

PS/PSN Series

Rectangular type proximity sensor

Features

- Shorten the time of maintenance with the body
- Improved the noise resistance by adopting dedicated IC (DC 3-wire type)
- Reverse power polarity (DC), surge (DC/AC), overcurrent protection (DC type—Except for PS12 Series.)
- Long life cycle and high reliability
- Red LED status indication
- IP67 rated waterproof structure (IEC standard)
- Replacer for micro switches and limit switches



⚠ Please read "Caution for your safety" in operation manual before using.



Specifications

DC 3-wire type

※ The existing PS17 is upgraded its function and design and changed as PSN17.
 ※ The case color of PNP output type is changed from orange to gray.

| Model | PS12-4DN PS12-4DP PS12-4DN2 PS12-4DNU PS12-4DPU PS12-4DN2U | PSN17-5DN PSN17-5DP PSN17-5DN2 PSN17-5DP2 PSN17-5DNU PSN17-5DPU PSN17-5DN2U PSN17-5DN-F | PSN17-8DN PSN17-8DP PSN17-8DN2 PSN17-8DNU PSN17-8DPU | PSN17-8DN-F PSN17-8DP-F PSN17-8DN2-F PSN17-8DNU-F PSN17-8DPU-F PSN17-8DN2U-F | PSN25-5DN PSN25-5DP PSN25-5DN2 PSN25-5DP2 | PSN30-10DN PSN30-10DP PSN30-10DN2 PSN30-10DPU | PSN30-15DN PSN30-15DP PSN30-15DN2 PSN30-15DP2 | PSN40-20DN PSN40-20DP PSN40-20DN2 PSN40-20DP2 | PS50-30DN PS50-30DP PS50-30DN2 PS50-30DP2 |
|----------------------------------|---|--|--|---|--|--|--|--|--|
| Sensing distance | 4mm ±10% | 5mm ±10% | 8mm ±10% | | 5mm ±10% | 10mm ±10% | 15mm ±10% | 20mm ±10% | 30mm ±10% |
| Hysteresis | Max. 10% of sensing distance | | | | | | | | |
| Standard sensing target | 12×12×1mm (Iron) | 18×18×1mm (Iron) | 25×25×1mm (Iron) | | | 30×30×1mm (Iron) | 45×45×1mm (Iron) | 60×60×1mm (Iron) | 90×90×1mm (Iron) |
| Setting distance | 0~2.8mm | 0~3.5mm | 0~5.6mm | 0~3.5mm | 0~7mm | 0~10.5mm | 0~14mm | 0~21mm | |
| Power supply (Operation voltage) | 12-24VDC (10-30VDC) | | | | | | | | |
| Current consumption | Max. 10mA | | | | | | | | |
| Response frequency(*1) | 500Hz | 700Hz | 200Hz | 300Hz | 250Hz | 200Hz | 100Hz | 50Hz | |
| Residual voltage | Max. 1.5V | | | | | | | | |
| Affection by Temp. | ±10% Max. for sensing distance at +20°C within temperature range of -25 ~ +70°C | | | | | | | | |
| Control output | Max. 200mA | | | | | | | | |
| Insulation resistance | Min. 50MΩ (at 500VDC mega) | | | | | | | | |
| Dielectric strength | 1500VAC 50/60Hz for 1minute | | | | | | | | |
| Vibration | 1mm amplitude at frequency of 10 ~ 55Hz in each of X, Y, Z directions for 2 hours | | | | | | | | |
| Shock | 500m/s ² (50G) in X, Y, Z direction for 3 times | | | | | | | | |
| Indicator | Operation indicator (Red LED) | | | | | | | | |
| Ambient temperature | -25 ~ +70°C (at non-freezing status) | | | | | | | | |
| Storage temperature | -30 ~ +80°C (at non-freezing status) | | | | | | | | |
| Ambient humidity | 35 ~ 95%RH | | | | | | | | |
| Protection circuit | Surge, Overcurrent protection circuit | | | | | | | | |
| Protection | IP67 (IEC standard) | | | | | | | | |
| Cable spec. | φ 4 × 2P, 2m | | | | | φ 5 × 2P, 2m | | | |
| Approval | CE | | | | | | | | |
| Unit weight | Approx. 62g | Approx. 71g | Approx. 70g | | Approx. 111g | Approx. 158g | Approx. 220g | | |

※ (*1) 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.

