

Rectangular, Long Sensing Distance Type Proximity Sensor

■ Features

- Sensing up to as 50mm
- Improved the noise immunity with dedicated IC
- Built-in reverse polarity protection circuit, surge protection circuit, output short over current protection circuit
- Wide range of power supply: 12-48VDC (voltage range: 10-65VDC)
- Simultaneous output of Normally Open+Normally Closed
- Built-in power indicator and operation indicator
- IP67 protection structure (IEC standard)



⚠ Please read "Safety Considerations" in the instruction manual before using.



■ Type

◎ DC 4-wire long distance type

Appearance	Model
	AS80-50DN3
	AS80-50DP3

■ Specification

Model	AS80-50DN3	AS80-50DP3
Sensing side	Upper side	
Sensing type	NPN Normally Open + Normally Closed	PNP Normally Open + Normally Closed
Sensing distance	50mm	
Hysteresis	Max. 15% of sensing distance	
Standard sensing target	150×150×1mm (iron)	
Setting distance	0 to 35mm	
Power supply (operating voltage)	12-48VDC= (10-65VDC=)	
Current consumption	Max. 20mA	
Response frequency*1	30Hz	
Residual voltage	Max. 2V	
Affection by Temp.	Max. ±10% for sensing distance at ambient temperature 20°C	
Control output	Max. 200mA	
Insulation resistance	Over 50MΩ (at 500VDC megger)	
Dielectric strength	1,500VAC 50/60Hz for 1 min	
Vibration	1mm amplitude at frequency of 10 to 55Hz (for 1 min) in each X, Y, Z direction for 2 hours	
Shock	500m/s ² (approx. 50G) in X, Y, Z direction for 3 times	
Indicator	Power indicator: Green LED, Operation indicator: Yellow LED	
Environment	Ambient temperature	-25 to 70°C, storage: -30 to 80°C
	Ambient humidity	35 to 95%RH, storage: 35 to 95%RH
Protection circuit	Surge protection circuit, reverse polarity protection circuit, output short over current protection circuit	
Cable	Ø5mm, 4-wire, 2m (AWG22, Core diameter: 0.08mm, Number of cores: 60, Insulator diameter: Ø1.25mm)	
Approval	CE	
Protection structure	IP67 (IEC standard)	
Unit weight	Approx. 470g	

*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.

