

# TECHNICAL DATA SHEET

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## Capacitive Proximity Switches Proximity Sensors

### Contents

- Functional Description
- Application Scenarios
- Technical Parameters
- Size Parameters
- Wiring Diagram



## Proximity sensors: solutions for multiple scenarios

Proximity sensors are widely used in many fields due to their non-contact detection, high accuracy and fast response.

### Inductive series for oil-resistant and corrosion-resistant machine tool industry

Many times we are faced with harsh operating environments, compact installation spaces, and conditions with both movement and corrosion during use, such as the machine tool manufacturing industry, which has such diverse needs - the number of materials, processes and molds involved is huge and varied. During the production process, cutting fluids and abrasives are required to process workpieces, so various sensor solutions that are not affected by harsh environmental conditions are required. dadisick's product series, which uses different manufacturing processes, can even provide fully suitable sensor solutions for high-speed applications or applications involving corrosive coolants and lubricants.



### All-metal integrated housing anti-washing series



Due to the stainless steel integrated housing, this series of sensors not only has good impact resistance, but also can withstand the corrosion of detergents and solvents. It can be used in environments that require frequent high-pressure washing, and can achieve long-term sealing that meets the IP69K protection level. At the same time, it is compatible with the installation method of conventional sensors, which can be replaced and replaced conveniently and practically. It includes a variety of models with a diameter of 8mm...30mm, all with direct cable output and M12 standard connector. Operating distance 2...8mm.

### Low-temperature -40°C inductive series for wind power generation

Wind power generation has become one of the world's recognized main clean energy generation methods because it does not require the use of fuel and does not produce radiation or air pollution. Different sensors are used in the operation of the variable pitch yaw generator reducer of the wind turbine to detect the correction of the control movement and rotation process. Most of the installation locations of wind turbines are in places with severe temperature changes such as mountains, oceans and plateaus, which require higher temperature environments for sensors. Our low-temperature -40°C product series launched for this use environment is perfectly adapted to the application here.



### Solutions for high-temperature series long-distance products in steelmaking and rolling



Steelmaking and rolling equipment produces complex oil, gas and water erosion and flushing sensors for various raw materials under high temperature of oil and gas in a high-temperature 2000° radiation environment, which puts higher requirements on the stability of sensors. In the position control detection of multiple processes of steel billets, coils and wires, DADISICK has a variety of series of products with high temperature resistance of 250°C, DC two-wire, AC 250V, etc., which are widely used in this complex environment to ensure normal production.

## Anti-welding slag adhesion, high temperature resistance and anti-interference series

Whether it is stamping, welding, painting, or assembly processes in automobile manufacturing, long distance, anti-welding slag adhesion, strong current magnetic field interference, or high temperature environment, DADISICK sensors can be used for fixtures, molds and other equipment. Reliable performance and perfect solutions bring a smooth production process to automobile manufacturing. In the welding of various high-current welding machines, the strong magnetic field interference generated by the current and the high-temperature heat conduction generated by the arc will affect the sensors in the fixture molds. Reliable performance products must be selected to ensure normal operation.



## All-metal integrated housing anti-washing series

A large number of intelligent warehousing and logistics facilities, such as AGV trolleys and rail-to-rail stackers, are equipped with our sensors to realize the control of rotating positioning and lifting devices, etc., providing very stable and durable high-reliability products. Under the high requirements of small installation space and long detection distance, this series of products is the best choice for customers with strict cost control. Choosing this series of products is the best choice for customers with strict cost control.

## High-pressure 1000Bar hydraulic cylinder series

The stable and reliable hydraulic cylinder telescopic more often uses DADISICK's inductive proximity sensors with a high pressure resistance of up to 1000Bar to achieve the control of the origin. Ceramic chips are used as high-voltage products at the induction level and stainless steel integrated housings are used to achieve high-pressure resistant applications. DC10-30V two-wire and three-wire products are also provided.



## Analog output series for position correction and control devices



In detecting the offset position of the controlled parts of the fixture, analog output proximity sensors are often used in wire reel correction, and the size of the offset is controlled by the size of the detection distance. This use can be installed and tested in a very small position space. We have successfully provided stable and accurate products for many parts manufacturers and wire rope winding equipment, including 0-10V voltage output and 4-20mA current output and current + voltage output products. The detectable distance can be adjusted between 0-50mm.

## Shoemaking, textile and papermaking machinery series products

Whichever manufacturer of shoemaking machines, textile machines and papermaking machines has long equipped the mechanical equipment they produce with more automated operation technologies, these control technologies are also equipped with high-quality sensors to achieve their control conditions. They require products with higher switching frequency accuracy and better stability, and they need a variety of products with unconventional dimensions. We tailor new outer shell dimensions for them one by one to meet their needs.



# Proximity Sensor Model Specifications

**C R 6.5 01 NO Z A A 3 A H** (CR6.5-01NO-ZAA-3A-H)

**Special Instructions:** R: Round head

**Shell material:**  
 H: nickel-plated brass; S: stainless steel; L: aluminum alloy;  
 P: PBT; T: Teflon; F: PTFE; M: POM;

**Short circuit protection:**  
 A: Standard type with short circuit protection  
 M: Short type with short circuit protection  
 S: Standard type without short circuit protection  
 R: Ultra short type with short circuit protection

**Wiring method:**  
 2: 2-wire 5: 5-wire type 2E: 2 wire+M8 connector 2T: 2 wire+M12 connector  
 3: 3-wire E: M8 connector 3E: 3 wire+M8 connector 3T: 3 wire+M12 connector  
 4: 4-wire T: M12 connector 4E: 4 wire+M8 connector 4T: 4 wire+M12 connector

**Voltage:**  
 A:DC10-30V B:DC5-36V C:DC10-55V D:DC10-60V  
 E:DC18-30V F:DC6-12V G:AC20-250V H:AC/DC20-250V

**Installation method:** A: Shielded B: Non-shielded

**Connection method:** Y: Plug-in type Z: Cable type

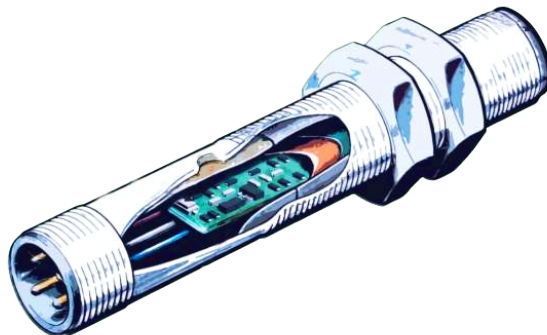
**Output mode:**  
 NC: NPN NC; NO: NPN NO  
 PC: PNP NC; PO: PNP NO  
 NS: NPN NO&NC; PS: PNP NO&NC  
 HC: DC NC; HO: DC NO  
 AC: AC NC; AO: AC NO  
 HS: DC NO&NC; AS: AC NO&NC  
 I: analog current; U: analog voltage  
 TC: AC&DC NC; TO: AC&DC NO  
 TS: AC/DC NO&NC; V: Current + voltage output  
 NA: Explosion-proof type

**Detection distance:** 1mm-50mm

**Specification(mm):** φ3, φ4, M4, M5, φ6.5, M8, M12, M18, M30

**Type:**  
 R: Standard type;  
 X: Ultra-small;  
 B: Explosion-proof type;  
 J: All-metal type;  
 P: High-pressure resistant type;  
 G: High-temperature resistant;  
 Z: Low-temperature resistant type;  
 C: Limit switch type;  
 D: Anti-welding slag and high-magnetic type;  
 F: Corrosion-resistant type;  
 A: Analog type;  
 I: Ring type;  
 E: Square type

**Series:**  
 L: Inductive sensor  
 C: Capacitive sensor



## Capacitive Type

### Proximity sensors

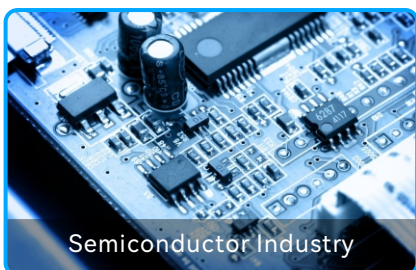
This series features wide range of objects to be detected, can detect metal substances, non-metal substances (such as: liquid, wood, plastic, paper, etc.)

### Features:

- Specifications:  $\phi 6.5$ , M8, M12, M18, M30,  $\phi 34$ ;
- Detection distance: 0.6-35mm;
- Switching frequency: 25-300KHZ;
- Product certification: CE, ROHS.

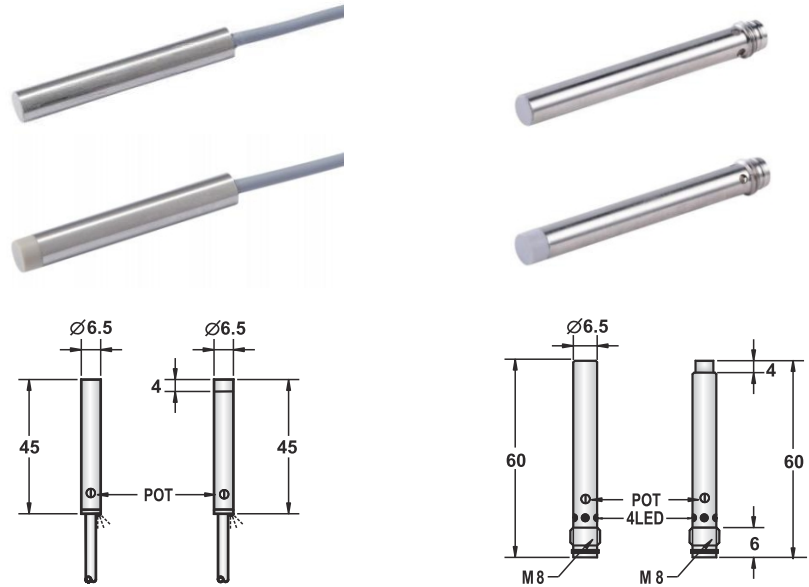


## Application Industry



# Product Parameters

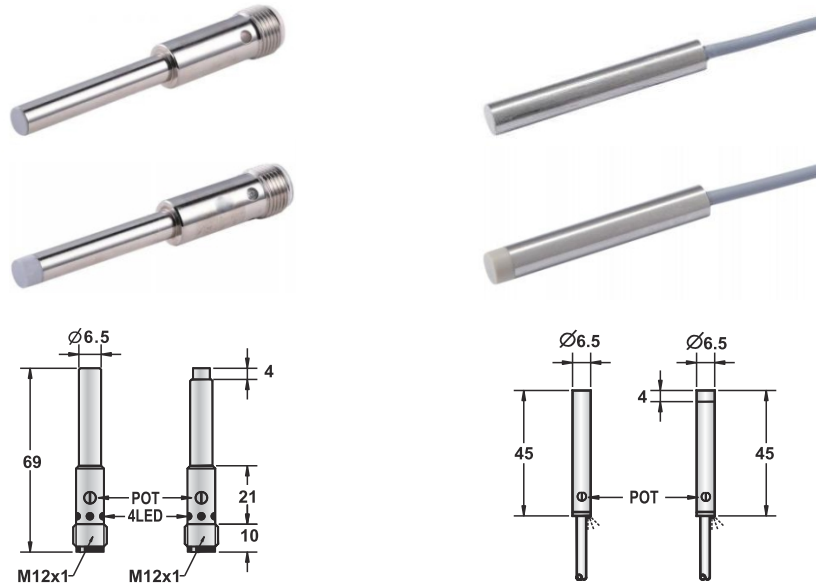
φ6.5 Series  
 Capacitive type



Size category	φ6.5		φ6.5	
	● Shielded	○ Non-shielded	●	○
Sn: mm	0.1-1mm Adjustable		0.1-2mm Adjustable	
Shell material	Brass nickel plated		Brass nickel plated	
● LED display ○ No LED display	●		●	
Operating voltage	10-30VDC		10-30VDC	
Allowable pulsating voltage	<10%		<10%	
No-load current	<10mA		<10mA	
Maximum load current	200mA		200mA	
Leakage current	<0.01mA		<0.01mA	
Voltage drop	<2V		<2V	
Switching frequency	100HZ		100HZ	
Response time	1.5ms		1.5ms	
Switching hysteresis	<15%(Sr)		<15%(Sr)	
Repeat accuracy	<5%(Sr)		<5%(Sr)	
Protection level	IP67		IP67	
Operating temperature	-25°C - +70°C		-25°C - +70°C	
Temperature drift	<10%(Sr)		<10%(Sr)	
Short circuit protection/reverse polarity protection	Yes		Yes	
Overload protection current	220mA		220mA	
Sensing surface material	PBT		PBT	
Connection method	2m oil-proof PVC cable 3 φ 3x0.15		M8 Connector	
Product Model				
DC 3 wire 10-30V NPN NO	CR6.5-01NO-ZAA-3A-H	CR6.5-02NO-ZBA-3A-H	CR6.5-01NO-YAA-EA-H	CR6.5-02NO-YBA-EA-H
DC 3 wire 10-30V NPN NC	CR6.5-01NC-ZAA-3A-H	CR6.5-02NC-ZBA-3A-H	CR6.5-01NC-YAA-EA-H	CR6.5-02NC-YBA-EA-H
DC 3 wire 10-30V PNP NO	CR6.5-01PO-ZAA-3A-H	CR6.5-02PO-ZBA-3A-H	CR6.5-01PO-YAA-EA-H	CR6.5-02PO-YBA-EA-H
DC 3 wire 10-30V PNP NC	CR6.5-01PC-ZAA-3A-H	CR6.5-02PC-ZBA-3A-H	CR6.5-01PC-YAA-EA-H	CR6.5-02PC-YBA-EA-H
DC 4 wire 10-30V Convertible PNP (NO&NC)				
DC 4 wire 10-30V Convertible NPN (NO&NC)				
DC 2 wire 10-60V NO				
DC 2 wire 10-60V NC				
DC 3 wire 10-55V NPN NO				
DC 3 wire 10-55V NPN NC				
DC 3 wire 10-55V PNP NO				
DC 3 wire 10-55V PNP NC				
DC 3 wire 5-36V NPN NO				
DC 3 wire 5-36V NPN NC				
DC 3 wire 5-36V PNP NO				
DC 3 wire 5-36V PNP NC				
DC 4 wire 5-36V Convertible PNP (NO&NC)				
DC 4 wire 5-36V Convertible NPN (NO&NC)				

# Product Parameters

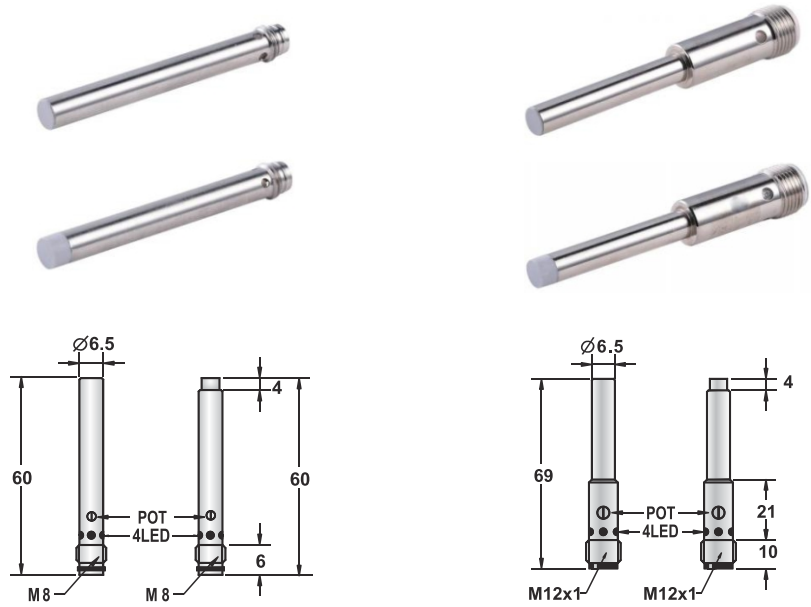
φ6.5 Series  
 Capacitive type



Size category	φ6.5		φ6.5	
● Shielded ○ Non-shielded	●	○	●	○
Sn: mm	0.1-1mm Adjustable	0.1-2 mm Adjustable	0.1-2 mm Adjustable	0.1-4 mm Adjustable
Shell material	Brass nickel plated		Brass nickel plated	
● LED display ○ No LED display	●		●	
Operating voltage	10-30VDC		10-30VDC	
Allowable pulsating voltage	<10%		<10%	
No-load current	<10mA		<10mA	
Maximum load current	200mA		200mA	
Leakage current	<0.01mA		<0.01mA	
Voltage drop	<2V		<2V	
Switching frequency	100HZ		100HZ	
Response time	1.5ms		1.5ms	
Switching hysteresis	<15%(Sr)		<15%(Sr)	
Repeat accuracy	<5%(Sr)		<5%(Sr)	
Protection level	IP67		IP67	
Operating temperature	-25°C - +70°C		-25°C - +70°C	
Temperature drift	<10%(Sr)		<10%(Sr)	
Short circuit protection/reverse polarity protection	Yes		Yes	
Overload protection current	220mA		220mA	
Sensing surface material	PBT		PBT	
Connection method	M12 Connector		2m oil-proof PVC cable 3 φ 3x0.15	
Product Model				
DC 3 wire 10-30V NPN NO	CR6.5-01NO-YAA-TA-H	CR6.5-02NO-YBA-TA-H	CR6.5-02NO-ZAA-3A-H	CR6.5-04NO-ZBA-3A-H
DC 3 wire 10-30V NPN NC	CR6.5-01NC-YAA-TA-H	CR6.5-02NC-YBA-TA-H	CR6.5-02NC-ZAA-3A-H	CR6.5-04NC-ZBA-3A-H
DC 3 wire 10-30V PNP NO	CR6.5-01PO-YAA-TA-H	CR6.5-02PO-YBA-TA-H	CR6.5-02PO-ZAA-3A-H	CR6.5-04PO-ZBA-3A-H
DC 3 wire 10-30V PNP NC	CR6.5-01PC-YAA-TA-H	CR6.5-02PC-YBA-TA-H	CR6.5-02PC-ZAA-3A-H	CR6.5-04PC-ZBA-3A-H
DC 4 wire 10-30V Convertible PNP (NO&NC)				
DC 4 wire 10-30V Convertible NPN (NO&NC)				
DC 2 wire 10-60V NO				
DC 2 wire 10-60V NC				
DC 3 wire 10-55V NPN NO				
DC 3 wire 10-55V NPN NC				
DC 3 wire 10-55V PNP NO				
DC 3 wire 10-55V PNP NC				
DC 3 wire 5-36V NPN NO				
DC 3 wire 5-36V NPN NC				
DC 3 wire 5-36V PNP NO				
DC 3 wire 5-36V PNP NC				
DC 4 wire 5-36V Convertible PNP (NO&NC)				
DC 4 wire 5-36V Convertible NPN (NO&NC)				

# Product Parameters

φ6.5 Series  
 Capacitive type

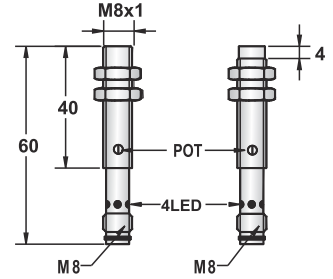
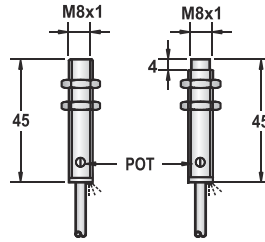


