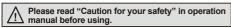
Long distance inductive proximity sensor (spatter resistance type)

Features

- Long sensing distance (1.5 to 2 times longer sensing distance guaranteed compared to existing models)
- Coated with the material against thermal resistance(prevention of malfunction due to spatter)
- Improved the noise resistance with dedicated IC
- Built-in surge protection, reverse polarity protection, overcurrent protection circuit
- red LED operation indication
- Protection structure IP67(IEC standards)
- Available as spatter-resistance limit switch





NEW

■ The characteristic of spatter-resistance type

The hot arc from arc welding machine is adhesive even with metals or plastics.

Therefore, normal proximity sensor might have malfunction even though there are no sensing object if the arcs are put on the sensing surface. The arcs are not adhered on the sensing part of the spatter-resistance type proximity sensor as the part is coated with teflon against thermal resistance. Also, the protection cover sold optionally has the same function.

Specifications

DC 2-wire type

Model		PRDAT18-7DO PRDAT18-7DC PRDAT18-7DO-V	PRDAWT18-7DO PRDAWT18-7DC PRDAWT18-7DO-I PRDAWT18-7DC-I	PRDAT30-15DO PRDAT30-15DC PRDAT30-15DO-V	PRDAWT30-15DO PRDAWT30-15DC PRDAWT30-15DO-I PRDAWT30-15DC-I	
		PRDAT18-7DC-V	PRDAWT18-7DO-IV PRDAWT18-7DC-IV	PRDAT30-15DC-V	PRDAWT30-15DO-IV PRDAWT30-15DC-IV	
Sensing distance		7mm 15mm				
Hysteresis		Max. 10% of sensing distance				
Standard sensing target		20×20×1mm(iron)		45×45×1mm(iron)		
Sensing distance		0 to 4.9mm		0 to 10.5mm		
Power supply (operating voltage)		12-24VDC (10-30VDC)				
Leakage current		Max. 0.6mA				
Response frequency ^{*1}		250Hz		100Hz		
Residual voltage		Max. 3.5V				
Affection by Temp.		Max. ±10% for sensing distance at ambient temperature 20°C				
Control output		2 to 100mA				
Insulation resistance		Min. 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 of X, Y, Z directions for 2 hours				
Shock		500m/s²(approx. 50G) in each of X, Y, Z directions for 3 times				
Indicator		Operation indicator (red LED)				
Environ- Ambient temperature		-25 to 70°C, storage: -30 to 80°C				
ment Ambient hu	midity	35 to 95%RH, storage: 35 to 95%RH				
Protection circuit		Surge protection circuit, overcurrent protection				
Protection		IP67(IEC standard)				
Material		Case/Nut: Teflon coated brass, Washer: Teflon coated Iron, Sensing surface: Teflon, Standard cable(black): Polyvinyl chloride(PVC), Oil resistant cable(gray): Polyvinyl chloride(oil resistant PVC)				
Cable		ø5, 2-wire, 2m (AWG22, Core diameter : 0.08mm, Number of cores: 60, Insulator out diameter:ø1.25)	ø5, 2-wire, 300mm, M12 connector	ø5, 2-wire, 2m (AWG22, Core diameter : 0.08mm, Number of cores: 60, Insulator out diameter:ø1.25)	ø5, 2-wire, 300mm, M12 connector	
Approval		CE				
Weight**2		Approx. 134g(approx. 122g) Approx. 77g(approx. 65g) Approx. 221g(approx. 184g) Approx. 155g(approx. 143g)				

D-22

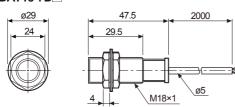
^{※2:} The weight with packaging and the weight in parentheses is only unit weight.
※ Environment resistance is rated at no freezing or condensation.

