

PLC

HMI

SENSOR

ENCODER

COUNTER

INFORMATION

APS-30/31 Series

Features

Polycarbonate Resin Cylinder, 3-wire DC System

- Can be closely installed at a minimum 15 mm interval
- Long-selling product
- NPN output

Proximity
Sensor Lineup

Selection Guide

Outline

Cylinder Type

Square Type

Capacitive Type

Type

3-wire DC System

| Output Form | | Operating Distance (mm) | | | | Output Form | Model Number | Remarks |
|-------------|-------------------------|-------------------------|--|--|--|-------------|--------------|---------|
| M12 | Non-flush Mount Type | 2 | | | | NPN NO | APS-30-2N | |
| | | 4 | | | | NPN NO | APS-30-4N | |
| M22 | Non-flush Mount Type | 7 | | | | NPN NO | APS-31-7N | |

* For installation, use the provided dedicated resin nut.

Note: The manufacturing of these products will be discontinued after the discontinued components are finished.

APS-GMC

APS-GMD

APS-GK

APS-30/31

APS-CK

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DC Voltage Output Type/3-wire DC System Non-flush Mount Type

P L C



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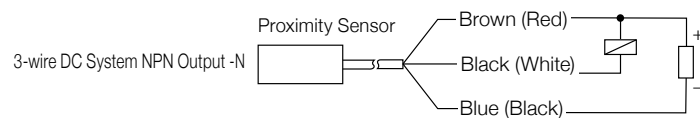
| | | | | | |
|-------------------------------|--------|--------------|--|--------------------|---|
| Effective Operating Distance | | | 2 mm ±10% | 4 mm ±10% | 7 mm ±10% |
| Photo | | |  | |  |
| Remarks | | | Compact / High speed response Tight mounting is possible. | Compact | |
| Output Form | NPN NO | Model Number | APS-30-2N | APS-30-4N | APS-31-7N |
| | | Price | Open | Open | Open |
| | | | | | |
| | | | | | |
| Rated Working Voltage | | | 24 V DC (20 to 28 V DC) Allowable ripple rate: 3% p-p or less | | 24 V DC (10 to 30 V DC) Full wave rectification power supply can be used. (Mean value) |
| No-load Current | | | 15 mA or lower | 10 mA or lower | |
| Standard Target Object (mm) | | | Iron 10 x 10 x 1 t | Iron 20 x 20 x 1 t | Iron 30 x 30 x 1 t |
| Guaranteed Operating Distance | | | 0 to 1.4 mm | 0 to 2.8mm | 0 to 4.9 mm |
| Reaction Material | | | Iron/Non ferrous metal (Operating distance changes depending on materials.) | | |
| Hysteresis | | | Approx. 10% | | |
| Operating Cycle Frequency | | | 3 kHz | 300 Hz | 100 Hz |
| Output | | | Up to 60 mA (Load voltage: Not more than 40 V) | | 100mA (+40°C) 80mA (+50°C) (Load voltage: Not more than 50 V) |
| Voltage Drop | | | 2.4 V or lower | | |
| Off-state Current | | | 300 μA or less | | |
| Circuit Protection | | | — | | Load short-circuit protection circuit |
| Use Ambient Temperature | | | -10 to +50°C | | |
| Temperature Characteristics | | | Within ±20% (At the operating distance at +20°C) | | |
| Withstand Voltage | | | 500 V AC 50/60 Hz (1 minute) | | |
| Insulation Resistance | | | 50 MΩ or higher (500 V DC) | | |
| Vibration Resistance | | | Double amplitude: 1.5 mm, 10 to 55 Hz (2 h each for X, Y and Z direction) | | |
| Impact Resistance | | | 300 m/s ² , within 11 ms (10 times each for X, Y and Z direction) | | |
| Protection Level | | | IP65 | | IP50 |
| Case Material | | | Polycarbonate | | |
| Lead Wire | | | Oilproof vinyl chloride cable 1.5 m Outside diameter (Approx. ϕ3.5) 0.11 mm ² , 3 core | | Oilproof vinyl chloride cable 1.5 m Outside diameter (Approx. ϕ6) 0.5 mm ² , 3 core |
| Tightening Torque | | | 0.8 Nm or less | | 3 Nm or less |
| Weight (g) | | | Approx. 30 | | Approx. 100 |

* For installation, use the provided dedicated resin nut.