Size category	φ6.5		φ6.5	
● Shielded ○ Non-shielded	●	○	●	○
Sn: mm	0.1-2 mm Adjustable	0.1-4 mm Adjustable	0.1-2 mm Adjustable	0.1-4 mm Adjustable
Shell material	Brass nickel plated		Brass nickel plated	
● LED display ○ No LED display	●		●	
Operating voltage	10-30VDC		10-30VDC	
Allowable pulsating voltage	<10%		<10%	
No-load current	<10mA		<10mA	
Maximum load current	200mA		200mA	
Leakage current	<0.01mA		<0.01mA	
Voltage drop	<2V		<2V	
Switching frequency	100HZ		100HZ	
Response time	1.5ms		1.5ms	
Switching hysteresis	<15%(Sr)		<15%(Sr)	
Repeat accuracy	<5%(Sr)		<5%(Sr)	
Protection level	IP67		IP67	
Operating temperature	-25°C - +70°C		-25°C - +70°C	
Temperature drift	<10%(Sr)		<10%(Sr)	
Short circuit protection/reverse polarity protection	Yes		Yes	
Overload protection current	220mA		220mA	
Sensing surface material	PBT		PBT	
Connection method	M8 Connector		M12 Connector	
Product Model				
DC 3 wire 10-30V NPN NO	CR6.5-02NO-YAA-EA-H	CR6.5-04NO-YBA-EA-H	CR6.5-02NO-YAA-TA-H	CR6.5-04NO-YBA-TA-H
DC 3 wire 10-30V NPN NC	CR6.5-02NC-YAA-EA-H	CR6.5-04NC-YBA-EA-H	CR6.5-02NC-YAA-TA-H	CR6.5-04NC-YBA-TA-H
DC 3 wire 10-30V PNP NO	CR6.5-02PO-YAA-EA-H	CR6.5-04PO-YBA-EA-H	CR6.5-02PO-YAA-TA-H	CR6.5-04PO-YBA-TA-H
DC 3 wire 10-30V PNP NC	CR6.5-02PC-YAA-EA-H	CR6.5-04PC-YBA-EA-H	CR6.5-02PC-YAA-TA-H	CR6.5-04PC-YBA-TA-H
DC 4 wire 10-30V Convertible PNP (NO&NC)				
DC 4 wire 10-30V Convertible NPN (NO&NC)				
DC 2 wire 10-60V NO				
DC 2 wire 10-60V NC				
DC 3 wire 10-55V NPN NO				
DC 3 wire 10-55V NPN NC				
DC 3 wire 10-55V PNP NO				
DC 3 wire 10-55V PNP NC				
DC 3 wire 5-36V NPN NO				
DC 3 wire 5-36V NPN NC				
DC 3 wire 5-36V PNP NO				
DC 3 wire 5-36V PNP NC				
DC 4 wire 5-36V Convertible PNP (NO&NC)				
DC 4 wire 5-36V Convertible NPN (NO&NC)				



# Product Parameters

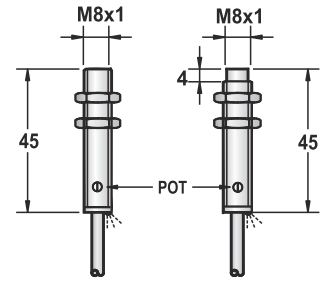
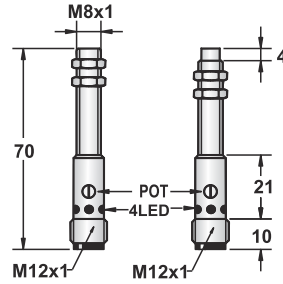
## M8 Series Capacitive type



Size category	M8		M8	
	● Shielded	○ Non-shielded	●	○
Sn: mm	0.1-1mm Adjustable	0.1-2 mm Adjustable	0.1-1mm Adjustable	0.1-2 mm Adjustable
Shell material	Brass nickel plated		Brass nickel plated	
● LED display ○ No LED display	●		●	
Operating voltage	10-30VDC		10-30VDC	
Allowable pulsating voltage	<10%		<10%	
No-load current	<10mA		<10mA	
Maximum load current	200mA		200mA	
Leakage current	<0.01mA		<0.01mA	
Voltage drop	<2V		<2V	
Switching frequency	100HZ		100HZ	
Response time	1.5ms		1.5ms	
Switching hysteresis	<15%(Sr)		<15%(Sr)	
Repeat accuracy	<5%(Sr)		<5%(Sr)	
Protection level	IP67		IP67	
Operating temperature	-25°C - +70°C		-25°C - +70°C	
Temperature drift	<10%(Sr)		<10%(Sr)	
Short circuit protection/reverse polarity protection	Yes		Yes	
Overload protection current	220mA		220mA	
Sensing surface material	PBT		PBT	
Connection method	2m oil-proof PVC cable 3 φ 3x0.15		M8 Connector	
Product Model				
DC 3 wire 10-30V NPN NO	CR08-01NO-ZAA-3A-H	CR08-02NO-ZBA-3A-H	CR08-01NO-YAA-EA-H	CR08-02NO-YBA-EA-H
DC 3 wire 10-30V NPN NC	CR08-01NC-ZAA-3A-H	CR08-02NC-ZBA-3A-H	CR08-01NC-YAA-EA-H	CR08-02NC-YBA-EA-H
DC 3 wire 10-30V PNP NO	CR08-01PO-ZAA-3A-H	CR08-02PO-ZBA-3A-H	CR08-01PO-YAA-EA-H	CR08-02PO-YBA-EA-H
DC 3 wire 10-30V PNP NC	CR08-01PC-ZAA-3A-H	CR08-02PC-ZBA-3A-H	CR08-01PC-YAA-EA-H	CR08-02PC-YBA-EA-H
DC 4 wire 10-30V Convertible PNP (NO&NC)				
DC 4 wire 10-30V Convertible NPN (NO&NC)				
DC 2 wire 10-60V NO				
DC 2 wire 10-60V NC				
DC 3 wire 10-55V NPN NO				
DC 3 wire 10-55V NPN NC				
DC 3 wire 10-55V PNP NO				
DC 3 wire 10-55V PNP NC				
DC 3 wire 5-36V NPN NO				
DC 3 wire 5-36V NPN NC				
DC 3 wire 5-36V PNP NO				
DC 3 wire 5-36V PNP NC				
DC 4 wire 5-36V Convertible PNP (NO&NC)				
DC 4 wire 5-36V Convertible NPN (NO&NC)				

# Product Parameters

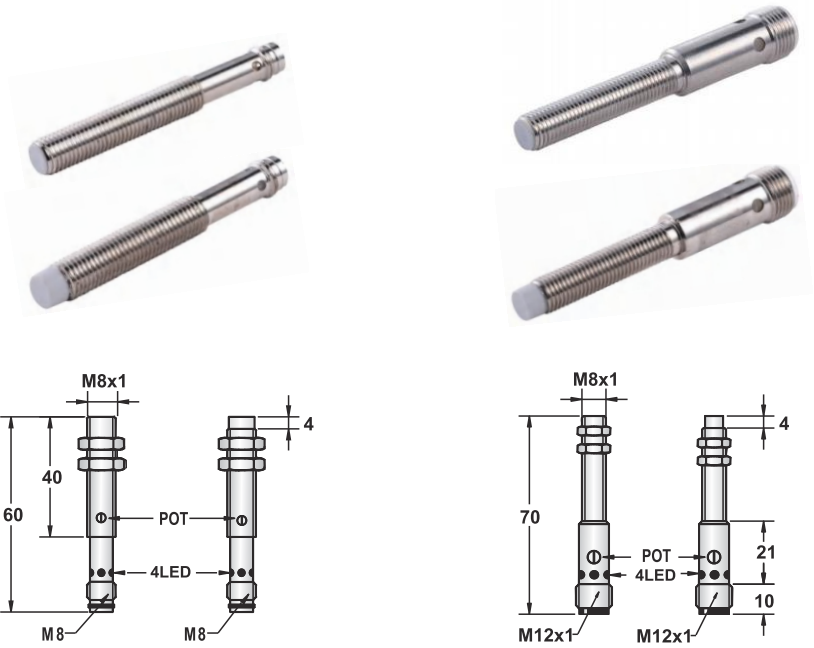
## M8 Series Capacitive type



Size category	M8		M8	
● Shielded ○ Non-shielded	●	○	●	○
Sn: mm	0.1-1mm Adjustable	0.1-2 mm Adjustable	0.1-2mm Adjustable	0.1-4mm Adjustable
Shell material	Brass nickel plated		Brass nickel plated	
● LED display ○ No LED display	●		●	
Operating voltage	10-30VDC		10-30VDC	
Allowable pulsating voltage	<10%		<10%	
No-load current	<10mA		<10mA	
Maximum load current	200mA		200mA	
Leakage current	<0.01mA		<0.01mA	
Voltage drop	<2V		<2V	
Switching frequency	100HZ		100HZ	
Response time	1.5ms		1.5ms	
Switching hysteresis	<15%(Sr)		<15%(Sr)	
Repeat accuracy	<5%(Sr)		<5%(Sr)	
Protection level	IP67		IP67	
Operating temperature	-25°C - +70°C		-25°C - +70°C	
Temperature drift	<10%(Sr)		<10%(Sr)	
Short circuit protection/reverse polarity protection	Yes		Yes	
Overload protection current	220mA		220mA	
Sensing surface material	PBT		PBT	
Connection method	M12 Connector		2m oil-proof PVC cable 3φ 3x0.15	
Product Model				
DC 3 wire 10-30V NPN NO	CR08-01NO-YAA-TA-H	CR08-02NO-YBA-TA-H	CR08-02NO-ZAA-3A-H	CR08-04NO-ZBA-3A-H
DC 3 wire 10-30V NPN NC	CR08-01NC-YAA-TA-H	CR08-02NC-YBA-TA-H	CR08-02NC-ZAA-3A-H	CR08-04NC-ZBA-3A-H
DC 3 wire 10-30V PNP NO	CR08-01PO-YAA-TA-H	CR08-02PO-YBA-TA-H	CR08-02PO-ZAA-3A-H	CR08-04PO-ZBA-3A-H
DC 3 wire 10-30V PNP NC	CR08-01PC-YAA-TA-H	CR08-02PC-YBA-TA-H	CR08-02PC-ZAA-3A-H	CR08-04PC-ZBA-3A-H
DC 4 wire 10-30V Convertible PNP (NO&NC)				
DC 4 wire 10-30V Convertible NPN (NO&NC)				
DC 2 wire 10-60V NO				
DC 2 wire 10-60V NC				
DC 3 wire 10-55V NPN NO				
DC 3 wire 10-55V NPN NC				
DC 3 wire 10-55V PNP NO				
DC 3 wire 10-55V PNP NC				
DC 3 wire 5-36V NPN NO				
DC 3 wire 5-36V NPN NC				
DC 3 wire 5-36V PNP NO				
DC 3 wire 5-36V PNP NC				
DC 4 wire 5-36V Convertible PNP (NO&NC)				
DC 4 wire 5-36V Convertible NPN (NO&NC)				

# Product Parameters

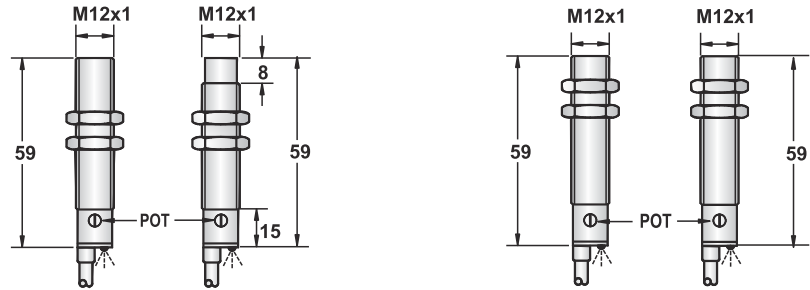
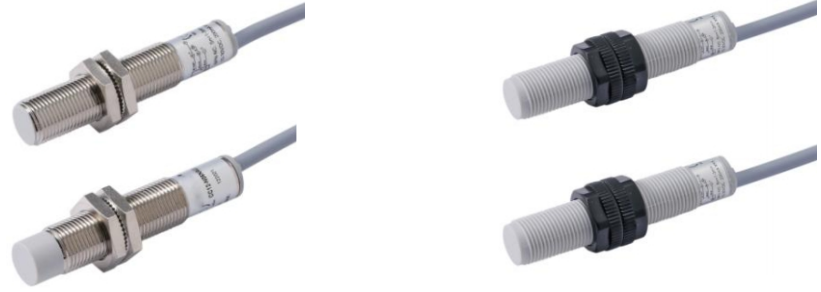
## M8 Series Capacitive type



Size category	M8		M8	
● Shielded ○ Non-shielded	●	○	●	○
Sn: mm	0.1-2mm Adjustable	0.1-4mm Adjustable	0.1-2mm Adjustable	0.1-4mm Adjustable
Shell material	Brass nickel plated		Brass nickel plated	
● LED display ○ No LED display	●		●	
Operating voltage	10-30VDC		10-30VDC	
Allowable pulsating voltage	<10%		<10%	
No-load current	<10mA		<10mA	
Maximum load current	200mA		200mA	
Leakage current	<0.01mA		<0.01mA	
Voltage drop	<2V		<2V	
Switching frequency	100HZ		100HZ	
Response time	1.5ms		1.5ms	
Switching hysteresis	<15%(Sr)		<15%(Sr)	
Repeat accuracy	<5%(Sr)		<5%(Sr)	
Protection level	IP67		IP67	
Operating temperature	-25°C - +70°C		-25°C - +70°C	
Temperature drift	<10%(Sr)		<10%(Sr)	
Short circuit protection/reverse polarity protection	Yes		Yes	
Overload protection current	220mA		220mA	
Sensing surface material	PBT		PBT	
Connection method	M8 Connector		M12 Connector	
Product Model				
DC 3 wire 10-30V NPN NO	CR08-02NO-YAA-EA-H	CR08-04NO-YBA-EA-H	CR08-02NO-YAA-TA-H	CR08-04NO-YBA-TA-H
DC 3 wire 10-30V NPN NC	CR08-02NC-YAA-EA-H	CR08-04NC-YBA-EA-H	CR08-02NC-YAA-TA-H	CR08-04NC-YBA-TA-H
DC 3 wire 10-30V PNP NO	CR08-02PO-YAA-EA-H	CR08-04PO-YBA-EA-H	CR08-02PO-YAA-TA-H	CR08-04PO-YBA-TA-H
DC 3 wire 10-30V PNP NC	CR08-02PC-YAA-EA-H	CR08-04PC-YBA-EA-H	CR08-02PC-YAA-TA-H	CR08-04PC-YBA-TA-H
DC 4 wire 10-30V Convertible PNP (NO&NC)				
DC 4 wire 10-30V Convertible NPN (NO&NC)				
DC 2 wire 10-60V NO				
DC 2 wire 10-60V NC				
DC 3 wire 10-55V NPN NO				
DC 3 wire 10-55V NPN NC				
DC 3 wire 10-55V PNP NO				
DC 3 wire 10-55V PNP NC				
DC 3 wire 5-36V NPN NO				
DC 3 wire 5-36V NPN NC				
DC 3 wire 5-36V PNP NO				
DC 3 wire 5-36V PNP NC				
DC 4 wire 5-36V Convertible PNP (NO&NC)				
DC 4 wire 5-36V Convertible NPN (NO&NC)				

# Product Parameters

## M12 Series Capacitive type



### Size category

### M12

### M12

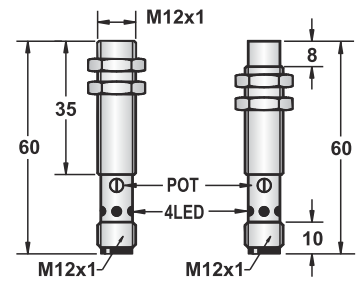
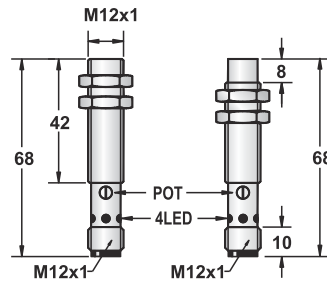
	M12		M12	
	● Shielded	○ Non-shielded	● Shielded	○ Non-shielded
Sn: mm	1-3mm Adjustable	1-6 mm Adjustable	1-3mm Adjustable	1-6 mm Adjustable
Shell material	Brass nickel plated		PBT	
● LED display ○ No LED display	●		●	
Operating voltage	10-30VDC		10-30VDC	
Allowable pulsating voltage	<10%		<10%	
No-load current	<10mA		<10mA	
Maximum load current	200mA		200mA	
Leakage current	<0.01mA		<0.01mA	
Voltage drop	<2V		<2V	
Switching frequency	100HZ		100HZ	
Response time	1.5ms		1.5ms	
Switching hysteresis	<15%(Sr)		<15%(Sr)	
Repeat accuracy	<5%(Sr)		<5%(Sr)	
Protection level	IP67		IP67	
Operating temperature	-25°C - +70°C		-25°C - +70°C	
Temperature drift	<10%(Sr)		<10%(Sr)	
Short circuit protection/reverse polarity protection	Yes		Yes	
Overload protection current	220mA		220mA	
Sensing surface material	PBT		PBT	
Connection method	2m oil-proof PVC cable 4 φ 3x0.15, 4 φ 4x0.15		2m oil-proof PVC cable 4 φ 3x0.15, 4 φ 4x0.15	

### Product Model

DC 3 wire 10-30V NPN NO	CR12-03NO-ZAA-3A-H	CR12-06NO-ZBA-3A-H	CR12-03NO-ZAA-3A-P	CR12-06NO-ZBA-3A-P
DC 3 wire 10-30V NPN NC	CR12-03NC-ZAA-3A-H	CR12-06NC-ZBA-3A-H	CR12-03NC-ZAA-3A-P	CR12-06NC-ZBA-3A-P
DC 3 wire 10-30V PNP NO	CR12-03PO-ZAA-3A-H	CR12-06PO-ZBA-3A-H	CR12-03PO-ZAA-3A-P	CR12-06PO-ZBA-3A-P
DC 3 wire 10-30V PNP NC	CR12-03PC-ZAA-3A-H	CR12-06PC-ZBA-3A-H	CR12-03PC-ZAA-3A-P	CR12-06PC-ZBA-3A-P
DC 4 wire 10-30V Convertible PNP (NO&NC)	CR12-03P-S-ZAA-4A-H	CR12-06P-S-ZBA-4A-H	CR12-03P-S-ZAA-4A-P	CR12-06P-S-ZBA-4A-P
DC 4 wire 10-30V Convertible NPN (NO&NC)	CR12-03N-S-ZAA-4A-H	CR12-06N-S-ZBA-4A-H	CR12-03N-S-ZAA-4A-P	CR12-06N-S-ZBA-4A-P
DC 2 wire 10-60V NO				
DC 2 wire 10-60V NC				
DC 3 wire 10-55V NPN NO				
DC 3 wire 10-55V NPN NC				
DC 3 wire 10-55V PNP NO				
DC 3 wire 10-55V PNP NC				
DC 3 wire 5-36V NPN NO				
DC 3 wire 5-36V NPN NC				
DC 3 wire 5-36V PNP NO				
DC 3 wire 5-36V PNP NC				
DC 4 wire 5-36V Convertible PNP (NO&NC)				
DC 4 wire 5-36V Convertible NPN (NO&NC)				

