# Flat Type Proximity Sensor

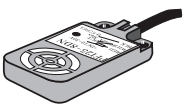
## ■ Features

- Easy to mount in narrow space by flat structure (Height: 10mm)
- Improved the noise resistance with dedicated IC (DC type)
- Built-in reverse polarity protection circuit, overcurrent protection circuit (DC type)
- Built-in surge protection circuit
- Red LED operation indicator
- Protection structure IP67 (IEC standard)
- Replaceable for micro switches and limit switches

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

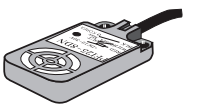
## ■ Type

### ◎ DC 3-wire type

| Appearance | Model |
|---|---|
|  | **PFI25-8DN** |
| | **PFI25-8DP** |
| | **PFI25-8DN2** ※ |
| | **PFI25-8DP2** ※ |

※ mark can be customized.

### ◎ AC 2-wire type

| Appearance | Model |
|---|---|
|  | **PFI25-8AO** |
| | **PFI25-8AC** |

## ■ Specification

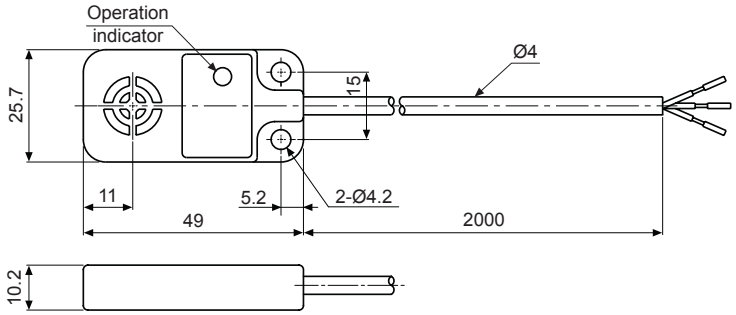
| Model | | **PFI25-8DN PFI25-8DN2** **PFI25-8DP PFI25-8DP2** | **PFI25-8AO PFI25-8AC** |
|---|---|---|---|
| Sensing distance | | 8mm | |
| Hysteresis | | Max. 10% of sensing distance | |
| Standard sensing target | | 25×25×1mm (Iron) | |
| Setting distance | | 0 to 5.6mm | |
| Power supply (Operating voltage) | | 12-24VDC (10-30VDC) | 100-240VAC (85-264VAC) |
| Current consumption/ Leakage current | | Max. 10mA | Max. 2.5mA |
| Response frequency※1 | | 200Hz | 20Hz |
| Residual voltage | | Max. 1.5V | Max. 10V |
| Affection by Temp. | | Max. ±10% for sensing distance at ambient temperature 20℃ | |
| Control output | | Max. 200mA | 5 to 150mA |
| Insulation resistance | | Min. 50MΩ (at 500VDC megger) | |
| Dielectric strength | | 1,500VAC 50/60Hz for 1 minute | 2,500VAC 50/60Hz for 1 minute |
| Vibration | | 1mm amplitude at frequency of 10 to 55Hz (for 1 min.) in each X, Y, Z direction for 2 hours | |
| Shock | | 500m/s² (approx. 50G) in each X, Y, Z direction for 3 times | |
| Indicator | | Operation indicator (red LED) | |
| Environment | Ambient temperature | -25 to 70℃, storage: -30 to 80℃ | |
| | Ambient humidity | 35 to 95%RH, storage: 35 to 95%RH | |
| Protection circuit | | Surge protection circuit, Reverse polarity protection circuit, Overcurrent protection circuit | Surge protection circuit |
| Cable | | Ø4mm, 3-wire, 2m | Ø4mm, 2-wire, 2m |
| | | (AWG22, Core diameter: 0.08mm, Number of cores: 60, Insulator out diameter: Ø1.25) | |
| Material | | Case: PPS, General cable (Black): Polyvinyl chloride (PVC) | |
| Protection structure | | IP67 (IEC standard) | |
| Approval | | CE | |
| Unit weight | | Approx. 70g | |

※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.

※Environment resistance is rated at no freezing or condensation.

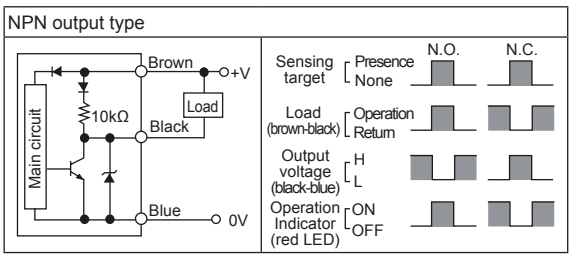
## ■ Dimensions

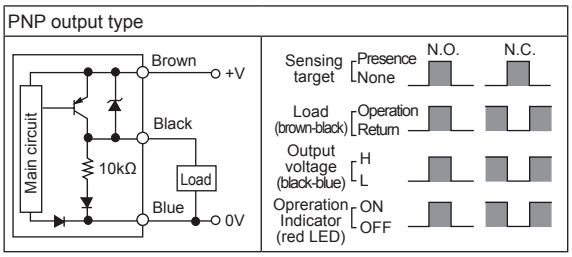
(unit: mm)



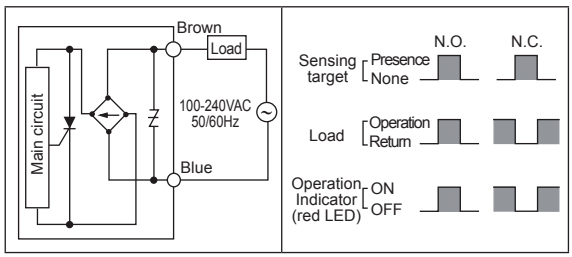

## ■ Control Output Diagram

### ◎ DC 3-wire type



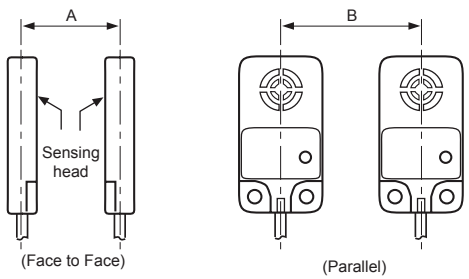

### ◎ AC 2-wire type




## ■ Proper Usage

### ◎ Mutual-interference

When several proximity sensors are mounted close to one another a malfunction of the sensor may be caused due to mutual interference. Therefore, be sure to provide a minimum distance between the two sensors as below chart indicates.

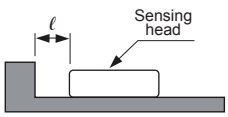



(unit: mm)

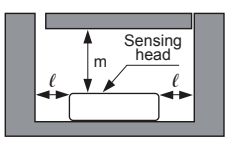
| | |
|---|---|
| A | 100 |
| B | 80 |

### ◎ Influence by surrounding metals

When sensors are mounted on metallic panel, you must prevent the sensors from being affected by any metallic object except target. Therefore, be sure to provide a minimum distance as below chart indicates.




When the height between the proximity sensor and surrounding metals is same.




When the height between the proximity sensor and surrounding metals is different.

(unit: mm)

| | |
|---|---|
| ℓ | 5 |
| m | 15 |