Rectangular Type

■ Specifications

● DC 2-wire type

※The existing PS17 is upgraded its function and design and changed as PSN17.
 ※The case color of Normal Close type is changed from orange to gray.

| Model | PSNT17-5DO PSNT17-5DC | PSNT17-5DOU PSNT17-5DCU |
|-------------------------------------|---|----------------------------|
| Sensing distance | 5mm ±10% | |
| Hysteresis | Max. 10% of sensing distance | |
| Standard sensing target | 18×18×1mm (Iron) | |
| Setting distance | 0 ~ 3.5mm | |
| Power supply (Operating voltage) | 12-24VDC (10-30VC) | |
| Leakage current | Max. 0.6mA | |
| Response frequency(*1) | 700Hz | |
| Residual voltage | Max. 3.5V | |
| Affection by Temp. | ±10% Max. for sensing distance at +20°C within temperature range of -25 ~ +70°C | |
| Control output | 2~100mA | |
| Insulation resistance | Min. 50MΩ (at 500VDC mega) | |
| Dielectric strength | 1500VAC 50/60Hz for 1 minute | |
| Vibration | 1mm amplitude at frequency of 10 ~ 55Hz in each of X, Y, Z directions for 2 hours | |
| Shock | 500m/s ² (50G) in X, Y, Z direction for 3 times | |
| Indicator | Operation indicator (Red LED) | |
| Ambient temperature | -25 ~ +70°C (at non-freezing status) | |
| Storage temperature | -30 ~ +80°C (at non-freezing status) | |
| Ambient humidity | 35 ~ 95%RH | |
| Protection circuit | Surge, Reverse power polarity, Overcurrent protection circuit | |
| Protection | IP67 (IEC standard) | |
| Cable | φ 4×3P, 2m | |
| Approval | CE | |
| Unit weight | Approx. 69g | |

※(*1) 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.

● AC 2-wire type

※The case color of Normal Close type is changed from orange to gray.

| Model | PSN25-5AO PSN25-5AC | PSN30-10AO PSN30-10AC | PSN30-15AO PSN30-15AC | PSN40-20AO PSN40-20AC |
|-------------------------------------|---|--------------------------|--------------------------|--------------------------|
| Sensing distance | 5mm ±10% | 10mm ±10% | 15mm ±10% | 20mm ±10% |
| Hysteresis | Max. 10% of sensing distance | | | |
| Standard sensing target | 25×25×1mm (Iron) | 30×30×1mm (Iron) | 45×45×1mm (Iron) | 60×60×1mm (Iron) |
| Setting distance | 0 ~ 3.5mm | 0 ~ 7mm | 0 ~ 10.5mm | 0 ~ 14mm |
| Power supply (Operating voltage) | 100-240VDC (85-264VC) | | | |
| Leakage current | Max. 2.5mA | | | |
| Response frequency(*1) | 20Hz | | | |
| Residual voltage | Max. 10V | | | |
| Affection by Temp. | ±10% Max. for sensing distance at +20°C within temperature range of -25 ~ +70°C | | | |
| Control output | 5 ~ 200mA | | | |
| Insulation resistance | Min. 50MΩ (at 500VDC mega) | | | |
| Dielectric strength | 2500VAC 50/60Hz for 1 minute | | | |
| Vibration | 1mm amplitude at frequency of 10 ~ 55Hz in each of X, Y, Z directions for 2 hours | | | |
| Shock | 500m/s ² (50G) in X, Y, Z direction for 3 times | | | |
| Indicator | Operation indicator (Red LED) | | | |
| Ambient temperature | -25 ~ +70°C (at non-freezing status) | | | |
| Storage temperature | -30 ~ +80°C (at non-freezing status) | | | |
| Ambient humidity | 35 ~ 95%RH | | | |
| Protection circuit | Surge protection circuit | | | |
| Protection | IP67 (IEC standard) | | | |
| Cable | φ 4×2P, 2m | φ 5×2P, 2m | | |
| Approval | CE | | | |
| Unit weight | Approx. 65g | Approx. 106g | Approx. 152g | |

※(*1) 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.

(A)
Counter

(B)
Timer

(C)
Temp.
controller

(D)
Power
controller

(E)
Panel
meter

(F)
Tacho/
Speed/
Pulse
meter

(G)
Display
unit

(H)
Sensor
controller

(I)
Switching
power
supply

(J)
Proximity
sensor

(K)
Photo
electric
sensor

(L)
Pressure
sensor

(M)
Rotary
encoder

(N)
Stepping
motor &
Driver &
Controller

(O)
Graphic
panel

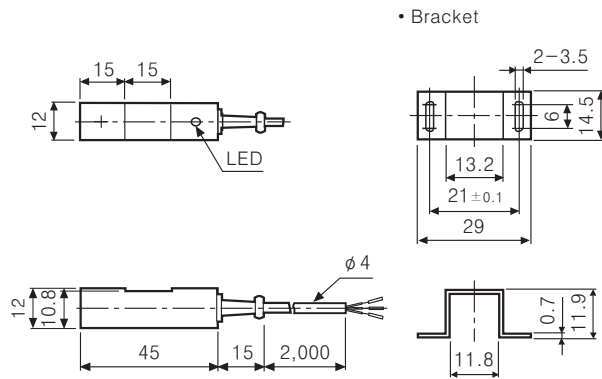
(P)
Production
stoppage
models &
replacement