# Product Parameters

M12 Series  
Capacitive type



## Size category

### M12

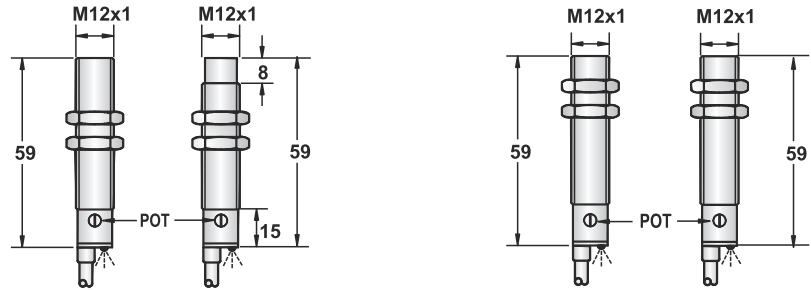
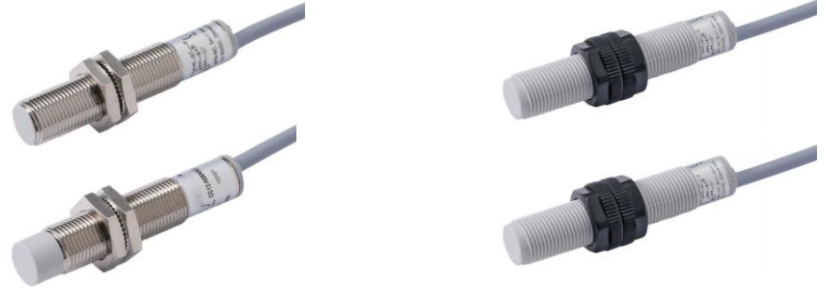
### M12

● Shielded ○ Non-shielded	● 1-3mm Adjustable ○ 1-6 mm Adjustable	● 1-3mm Adjustable ○ 1-6 mm Adjustable
Sn: mm		
Shell material	Brass nickel plated	PBT
● LED display ○ No LED display	●	●
Operating voltage	10-30VDC	10-30VDC
Allowable pulsating voltage	<10%	<10%
No-load current	<10mA	<10mA
Maximum load current	200mA	200mA
Leakage current	<0.01mA	<0.01mA
Voltage drop	<2V	<2V
Switching frequency	100HZ	100HZ
Response time	1.5ms	1.5ms
Switching hysteresis	<15%(Sr)	<15%(Sr)
Repeat accuracy	<5%(Sr)	<5%(Sr)
Protection level	IP67	IP67
Operating temperature	-25°C - +70°C	-25°C - +70°C
Temperature drift	<10%(Sr)	<10%(Sr)
Short circuit protection/reverse polarity protection	Yes	Yes
Overload protection current	220mA	220mA
Sensing surface material	PBT	PBT
Connection method	M12 Connector	M12 Connector

Product Model	CR12-03NO-YAA-TA-H	CR12-06NO-YBA-TA-H	CR12-03NO-YAA-TA-P	CR12-06NO-YBA-TA-P
DC 3 wire 10-30V NPN NO	CR12-03NC-YAA-TA-H	CR12-06NC-YBA-TA-H	CR12-03NC-YAA-TA-P	CR12-06NC-YBA-TA-P
DC 3 wire 10-30V NPN NC	CR12-03PO-YAA-TA-H	CR12-06PO-YBA-TA-H	CR12-03PO-YAA-TA-P	CR12-06PO-YBA-TA-P
DC 3 wire 10-30V PNP NO	CR12-03PC-YAA-TA-H	CR12-06PC-YBA-TA-H	CR12-03PC-YAA-TA-P	CR12-06PC-YBA-TA-P
DC 3 wire 10-30V PNP NC	CR12-03PS-YAA-TA-H	CR12-06PS-YBA-TA-H	CR12-03PS-YAA-TA-P	CR12-06PS-YBA-TA-P
DC 4 wire 10-30V Convertible PNP (NO&NC)	CR12-03NS-YAA-TA-H	CR12-06NS-YBA-TA-H	CR12-03NS-YAA-TA-P	CR12-06NS-YBA-TA-P
DC 4 wire 10-30V Convertible NPN (NO&NC)				
DC 2 wire 10-60V NO				
DC 2 wire 10-60V NC				
DC 3 wire 10-55V NPN NO				
DC 3 wire 10-55V NPN NC				
DC 3 wire 10-55V PNP NO				
DC 3 wire 10-55V PNP NC				
DC 3 wire 5-36V NPN NO				
DC 3 wire 5-36V NPN NC				
DC 3 wire 5-36V PNP NO				
DC 3 wire 5-36V PNP NC				
DC 4 wire 5-36V Convertible PNP (NO&NC)				
DC 4 wire 5-36V Convertible NPN (NO&NC)				

# Product Parameters

M12 Series  
Capacitive type



## Size category

### M12

### M12

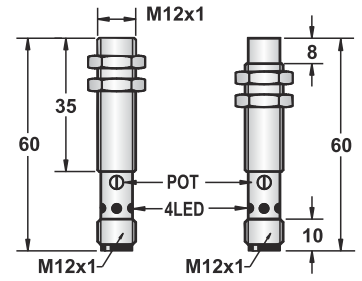
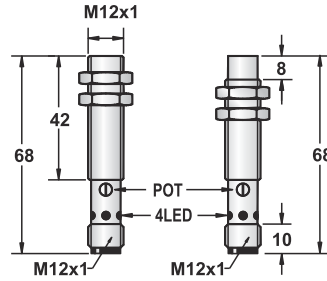
	M12		M12	
	● Shielded	○ Non-shielded	● Shielded	○ Non-shielded
Sn: mm	1-6mm Adjustable	1-8mm Adjustable	1-6mm Adjustable	1-8mm Adjustable
Shell material	Brass nickel plated		PBT	
	● LED display ○ No LED display		● LED display ○ No LED display	
Operating voltage	10-30VDC		10-30VDC	
Allowable pulsating voltage	<10%		<10%	
No-load current	<10mA		<10mA	
Maximum load current	200mA		200mA	
Leakage current	<0.01mA		<0.01mA	
Voltage drop	<2V		<2V	
Switching frequency	100HZ		100HZ	
Response time	1.5ms		1.5ms	
Switching hysteresis	<15%(Sr)		<15%(Sr)	
Repeat accuracy	<5%(Sr)		<5%(Sr)	
Protection level	IP67		IP67	
Operating temperature	-25°C - +70°C		-25°C - +70°C	
Temperature drift	<10%(Sr)		<10%(Sr)	
Short circuit protection/reverse polarity protection	Yes		Yes	
Overload protection current	220mA		220mA	
Sensing surface material	PBT		PBT	
Connection method	2m oil-proof PVC cable 4 φ 3x0.15, 4 φ 4x0.15		2m oil-proof PVC cable 4 φ 3x0.15, 4 φ 4x0.15	

## Product Model

DC 3 wire 10-30V NPN NO	CR12-06NO-ZAA-3A-H	CR12-08NO-ZBA-3A-H	CR12-06NO-ZAA-3A-P	CR12-08NO-ZBA-3A-P
DC 3 wire 10-30V NPN NC	CR12-06NC-ZAA-3A-H	CR12-08NC-ZBA-3A-H	CR12-06NC-ZAA-3A-P	CR12-08NC-ZBA-3A-P
DC 3 wire 10-30V PNP NO	CR12-06PO-ZAA-3A-H	CR12-08PO-ZBA-3A-H	CR12-06PO-ZAA-3A-P	CR12-08PO-ZBA-3A-P
DC 3 wire 10-30V PNP NC	CR12-06PC-ZAA-3A-H	CR12-08PC-ZBA-3A-H	CR12-06PC-ZAA-3A-P	CR12-08PC-ZBA-3A-P
DC 4 wire 10-30V Convertible PNP (NO&NC)	CR12-06PS-ZAA-4A-H	CR12-08PS-ZBA-4A-H	CR12-06P-S-ZAA-4A-P	CR12-08P-S-ZBA-4A-P
DC 4 wire 10-30V Convertible NPN (NO&NC)	CR12-06NS-ZAA-4A-H	CR12-08NS-ZBA-4A-H	CR12-06N-S-ZAA-4A-P	CR12-08N-S-ZBA-4A-P
DC 2 wire 10-60V NO				
DC 2 wire 10-60V NC				
DC 3 wire 10-55V NPN NO				
DC 3 wire 10-55V NPN NC				
DC 3 wire 10-55V PNP NO				
DC 3 wire 10-55V PNP NC				
DC 3 wire 5-36V NPN NO				
DC 3 wire 5-36V NPN NC				
DC 3 wire 5-36V PNP NO				
DC 3 wire 5-36V PNP NC				
DC 4 wire 5-36V Convertible PNP (NO&NC)				
DC 4 wire 5-36V Convertible NPN (NO&NC)				

# Product Parameters

M12 Series  
Capacitive type



## Size category

### M12

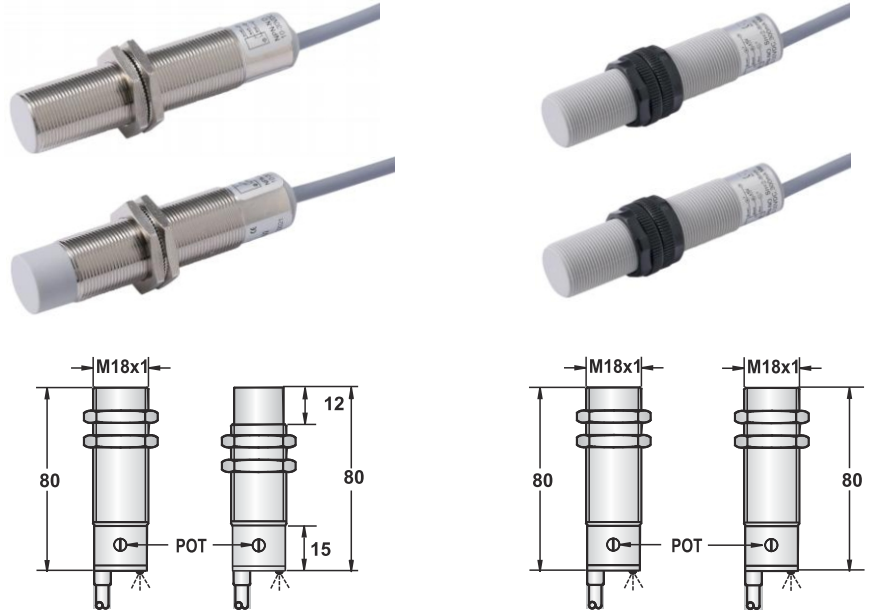
### M12

● Shielded    ○ Non-shielded	●    ○	●    ○
Sn: mm	1-6 mm Adjustable    1-8 mm Adjustable	1-6 mm Adjustable    1-8 mm Adjustable
Shell material	Brass nickel plated	PBT
● LED display    ○ No LED display	●	●
Operating voltage	10-30VDC	10-30VDC
Allowable pulsating voltage	<10%	<10%
No-load current	<10mA	<10mA
Maximum load current	200mA	200mA
Leakage current	<0.01mA	<0.01mA
Voltage drop	<2V	<2V
Switching frequency	100HZ	100HZ
Response time	1.5ms	1.5ms
Switching hysteresis	<15%(Sr)	<15%(Sr)
Repeat accuracy	<5%(Sr)	<5%(Sr)
Protection level	IP67	IP67
Operating temperature	-25°C - +70°C	-25°C - +70°C
Temperature drift	<10%(Sr)	<10%(Sr)
Short circuit protection/reverse polarity protection	Yes	Yes
Overload protection current	220mA	220mA
Sensing surface material	PBT	PBT
Connection method	M12 Connector	M12 Connector

Product Model	CR12-06NO-YAA-TA-H	CR12-08NO-YBA-TA-H	CR12-06NO-YAA-TA-P	CR12-08NO-YBA-TA-P
DC 3 wire 10-30V NPN NO	CR12-06NC-YAA-TA-H	CR12-08NC-YBA-TA-H	CR12-06NC-YAA-TA-P	CR12-08NC-YBA-TA-P
DC 3 wire 10-30V NPN NC	CR12-06PO-YAA-TA-H	CR12-08PO-YBA-TA-H	CR12-06PO-YAA-TA-P	CR12-08PO-YBA-TA-P
DC 3 wire 10-30V PNP NO	CR12-06PC-YAA-TA-H	CR12-08PC-YBA-TA-H	CR12-06PC-YAA-TA-P	CR12-08PC-YBA-TA-P
DC 3 wire 10-30V PNP NC	CR12-06PS-YAA-TA-H	CR12-08PS-YBA-TA-H	CR12-06PS-YAA-TA-P	CR12-08PS-YBA-TA-P
DC 4 wire 10-30V Convertible PNP (NO&NC)	CR12-06NS-YAA-TA-H	CR12-08NS-YBA-TA-H	CR12-06NS-YAA-TA-P	CR12-08NS-YBA-TA-P
DC 4 wire 10-30V Convertible NPN (NO&NC)				
DC 2 wire 10-60V NO				
DC 2 wire 10-60V NC				
DC 3 wire 10-55V NPN NO				
DC 3 wire 10-55V NPN NC				
DC 3 wire 10-55V PNP NO				
DC 3 wire 10-55V PNP NC				
DC 3 wire 5-36V NPN NO				
DC 3 wire 5-36V NPN NC				
DC 3 wire 5-36V PNP NO				
DC 3 wire 5-36V PNP NC				
DC 4 wire 5-36V Convertible PNP (NO&NC)				
DC 4 wire 5-36V Convertible NPN (NO&NC)				

# Product Parameters

## M18 Series Capacitive type



### Size category

### M18

### M18

● Shielded ○ Non-shielded

● ○

● ○

Sn: mm

2-8 mm Adjustable

2-15 mm Adjustable

2-8 mm Adjustable

2-15 mm Adjustable

Shell material

Brass nickel plated

PBT

● LED display ○ No LED display

Operating voltage

10-30VDC

10-30VDC

Allowable pulsating voltage

<10%

<10%

No-load current

<10mA

<10mA

Maximum load current

300mA

300mA

Leakage current

<0.01mA

<0.01mA

Voltage drop

<2V

<2V

Switching frequency

100HZ

100HZ

Response time

1.5ms

1.5ms

Switching hysteresis

<15%(Sr)

<15%(Sr)

Repeat accuracy

<5%(Sr)

<5%(Sr)

Protection level

IP67

IP67

Operating temperature

-25°C - +70°C

-25°C - +70°C

Temperature drift

<10%(Sr)

<10%(Sr)

Short circuit protection/reverse polarity protection

Yes

Yes

Overload protection current

220mA

220mA

Sensing surface material

PBT

PBT

Connection method

2m oil-proof PVC cable  
5 φ 3x0.34, 5 φ 4x0.25

2m oil-proof PVC cable  
5 φ 3x0.34, 5 φ 4x0.25

Product Model

DC 3 wire 10-30V NPN NO

CR18-08NO-ZAA-3A-H

CR18-15NO-ZBA-3A-H

CR18-08NO-ZAA-3A-P

CR18-15NO-ZBA-3A-P

DC 3 wire 10-30V NPN NC

CR18-08NC-ZAA-3A-H

CR18-15NC-ZBA-3A-H

CR18-08NC-ZAA-3A-P

CR18-15NC-ZBA-3A-P

DC 3 wire 10-30V PNP NO

CR18-08PO-ZAA-3A-H

CR18-15PO-ZBA-3A-H

CR18-08PO-ZAA-3A-P

CR18-15PO-ZBA-3A-P

DC 3 wire 10-30V PNP NC

CR18-08PC-ZAA-3A-H

CR18-15PC-ZBA-3A-H

CR18-08PC-ZAA-3A-P

CR18-15PC-ZBA-3A-P

DC 4 wire 10-30V Convertible PNP (NO&NC)

CR18-08PS-ZAA-4A-H

CR18-15PS-ZBA-4A-H

CR18-08PS-ZAA-4A-P

CR18-15PS-ZBA-4A-P

DC 4 wire 10-30V Convertible NPN (NO&NC)

CR18-08NS-ZAA-4A-H

CR18-15NS-ZBA-4A-H

CR18-08NS-ZAA-4A-P

CR18-15NS-ZBA-4A-P

DC 2 wire 10-60V NO

DC 2 wire 10-60V NC

DC 3 wire 10-55V NPN NO

DC 3 wire 10-55V NPN NC

DC 3 wire 10-55V PNP NO

DC 3 wire 10-55V PNP NC

DC 3 wire 5-36V NPN NO

DC 3 wire 5-36V NPN NC

DC 3 wire 5-36V PNP NO

DC 3 wire 5-36V PNP NC

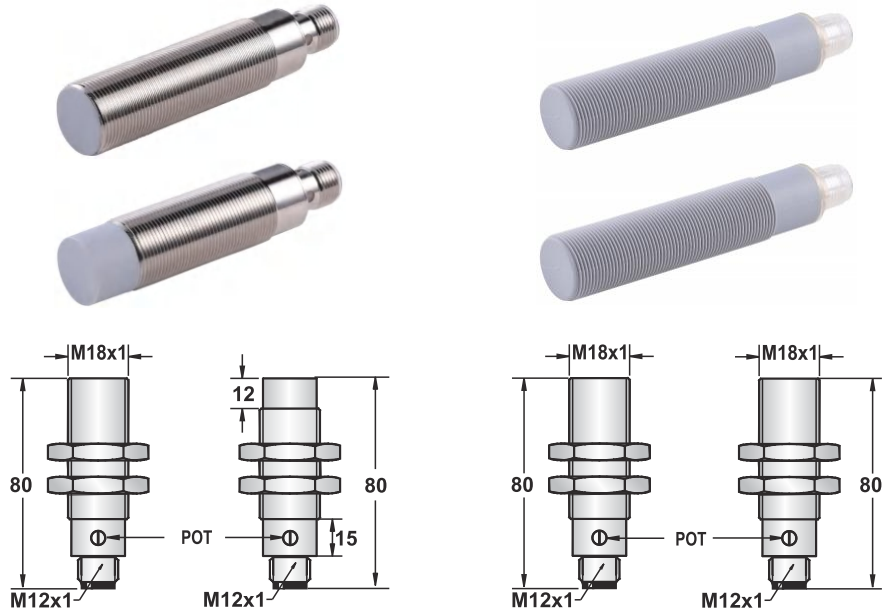
DC 4 wire 5-36V Convertible PNP (NO&NC)

DC 4 wire 5-36V Convertible NPN (NO&NC)