Long Distance Cylindrical Spatter-Resistance type

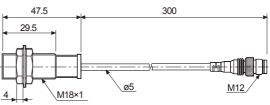
Dimensions

(unit: mm)

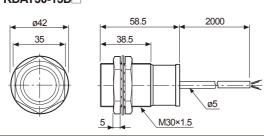
● PRDAT18-7D



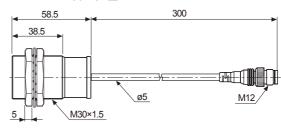
◆ PRDAWT18-7D□



• PRDAT30-15D

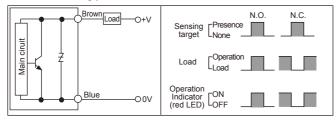


PRDAWT30-15D



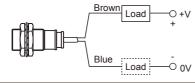
Output circuit

O DC 2-wire type



Example of connection

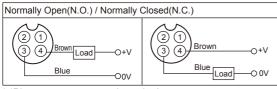
O DC 2-wire standard type



- ※For using DC 2-wire type, connect load before suppling the power and using this unit, or inner element may be damaged.
- XLoad can be wired to any direction.

■ Connection diagram

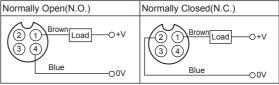
ODC 2-wire type (standard type)



※Pin ①, ② are not used terminals

※For DC 3-wire type connector cable, it is available to use with use black wire (12-24VDC) and blue wire (0V).

ODC 2-wire type (IEC standard type)



- ※②,③ of N.O. type and ③,④ of N.C. type are not used terminals.
- **The pin arrangement of connector applying IEC standard is being developed.
- ※Please attach "I" at the end of the name of standard type for purchasing the IEC standard product. Ex) PRDAWT18-7DO-I
- **The connector cable for IEC standard is being developed. Please attach "I" at the end of the name of standard type. Ex) CID2-2-I, CLD2-5-I

(A) Photo electric sensor

(B) Fiber optic sensor

(C) Door/Area sensor

(E) Pressure

(F) Rotary

(G) Connector/ Socket

(H) Temp. controller

> (I) SSR/ Power controller

Counter

L)

(M) Tacho/ Speed/ Pulse meter

(N) Display unit

> O) sensor ontroller

(P) Switching mode power supply

(Q) Stepper motor&

Driver&Control
(R)
Graphic/

(R) Graphic/ Logic panel (S) Field network device

device

Software

(U) Other

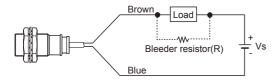
Autonics D-23

PRDAT/PRDAWT Series

■Proper usage

In case of the load current is small

• DC 2-wire



Please make the current on proximity sensor smaller than the return current of load by connecting a bleeder resistor in parallel.

*W value of Bleeder resistor should be bigger for proper heat dissipation. It may cause return failure of load by residual voltage. If the load current is under 5mA, please make sure the residual voltage is less than the return voltage of the load by connecting a bleeder resistor in parallel with the load as shown in the diagram.

$$R = \frac{V_S}{I}(\Omega) \qquad P = \frac{V_S^2}{R}(W)$$

[I:Action current of load, R:Bleeder resistance, P:Permissible power]

$$R = \frac{V_S}{\text{lo-loff}} (\Omega) \qquad P = \frac{V_S^2}{R} (W)$$

Vs : Power supply,

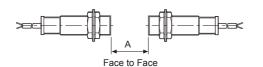
lo: Min. action current of proximity sensor,

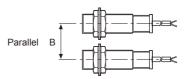
loff: Return current of load,

P: Number of Bleeder resistance watt

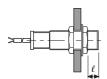
Mutual-interference & Influence by surrounding metals

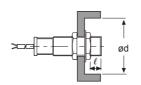
When several proximity sensors are mounted close to one another a malfunction of the may be caused due to mutual interference. Therefore, be sure to provide a minimum distance between the two sensors as below chart indicates.

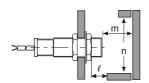




When sensors are mounted on metallic panel, you must prevent the sensors from being affected by any metallic object except target. Therefore, be sure to provide a minimum distance as below chart indicates.







(unit : mm)

	PRDAT18-7D□ PRDAWT18-7D□	PRDAT12-15D□ PRDAWT30-15D□
A	42	90
В	36	60
ł	0	0
ød	18	30
m	21	45
n	27	45

D-24 Autonics