APS-30/31 Series

Connection and Operation

Connection/Operation



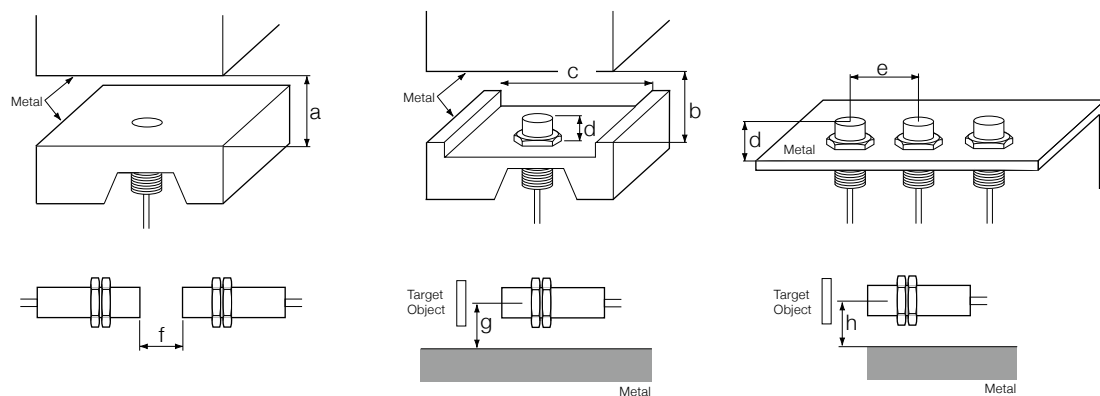
(Target Object Not Present Present)

Output OFF ON

Note: indicates a load. Operation indication is only available for models having LED.

Installation / Effects of Surrounding Metal

Since the proximity sensor is affected by surrounding metal, install it remotely enough from the described dimensions.



(Unit: mm)

| Model Number | a | b | c | d | e | f | g | h |
|--------------|---|----|----|----|----|----|----|----|
| APS-30-2N | — | 5 | 15 | 7 | 15 | 20 | 7 | 5 |
| APS-30-4N | — | 10 | 20 | 7 | 30 | 40 | 10 | 8 |
| APS-31-7N | — | 18 | 50 | 15 | 70 | 90 | 18 | 15 |

APS-GMC

APS-GMD






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Connection and Operation/Dimensions

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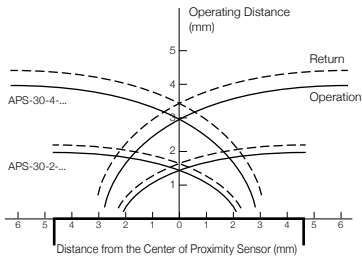
APS-GK

APS-30/31

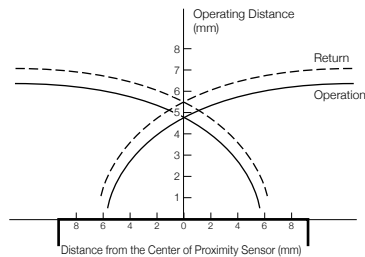
APS-CK

Detection Range Diagram (Representative Examples)

APS-30-2N
APS-30-4N

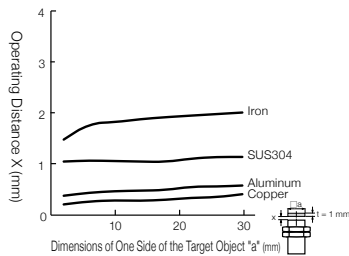


APS-31-7N

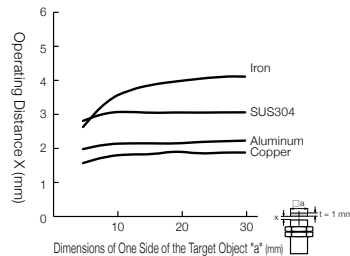


Shape Based Characteristics (Representative Examples)

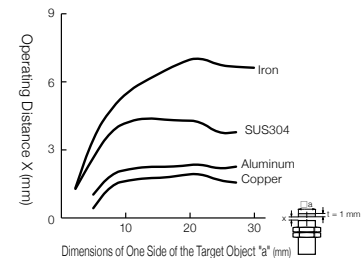
APS-30-2N



APS-30-4N

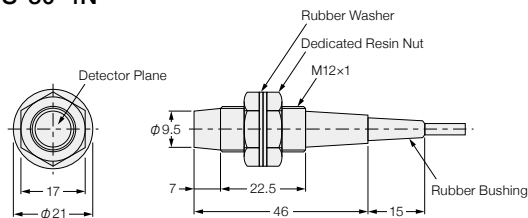


APS-31-7N



Dimensions (Unit: mm)

APS-30-2N
APS-30-4N



APS-31-7N