# Product Parameters

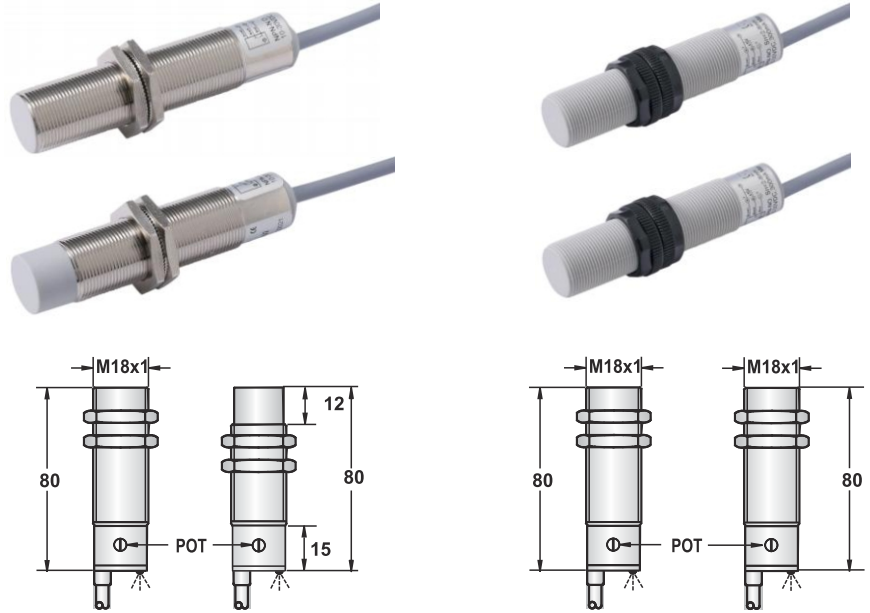
M18 Series  
Capacitive type



Size category	M18		M18	
● Shielded ○ Non-shielded	●	○	●	○
Sn: mm	2-8 mm Adjustable	2-15 mm Adjustable	2-8 mm Adjustable	2-15 mm Adjustable
Shell material	Brass nickel plated		PBT	
● LED display ○ No LED display	●		●	
Operating voltage	10-30VDC		10-30VDC	
Allowable pulsating voltage	<10%		<10%	
No-load current	<10mA		<10mA	
Maximum load current	300mA		300mA	
Leakage current	<0.01mA		<0.01mA	
Voltage drop	<2V		<2V	
Switching frequency	100HZ		100HZ	
Response time	1.5ms		1.5ms	
Switching hysteresis	<15%(Sr)		<15%(Sr)	
Repeat accuracy	<5%(Sr)		<5%(Sr)	
Protection level	IP67		IP67	
Operating temperature	-25°C - +70°C		-25°C - +70°C	
Temperature drift	<10%(Sr)		<10%(Sr)	
Short circuit protection/reverse polarity protection	Yes		Yes	
Overload protection current	220mA		220mA	
Sensing surface material	PBT		PBT	
Connection method	M12 Connector		M12 Connector	
Product Model				
DC 3 wire 10-30V NPN NO	CR18-08NO-YAA-TA-H	CR18-15NO-YBA-TA-H	CR18-08NO-YAA-TA-P	CR18-15NO-YBA-TA-P
DC 3 wire 10-30V NPN NC	CR18-08NC-YAA-TA-H	CR18-15NC-YBA-TA-H	CR18-08NC-YAA-TA-P	CR18-15NC-YBA-TA-P
DC 3 wire 10-30V PNP NO	CR18-08PO-YAA-TA-H	CR18-15PO-YBA-TA-H	CR18-08PO-YAA-TA-P	CR18-15PO-YBA-TA-P
DC 3 wire 10-30V PNP NC	CR18-08PC-YAA-TA-H	CR18-15PC-YBA-TA-H	CR18-08PC-YAA-TA-P	CR18-15PC-YBA-TA-P
DC 4 wire 10-30V Convertible PNP (NO&NC)	CR18-08PS-YAA-TA-H	CR18-15PS-YBA-TA-H	CR18-08PS-YAA-TA-P	CR18-15PS-YBA-TA-P
DC 4 wire 10-30V Convertible NPN (NO&NC)	CR18-08NS-YAA-TA-H	CR18-15NS-YBA-TA-H	CR18-08NS-YAA-TA-P	CR18-15NS-YBA-TA-P
DC 2 wire 10-60V NO				
DC 2 wire 10-60V NC				
DC 3 wire 10-55V NPN NO				
DC 3 wire 10-55V NPN NC				
DC 3 wire 10-55V PNP NO				
DC 3 wire 10-55V PNP NC				
DC 3 wire 5-36V NPN NO				
DC 3 wire 5-36V NPN NC				
DC 3 wire 5-36V PNP NO				
DC 3 wire 5-36V PNP NC				
DC 4 wire 5-36V Convertible PNP (NO&NC)				
DC 4 wire 5-36V Convertible NPN (NO&NC)				

# Product Parameters

M18 Series  
Capacitive type



## Size category

### M18

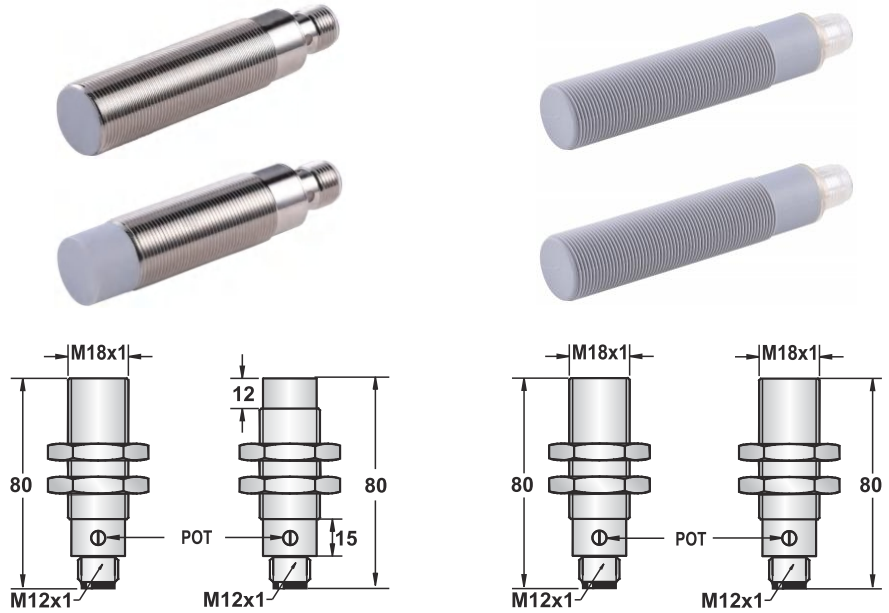
### M18

● Shielded    ○ Non-shielded	●    ○	●    ○
Sn: mm	2-16 mm Adjustable    2-25 mm Adjustable	2-16 mm Adjustable    2-25 mm Adjustable
Shell material	Brass nickel plated	PBT
● LED display    ○ No LED display	●	●
Operating voltage	10-30VDC	10-30VDC
Allowable pulsating voltage	<10%	<10%
No-load current	<10mA	<10mA
Maximum load current	300mA	300mA
Leakage current	<0.01mA	<0.01mA
Voltage drop	<2V	<2V
Switching frequency	100HZ	100HZ
Response time	1.5ms	1.5ms
Switching hysteresis	<15%(Sr)	<15%(Sr)
Repeat accuracy	<5%(Sr)	<5%(Sr)
Protection level	IP67	IP67
Operating temperature	-25°C - +70°C	-25°C - +70°C
Temperature drift	<10%(Sr)	<10%(Sr)
Short circuit protection/reverse polarity protection	Yes	Yes
Overload protection current	220mA	220mA
Sensing surface material	PBT	PBT
Connection method	2m oil-proof PVC cable 5 φ 3x0.34, 5 φ 4x0.25	2m oil-proof PVC cable 5 φ 3x0.34, 5 φ 4x0.25

Product Model	CR18-16NO-ZAA-3A-H	CR18-25NO-ZBA-3A-H	CR18-16NO-ZAA-3A-P	CR18-25NO-ZBA-3A-P
DC 3 wire 10-30V NPN NO	CR18-16NO-ZAA-3A-H	CR18-25NO-ZBA-3A-H	CR18-16NO-ZAA-3A-P	CR18-25NO-ZBA-3A-P
DC 3 wire 10-30V NPN NC	CR18-16NC-ZAA-3A-H	CR18-25NC-ZBA-3A-H	CR18-16NC-ZAA-3A-P	CR18-25NC-ZBA-3A-P
DC 3 wire 10-30V PNP NO	CR18-16PO-ZAA-3A-H	CR18-25PO-ZBA-3A-H	CR18-16PO-ZAA-3A-P	CR18-25PO-ZBA-3A-P
DC 3 wire 10-30V PNP NC	CR18-16PC-ZAA-3A-H	CR18-25PC-ZBA-3A-H	CR18-16PC-ZAA-3A-P	CR18-25PC-ZBA-3A-P
DC 4 wire 10-30V Convertible PNP (NO&NC)	CR18-16PS-ZAA-4A-H	CR18-25PS-ZBA-4A-H	CR18-16PS-ZAA-4A-P	CR18-25PS-ZBA-4A-P
DC 4 wire 10-30V Convertible NPN (NO&NC)	CR18-16NS-ZAA-4A-H	CR18-25NS-ZBA-4A-H	CR18-16NS-ZAA-4A-P	CR18-25NS-ZBA-4A-P
DC 2 wire 10-60V NO				
DC 2 wire 10-60V NC				
DC 3 wire 10-55V NPN NO				
DC 3 wire 10-55V NPN NC				
DC 3 wire 10-55V PNP NO				
DC 3 wire 10-55V PNP NC				
DC 3 wire 5-36V NPN NO				
DC 3 wire 5-36V NPN NC				
DC 3 wire 5-36V PNP NO				
DC 3 wire 5-36V PNP NC				
DC 4 wire 5-36V Convertible PNP (NO&NC)				
DC 4 wire 5-36V Convertible NPN (NO&NC)				

# Product Parameters

## M18 Series Capacitive type



### Size category

### M18

### M18

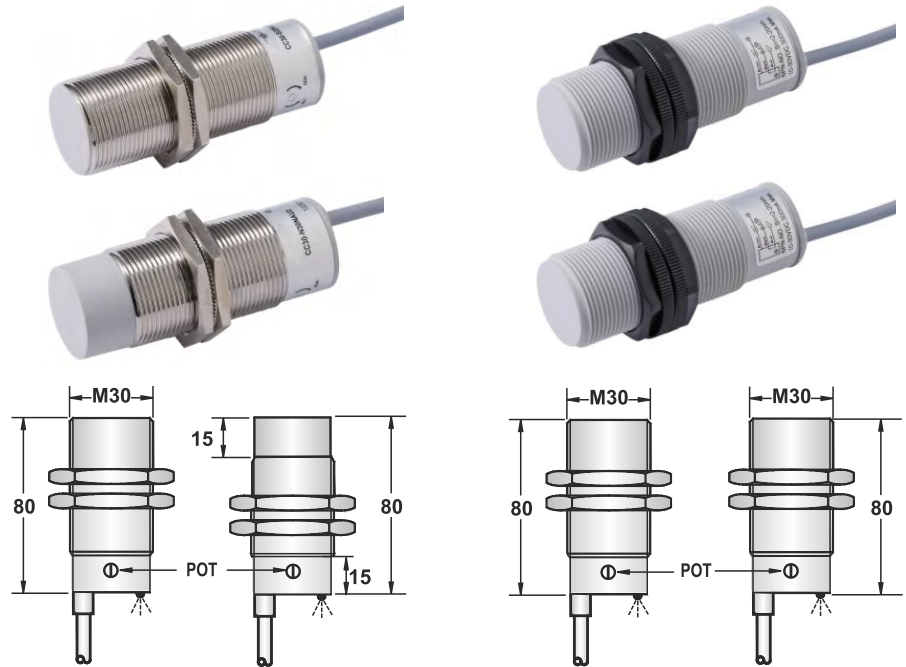
● Shielded ○ Non-shielded	●	○	●	○
Sn: mm	2-16 mm Adjustable	2-25 mm Adjustable	2-16 mm Adjustable	2-25 mm Adjustable
Shell material	Brass nickel plated		PBT	
● LED display ○ No LED display	●		●	
Operating voltage	10-30VDC		10-30VDC	
Allowable pulsating voltage	<10%		<10%	
No-load current	<10mA		<10mA	
Maximum load current	300mA		300mA	
Leakage current	<0.01mA		<0.01mA	
Voltage drop	<2V		<2V	
Switching frequency	100HZ		100HZ	
Response time	1.5ms		1.5ms	
Switching hysteresis	<15%(Sr)		<15%(Sr)	
Repeat accuracy	<5%(Sr)		<5%(Sr)	
Protection level	IP67		IP67	
Operating temperature	-25°C - +70°C		-25°C - +70°C	
Temperature drift	<10%(Sr)		<10%(Sr)	
Short circuit protection/reverse polarity protection	Yes		Yes	
Overload protection current	220mA		220mA	
Sensing surface material	PBT		PBT	
Connection method	M12 Connector		M12 Connector	

#### Product Model

DC 3 wire 10-30V NPN NO	CR18-16NO-YAA-TA-H	CR18-25NO-YBA-TA-H	CR18-16NO-YAA-TA-P	CR18-25NO-YBA-TA-P
DC 3 wire 10-30V NPN NC	CR18-16NC-YAA-TA-H	CR18-25NC-YBA-TA-H	CR18-16NC-YAA-TA-P	CR18-25NC-YBA-TA-P
DC 3 wire 10-30V PNP NO	CR18-16PO-YAA-TA-H	CR18-25PO-YBA-TA-H	CR18-16PO-YAA-TA-P	CR18-25PO-YBA-TA-P
DC 3 wire 10-30V PNP NC	CR18-16PC-YAA-TA-H	CR18-25PC-YBA-TA-H	CR18-16PC-YAA-TA-P	CR18-25PC-YBA-TA-P
DC 4 wire 10-30V Convertible PNP (NO&NC)	CR18-16PS-YAA-TA-H	CR18-25PS-YBA-TA-H	CR18-16PS-YAA-TA-P	CR18-25PS-YBA-TA-P
DC 4 wire 10-30V Convertible NPN (NO&NC)	CR18-16NS-YAA-TA-H	CR18-25NS-YBA-TA-H	CR18-16NS-YAA-TA-P	CR18-25NS-YBA-TA-P
DC 2 wire 10-60V NO				
DC 2 wire 10-60V NC				
DC 3 wire 10-55V NPN NO				
DC 3 wire 10-55V NPN NC				
DC 3 wire 10-55V PNP NO				
DC 3 wire 10-55V PNP NC				
DC 3 wire 5-36V NPN NO				
DC 3 wire 5-36V NPN NC				
DC 3 wire 5-36V PNP NO				
DC 3 wire 5-36V PNP NC				
DC 4 wire 5-36V Convertible PNP (NO&NC)				
DC 4 wire 5-36V Convertible NPN (NO&NC)				

# Product Parameters

## M30 Series Capacitive type



### Size category

### M30

### M30

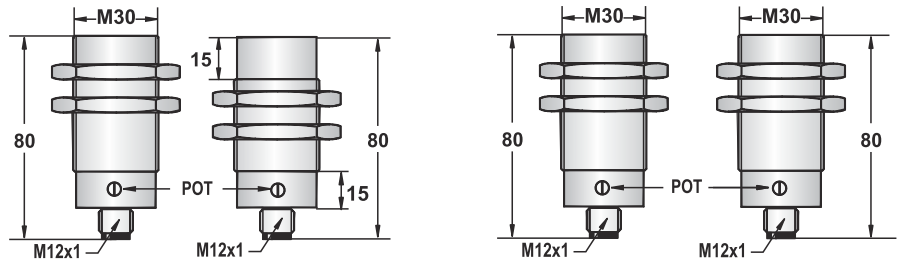
	● Shielded	○ Non-shielded	●	○	●	○
Sn: mm			2-20 mm Adjustable	2-30 mm Adjustable	2-20 mm Adjustable	2-30 mm Adjustable
Shell material	Brass nickel plated				PBT	
● LED display	○ No LED display		●	●	●	●
Operating voltage	10-30VDC				10-30VDC	
Allowable pulsating voltage	<10%				<10%	
No-load current	<10mA				<10mA	
Maximum load current	300mA				300mA	
Leakage current	<0.01mA				<0.01mA	
Voltage drop	<2V				<2V	
Switching frequency	100HZ				100HZ	
Response time	1.5ms				1.5ms	
Switching hysteresis	<15%(Sr)				<15%(Sr)	
Repeat accuracy	<5%(Sr)				<5%(Sr)	
Protection level	IP67				IP67	
Operating temperature	-25°C - +70°C				-25°C - +70°C	
Temperature drift	<10%(Sr)				<10%(Sr)	
Short circuit protection/reverse polarity protection	Yes				Yes	
Overload protection current	220mA				220mA	
Sensing surface material	PBT				PBT	
Connection method	2m oil-proof PVC cable 5 φ 3x0.34, 5 φ 4x0.25				2m oil-proof PVC cable 5 φ 3x0.34, 5 φ 4x0.25	

### Product Model

DC 3 wire 10-30V NPN NO	CR30-20NO-ZAA-3A-H	CR30-30NO-ZBA-3A-H	CR30-20NO-ZAA-3A-P	CR30-30NO-ZBA-3A-P
DC 3 wire 10-30V NPN NC	CR30-20NC-ZAA-3A-H	CR30-30NC-ZBA-3A-H	CR30-20NC-ZAA-3A-P	CR30-30NC-ZBA-3A-P
DC 3 wire 10-30V PNP NO	CR30-20PO-ZAA-3A-H	CR30-30PO-ZBA-3A-H	CR30-20PO-ZAA-3A-P	CR30-30PO-ZBA-3A-P
DC 3 wire 10-30V PNP NC	CR30-20PC-ZAA-3A-H	CR30-30PC-ZBA-3A-H	CR30-20PC-ZAA-3A-P	CR30-30PC-ZBA-3A-P
DC 4 wire 10-30V Convertible PNP (NO&NC)	CR30-20PS-ZAA-4A-H	CR30-30PS-ZBA-4A-H	CR30-20PS-ZAA-4A-P	CR30-30PS-ZBA-4A-P
DC 4 wire 10-30V Convertible NPN (NO&NC)	CR30-20NS-ZAA-4A-H	CR30-30NS-ZBA-4A-H	CR30-20NS-ZAA-4A-P	CR30-30NS-ZBA-4A-P
DC 2 wire 10-60V NO				
DC 2 wire 10-60V NC				
DC 3 wire 10-55V NPN NO				
DC 3 wire 10-55V NPN NC				
DC 3 wire 10-55V PNP NO				
DC 3 wire 10-55V PNP NC				
DC 3 wire 5-36V NPN NO				
DC 3 wire 5-36V NPN NC				
DC 3 wire 5-36V PNP NO				
DC 3 wire 5-36V PNP NC				
DC 4 wire 5-36V Convertible PNP (NO&NC)				
DC 4 wire 5-36V Convertible NPN (NO&NC)				

# Product Parameters

## M30 Series Capacitive type



### Size category

### M30

### M30

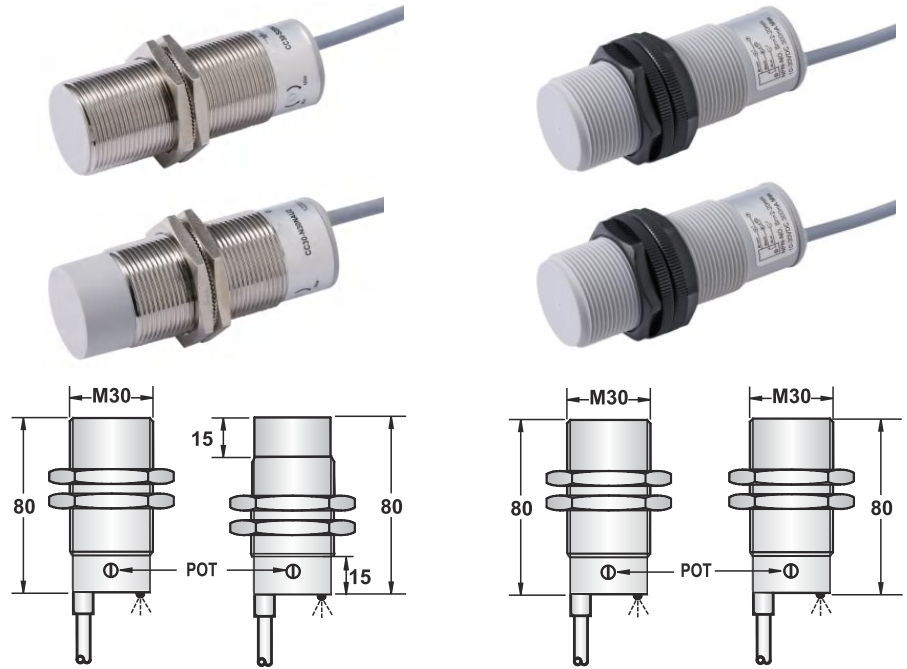
	M30		M30	
● Shielded ○ Non-shielded	●	○	●	○
Sn: mm	2-20 mm Adjustable	2-30 mm Adjustable	2-20 mm Adjustable	2-30 mm Adjustable
Shell material	Brass nickel plated		PBT	
● LED display ○ No LED display	●		●	
Operating voltage	10-30VDC		10-30VDC	
Allowable pulsating voltage	<10%		<10%	
No-load current	<10mA		<10mA	
Maximum load current	300mA		300mA	
Leakage current	<0.01mA		<0.01mA	
Voltage drop	<2V		<2V	
Switching frequency	100HZ		100HZ	
Response time	1.5ms		1.5ms	
Switching hysteresis	<15%(Sr)		<15%(Sr)	
Repeat accuracy	<5%(Sr)		<5%(Sr)	
Protection level	IP67		IP67	
Operating temperature	-25°C - +70°C		-25°C - +70°C	
Temperature drift	<10%(Sr)		<10%(Sr)	
Short circuit protection/reverse polarity protection	Yes		Yes	
Overload protection current	220mA		220mA	
Sensing surface material	PBT		PBT	
Connection method	M12 Connector		M12 Connector	

