

# PRD Series (DC 3-wire)

## INSTRUCTION MANUAL

## Autonics

Follow Autonics website for the latest information.

Failure to follow this instruction may result in fire.

- Follow instructions in 'Cautions during Use'. Otherwise, it may cause unexpected accidents.
- 12 - 24 VDC≡ power supply should be insulated and limited voltage/current or Class 2, SELV power supply device.
- Use the product, after 0.8 sec of supplying power.
- Wire as short as possible and keep away from high voltage lines or power lines, to prevent surge and inductive noise.  
Do not use near the equipment which generates strong magnetic force or high frequency noise (transceiver, etc.).
- In case installing the product near the equipment which generates strong surge (motor, welding machine, etc.), use diode or varistor to remove surge.
- If the surface is rubbed with a hard object, PTFE coating can be worn out.
- This unit may be used in the following environments.
  - Indoors (in the environment condition rated in 'Specifications')
  - Altitude max. 2,000 m
  - Pollution degree 2
  - Installation category II

- Install the unit correctly with the usage environment, location, and the designated specifications.
- Do NOT impact with a hard object or excessive bending of the wire lead-out. It may cause damage the water resistance.
- Do NOT pull the Ø 3.5 mm cable with a tensile strength of 25 N, the Ø 4 mm cable with a tensile strength of 30 N or over and the Ø 5 mm cable with a tensile strength of 50 N or over. It may result in fire due to the broken wire.
- When extending wire, use AWG 22 cable or over within 200 m.

|                           |            | Normally open | Normally closed |
|---------------------------|------------|---------------|-----------------|
| Sensing target            |            | Presence      | Presence        |
|                           |            | Nothing       | Nothing         |
| Load                      |            | Operation     | Operation       |
|                           |            | Return        | Return          |
| Output voltage            | NPN output | H<br>L        | H<br>L          |
|                           | PNP output | H<br>L        | H<br>L          |
| Operation indicator (red) |            | ON<br>OFF     | ON<br>OFF       |

(unit: mm)

| Item       | Sensing side | Ø 8 mm |           | Ø 12 mm |           | Ø 18 mm |           | Ø 30 mm |           |
|------------|--------------|--------|-----------|---------|-----------|---------|-----------|---------|-----------|
|            |              | Flush  | Non-flush | Flush   | Non-flush | Flush   | Non-flush | Flush   | Non-flush |
| <b>A</b>   |              | 9      | 12        | 12      | 24        | 30      | 48        | 60      | 90        |
| <b>B</b>   |              | 16     | 24        | 24      | 36        | 36      | 54        | 60      | 90        |
| <b>ℓ</b>   |              | 0      | 8         | 0       | 11        | 0       | 14        | 0       | 15        |
| <b>Ø d</b> |              | 8      | 24        | 12      | 36        | 18      | 54        | 30      | 90        |
| <b>m</b>   |              | 4.5    | 6         | 6       | 12        | 15      | 24        | 30      | 45        |
| <b>n</b>   |              | 12     | 24        | 18      | 36        | 27      | 54        | 45      | 90        |

[Figure 2]

Washer

Mounting side

| Sensing side | Ø 8 mm   |           | Ø 12 mm   |           | Ø 18 mm  |           | Ø 30 mm  |           |
|--------------|----------|-----------|-----------|-----------|----------|-----------|----------|-----------|
| Strength     | Flush    | Non-flush | Flush     | Non-flush | Flush    | Non-flush | Flush    | Non-flush |
| Front size   | 7 mm     | 5 mm      | 13 mm     | 7 mm      | -        | -         | 26 mm    | 12 mm     |
| Front torque | 3.92 N m |           | 6.37 N m  |           | 14.7 N m |           | 49 N m   |           |
| Rear torque  | 8.82 N m |           | 11.76 N m |           | 14.7 N m |           | 78.4 N m |           |