PS/PSN Series

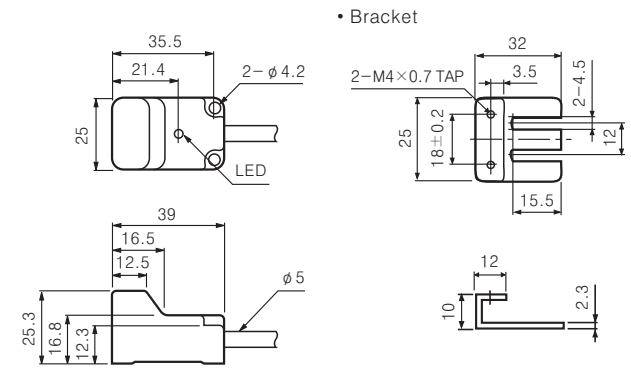
■ Dimensions

(Unit:mm)

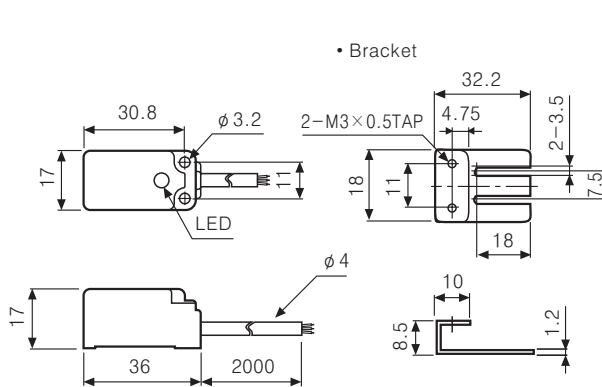
●PS12



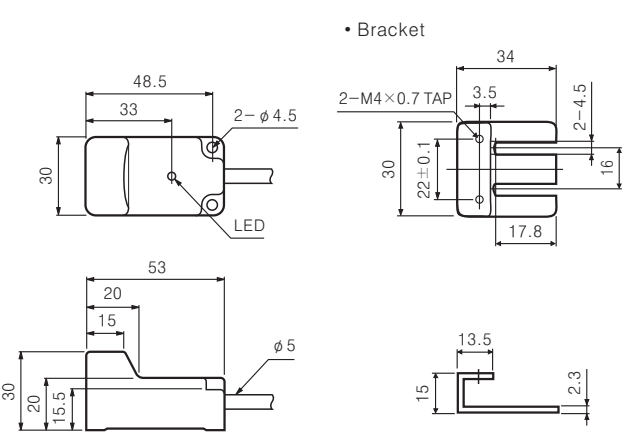
●PSN25



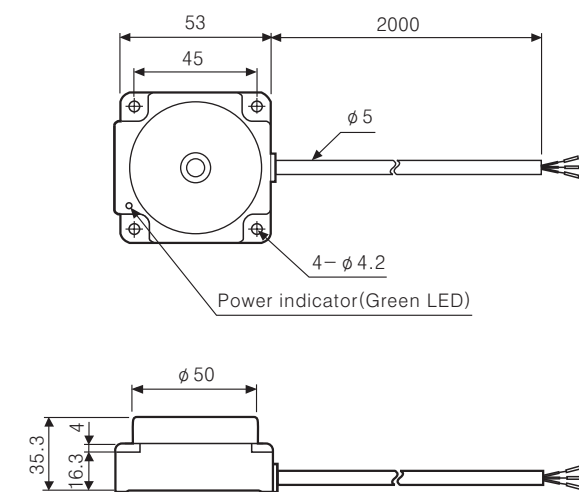
●PSN17 / PSNT17 (Former : PS17/ PST17)