#### Product Model

DC 3 wire 10-30V NPN NO	CR30-20NO-YAA-TA-H	CR30-30NO-YBA-TA-H	CR30-20NO-YAA-TA-P	CR30-30NO-YBA-TA-P
DC 3 wire 10-30V NPN NC	CR30-20NC-YAA-TA-H	CR30-30NC-YBA-TA-H	CR30-20NC-YAA-TA-P	CR30-30NC-YBA-TA-P
DC 3 wire 10-30V PNP NO	CR30-20PO-YAA-TA-H	CR30-30PO-YBA-TA-H	CR30-20PO-YAA-TA-P	CR30-30PO-YBA-TA-P
DC 3 wire 10-30V PNP NC	CR30-20PC-YAA-TA-H	CR30-30PC-YBA-TA-H	CR30-20PC-YAA-TA-P	CR30-30PC-YBA-TA-P
DC 4 wire 10-30V Convertible PNP (NO&NC)	CR30-20PS-YAA-TA-H	CR30-30PS-YBA-TA-H	CR30-20PS-YAA-TA-P	CR30-30PS-YBA-TA-P
DC 4 wire 10-30V Convertible NPN (NO&NC)	CR30-20NS-YAA-TA-H	CR30-30NS-YBA-TA-H	CR30-20NS-YAA-TA-P	CR30-30NS-YBA-TA-P
DC 2 wire 10-60V NO				
DC 2 wire 10-60V NC				
DC 3 wire 10-55V NPN NO				
DC 3 wire 10-55V NPN NC				
DC 3 wire 10-55V PNP NO				
DC 3 wire 10-55V PNP NC				
DC 3 wire 5-36V NPN NO				
DC 3 wire 5-36V NPN NC				
DC 3 wire 5-36V PNP NO				
DC 3 wire 5-36V PNP NC				
DC 4 wire 5-36V Convertible PNP (NO&NC)				
DC 4 wire 5-36V Convertible NPN (NO&NC)				

# Product Parameters

## M30 Series Capacitive type



### Size category

### M30

### M30

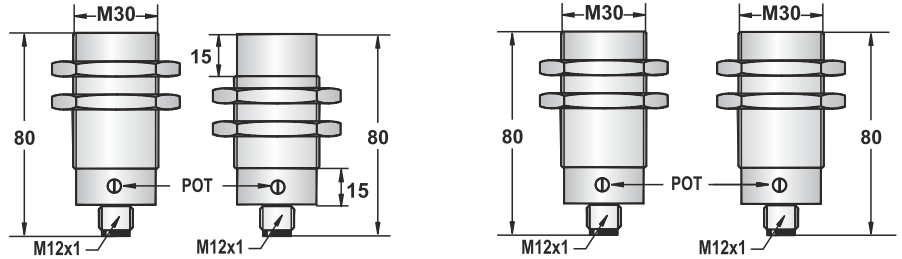
	● Shielded	○ Non-shielded	● Shielded	○ Non-shielded
Sn: mm	2-25 mm Adjustable		2-35mm Adjustable	
Shell material	Brass nickel plated			PBT
● LED display	○ No LED display			●
Operating voltage	10-30VDC			10-30VDC
Allowable pulsating voltage	<10%			<10%
No-load current	<10mA			<10mA
Maximum load current	300mA			300mA
Leakage current	<0.01mA			<0.01mA
Voltage drop	<2V			<2V
Switching frequency	100HZ			100HZ
Response time	1.5ms			1.5ms
Switching hysteresis	<15%(Sr)			<15%(Sr)
Repeat accuracy	<5%(Sr)			<5%(Sr)
Protection level	IP67			IP67
Operating temperature	-25°C - +70°C			-25°C - +70°C
Temperature drift	<10%(Sr)			<10%(Sr)
Short circuit protection/reverse polarity protection	Yes			Yes
Overload protection current	220mA			220mA
Sensing surface material	PBT			PBT
Connection method	2m oil-proof PVC cable 5 φ 3x0.34, 5 φ 4x0.25			2m oil-proof PVC cable 5 φ 3x0.34, 5 φ 4x0.25

### Product Model

	CR30-25NO-ZAA-3A-H	CR30-35NO-ZBA-3A-H	CR30-25NO-ZAA-3A-P	CR30-35NO-ZBA-3A-P
DC 3 wire 10-30V NPN NO	CR30-25NO-ZAA-3A-H	CR30-35NO-ZBA-3A-H	CR30-25NO-ZAA-3A-P	CR30-35NO-ZBA-3A-P
DC 3 wire 10-30V NPN NC	CR30-25NC-ZAA-3A-H	CR30-35NC-ZBA-3A-H	CR30-25NC-ZAA-3A-P	CR30-35NC-ZBA-3A-P
DC 3 wire 10-30V PNP NO	CR30-25PO-ZAA-3A-H	CR30-35PO-ZBA-3A-H	CR30-25PO-ZAA-3A-P	CR30-35PO-ZBA-3A-P
DC 3 wire 10-30V PNP NC	CR30-25PC-ZAA-3A-H	CR30-35PC-ZBA-3A-H	CR30-25PC-ZAA-3A-P	CR30-35PC-ZBA-3A-P
DC 4 wire 10-30V Convertible PNP (NO&NC)	CR30-25PS-ZAA-4A-H	CR30-35PS-ZBA-4A-H	CR30-25PS-ZAA-4A-P	CR30-35PS-ZBA-4A-P
DC 4 wire 10-30V Convertible NPN (NO&NC)	CR30-25NS-ZAA-4A-H	CR30-35NS-ZBA-4A-H	CR30-25NS-ZAA-4A-P	CR30-35NS-ZBA-4A-P
DC 2 wire 10-60V NO				
DC 2 wire 10-60V NC				
DC 3 wire 10-55V NPN NO				
DC 3 wire 10-55V NPN NC				
DC 3 wire 10-55V PNP NO				
DC 3 wire 10-55V PNP NC				
DC 3 wire 5-36V NPN NO				
DC 3 wire 5-36V NPN NC				
DC 3 wire 5-36V PNP NO				
DC 3 wire 5-36V PNP NC				
DC 4 wire 5-36V Convertible PNP (NO&NC)				
DC 4 wire 5-36V Convertible NPN (NO&NC)				

# Product Parameters

M30 Series  
Capacitive type



## Size category

### M30

### M30

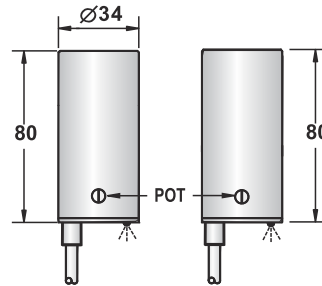
● Shielded ○ Non-shielded	●	○	●	○
Sn: mm	2-25 mm Adjustable	2-35mm Adjustable	2-25 mm Adjustable	2-35mm Adjustable
Shell material	Brass nickel plated		PBT	
● LED display ○ No LED display	●		●	
Operating voltage	10-30VDC		10-30VDC	
Allowable pulsating voltage	<10%		<10%	
No-load current	<10mA		<10mA	
Maximum load current	300mA		300mA	
Leakage current	<0.01mA		<0.01mA	
Voltage drop	<2V		<2V	
Switching frequency	100HZ		100HZ	
Response time	1.5ms		1.5ms	
Switching hysteresis	<15%(Sr)		<15%(Sr)	
Repeat accuracy	<5%(Sr)		<5%(Sr)	
Protection level	IP67		IP67	
Operating temperature	-25°C - +70°C		-25°C - +70°C	
Temperature drift	<10%(Sr)		<10%(Sr)	
Short circuit protection/reverse polarity protection	Yes		Yes	
Overload protection current	220mA		220mA	
Sensing surface material	PBT		PBT	
Connection method	M12 Connector		M12 Connector	

## Product Model

DC 3 wire 10-30V NPN NO	CR30-25NO-YAA-TA-H	CR30-35NO-YBA-TA-H	CR30-25NO-YAA-TA-P	CR30-35NO-YBA-TA-P
DC 3 wire 10-30V NPN NC	CR30-25NC-YAA-TA-H	CR30-35NC-YBA-TA-H	CR30-25NC-YAA-TA-P	CR30-35NC-YBA-TA-P
DC 3 wire 10-30V PNP NO	CR30-25PO-YAA-TA-H	CR30-35PO-YBA-TA-H	CR30-25PO-YAA-TA-P	CR30-35PO-YBA-TA-P
DC 3 wire 10-30V PNP NC	CR30-25PC-YAA-TA-H	CR30-35PC-YBA-TA-H	CR30-25PC-YAA-TA-P	CR30-35PC-YBA-TA-P
DC 4 wire 10-30V Convertible PNP (NO&NC)	CR30-25PS-YAA-TA-H	CR30-35PS-YBA-TA-H	CR30-25PS-YAA-TA-P	CR30-35PS-YBA-TA-P
DC 4 wire 10-30V Convertible NPN (NO&NC)	CR30-25NS-YAA-TA-H	CR30-35NS-YBA-TA-H	CR30-25NS-YAA-TA-P	CR30-35NS-YBA-TA-P
DC 2 wire 10-60V NO				
DC 2 wire 10-60V NC				
DC 3 wire 10-55V NPN NO				
DC 3 wire 10-55V NPN NC				
DC 3 wire 10-55V PNP NO				
DC 3 wire 10-55V PNP NC				
DC 3 wire 5-36V NPN NO				
DC 3 wire 5-36V NPN NC				
DC 3 wire 5-36V PNP NO				
DC 3 wire 5-36V PNP NC				
DC 4 wire 5-36V Convertible PNP (NO&NC)				
DC 4 wire 5-36V Convertible NPN (NO&NC)				

# Product Parameters

φ34 Series  
 Capacitive type



## Size category

Ø34

● Shielded    ○ Non-shielded	●    ○
Sn: mm	2-25 mm Adjustable    2-35mm Adjustable
Shell material	Brass nickel plated
● LED display    ○ No LED display	●
Operating voltage	10-30VDC
Allowable pulsating voltage	<10%
No-load current	<10mA
Maximum load current	300mA
Leakage current	<0.01mA
Voltage drop	<2V
Switching frequency	100HZ
Response time	1.5ms
Switching hysteresis	<15%(Sr)
Repeat accuracy	<5%(Sr)
Protection level	IP67
Operating temperature	-25°C - +70°C
Temperature drift	<10%(Sr)
Short circuit protection/reverse polarity protection	Yes
Overload protection current	220mA
Sensing surface material	PBT
Connection method	2m oil-proof PVC cable 5 φ 3x0.34, 5 φ 4x0.25

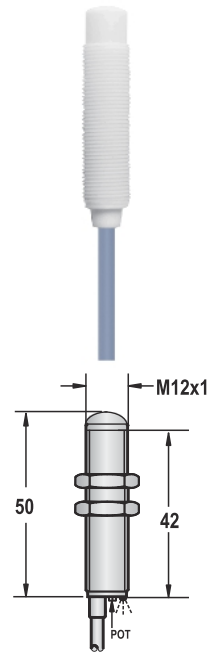
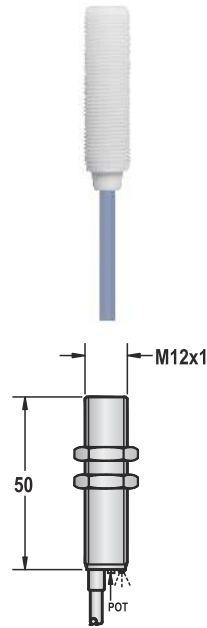
### Product Model

DC 3 wire 10-30V NPN NO	CR34-25NO -ZAA-3A-P	CR34-35NO-ZBA-3A-P
DC 3 wire 10-30V NPN NC	CR34-25NC -ZAA-3A-P	CR34-35NC-ZBA-3A-P
DC 3 wire 10-30V PNP NO	CR34-25PO -ZAA-3A-P	CR34-35PO-ZBA-3A-P
DC 3 wire 10-30V PNP NC	CR34-25PC -ZAA-3A-P	CR34-35PC-ZBA-3A-P
DC 4 wire 10-30V Convertible PNP (NO&NC)	CR34-25PS -ZAA-4A-P	CR34-35PS-ZBA-4A-P
DC 4 wire 10-30V Convertible NPN (NO&NC)	CR34-25NS -ZAA-4A-P	CR34-35NS-ZBA-4A-P
DC 2 wire 10-60V NO		
DC 2 wire 10-60V NC		
DC 3 wire 10-55V NPN NO		
DC 3 wire 10-55V NPN NC		
DC 3 wire 10-55V PNP NO		
DC 3 wire 10-55V PNP NC		
DC 3 wire 5-36V NPN NO		
DC 3 wire 5-36V NPN NC		
DC 3 wire 5-36V PNP NO		
DC 3 wire 5-36V PNP NC		
DC 4 wire 5-36V Convertible PNP (NO&NC)		
DC 4 wire 5-36V Convertible NPN (NO&NC)		



# Product Parameters

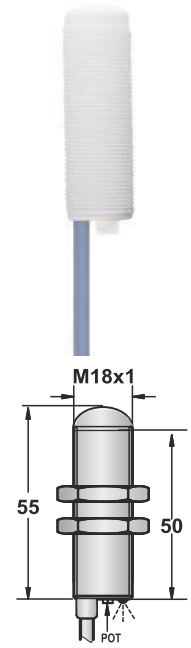
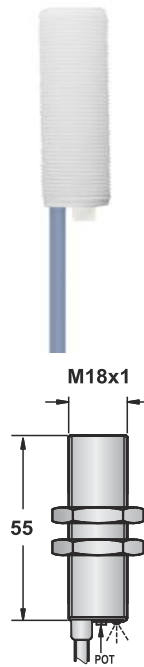
## M12 Series Capacitive type



Size category	M12	M12
● Shielded ○ Non-shielded	○	○
Sn: mm	2-6mm Adjustable	2-6mm Adjustable
Shell material	PTFE	PTFE
● LED display ○ No LED display	●	●
Operating voltage	10-30VDC	10-30VDC
Allowable pulsating voltage	<10%	<10%
No-load current	<10mA	<10mA
Maximum load current	200mA	200mA
Leakage current	<0.01mA	<0.01mA
Voltage drop	<2V	<2V
Switching frequency	300HZ	300HZ
Response time	1.5ms	1.5ms
Switching hysteresis	<15%(Sr)	<15%(Sr)
Repeat accuracy	<1.0%(Sr)	<1.0%(Sr)
Protection level	IP67	IP67
Operating temperature	-25°C - +70°C	-25°C - +70°C
Temperature drift	<10%(Sr)	<10%(Sr)
Short circuit protection/reverse polarity protection	Yes	Yes
Overload protection current	220mA	220mA
Sensing surface material	PTFE	PTFE
Connection method	2m oil-proof PUR/PTFE cable 4 φ 3x0.15	2m oil-proof PUR/PTFE cable 4 φ 3x0.15
Product Model		
DC 3 wire 10-30V NPN NO	CR12-06NO-ZBA-3A-F	CR12-06NO-ZBA-3A-FR
DC 3 wire 10-30V NPN NC	CR12-06NC-ZBA-3A-F	CR12-06NC-ZBA-3A-FR
DC 3 wire 10-30V PNP NO	CR12-06PO-ZBA-3A-F	CR12-06PO-ZBA-3A-FR
DC 3 wire 10-30V PNP NC	CR12-06PC-ZBA-3A-F	CR12-06PC-ZBA-3A-FR
DC 4 wire 10-30V Convertible PNP (NO&NC)		
DC 4 wire 10-30V Convertible NPN (NO&NC)		
DC 2 wire 10-60V NO		
DC 2 wire 10-60V NC		
DC 3 wire 10-55V NPN NO		
DC 3 wire 10-55V NPN NC		
DC 3 wire 10-55V PNP NO		
DC 3 wire 10-55V PNP NC		
DC 3 wire 5-36V NPN NO		
DC 3 wire 5-36V NPN NC		
DC 3 wire 5-36V PNP NO		
DC 3 wire 5-36V PNP NC		
DC 4 wire 5-36V Convertible PNP (NO&NC)		
DC 4 wire 5-36V Convertible NPN (NO&NC)		

# Product Parameters

## M18 Series Capacitive type



### Size category

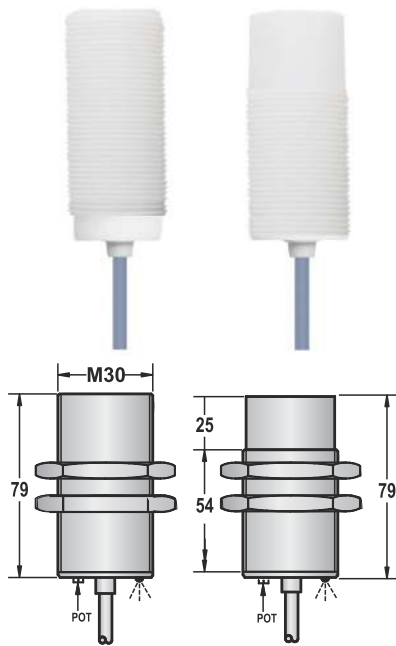
### M18

### M18

● Shielded ○ Non-shielded	○	○
Sn: mm	2-8mm Adjustable	2-8mm Adjustable
Shell material	PTFE	PTFE
● LED display ○ No LED display	●	●
Operating voltage	10-30VDC	10-30VDC
Allowable pulsating voltage	<10%	<10%
No-load current	<10mA	<10mA
Maximum load current	200mA	200mA
Leakage current	<0.01mA	<0.01mA
Voltage drop	<2V	<2V
Switching frequency	100HZ	100HZ
Response time	1.5ms	1.5ms
Switching hysteresis	<15%(Sr)	<15%(Sr)
Repeat accuracy	<1.0%(Sr)	<1.0%(Sr)
Protection level	IP67	IP67
Operating temperature	-25°C - +70°C	-25°C - +70°C
Temperature drift	<10%(Sr)	<10%(Sr)
Short circuit protection/reverse polarity protection	Yes	Yes
Overload protection current	220mA	220mA
Sensing surface material	PTFE	PTFE
Connection method	2m oil-proof PUR/PTFE cable 4.8 φ 3x0.15	2m oil-proof PUR/PTFE cable 4.8 φ 3x0.15
<b>Product Model</b>		
DC 3 wire 10-30V NPN NO	CR18-08NO-ZBA-3A-F	CR18-08NO-ZBA-3A-FR
DC 3 wire 10-30V NPN NC	CR18-08NC-ZBA-3A-F	CR18-08NC-ZBA-3A-FR
DC 3 wire 10-30V PNP NO	CR18-08PO-ZBA-3A-F	CR18-08PO-ZBA-3A-FR
DC 3 wire 10-30V PNP NC	CR18-08PC-ZBA-3A-F	CR18-08PC-ZBA-3A-FR
DC 4 wire 10-30V Convertible PNP (NO&NC)		
DC 4 wire 10-30V Convertible NPN (NO&NC)		
DC 2 wire 10-60V NO		
DC 2 wire 10-60V NC		
DC 3 wire 10-55V NPN NO		
DC 3 wire 10-55V NPN NC		
DC 3 wire 10-55V PNP NO		
DC 3 wire 10-55V PNP NC		
DC 3 wire 5-36V NPN NO		
DC 3 wire 5-36V NPN NC		
DC 3 wire 5-36V PNP NO		
DC 3 wire 5-36V PNP NC		
DC 4 wire 5-36V Convertible PNP (NO&NC)		
DC 4 wire 5-36V Convertible NPN (NO&NC)		

