

Autonics

INDUCTIVE PROXIMITY SENSOR
CYLINDRICAL TYPE DC 3WIRE

INSTRUCTION MANUAL



Thank you for choosing our Autonics product.
Please read the following safety considerations before use.

Safety Considerations

Please observe all safety considerations for safe and proper product operation to avoid hazards.

Warning symbol represents caution due to special circumstances in which hazards may occur.

Warning Failure to follow these instructions may result in serious injury or death.

Caution Failure to follow these instructions may result in personal injury or product damage.

Warning

1. Fail-safe device must be installed when using the unit with machinery that may cause serious injury or substantial economic loss. (e.g. nuclear power control, medical equipment, ships, vehicles, railways, aircraft, combustion apparatus, safety equipment, crime/disaster prevention devices, etc.)

2. Do not disassemble or modify the unit.

3. Do not connect, repair, or inspect the unit while connected to a power source.

4. Check 'Connections' before wiring.

Failure to follow this instruction may result in fire.

Failure to follow this instruction may result in fire.

Caution

1. Use the unit within the rated specifications.

2. Use dry cloth to clean the unit, and do not use water or organic solvent.

3. Do not use the unit in the place where flammable/explosive/corrosive gas, humidity, direct sunlight, radiant heat, vibration, impact, or salinity may be present.

Failure to follow this instruction may result in fire or explosion.

Ordering Information

Ordering information diagram showing how to decode part numbers (e.g., PRW18-5DN-V) into cable type, output, sensing distance, dimension, body size, connection, shape, and item type.

Control Output Diagram & Load Operation

Control output diagrams for NPN and PNP sensors. Includes circuit diagrams showing the main circuit and load connection, and truth tables for sensing target, load, output voltage, and operation indicator.

Connections

Connection diagrams for NPN and PNP sensors, showing cable connector types and terminal pin configurations.

The above specifications are subject to change and some models may be discontinued without notice. Be sure to follow cautions written in the instruction manual and the technical descriptions (catalog, homepage).

Specifications

Table of specifications for various Autonics proximity sensor models, including sensing distance, hysteresis, target, setting distance, power supply, current consumption, response frequency, residual voltage, and materials.

Notes explaining the response frequency, sensing distance, and weight specifications.

Dimensions

Dimension diagrams for flush and non-flush sensors, showing cable type, cable connector type, and nut & washer dimensions.

Table of dimensions for various sensor models, listing dimensions A through J in millimeters.

Mutual-interference & Influence by Surrounding Metals

Mutual-interference

When several proximity sensors are mounted closely, malfunction of sensor may be caused due to mutual interference. Therefore, be sure to provide a minimum distance between the two sensors with referring to the chart below.



Influence by surrounding metals

When sensors are mounted on metallic panel, it is required to protect the sensors from being affected by any metallic object except target. Therefore, be sure to provide a minimum distance as below chart.

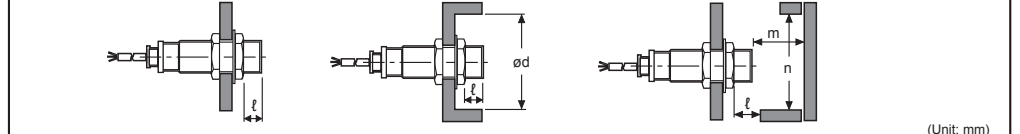
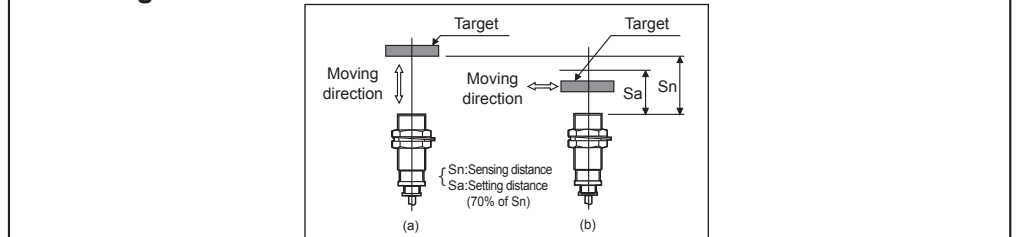


Table showing minimum setting distances (A, B, t, ød, m, n) for various sensor models in millimeters.

Setting Distance



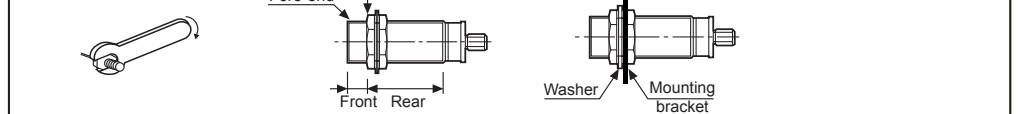
Setting distance can be changed by the shape, size or material of the target. Therefore please check the sensing distance like (a), then pass the target within range of setting distance(Sa).

Installation and Tightening Torque

When tightening the nut, use the provided washer as [Figure 1]. When installing the product, the tightening torque of the nut varies according to the distance from the fore-end.

The front part of the product is from the fore-end to the dimension on the below table, and the rear part is from the tip of the nut to the end of the product. [Figure 2]

In case the nut is placed in the front part of the product, apply tightening torque for front part. [Table 1] the allowable tightening torque table is for inserting the washer as [Figure 3].



Cautions during Use

- 1. Follow instructions in 'Cautions during Use'. Otherwise, it may cause unexpected accidents.
2. 12-24VDC power supply should be insulated and limited voltage/current or Class 2, SELV power supply device.
3. Use the product, after 0.8 sec of supplying power.
4. Wire as short as possible and keep away from high voltage lines or power lines, to prevent surge and inductive noise.
5. This unit may be used in the following environments.
- Indoors (in the environment condition rated in 'Specifications')
- Altitude max. 2,000m
- Pollution degree 2
- Installation category II

Major Products

- Photoelectric Sensors
Fiber Optic Sensors
Door Sensors
Door Side Sensors
Area Sensors
Proximity Sensors
Pressure Sensors
Rotary Encoders
Connector/Sockets
Switching Mode Power Supplies
Control Switches/Lamps/Buzzers
I/O Terminal Blocks & Cables
Stepper Motors/Drivers/Motion Controllers
Graphic/Logic Panels
Field Network Devices
Laser Marking System (Fiber, CO2, Nd: YAG)
Laser Welding/Cutting System
Temperature Controllers
Temperature/Humidity Transducers
SSRs/Power Controllers
Counters
Timers
Panel Meters
Tachometer/Pulse (Rate) Meters
Display Units
Sensor Controllers

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