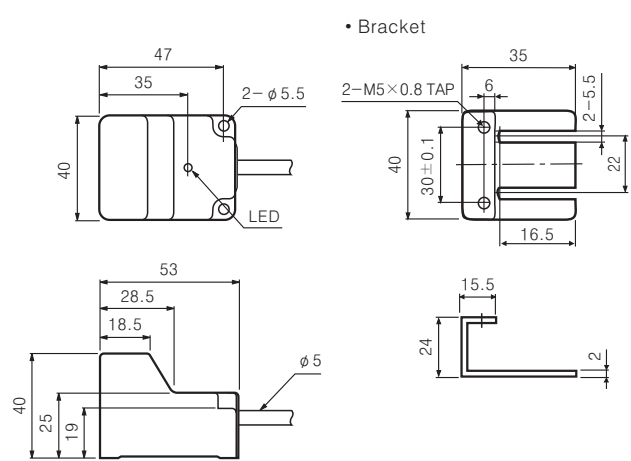
●PSN30



●PS50



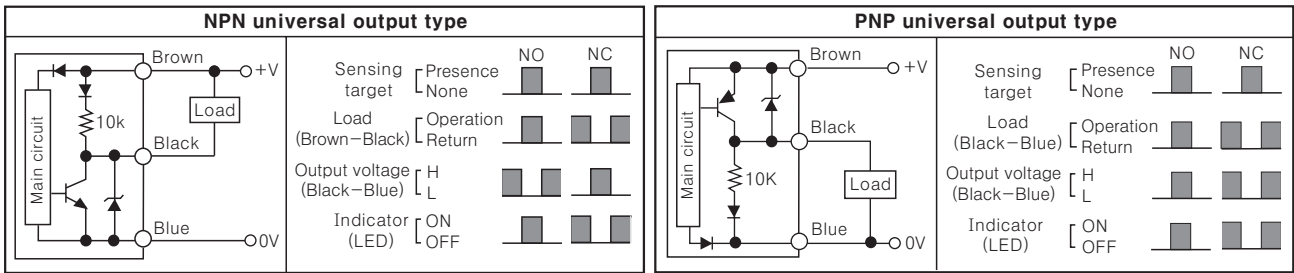
●PSN40



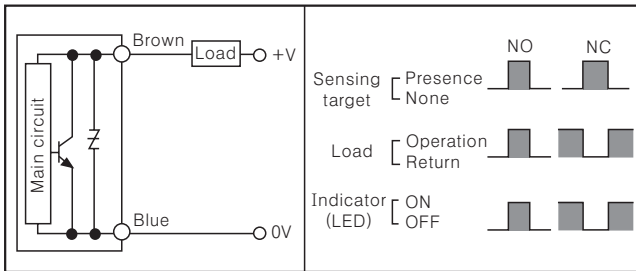
Rectangular Type

Control output diagram

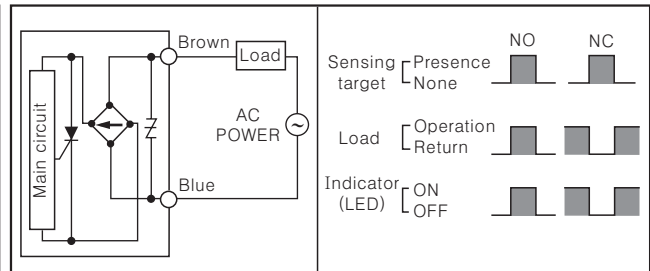
DC 3-wire type



DC 2-wire type

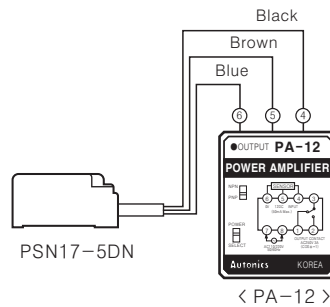
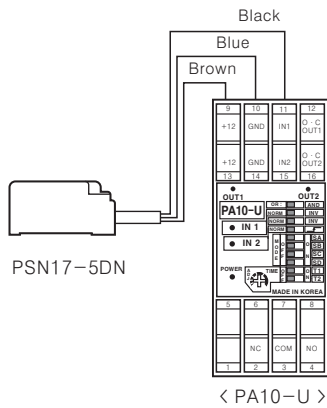


AC 2-wire type



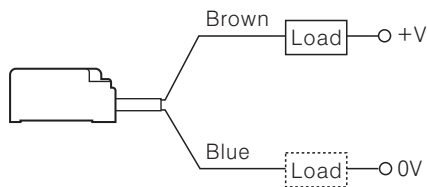
Connections

DC 3-wire type



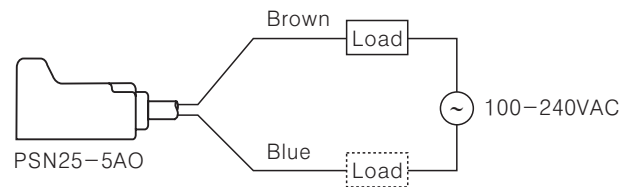
※ There is NPN/PNP selection switch in PA-12.

DC 2-wire type



※ The load can be connected to either wire.

AC 2-wire type



※ The load can be connected to either wire.

(A) Counter

(B) Timer

(C) Temp. controller

(D) Power controller

(E) Panel meter

(F) Tacho/Speed/Pulse meter

(G) Display unit

(H) Sensor controller

(I) Switching power supply

(J) Proximity sensor

(K) Photo electric sensor

(L) Pressure sensor

(M) Rotary encoder

(N) Stepping motor & Driver & Controller

(O) Graphic panel

(P) Production stoppage models & replacement