SENSORS

CONTROLLERS

MOTION DEVICES

SOFTWARE

(A) Photoelectric Sensors

(B) Fiber Optic Sensors

(C) LIDAR

(D) Door/Area Sensors

(E) Vision Sensors

(F) Proximity Sensors

(G) Pressure Sensors

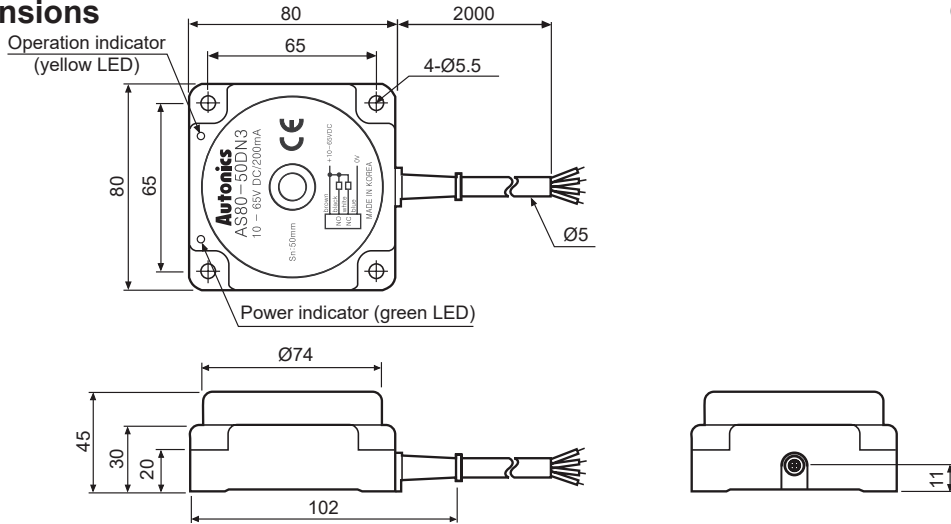
(H) Rotary Encoders

(I) Connectors/ Connector Cables/ Sensor Distribution Boxes/ Sockets

AS Series

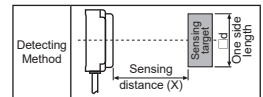
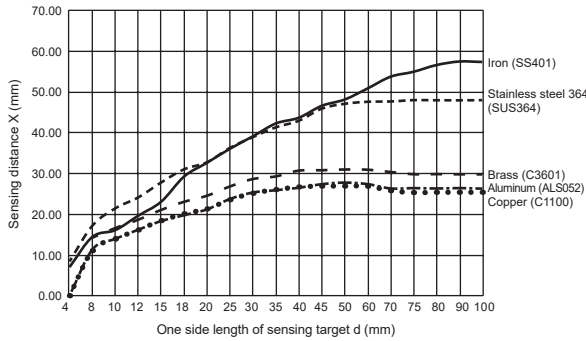
■ Dimensions

(unit: mm)



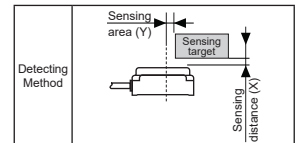
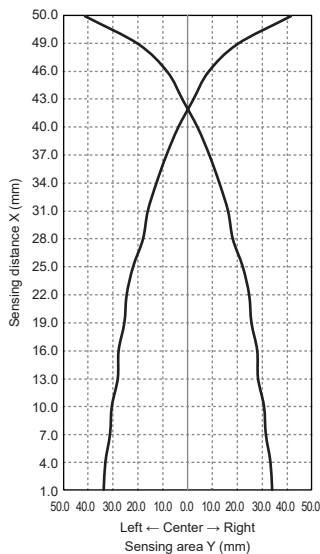
■ Sensing Distance Feature Data by Target Material and Size

● AS80-50D



■ Sensing Distance Feature Data by Parallel (Left/Right) Movement

● AS80-50D



Rectangular, Long Sensing Distance Type

Control Output Diagram and Load Operation

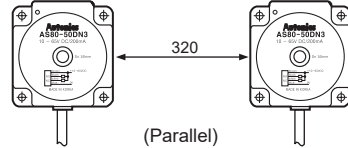
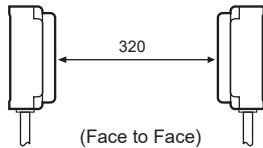
<p>NPN (N.O.+N.C.)</p>	<p>Sensing target</p> <ul style="list-style-type: none"> Presence: N.O. None: (Pulse) <p>Operation indicator (yellow LED)</p> <ul style="list-style-type: none"> ON: (Pulse) OFF: (Pulse) <p>Load (brown-black)</p> <ul style="list-style-type: none"> Operation: (Pulse) Return: (Pulse) <p>Output voltage (black-blue)</p> <ul style="list-style-type: none"> H: (Pulse) L: (Pulse) 	<p>Sensing target</p> <ul style="list-style-type: none"> Presence: N.C. None: (Pulse) <p>Operation indicator (yellow LED)</p> <ul style="list-style-type: none"> ON: (Pulse) OFF: (Pulse) <p>Load (brown-white)</p> <ul style="list-style-type: none"> Operation: (Pulse) Return: (Pulse) <p>Output voltage (white-blue)</p> <ul style="list-style-type: none"> H: (Pulse) L: (Pulse)
	<p>PNP (N.O.+N.C.)</p>	<p>Sensing target</p> <ul style="list-style-type: none"> Presence: N.O. None: (Pulse) <p>Operation indicator (yellow LED)</p> <ul style="list-style-type: none"> ON: (Pulse) OFF: (Pulse) <p>Load (black-blue)</p> <ul style="list-style-type: none"> Operation: (Pulse) Return: (Pulse) <p>Output voltage (black-blue)</p> <ul style="list-style-type: none"> H: (Pulse) L: (Pulse)

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.

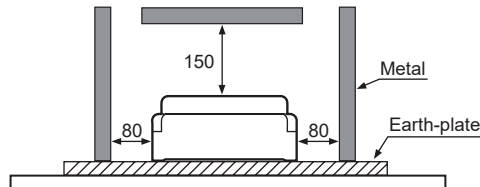
(unit: mm)



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.

(unit: mm)



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