant Condition(IRM 902)	100℃×24hrs
Min.thickness at any point	0.18mm	0.24mm	Tensile strength	≥60% of original
O.D.	1.60±0.10mm	1.40±0.10mm	Elongation(%)	≥60% of original
Cabling			Physical properties	
Filler	Cotton		Tensile strength	≥10.3MPa
Separator	Non-woven		Elongation	≥100%
Assembly	16C×0.34mm²+3Cx0.75mm²+M		Aged condition	113±1℃×168h
Inner Jacket			Percent of original tensile strength	≥70%
Material	PUR		Percent of original elongation	≥65%
Min.average thickness	0.80mm		Flame test	FT1, IEC 60332-1
Min.thickness at any point	0.64mm		Chain test	20times/minute, distance：1.0m，
O.D.	10.00±0.35mm		Bending radius	100mm ≥5 million times
				Halogen free
			Color code	
			Insulation	A1.Green A2.White/green A3.Yellow
				A4.Brown/green A5.Pink/gray A6.White
				A7.Red/blue A8.Gray A9.White/yellow
				A10.Pink A11.Yellow/brown A12.Red,
				A13.White/gray A14.Black,
				A15.Gray/brown A16.Purple
				B1.Yellow/green B2.Brwon B3.Blue
			Jacket	Gray

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