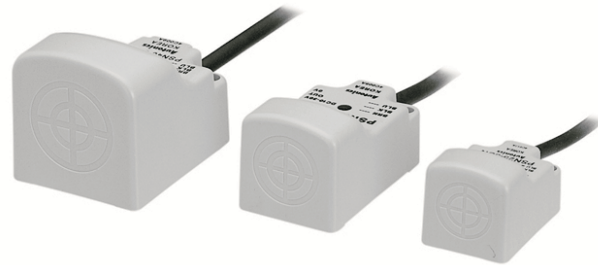


Autonics

INDUCTIVE PROXIMITY SENSOR(SQUARE AC 2 WIRE)

PSN SERIES

M A N U A L



Thank you very much for selecting Autonics products.
For your safety, please read the following before using.

Caution for your safety

※Please keep "Caution for your safety" to avoid accidents or damages as using it correctly.

※The meaning of 'Warning' and 'Caution' is as follows;

Warning In case a serious injury or dead may be occurred.

Caution In case a little injury or damage of this unit may be occurred.

※The meaning of the mark on the product and manual is as follows;

⚠ is a caution mark for danger in special condition.

Warning

1. Please use it with double safety devices when it is used at the equipments which may cause damages to human life or assets(Ex:Nuclear power control, Medical equipment, Vehicle, Train, Air plane, Combustion apparatus, Entertainment or Safety device etc.)

It may cause a fire, human life or assets.

2. Do not connect power directly without load.

It may result in damage to inner components or burn them out.

Caution

1. Do not use this unit in place where there is flammable, explosive gas, chemical or strong alkalis, acids.

It may cause a fire or explosion.

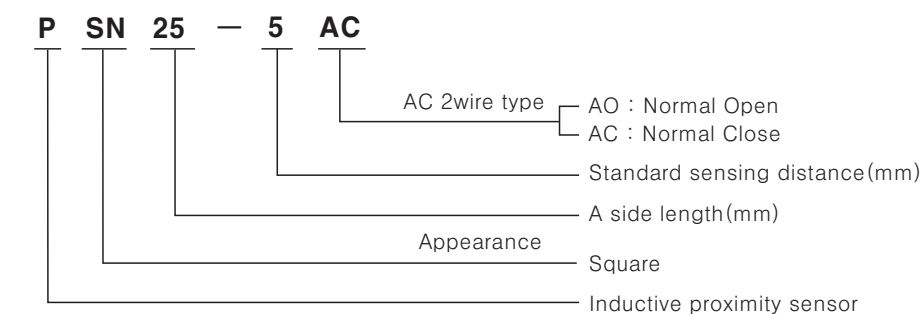
2. Do not impact on this unit.

It may result in malfunction or damage to the product.

3. Please observe specification rating.

It may result in serious damage to the product.

Ordering information

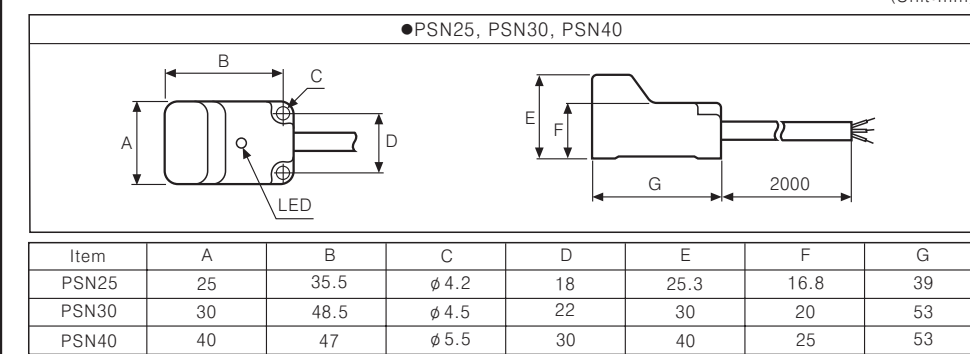


※The above specifications are changeable at anytime without notice.

