

Cylindrical Inductive Long-Distance Proximity Sensors (DC 2-Wire)

PRD Series



Features

- Spatter-resistant type:
PTFE coated for high heat resistance
(prevent malfunction from welding spatter)
- Operation indicator (red LED)
- IP67 Protection structure (IEC standards)
- Strain relief cables:
improved flexural strength of
cable connecting component
(except DIA. of sensing side Ø 8 mm)

Specifications

| Installation | Flush type | | | |
|-----------------------------------|---|----------------|----------------|----------------|
| General | PRD□T08-2□ | PRD□T12-4□ | PRD□T18-7□ | PRD□T30-15□ |
| Spatter-resistant | - | PRDA□T12-4□ | PRDA□T18-7□ | PRDA□T30-15□ |
| DIA. of sensing side | Ø 8 mm | Ø 12 mm | Ø 18 mm | Ø 30 mm |
| Sensing distance | 2 mm | 4 mm | 7 mm | 15 mm |
| Setting distance | 0 to 1.4 mm | 0 to 2.8 mm | 0 to 4.9 mm | 0 to 10.5 mm |
| Hysteresis | ≤ 15 % of sensing distance | | | |
| Standard sensing target: iron | 8 × 8 × 1 mm | 12 × 12 × 1 mm | 20 × 20 × 1 mm | 45 × 45 × 1 mm |
| Response frequency ⁰¹⁾ | 1 kHz | 450 Hz | 250 Hz | 100 Hz |
| Affection by temperature | ≤ ± 10 % for sensing distance at ambient temperature 20 °C (DIA. of sensing side Ø 8 mm: ≤ ± 15 %) | | | |
| Indicator | Operation indicator (red) | | | |
| Approval | CE EAC | CE EAC | CE EAC | CE EAC |
| Installation | Non-flush type | | | |
| General | PRD□T08-4□ | PRD□T12-8□ | PRD□T18-14□ | PRD□T30-25□ |
| DIA. of sensing side | Ø 8 mm | Ø 12 mm | Ø 18 mm | Ø 30 mm |
| Sensing distance | 4 mm | 8 mm | 14 mm | 25 mm |
| Setting distance | 0 to 2.8 mm | 0 to 5.6 mm | 0 to 9.8 mm | 0 to 17.5 mm |
| Hysteresis | ≤ 15 % of sensing distance | | | |
| Standard sensing target: iron | 12 × 12 × 1 mm | 25 × 25 × 1 mm | 40 × 40 × 1 mm | 75 × 75 × 1 mm |
| Response frequency ⁰¹⁾ | 800 Hz | 400 Hz | 200 Hz | 100 Hz |
| Affection by temperature | ≤ ± 10 % for sensing distance at ambient temperature 20 °C (DIA. of sensing side Ø 8 mm: ≤ ± 15 %) | | | |
| Indicator | Operation indicator (red) | | | |
| Approval | CE EAC | CE EAC | CE EAC | CE EAC |

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.

| Unit weight (package) ⁰¹⁾ | | Ø 8 mm | Ø 12 mm | Ø 18 mm | Ø 30 mm |
|---|--------|-----------------|-----------------|-------------------|-------------------|
| Cable | Normal | ≈ 43 g (≈ 63 g) | ≈ 62 g (≈ 74 g) | ≈ 97 g (≈ 115 g) | ≈ 143 g (≈ 180 g) |
| | Long | - | ≈ 72 g (≈ 84 g) | ≈ 122 g (≈ 134 g) | ≈ 221 g (≈ 184 g) |
| Cable connector | Normal | ≈ 25 g (≈ 45 g) | ≈ 32 g (≈ 55 g) | ≈ 62 g (≈ 80 g) | ≈ 130 g (≈ 145 g) |
| | Long | - | ≈ 42 g (≈ 54 g) | ≈ 65 g (≈ 77 g) | ≈ 143 g (≈ 155 g) |
| Connector | Normal | ≈ 10 g (≈ 32 g) | ≈ 20g (≈ 50 g) | ≈ 42 g (≈ 60 g) | ≈ 110 g (≈ 150 g) |
| | Long | - | ≈ 26g (≈ 38 g) | ≈ 49g (≈ 61 g) | ≈ 134 g (≈ 146 g) |
| | Long | - | - | ≈ 60 g (≈ 78 g) | ≈ 150 g (≈ 190 g) |

⁰¹⁾ In case of normal body length, it is written in General type order. In case of long body length, it is only available Spatter-resistant type.



View product detail

| | |
|--|---|
| Power supply | 12 - 24 VDC≡ (ripple P-P: ≤ 10 %), operating voltage: 10 - 30 VDC≡ |
| Leakage current | DIA. of sensing side Ø 8mm: ≤ 0.8 mA DIA. of sensing side Ø 12 mm, Ø 18 mm, Ø 30 mm: ≤ 0.6 mA |
| Control output | 2 to 100 mA |
| Residual voltage ⁰¹⁾ | ≤ 3.5 V (Non-polarity: ≤ 5 V) |
| Protection circuit | Surge protection circuit, output short over current protection circuit, reverse polarity protection |
| Insulation resistance | ≥ 50 MΩ (500 VDC≡ megger) |
| Dielectric strength | DIA. of sensing side Ø 8 mm : 1,000 VAC~ 50/60 Hz for 1 min (between all terminals and case) (connector type: 1,500 VAC~ 50/60 Hz for 1 min (between all terminals and case)) DIA. of sensing side Ø 12 mm, Ø 18 mm, Ø 30 mm : 1,500 VAC~ 50/60 Hz 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/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 | IP67 (IEC standards) |
| Connection | Cable type / Cable connector type / Connector type model |
| Cable spec. ⁰²⁾ | DIA. of sensing side Ø 8 mm: Ø 3.5 mm, 2-wire DIA. of sensing side Ø 12 mm: Ø 4 mm, 2-wire DIA. of sensing side Ø 18 mm, Ø 30 mm: Ø 5 mm, 2-wire |
| Wire spec. | Ø 3.5 mm cable : AWG 24 (0.08 mm, 40-core), insulator diameter: Ø 1 mm Ø 4 mm, Ø 5 mm cable : AWG 22 (0.08 mm, 60-core), insulator diameter: Ø 1.25 mm |
| Connector spec. | M12 connector |
| Material | Standard type cable (black): polyvinyl chloride (PVC) Oil resistant cable (gray): polyvinyl chloride (oil resistant PVC) |
| General | Case/Nut: nickel plated brass (DIA. of sensing side Ø 8 mm connector type case: SUS303), washer: nickel plated iron, sensing side: PBT |
| Spatter-resistant | Case/Nut: PTFE coated brass, washer: PTFE coated iron, sensing side: PTFE |

01) Check the condition of connected device.

02) Cable type: 2 m, Cable connector type: 300 mm