# Product Parameters

## M30 Series Capacitive type



### Size category

### M30

● Shielded    ○ Non-shielded

Sn: mm

2-20mm Adjustable

2-30mm Adjustable

Shell material

PTFE

● LED display    ○ No LED display

Operating voltage

10-30VDC

Allowable pulsating voltage

<10%

No-load current

<10mA

Maximum load current

200mA

Leakage current

<0.01mA

Voltage drop

<2V

Switching frequency

100HZ

Response time

1.5ms

Switching hysteresis

<15%(Sr)

Repeat accuracy

<1.0%(Sr)

Protection level

IP67

Operating temperature

-25°C - +70°C

Temperature drift

<10%(Sr)

Short circuit protection/reverse polarity protection

Yes

Overload protection current

220mA

Sensing surface material

PTFE

Connection method

2m oil-proof PUR/PTFE cable  
4.8 φ 3x0.15

Product Model

DC 3 wire 10-30V NPN NO

CR30-20NO-ZAA-3A-F

CR30-30NO-ZBA-3A-F

DC 3 wire 10-30V NPN NC

CR30-20NC-ZAA-3A-F

CR30-30NC-ZBA-3A-F

DC 3 wire 10-30V PNP NO

CR30-20PO-ZAA-3A-F

CR30-30PO-ZBA-3A-F

DC 3 wire 10-30V PNP NC

CR30-20PC-ZAA-3A-F

CR30-30PC-ZBA-3A-F

DC 4 wire 10-30V Convertible PNP (NO&NC)

DC 4 wire 10-30V Convertible NPN (NO&NC)

DC 2 wire 10-60V NO

DC 2 wire 10-60V NC

DC 3 wire 10-55V NPN NO

DC 3 wire 10-55V NPN NC

DC 3 wire 10-55V PNP NO

DC 3 wire 10-55V PNP NC

DC 3 wire 5-36V NPN NO

DC 3 wire 5-36V NPN NC

DC 3 wire 5-36V PNP NO

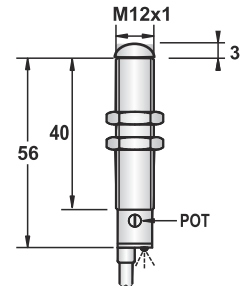
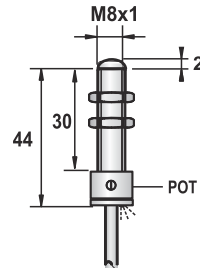
DC 3 wire 5-36V PNP NC

DC 4 wire 5-36V Convertible PNP (NO&NC)

DC 4 wire 5-36V Convertible NPN (NO&NC)

# Product Parameters

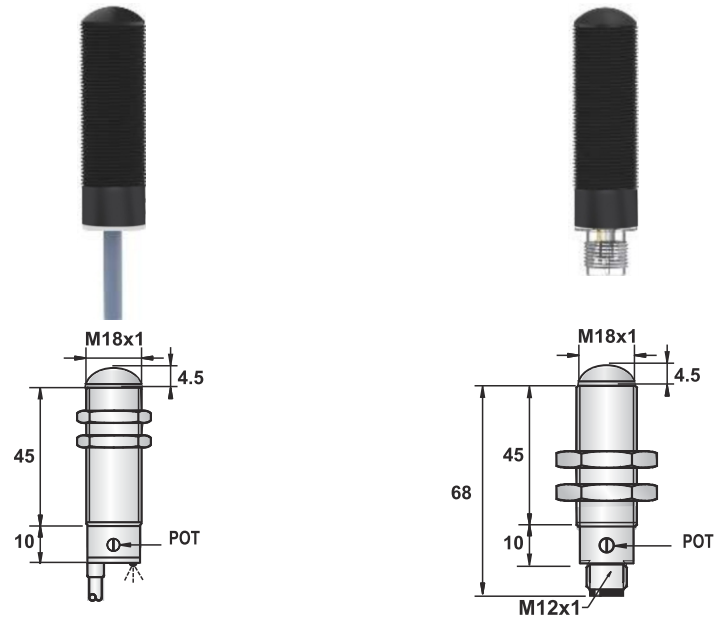
water pressure  
M8 Series



Size category	M8	M12
● Shielded ○ Non-shielded	○	○
Sn: mm	0.1-4mm Adjustable	1-8mm Adjustable
Shell material	POM	POM
● LED display ○ No LED display	●	●
Operating voltage	10-30VDC	10-30VDC
Allowable pulsating voltage	<10%	<10%
No-load current	<10mA	<10mA
Maximum load current	200mA	200mA
Leakage current	<0.01mA	<0.01mA
Voltage drop	<2V	<2.0VDC
Switching frequency	100HZ	100HZ
Response time	1.5ms	1.5ms
Switching hysteresis	<15%(Sr)	<15%(Sr)
Repeat accuracy	<5%(Sr)	<5%(Sr)
Protection level	IP67	IP67
Operating temperature	-25°C - +70°C	-25°C - +70°C
Temperature drift	<10%(Sr)	<10%(Sr)
Short circuit protection/reverse polarity protection	Yes	Yes
Overload protection current	220mA	220mA
Sensing surface material	PBT	PBT
Connection method	2m oil-proof PVC cable 4.0 φ 3x0.15	2m oil-proof PVC cable 4.0 φ 3x0.15
Product Model		
DC 3 wire 10-30V NPN NO	CR08-04NO-ZBA-3A-MR	CR12-08NO-ZBA-3A-MR
DC 3 wire 10-30V NPN NC	CR08-04NC-ZBA-3A-MR	CR12-08NC-ZBA-3A-MR
DC 3 wire 10-30V PNP NO	CR08-04PO-ZBA-3A-MR	CR12-08PO-ZBA-3A-MR
DC 3 wire 10-30V PNP NC	CR08-04PC-ZBA-3A-MR	CR12-08PC-ZBA-3A-MR
DC 4 wire 10-30V Convertible PNP (NO&NC)		
DC 4 wire 10-30V Convertible NPN (NO&NC)		
DC 2 wire 10-60V NO		
DC 2 wire 10-60V NC		
DC 3 wire 10-55V NPN NO		
DC 3 wire 10-55V NPN NC		
DC 3 wire 10-55V PNP NO		
DC 3 wire 10-55V PNP NC		
DC 3 wire 5-36V NPN NO		
DC 3 wire 5-36V NPN NC		
DC 3 wire 5-36V PNP NO		
DC 3 wire 5-36V PNP NC		
DC 4 wire 5-36V Convertible PNP (NO&NC)		
DC 4 wire 5-36V Convertible NPN (NO&NC)		

# Product Parameters

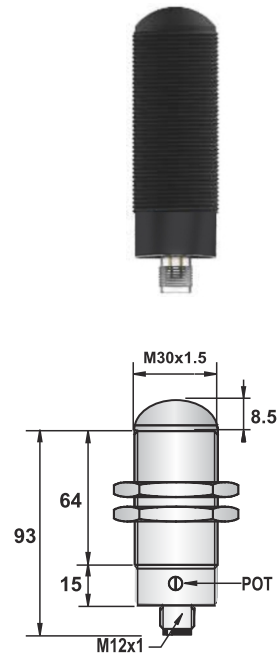
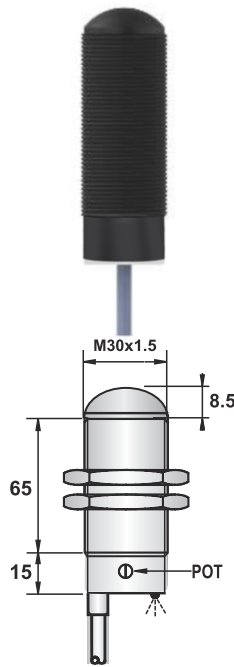
water pressure  
M18 Series



Size category	M18	M18
● Shielded ○ Non-shielded	●	●
Sn: mm	2-8mm Adjustable	2-8mm Adjustable
Shell material	POM	POM
● LED display ○ No LED display	●	●
Operating voltage	10-30VDC	10-30VDC
Allowable pulsating voltage	<10%	<10%
No-load current	<10mA	<10mA
Maximum load current	200mA	200mA
Leakage current	<0.01mA	<0.01mA
Voltage drop	<2V	<2V
Switching frequency	100HZ	100HZ
Response time	1.5ms	1.5ms
Switching hysteresis	<15%(Sr)	<15%(Sr)
Repeat accuracy	<5%(Sr)	<5%(Sr)
Protection level	IP67	IP67
Operating temperature	-25°C - +70°C	-25°C - +70°C
Temperature drift	<10%(Sr)	<10%(Sr)
Short circuit protection/reverse polarity protection	Yes	Yes
Overload protection current	220mA	220mA
Sensing surface material	PBT	PBT
Connection method	2m oil-proof PVC cable 4.8 φ 3x0.15	M12 Connector
Product Model		
DC 3 wire 10-30V NPN NO	CR18-08NO-ZAA-3A-MR	CR18-08NO-YAA-TA-MR
DC 3 wire 10-30V NPN NC	CR18-08NC-ZAA-3A-MR	CR18-08NC-YAA-TA-MR
DC 3 wire 10-30V PNP NO	CR18-08PO-ZAA-3A-MR	CR18-08PO-YAA-TA-MR
DC 3 wire 10-30V PNP NC	CR18-08PC-ZAA-3A-MR	CR18-08PC-YAA-TA-MR
DC 4 wire 10-30V Convertible PNP (NO&NC)	CR18-08PS-ZAA-4A-MR	CR18-08PS-YAA-TA-MR
DC 4 wire 10-30V Convertible NPN (NO&NC)	CR18-08NS-ZAA-4A-MR	CR18-08NS-YAA-TA-MR
DC 2 wire 10-60V NO		
DC 2 wire 10-60V NC		
DC 3 wire 10-55V NPN NO		
DC 3 wire 10-55V NPN NC		
DC 3 wire 10-55V PNP NO		
DC 3 wire 10-55V PNP NC		
DC 3 wire 5-36V NPN NO		
DC 3 wire 5-36V NPN NC		
DC 3 wire 5-36V PNP NO		
DC 3 wire 5-36V PNP NC		
DC 4 wire 5-36V Convertible PNP (NO&NC)		
DC 4 wire 5-36V Convertible NPN (NO&NC)		

# Product Parameters

water pressure  
M30 Series



## Size category

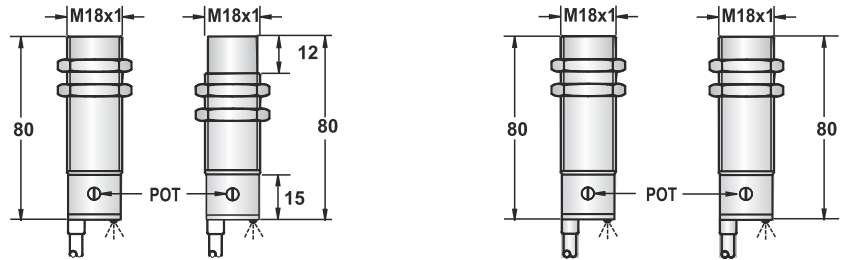
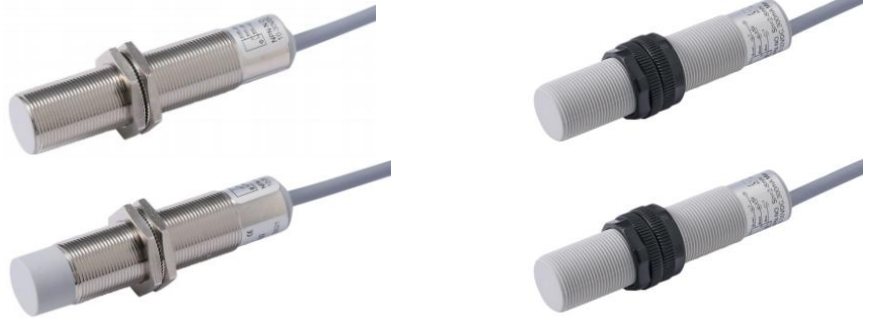
M30

M30

● Shielded ○ Non-shielded	●	●
Sn: mm	2-20mm Adjustable	2-20mm Adjustable
Shell material	POM	POM
● LED display ○ No LED display	●	●
Operating voltage	10-30VDC	10-30VDC
Allowable pulsating voltage	<10%	<10%
No-load current	<10mA	<10mA
Maximum load current	200mA	200mA
Leakage current	<0.01mA	<0.01mA
Voltage drop	<2.0VDC	<2.0VDC
Switching frequency	100HZ	100HZ
Response time	1.5ms	1.5ms
Switching hysteresis	<15%(Sr)	<15%(Sr)
Repeat accuracy	<5%(Sr)	<5%(Sr)
Protection level	IP67	IP67
Operating temperature	-25°C - +70°C	-25°C - +70°C
Temperature drift	<10%(Sr)	<10%(Sr)
Short circuit protection/reverse polarity protection	Yes	Yes
Overload protection current	220mA	220mA
Sensing surface material	PBT	PBT
Connection method	2m oil-proof PVC cable 4.8 φ 3x0.15	M12 Connector
Product Model		
DC 3 wire 10-30V NPN NO	CR30-20NO-ZAA-3A-MR	CR30-20NO-YAA-TA-MR
DC 3 wire 10-30V NPN NC	CR30-20NC-ZAA-3A-MR	CR30-20NC-YAA-TA-MR
DC 3 wire 10-30V PNP NO	CR30-20PO-ZAA-3A-MR	CR30-20PO-YAA-TA-MR
DC 3 wire 10-30V PNP NC	CR30-20PC-ZAA-3A-MR	CR30-20PC-YAA-TA-MR
DC 4 wire 10-30V Convertible PNP (NO&NC)	CR30-20PS-ZAA-4A-MR	CR30-20PS-YAA-TA-MR
DC 4 wire 10-30V Convertible NPN (NO&NC)	CR30-20NS-ZAA-4A-MR	CR30-20NS-YAA-TA-MR
DC 2 wire 10-60V NO		
DC 2 wire 10-60V NC		
DC 3 wire 10-55V NPN NO		
DC 3 wire 10-55V NPN NC		
DC 3 wire 10-55V PNP NO		
DC 3 wire 10-55V PNP NC		
DC 3 wire 5-36V NPN NO		
DC 3 wire 5-36V NPN NC		
DC 3 wire 5-36V PNP NO		
DC 3 wire 5-36V PNP NC		
DC 4 wire 5-36V Convertible PNP (NO&NC)		
DC 4 wire 5-36V Convertible NPN (NO&NC)		

# Product Parameters

## AC Type M18 Series



### Size category

### M18

### M18

● Shielded ○ Non-shielded	●	○	●	○
Sn: mm	2-8 mm Adjustable	2-15mm Adjustable	2-8 mm Adjustable	2-15mm Adjustable
Shell material	Brass nickel plated		PBT	
● LED display ○ No LED display	●		●	
Operating voltage	20-250VAC		20-250VAC	
Short circuit protection	-		-	
No load current	<2.5mA		<2.5mA	
Maximum load current	300mA		300mA	
Leakage current	<2.5mA		<2.5mA	
Surge current	5A		5A	
Minimum load current	5mA		5mA	
Voltage drop	<9VAC AT 300MA		<9VAC AT 300MA	
Switching frequency	25HZ		25HZ	
Response time	10ms/10ms		10ms/10ms	
Switching hysteresis	<15%(Sr)		<15%(Sr)	
Repeat accuracy	<5%(Sr)		<5%(Sr)	
Protection level	IP67		IP67	
Operating temperature	-25°C - + 70°C		-25°C - + 70°C	
Temperature drift	<10%(Sr)		<10%(Sr)	
Sensing surface material	PBT		PBT	
Connection method	2m oil-proof PVC cable 5 φ 3x0.34		2m oil-proof PVC cable 5 φ 3x0.34	

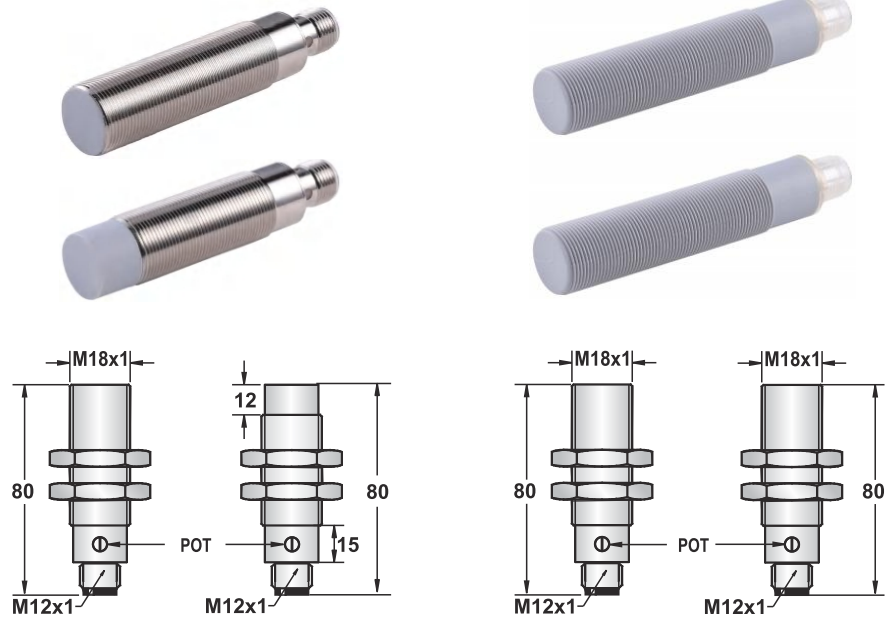
#### Product Model

DC 3 wire 10-30V NPN NO
DC 3 wire 10-30V NPN NC
DC 3 wire 10-30V PNP NO
DC 3 wire 10-30V PNP NC
DC 4 wire 10-30V Convertible PNP (NO&NC)
DC 4 wire 10-30V Convertible NPN (NO&NC)
DC 2 wire 10-60V NO
DC 2 wire 10-60V NC
DC 3 wire 10-55V NPN NO
DC 3 wire 10-55V NPN NC
DC 3 wire 10-55V PNP NO
DC 3 wire 10-55V PNP NC
AC 3 wire 20-250V NO
AC 3 wire 20-250V NC
AC 4 wire 20-250V Convertible (NO&NC)
AC/DC 3 wire 20-250V NO
AC/DC 3 wire 20-250V NC
AC/DC 4 wire 20-250V Convertible (NO&NC)

CR18-08AO-ZAG-3S-H	CR18-15AO-ZBG-3S-H	CR18-08AO-ZAG-3S-P	CR18-15AO-ZBG-3S-P
CR18-08AC-ZAG-3S-H	CR18-15AC-ZBG-3S-H	CR18-08AC-ZAG-3S-P	CR18-15AC-ZBG-3S-P

# Product Parameters

## AC Type M18 Series



### Size category

### M18

### M18

	M18		M18	
● Shielded ○ Non-shielded	●	○	●	○
Sn: mm	2-8 mm Adjustable	2-15mm Adjustable	2-8 mm Adjustable	2-15mm Adjustable
Shell material	Brass nickel plated		PBT	
● LED display ○ No LED display	●		●	
Operating voltage	20-250VAC		20-250VAC	
Short circuit protection	-		-	
No load current	<2.5mA		<2.5mA	
Maximum load current	300mA		300mA	
Leakage current	<2.5mA		<2.5mA	
Surge current	5A		5A	
Minimum load current	5mA		5mA	
Voltage drop	<9VAC AT 300MA		<9VAC AT 300MA	
Switching frequency	25HZ		25HZ	
Response time	10ms/10ms		10ms/10ms	
Switching hysteresis	<15%(Sr)		<15%(Sr)	
Repeat accuracy	<5%(Sr)		<5%(Sr)	
Protection level	IP67		IP67	
Operating temperature	-25°C - + 70°C		-25°C - + 70°C	
Temperature drift	<10%(Sr)		<10%(Sr)	
Sensing surface material	PBT		PBT	
Connection method	M12 Connector		M12 Connector	