Specifications

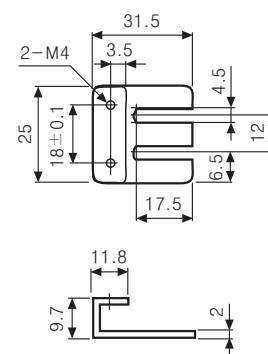
Model	PSN25-5AO PSN25-5AC	PSN30-10AO PSN30-10AC	PSN30-15AO PSN30-15AC	PSN40-20AO PSN40-20AC
Sensing distance	5mm ±10%	10mm ±10%	15mm ±10%	20mm ±10%
Hysteresis	Max. 10% of sensing distance			
Standard sensing target	25×25×1mm (Iron)	30×30×1mm (Iron)	45×45×1mm (Iron)	60×60×1mm (Iron)
Setting distance	0 to 3.5	0 to 7	0 to 10.5	0 to 14
Power supply (Operating voltage)	100-240VAC 50/60Hz (85-264VAC)			
Leakage current	Max. 2.5mA			
Response frequency	20Hz			
Residual voltage	Max. 10V			
Affection by Temp.	±10% Max. of sensing distance at +20°C within temperature range of -25 to +70°C			
Control output	200mA			
Insulation resistance	Min. 50MΩ (500VDC)			
Dielectric strength	1500VAC 50/60Hz for 1minute			
Vibration	1mm amplitude at frequency of 10 to 55Hz in each of X, Y, Z directions for 2 hours			
Shock	500m/s ² (50G) X, Y, Z directions for 3 times			
Indicator	Operating indicator : Red LED			
Ambient temperature	-25 ~ +70°C (non-freezing condition)			
Storage temperature	-30 ~ +80°C (non-freezing condition)			
Ambient humidity	35 ~ 95%RH			
Protection circuit	Surge protection circuit			
Protection	IP67(IEC Standard)			
Unit weight	Approx. 65g	Approx. 106g	Approx. 152g	

Dimensions

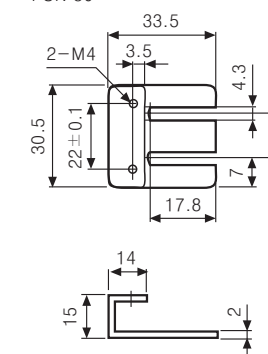


Bracket

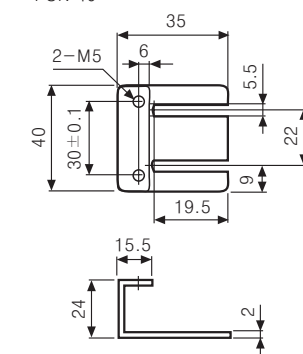
●PSN 25



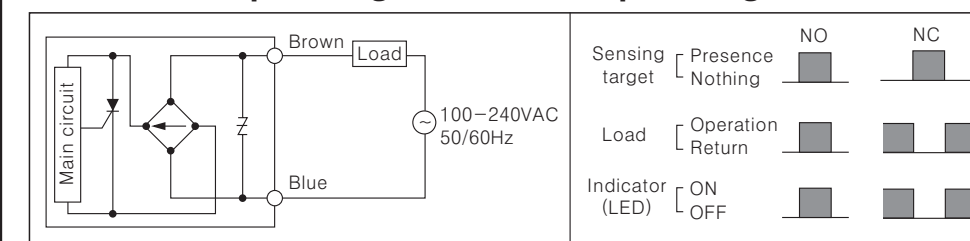
●PSN 30



●PSN 40



Control output diagram & Load operating



Connection of the power supply

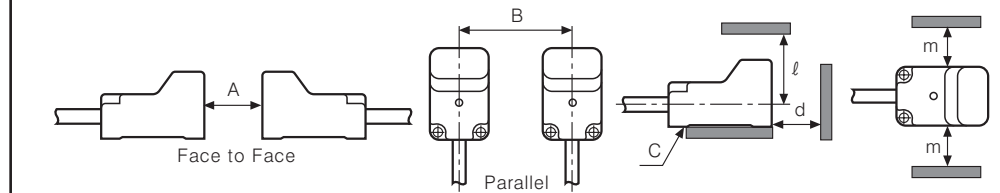
Be sure to connect the power after connecting the load, because direct connection of the proximity sensor may cause damage to the inner elements of this product.



