# 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 sensitivity adjuster for convenient configuration
- Operation indicator (red)
- Ideal for level detection and position control

## Ordering Information

This is only for reference, the actual product does not support all combinations.
For selecting the specified model, follow the Autonics website.

CR ❶ - ❷ D ❸

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

**❷ Sensing distance**
Number: Sensing distance (unit: mm)

**❸ Control output**
N: NPN Normally open
N2: NPN Normally closed
P: PNP Normally open

## Sold Separately

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

## Specifications

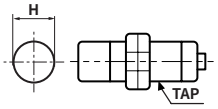
| Installation | Non-flush type | |
|---|---|---|
| Model | CR18-8D□ | CR30-15D□ |
| DIA. of sensing side | Ø 18 mm | Ø 30 mm |
| Sensing distance | 8 mm | 15 mm |
| Setting distance | 0 to 5.6 mm | 0 to 10.5 mm |
| Hysteresis | ≤ 20 % of sensing distance | |
| Standard sensing target: iron | 50 × 50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

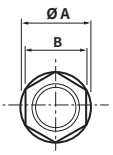
| | |
|---|---|
| Power supply | 12 - 24 VDC⎓ (ripple P-P: ≤ 10 %), operating voltage: 10 - 30 VDC⎓ |
| Current consumption | ≤ 15 mA |
| Control output | ≤ 200 mA |
| Residual voltage | ≤ 1.5 V |
| Protection circuit | Surge protection circuit, reverse polarity protection |
| Insulation resistance | ≥ 50 MΩ (500 VDC⎓ megger) |
| Dielectric strength | 1,500 VAC~ 50 / 60Hz for 1 min (between all terminals and case) |
| Vibration | 1 mm double amplitude at frequency 10 to 55 Hz (for 1 min) in each X, Y, Z direction for 2 hours |
| Shock | 500 m/s² (≈ 50 G) in each X, Y, Z direction for 3 times |
| Ambient temperature | -25 to 70 °C, storage: -30 to 80 °C (no freezing or condensation) |
| Ambient humidity | 35 to 95 %RH, storage: 35 to 95 %RH (no freezing or 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<br>DIA. of sensing side Ø 30 mm: Ø 5 mm, 3-wire, 2 m |
| Wire spec. | AWG 22 (0.08 mm, 60-core), 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 |

EAC