#### Product Model

DC 3 wire 10-30V NPN NO

DC 3 wire 10-30V NPN NC

DC 3 wire 10-30V PNP NO

DC 3 wire 10-30V PNP NC

DC 4 wire 10-30V Convertible PNP (NO&NC)

DC 4 wire 10-30V Convertible NPN (NO&NC)

DC 2 wire 10-60V NO

DC 2 wire 10-60V NC

DC 3 wire 10-55V NPN NO

DC 3 wire 10-55V NPN NC

DC 3 wire 10-55V PNP NO

DC 3 wire 10-55V PNP NC

AC 3 wire 20-250V NO

CR18-08AO-YAG-3S-H

CR18-15AO-YBG-3S-H

CR18-08AO-YAG-3S-P

CR18-15AO-YBG-3S-P

AC 3 wire 20-250V NC

CR18-08AC-YAG-3S-H

CR18-15AC-YBG-3S-H

CR18-08AC-YAG-3S-P

CR18-15AC-YBG-3S-P

AC 4 wire 20-250V Convertible (NO&NC)

AC/DC 3 wire 20-250V NO

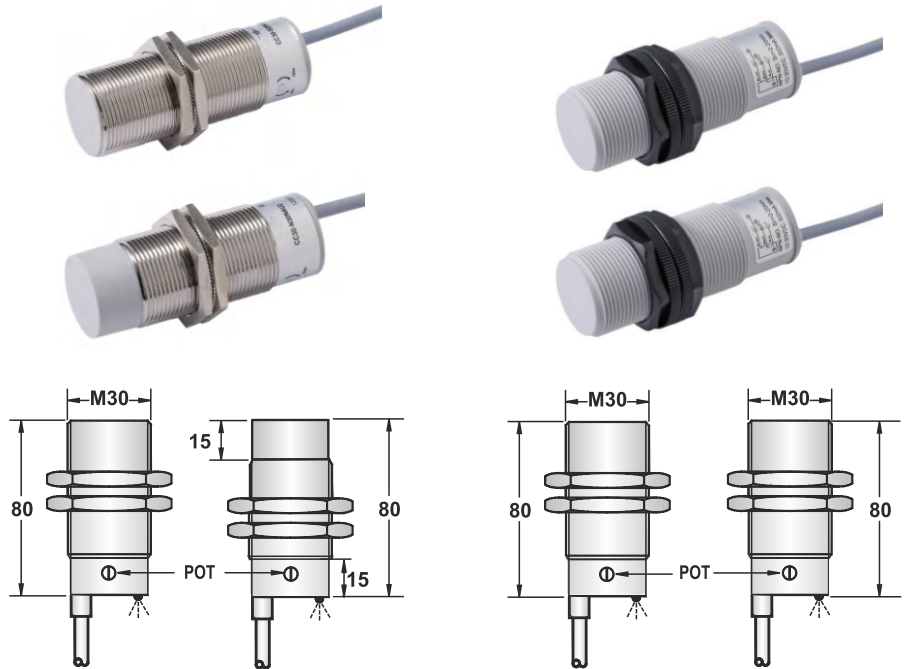
AC/DC 3 wire 20-250V NC

AC/DC 4 wire 20-250V Convertible (NO&NC)



# Product Parameters

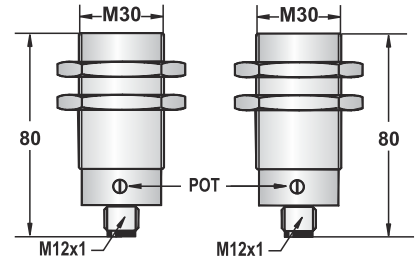
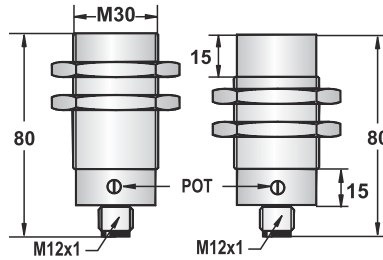
## AC Type M30 Series



Size category	M30		M30	
● Shielded ○ Non-shielded	●	○	●	○
Sn: mm	2-20mm Adjustable	2-30mm Adjustable	2-20mm Adjustable	2-30mm Adjustable
Shell material	Brass nickel plated		PBT	
● LED display ○ No LED display	●		●	
Operating voltage	20-250VAC		20-250VAC	
Short circuit protection	-		-	
No load current	<2.5mA		<2.5mA	
Maximum load current	300mA		300mA	
Leakage current	<2.5mA		<2.5mA	
Surge current	5A		5A	
Minimum load current	5mA		5mA	
Voltage drop	<9VAC AT 300MA		<9VAC AT 300MA	
Switching frequency	25HZ		25HZ	
Response time	10ms/10ms		10ms/10ms	
Switching hysteresis	<15%(Sr)		<15%(Sr)	
Repeat accuracy	<5%(Sr)		<5%(Sr)	
Protection level	IP67		IP67	
Operating temperature	-25°C- + 70°C		-25°C- + 70°C	
Temperature drift	<10%(Sr)		<10%(Sr)	
Sensing surface material	PBT		PBT	
Connection method	2m oil-proof PVC cable 5 φ 3x0.34/5 φ 4x0.25		2m oil-proof PVC cable 5 φ 3x0.34/5 φ 4x0.25	
<b>Product Model</b>				
DC 3 wire 10-30V NPN NO				
DC 3 wire 10-30V NPN NC				
DC 3 wire 10-30V PNP NO				
DC 3 wire 10-30V PNP NC				
DC 4 wire 10-30V Convertible PNP (NO&NC)				
DC 4 wire 10-30V Convertible NPN (NO&NC)				
DC 2 wire 10-60V NO				
DC 2 wire 10-60V NC				
DC 3 wire 10-55V NPN NO				
DC 3 wire 10-55V NPN NC				
DC 3 wire 10-55V PNP NO				
DC 3 wire 10-55V PNP NC				
AC 3 wire 20-250V NO	CR30-20AO-ZAG-3S-H	CR30-30AO-ZBG-3S-H	CR30-20AO-ZAG-3S-P	CR30-30AO-ZBG-3S-P
AC 3 wire 20-250V NC	CR30-20AC-ZAG-3S-H	CR30-30AC-ZBG-3S-H	CR30-20AC-ZAG-3S-P	CR30-30AC-ZBG-3S-P
AC 4 wire 20-250V Convertible (NO&NC)				
AC/DC 3 wire 20-250V NO				
AC/DC 3 wire 20-250V NC				
AC/DC 4 wire 20-250V Convertible (NO&NC)				

# Product Parameters

## AC Type M30 Series



### Size category

### M30

### M30

	M30		M30	
	● Shielded	○ Non-shielded	● Shielded	○ Non-shielded
Sn: mm	2-20mm Adjustable	2-30mm Adjustable	2-20mm Adjustable	2-30mm Adjustable
Shell material	Brass nickel plated		PBT	
● LED display	●		●	
○ No LED display	○		○	
Operating voltage	20-250VAC		20-250VAC	
Short circuit protection	-		-	
No load current	<2.5mA		<2.5mA	
Maximum load current	300mA		300mA	
Leakage current	<2.5mA		<2.5mA	
Surge current	5A		5A	
Minimum load current	5mA		5mA	
Voltage drop	<9VAC AT 300MA		<9VAC AT 300MA	
Switching frequency	25HZ		25HZ	
Response time	10ms/10ms		10ms/10ms	
Switching hysteresis	<15%(Sr)		<15%(Sr)	
Repeat accuracy	<5%(Sr)		<5%(Sr)	
Protection level	IP67		IP67	
Operating temperature	-25°C - + 70°C		-25°C - + 70°C	
Temperature drift	<10%(Sr)		<10%(Sr)	
Sensing surface material	PBT		PBT	
Connection method	M12 Connector		M12 Connector	

#### Product Model

DC 3 wire 10-30V NPN NO

DC 3 wire 10-30V NPN NC

DC 3 wire 10-30V PNP NO

DC 3 wire 10-30V PNP NC

DC 4 wire 10-30V Convertible PNP (NO&NC)

DC 4 wire 10-30V Convertible NPN (NO&NC)

DC 2 wire 10-60V NO

DC 2 wire 10-60V NC

DC 3 wire 10-55V NPN NO

DC 3 wire 10-55V NPN NC

DC 3 wire 10-55V PNP NO

DC 3 wire 10-55V PNP NC

AC 3 wire 20-250V NO

CR30-20AO-YAG-3S-H

CR30-30AO-YBG-3S-H

CR30-20AO-YAG-3S-P

CR30-30AO-YBG-3S-P

AC 3 wire 20-250V NC

CR30-20AC-YAG-3S-H

CR30-30AC-YBG-3S-H

CR30-20AC-YAG-3S-P

CR30-30AC-YBG-3S-P

AC 4 wire 20-250V Convertible (NO&NC)

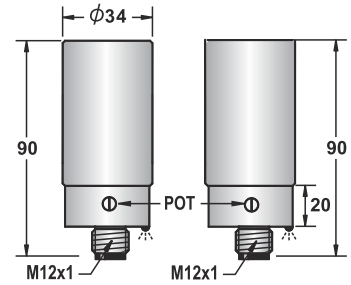
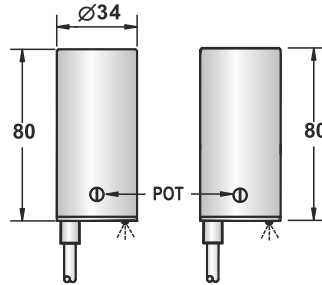
AC/DC 3 wire 20-250V NO

AC/DC 3 wire 20-250V NC

AC/DC 4 wire 20-250V Convertible (NO&NC)

# Product Parameters

## AC Type φ34 Series



### Size category

φ34

φ34

	● Shielded	○ Non-shielded	● Shielded	○ Non-shielded
Sn: mm	2-25mm Adjustable		2-35mm Adjustable	
Shell material	Brass nickel plated		PBT	
● LED display	●		●	
Operating voltage	20-250VAC		20-250VAC	
Short circuit protection	-		-	
No load current	<2.5mA		<2.5mA	
Maximum load current	300mA		300mA	
Leakage current	<2.5mA		<2.5mA	
Surge current	5A		5A	
Minimum load current	5mA		5mA	
Voltage drop	<9VAC AT 300MA		<9VAC AT 300MA	
Switching frequency	25HZ		25HZ	
Response time	10ms/10ms		10ms/10ms	
Switching hysteresis	<15%(Sr)		<15%(Sr)	
Repeat accuracy	<5%(Sr)		<5%(Sr)	
Protection level	IP67		IP67	
Operating temperature	-25°C~+70°C		-25°C~+70°C	
Temperature drift	<10%(Sr)		<10%(Sr)	
Sensing surface material	PBT		PBT	
Connection method	2m oil-proof PVC cable 3.5 φ 3x0.34		M12 Connector	

#### Product Model

DC 3 wire 10-30V NPN NO

DC 3 wire 10-30V NPN NC

DC 3 wire 10-30V PNP NO

DC 3 wire 10-30V PNP NC

DC 4 wire 10-30V Convertible PNP (NO&NC)

DC 4 wire 10-30V Convertible NPN (NO&NC)

DC 2 wire 10-60V NO

DC 2 wire 10-60V NC

DC 3 wire 10-55V NPN NO

DC 3 wire 10-55V NPN NC

DC 3 wire 10-55V PNP NO

DC 3 wire 10-55V PNP NC

AC 3 wire 20-250V NO

CR34-25AO-ZAG-3S-H

CR34-35AO-ZBG-3S-H

CR34-25AO-YAG-3S-P

CR34-35AO-YBG-3S-P

AC 3 wire 20-250V NC

CR34-25AC-ZAG-3S-H

CR34-35AC-ZBG-3S-H

CR34-25AC-YAG-3S-P

CR34-35AC-YBG-3S-P

AC 4 wire 20-250V Convertible (NO&NC)

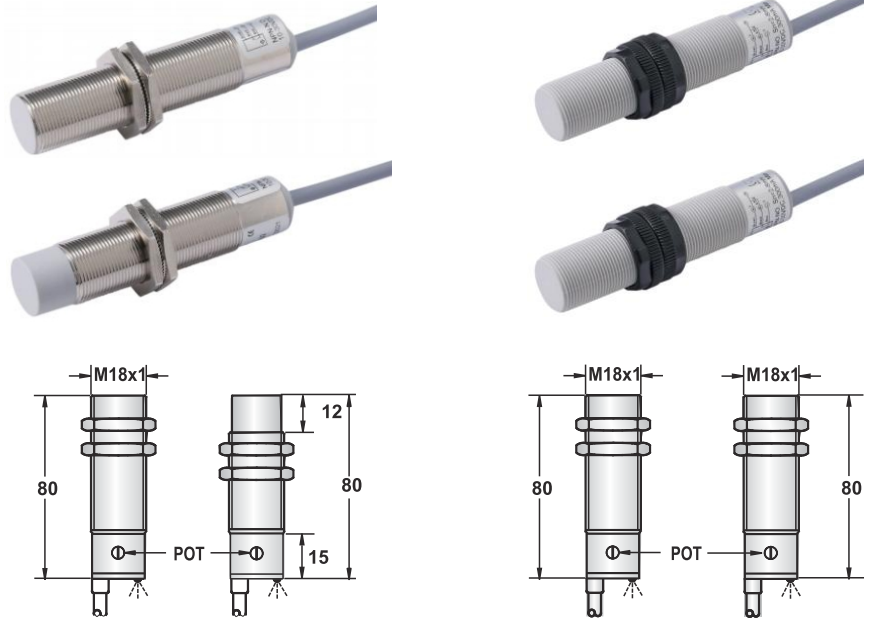
AC/DC 3 wire 20-250V NO

AC/DC 3 wire 20-250V NC

AC/DC 4 wire 20-250V Convertible (NO&NC)

# Product Parameters

## AC+DC Type M18 Series



### Size category

### M18

### M18

	● Shielded	○ Non-shielded		
Sn: mm	2-8mm Adjustable	2-15mm Adjustable	2-8mm Adjustable	2-15mm Adjustable
Shell material	Brass nickel plated		PBT	
● LED display	●		●	
○ No LED display	○		○	
Working voltage	20-250VAC;20-250VDC		20-250VAC;20-250VDC	
Allowable pulsating voltage	DC RIPPLE <10%		DC RIPPLE <10%	
No-load current	<2.5mA		<2.5mA	
Maximum load current	200mA		200mA	
Leakage current	<2.5mA		<2.5mA	
Surge current	2.2A for 20ms		2.2A for 20ms	
Minimum load current	5mA		5mA	
Voltage drop	<=10VAC;<=8VDC		<=10VAC;<=8VDC	
Switching frequency	25HZ AC;40Hz DC		25HZ AC;40Hz DC	
Response time	10ms/10ms		10ms/10ms	
Switching hysteresis	1%-15% of Sensing Range		1%-15% of Sensing Range	
Repeat accuracy	<1%(Sr)		<1%(Sr)	
Protection level	IP67		IP67	
Working temperature	-25°C- +70°C		-25°C- +70°C	
Temperature drift	<+/-15% of Sensing Range		<+/-15% of Sensing Range	
Sensing surface material	PBT		PBT	
Connection method	2m oil-proof PVC cable 5.0 φ 3x0.34/5.0 φ 4x0.25		2m oil-proof PVC cable 5.0 φ 3x0.34/5.0 φ 4x0.25	

#### Product Model

DC 3 wire 10-30V NPN NO

DC 3 wire 10-30V NPN NC

DC 3 wire 10-30V PNP NO

DC 3 wire 10-30V PNP NC

DC 4 wire 10-30V Convertible PNP (NO&NC)

DC 4 wire 10-30V Convertible NPN (NO&NC)

DC 2 wire 10-60V NO

DC 2 wire 10-60V NC

DC 3 wire 10-55V NPN NO

DC 3 wire 10-55V NPN NC

DC 3 wire 10-55V PNP NO

DC 3 wire 10-55V PNP NC

AC 3 wire 20-250V NO

AC 3 wire 20-250V NC

AC 4 wire 20-250V Convertible (NO&NC)

AC/DC 3 wire 20-250V NO

CR18-08TO-ZAH-3A-H

CR18-15TO-ZBH-3A-H

CR18-08TO-ZAH-3A-P

CR18-15TO-ZBH-3A-P

AC/DC 3 wire 20-250V NC

CR18-08TC-ZAH-3A-H

CR18-15TC-ZBH-3A-H

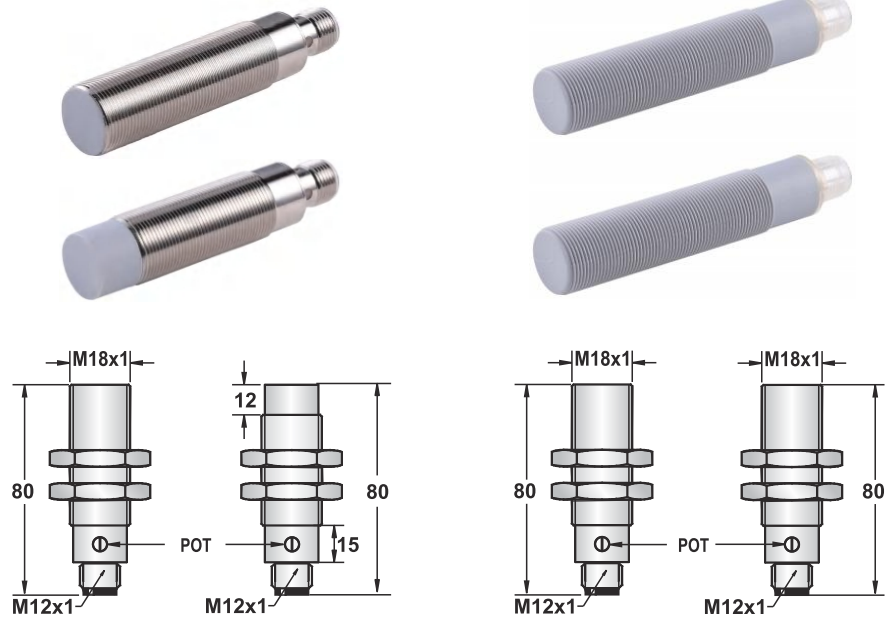
CR18-08TC-ZAH-3A-P

CR18-15TC-ZBH-3A-P

AC/DC 4 wire 20-250V Convertible (NO&NC)

# Product Parameters

## AC+DC Type M18 Series



### Size category

### M18

### M18

	● Shielded Sn: mm	○ Non-shielded	● 2-8mm Adjustable	○ 2-15mm Adjustable	● 2-8mm Adjustable	○ 2-15mm Adjustable
Shell material	Brass nickel plated				PBT	
● LED display ○ No LED display	●					
Working voltage	20-250VAC;20-250VDC				20-250VAC;20-250VDC	
Allowable pulsating voltage	DC RIPPLE <10%				DC RIPPLE <10%	
No-load current	<2.5mA				<2.5mA	
Maximum load current	200mA				200mA	
Leakage current	<2.5mA				<2.5mA	
Surge current	2.2A for 20ms				2.2A for 20ms	
Minimum load current	5mA				5mA	
Voltage drop	<=10VAC;<=8VDC				<=10VAC;<=8VDC	
Switching frequency	25HZ AC;40Hz DC				25HZ AC;40Hz DC	
Response time	10ms/10ms				10ms/10ms	
Switching hysteresis	1%-15% of Sensing Range				1%-15% of Sensing Range	
Repeat accuracy	<1%(Sr)				<1%(Sr)	
Protection level	IP67				IP67	
Working temperature	-25°C- +70°C				-25°C- +70°C	
Temperature drift	<+/-15% of Sensing Range				<+/-15% of Sensing Range	
Sensing surface material	PBT				PBT	
Connection method	M12 Connector				M12 Connector	

