

Cylindrical Capacitive Proximity Sensors



CR Series (DC 3-wire) CATALOG

For your safety, read and follow the considerations written in the instruction manual, other manuals and Autonics website.
The specifications, dimensions, etc. are subject to change without notice for product improvement. Some models may be discontinued without notice.

Major Features

- Detect various materials including metal, iron, stone, plastic, water, and grain
- Built-in surge protection circuit, reverse polarity protection
- Simple operation, reliable performance, and high durability
- Built-in sensitivity adjuster for convenient configuration
- Operation indicator (red)
- Ideal for level detection and position control

Ordering Information

This is only for reference.
For selecting the specific model, follow the Autonics web site.

CR ① - ② **D** ③

① DIA. of sensing side

Number: DIA. of sensing side (unit: mm)

③ Control output

N: NPN Normally open
N2: NPN Normally closed
P: PNP Normally open

② Sensing distance

Number: Sensing distance (unit: mm)

Sold Separately

- Connector cable, connector connection cable
- Transmission coupler
- Spatter protection cover
- Fixed bracket

Specifications

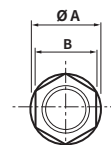
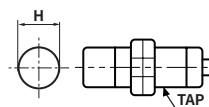
Installation	Non-flush type	
Model	CR18-8D□	CR30-15D□
DIA. of sensing side	Ø 18 mm	Ø 30 mm
Sensing distance	8 mm	15 mm
Setting distance	0 to 5.6 mm	0 to 10.5 mm
Hysteresis	≤ 20% of sensing distance	
Standard sensing target: iron	50 × 50 × 1 mm	
Response frequency ⁰¹⁾	50 Hz	
Affection by temperature	≤ ± 20% for sensing distance at ambient temperature 20 °C	
Indicator	Operation indicator (red)	
Approval	ERC	ERC
Unit weight (package)	≈ 76 g (≈ 88 g)	≈ 206 g (≈ 243 g)

01) The response frequency is the average value. The standard sensing target is used and the width is set as 2 times of the standard sensing target, 1/2 of the sensing distance for the distance.

Power supply	12 - 24 VDC= (ripple P-P: ≤ 10%), operating voltage: 10 - 30 VDC=
Current consumption	≤ 15 mA
Control output	≤ 200 mA
Residual voltage	≤ 1.5 V
Protection circuit	Surge protection circuit, reverse polarity protection
Insulation resistance	≥ 50 MΩ (500 VDC= megger)
Dielectric strength	1,500 VAC~ 50/60Hz for 1 min (between all terminals and case)
Vibration	1 mm amplitude at frequency 10 to 55 Hz (for 1 min) in each X, Y, Z direction for 2 hours
Shock	500 m/s ² (≈ 50 G) in each X, Y, Z direction for 3 times
Ambient temperature	-25 to 70 °C, storage: -30 to 80 °C (non-freezing or non-condensation)
Ambient humidity	35 to 95 %RH, storage: 35 to 95 %RH (non-freezing or non-condensation)
Protection structure	DIA. of sensing side Ø 18 mm: IP66 (IEC standard) / DIA. of sensing side Ø 30 mm: IP65 (IEC standard)
Connection	Cable type
Cable spec.	DIA. of sensing side Ø 18 mm: Ø 4 mm, 3-wire, 2 m DIA. of sensing side Ø 30 mm: Ø 5 mm, 3-wire, 2 m
Wire spec.	AWG 22 (0.08 mm, 60-wire), insulator DIA.: Ø 1.25 mm
Material	Standard type cable (black): polyvinyl chloride (PVC)
DIA. of sensing side Ø 18 mm	Case / Nut: PA6
DIA. of sensing side Ø 30 mm	Case / Nut: nickel-plated brass, washer: nickel-plated iron, sensing side: PBT

Cut-out Dimensions

• Unit: mm, For the detailed drawings, follow the Autonics web site.



	Ø 18 mm	Ø 30 mm
Mounting hole (H)	Ø 18.5 ^{+0.5} ₀	Ø 30.5 ^{+0.5} ₀
TAP	M18×1	M30×1.5

	Ø 18 mm	Ø 30 mm
Ø A	26.5	42
B	24	35