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, as below charts.



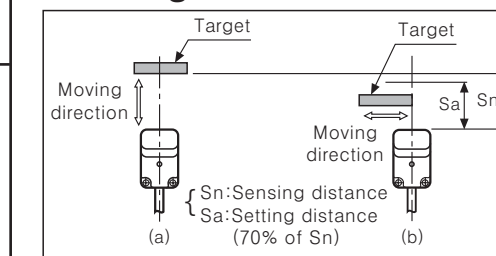
○Influence by surrounding metals

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 charts.

(Unit:mm)

Model	Item	PSN30			PSN40
		10mm	15mm		
	A	30	60	90	120
	B	40	50	65	70
	C	5	5	5	5
	d	15	30	45	60
	ℓ	25	30	45	45
	m	20	25	35	35

Setting distance

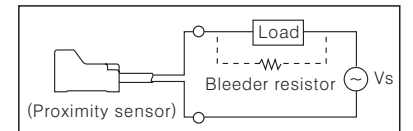


●Sensing distance can be changed by the shape, size or material of the target. Therefore please check the sensing distance like (a), then pass the target within range of setting distance(Sa).

●Setting distance(Sa)
=Sensing distance(Sn) × 70%
Ex)PSN30-10AO(See ordering information)
Setting distance(Sa)=10mm × 0.7=7mm

Caution for using

- This equipment shall not be used outdoors or beyond specified temperature range.
- Do not load over than tensile strength of cord. (∅4:30N max., ∅5:50N max.)
- Do not use the same conduit with cord of this unit and electric power line or power line. Also avoid the same connection.
- Tighten strength of installing bolts should be under 10kgf · cm.
- Please check the voltage changes of power source in order not to excess rating power input.
- Do not connect capacity load to output part directly.
- Please make wire short as much as possible in order to avoid noise.
- Be sure to cable as indicated specification on this product. If use wrong cable or bended cable, it shall not maintain the water-proof.
- It is possible to extend cable with over 0.3mm² and max. 200m.
- If the target is plated, the operating distance can be changed by the plating material.
- It may result in malfunction by metal particle on product.
- If there are machines(motor, welding etc), which occurs big surge around this unit, please install the Varistor or absorber to source of surge, even though there is built-in surge absorber in this unit.
- If connect the load with big inrush current(DC type bulb) to this unit, the big inrush current will flow due to the initial resistance is low. If the current flows, the resistance of load will be bigger, then it will return to standard current. In this case, proximity sensor might be damaged by inrush current. If you use DC type bulb, please connect extra relay or resistance in order to protect proximity sensor from.
- In case of the load current is small : When the load current is under 5mA, make the residual voltage is less than return voltage to connect the bleeder resistor to load in parallel.
※110VAC 50/60Hz : 20kΩ, Min. 3W,
220VAC 50/60Hz : 39kΩ, Min. 5W
- If make a transceiver close to proximity sensor or wire connection, it may cause malfunction.



Major products

- PROXIMITY SENSOR
- AREA SENSOR
- DOOR/DOOR SIDE SENSOR
- ROTARY ENCODER
- SWITCHING POWER SUPPLY
- TEMPERATURE CONTROLLER
- TEMPERATURE/HUMIDITY TRANSDUCER
- POWER CONTROLLER
- TACHOMETER/PULSE(RATE) METER
- INDICATOR
- COUNTER
- DISPLAY UNIT
- STEPPING MOTOR & DRIVER & MOTION CONTROLLER
- PHOTOELECTRIC SENSOR
- FIBER OPTIC SENSOR
- PRESSURE SENSOR
- SENSOR CONTROLLER
- TEMPERATURE CONTROLLER
- SIGNAL CONVERTER
- TIMER
- GRAPHIC PANEL

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