#### Product Model

DC 3 wire 10-30V NPN NO

DC 3 wire 10-30V NPN NC

DC 3 wire 10-30V PNP NO

DC 3 wire 10-30V PNP NC

DC 4 wire 10-30V Convertible PNP (NO&NC)

DC 4 wire 10-30V Convertible NPN (NO&NC)

DC 2 wire 10-60V NO

DC 2 wire 10-60V NC

DC 3 wire 10-55V NPN NO

DC 3 wire 10-55V NPN NC

DC 3 wire 10-55V PNP NO

DC 3 wire 10-55V PNP NC

AC 3 wire 20-250V NO

AC 3 wire 20-250V NC

AC 4 wire 20-250V Convertible (NO&NC)

AC/DC 3 wire 20-250V NO

CR18-08TO-YAH-TA-H

CR18-15TO-YBH-TA-H

CR18-08TO-YAH-TA-P

CR18-15TO-YBH-TA-P

AC/DC 3 wire 20-250V NC

CR18-08TC-YAH-TA-H

CR18-15TC-YBH-TA-H

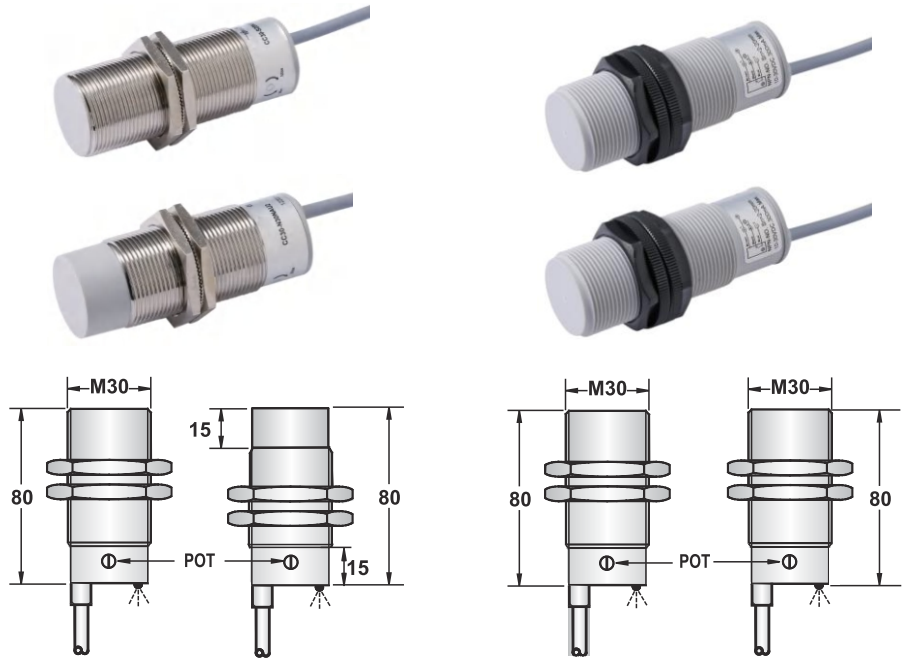
CR18-08TC-YAH-TA-P

CR18-15TC-YBH-TA-P

AC/DC 4 wire 20-250V Convertible (NO&NC)

# Product Parameters

## AC+DC Type M30 Series



### Size category

### M30

### M30

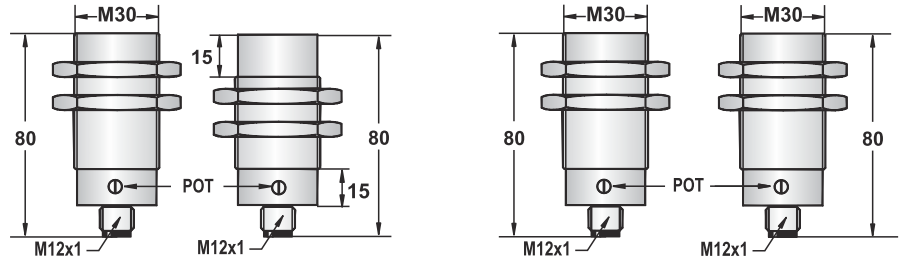
	● Shielded	○ Non-shielded	● Shielded	○ Non-shielded
Sn: mm	2-20 mm Adjustable	2-25 mm Adjustable	2-20 mm Adjustable	2-25 mm Adjustable
Shell material	Brass nickel plated		PBT	
● LED display	●		●	
○ No LED display	○		○	
Working voltage	20-250VAC;20-250VDC		20-250VAC;20-250VDC	
Allowable pulsating voltage	DC RIPPLE <10%		DC RIPPLE <10%	
No-load current	<2.5mA		<2.5mA	
Maximum load current	200mA		200mA	
Leakage current	<2.5mA		<2.5mA	
Surge current	2.2A for 20ms		2.2A for 20ms	
Minimum load current	5mA		5mA	
Voltage drop	<=10VAC;<=8VDC		<=10VAC;<=8VDC	
Switching frequency	25HZ AC;40Hz DC		25HZ AC;40Hz DC	
Response time	10ms/10ms		10ms/10ms	
Switching hysteresis	1%-15% of Sensing Range		1%-15% of Sensing Range	
Repeat accuracy	<1%(Sr)		<1%(Sr)	
Protection level	IP67		IP67	
Working temperature	-25°C- +70°C		-25°C- +70°C	
Temperature drift	<+/-15% of Sensing Range		<+/-15% of Sensing Range	
Sensing surface material	PBT		PBT	
Connection method	2m oil-proof PVC cable 5.0 φ 3x0.34/5.0 φ 4x0.25		2m oil-proof PVC cable 5.0 φ 3x0.34/5.0 φ 4x0.25	

### Product Model

DC 3 wire 10-30V NPN NO
DC 3 wire 10-30V NPN NC
DC 3 wire 10-30V PNP NO
DC 3 wire 10-30V PNP NC
DC 4 wire 10-30V Convertible PNP (NO&NC)
DC 4 wire 10-30V Convertible NPN (NO&NC)
DC 2 wire 10-60V NO
DC 2 wire 10-60V NC
DC 3 wire 10-55V NPN NO
DC 3 wire 10-55V NPN NC
DC 3 wire 10-55V PNP NO
DC 3 wire 10-55V PNP NC
AC 3 wire 20-250V NO
AC 3 wire 20-250V NC
AC 4 wire 20-250V Convertible (NO&NC)
AC/DC 3 wire 20-250V NO
AC/DC 3 wire 20-250V NC
AC/DC 4 wire 20-250V Convertible (NO&NC)
CR30-20TO-ZAH-3A-H
CR30-25TO-ZBH-3A-H
CR30-20TO-ZAH-3A-P
CR30-25TO-ZBH-3A-P
CR30-20TC-ZAH-3A-H
CR30-25TC-ZBH-3A-H
CR30-20TC-ZAH-3A-P
CR30-25TC-ZBH-3A-P

# Product Parameters

## AC+DC Type M30 Series



### Size category

### M30

### M30

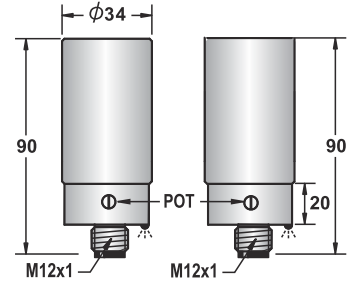
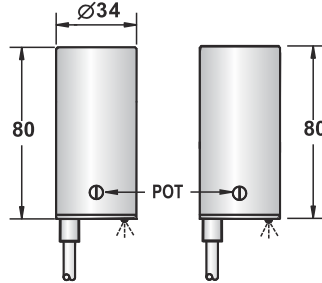
	● Shielded	○ Non-shielded	● Shielded	○ Non-shielded
Sn: mm	2-20 mm Adjustable	2-25 mm Adjustable	2-20 mm Adjustable	2-25 mm Adjustable
Shell material	Brass nickel plated		PBT	
LED display	● LED display		● LED display	
Working voltage	20-250VAC;20-250VDC		20-250VAC;20-250VDC	
Allowable pulsating voltage	DC RIPPLE <10%		DC RIPPLE <10%	
No-load current	<2.5mA		<2.5mA	
Maximum load current	200mA		200mA	
Leakage current	<2.5mA		<2.5mA	
Surge current	2.2A for 20ms		2.2A for 20ms	
Minimum load current	5mA		5mA	
Voltage drop	<=10VAC;<=8VDC		<=10VAC;<=8VDC	
Switching frequency	25HZ AC;40Hz DC		25HZ AC;40Hz DC	
Response time	10ms/10ms		10ms/10ms	
Switching hysteresis	1%-15% of Sensing Range		1%-15% of Sensing Range	
Repeat accuracy	<1%(Sr)		<1%(Sr)	
Protection level	IP67		IP67	
Working temperature	-25°C- + 70°C		-25°C- + 70°C	
Temperature drift	<+/-15% of Sensing Range		<+/-15% of Sensing Range	
Sensing surface material	PBT		PBT	
Connection method	M12 Connector		M12 Connector	

### Product Model

DC 3 wire 10-30V NPN NO				
DC 3 wire 10-30V NPN NC				
DC 3 wire 10-30V PNP NO				
DC 3 wire 10-30V PNP NC				
DC 4 wire 10-30V Convertible PNP (NO&NC)				
DC 4 wire 10-30V Convertible NPN (NO&NC)				
DC 2 wire 10-60V NO				
DC 2 wire 10-60V NC				
DC 3 wire 10-55V NPN NO				
DC 3 wire 10-55V NPN NC				
DC 3 wire 10-55V PNP NO				
DC 3 wire 10-55V PNP NC				
AC 3 wire 20-250V NO				
AC 3 wire 20-250V NC				
AC 4 wire 20-250V Convertible (NO&NC)				
AC/DC 3 wire 20-250V NO	CR30-20TO-YAH-TA-H	CR30-25TO-YBH-TA-H	CR30-20TO-YAH-TA-P	CR30-25TO-YBH-TA-P
AC/DC 3 wire 20-250V NC	CR30-20TC-YAH-TA-H	CR30-25TC-YBH-TA-H	CR30-20TC-YAH-TA-P	CR30-25TC-YBH-TA-P
AC/DC 4 wire 20-250V Convertible (NO&NC)				

# Product Parameters

AC+DC Type  
φ34 Series

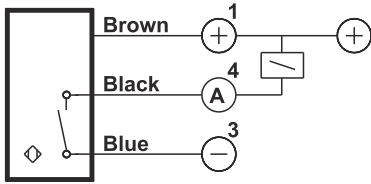


Size category	φ34		φ34	
● Shielded ○ Non-shielded	●	○	●	○
Sn: mm	2-25mm Adjustable	2-35mm Adjustable	2-25mm Adjustable	2-35mm Adjustable
Shell material	PBT		PBT	
● LED display ○ No LED display	●		●	
Working voltage	20-250VAC;20-250VDC		20-250VAC;20-250VDC	
Allowable pulsating voltage	DC RIPPLE <10%		DC RIPPLE <10%	
No-load current	<2.5mA		<2.5mA	
Maximum load current	200mA		200mA	
Leakage current	<2.5mA		<2.5mA	
Surge current	2.2A for 20ms		2.2A for 20ms	
Minimum load current	5mA		5mA	
Voltage drop	<=10VAC;<=8VDC		<=10VAC;<=8VDC	
Switching frequency	25HZ AC;40Hz DC		25HZ AC;40Hz DC	
Response time	10ms/10ms		10ms/10ms	
Switching hysteresis	1%-15% of Sensing Range		1%-15% of Sensing Range	
Repeat accuracy	<1%(Sr)		<1%(Sr)	
Protection level	IP67		IP67	
Working temperature	-25°C- +70°C		-25°C- +70°C	
Temperature drift	<+/-15% of Sensing Range		<+/-15% of Sensing Range	
Sensing surface material	PBT		PBT	
Connection method	2m oil-proof PVC cable 5.0 φ 3x0.34/5.0 φ 4x0.25		M12 Connector	
<b>Product Model</b>				
DC 3 wire 10-30V NPN NO				
DC 3 wire 10-30V NPN NC				
DC 3 wire 10-30V PNP NO				
DC 3 wire 10-30V PNP NC				
DC 4 wire 10-30V Convertible PNP (NO&NC)				
DC 4 wire 10-30V Convertible NPN (NO&NC)				
DC 2 wire 10-60V NO				
DC 2 wire 10-60V NC				
DC 3 wire 10-55V NPN NO				
DC 3 wire 10-55V NPN NC				
DC 3 wire 10-55V PNP NO				
DC 3 wire 10-55V PNP NC				
AC 3 wire 20-250V NO				
AC 3 wire 20-250V NC				
AC 4 wire 20-250V Convertible (NO&NC)				
AC/DC 3 wire 20-250V NO	CR34-25TO-ZAH-3A-H	CR34-35TO-ZBH-3A-H	CR34-25TO-YAH-TA-P	CR34-35TO-YBH-TA-P
AC/DC 3 wire 20-250V NC	CR34-25TC-ZAH-3A-H	CR34-35TC-ZBH-3A-H	CR34-25TC-YAH-TA-P	CR34-35TC-YBH-TA-P
AC/DC 4 wire 20-250V Convertible (NO&NC)				

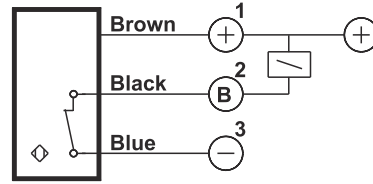


# Wiring Diagram

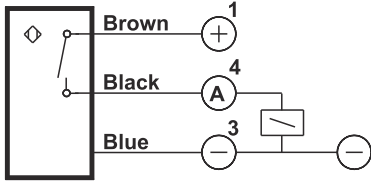
**DC NPN NO**



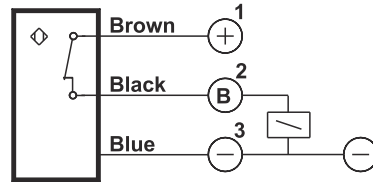
**DC NPN NC**



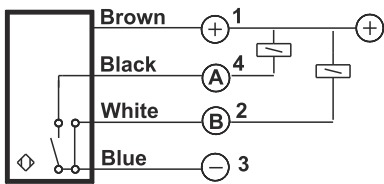
**DC PNP NO**



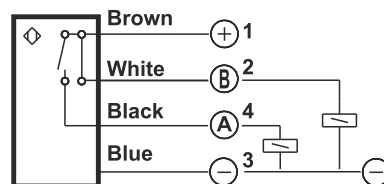
**DC PNP NC**



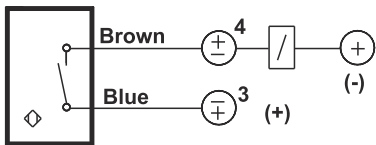
**DC NPN NO&NC**



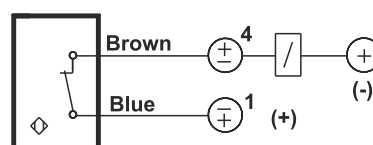
**DC PNP NO&NC**



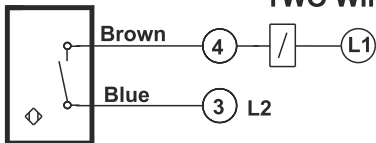
**DC 2 wire NO**



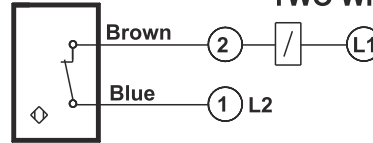
**DC 2 wire NC**



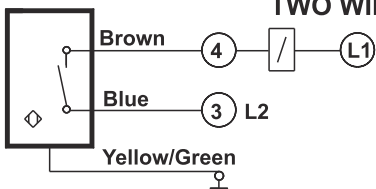
**Plastic housing AC/DC 20-250V or AC 20-250V TWO WIRE-NO**



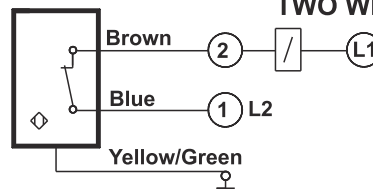
**Plastic housing AC/DC 20-250V or AC 20-250V TWO WIRE-NC**



**Metal housing AC/DC 20-250V or AC 20-250V TWO WIRE-NO**

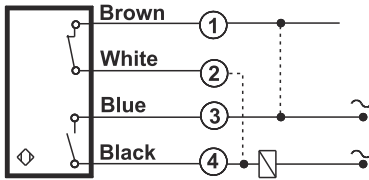


**Metal housing AC/DC 20-250V or AC 20-250V TWO WIRE-NC**

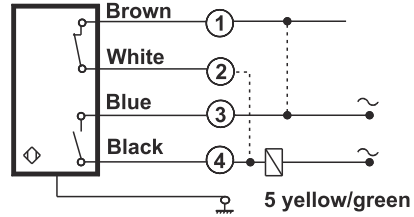


# Wiring Diagram

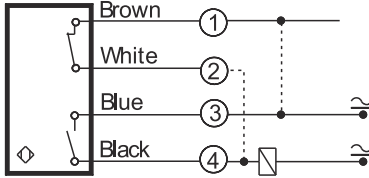
**Plastic housing** AC 20-250V  
NO,NC Changeable



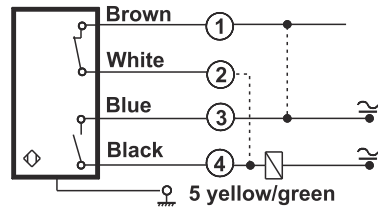
**Metal housing** AC 20-250V  
NO,NC Changeable



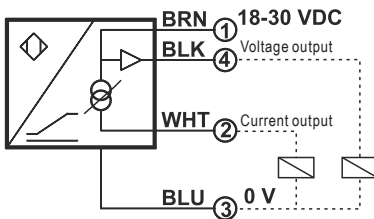
**Plastic housing** AC 20-250V  
NO,NC Changeable



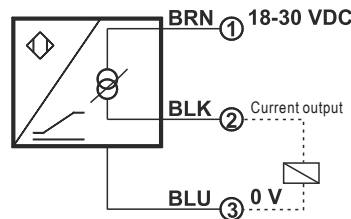
**Metal housing** AC 20-250V  
NO,NC Changeable



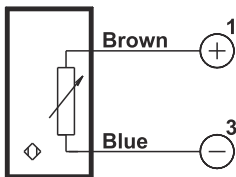
**Analog (current + voltage output type)**



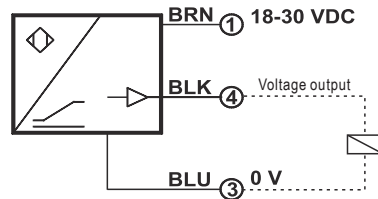
**Analog (current output type)**



**Riot-proof DC 6-12V**

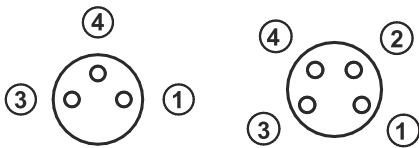


**Analog (voltage output type)**

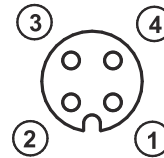


## Connector Diagram

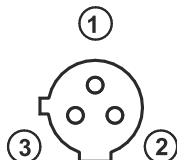
Used for M8 DC  
M8



Used for M12 DC  
M12



Used for M12 AC  
M12



Used for M18 M30 DC or AC

