Autonics Inductive Proximity Sensor Cylindrical, Long Sensing Distance, **Connector Type DC 2-wire**

INSTRUCTION MANUAL



Thank you for choosing our Autonics product. Please read the following safety considerations before use.

Safety Considerations

- %Please observe all safety considerations for safe and proper product operation to avoid hazards.

- *A symbol represents caution due to special circumstances in which hazards may occur.

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 **A caution Failure to follow these instructions may result in serious injury or product damage.

⚠ Warning

- Fail-safe device must be installed when using the unit with machinery that may cause serious injury or substantial econor loss. (e.g. nuclear power control, medical equipment, ships, vehicles, railways, aircraft, combustion apparatus, safety equipment, crime/disaster prevention devices, etc.)
- Failure to follow this instruction may result in fire, personal injury, or economic loss
- 2. Do not disassemble or modify the unit.
 Failure to follow this instruction may result in fire.

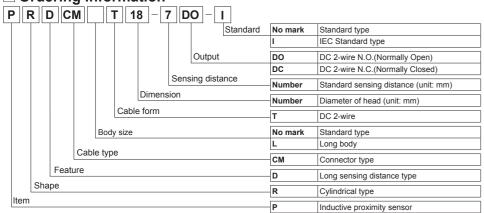
 3. Do not connect, repair, or inspect the unit while connected to a power source.
- Failure to follow this instruction may result in fire.
- Check 'Connections' before wiring.
 Failure to follow this instruction may result in fire

⚠ Caution

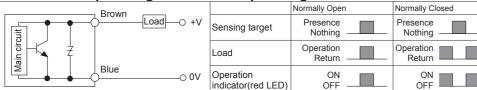
- 1. Use the unit within the rated specifications.
 Failure to follow this instruction may result in fire or product damage.
 2. Use dry cloth to clean the unit, and do not use water or organic solvent Failure to follow this instruction may result in electric shock or fire.
- 3. Do not use the unit in the place where flammable/explosive/corrosive gas, humidity, direct sunlight, radiant heat, vibration npact, or salinity may be present.
 ailure to follow this instruction may result in fire or explosion.
- Do not supply power without load.

 Failure to follow this instruction may result in fire or product damage.

Ordering Information



Control Output Diagram & Load Operating



Connections

	Standard type	IEC Standard type			
N.O. (Normally Open)	(2) (1) (2) (1) (2) (1) (2) (1) (2) (2) (1) (2) (2) (2) (2) (2) (2) (2) (2) (2) (2	2 1 Brown Load +V 3 4 Blue 0V			
		※②,③ are N⋅C (Not Connected) terminals.			
N.C. (Normally Closed)	Blue Load -0 0V	Blue C 0V			
	※①,② are N·C (Not Connected) terminals.	※③,④ are N·C (Not Connected) terminals.			
Y The above energifications are subject to change and some models may be discontinued without notice					

Specifications

-							
Model		PRDCMT12-4DO PRDCMT12-4DC PRDCMT12-4DO-I PRDCMT12-4DC-I	PRDCMT12-8DO PRDCMT12-8DC PRDCMT12-8DO-I PRDCMT12-8DC-I			PRDCMT30-15DO PRDCMT30-15DO-1 PRDCMT30-15DO-1 PRDCMLT30-15DO-1 PRDCMLT30-15DO-1 PRDCMLT30-15DO-1 PRDCMLT30-15DO-1 PRDCMLT30-15DO-1	PRDCMT30-25DC- PRDCMLT30-25DC PRDCMLT30-25DC PRDCMLT30-25DO
Diamete sensing		12mm		18mm		30mm	
Sensing	distance	4mm	8mm	7mm	14mm	15mm	25mm
Installati	on	Shield (flush)	Non-shield (non-flush)	Shield (flush)	Non-shield (non-flush)	Shield (flush)	Non-shield (non-flush)
Hysteres	sis	Max. 10% of sensi	ng distance				
Standard target	d sensing	12×12×1mm (iron)	25×25×1mm (iron)	20×20×1mm (iron)	40×40×1mm (iron)	45×45×1mm (iron)	75×75×1mm (iron
Setting of	distance	0 to 2.8mm	0 to 5.6mm	0 to 4.9mm	0 to 9.8mm	0 to 10.5mm	0 to 17.5mm
Power s (operatir	upply ng voltage)	12-24VDC=- (10-30VDC=-)					
Leakage	current	rent Max. 0.6mA					
Response frequency*1		450Hz	400Hz	250Hz	200Hz	100Hz	100Hz
	idual voltage Max. 3.5V						
Affection	by Temp.	Max. ±10% for sen	sing distance at am	bient temperature 2	0°C		
Control	output	2 to 100mA					
Insulatio	n resistance	Over 50MΩ (at 500	OVDC megger)				
Dielectri	c strength	1,500VAC 50/60Hz	z for 1 min				
Vibration	า	1mm amplitude at	frequency of 10 to 5	5Hz (for 1 min) in e	ach X, Y, Z direction	for 2 hours	
Shock		500m/s2(approx. 50	0G) in each X, Y, Z	direction for 3 times			
Indicator	r	Operation indicator	r: red LED (4 sides)				
Environ	Ambient temperature						
ment	Ambient humidity	35 to 95%RH, storage: 35 to 95%RH					
Protection	on circuit	Surge protection ci	ircuit, power reverse	polarity protection	circuit, output short	over current protect	tion circuit
Material		Case/Nut: nikel pla	ited brass, washer:	nikel plated iron, se	nsing side: polybuty	lene terephthalate	
Protection	on	IP67 (IEC standard	d)				
Approva	ıl	CE					
Weight ^{x/2} Approx. 28g (approx. 18g) PRDCMT: Approx. 60g(approx. 42g) PRDCMT: Approx. 150g(approx. 190g(approx. 78g(approx. 60g)) PRDCMLT: Approx. 190g(approx.			150g(approx. 110g) 190g(approx. 150g				

※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.

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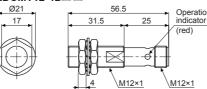
■ 8: The response frequency is the sensing target, 1/2 of the sensing distance for the distance.

X2: The weight includes packaging. The weight in parenthesis is for unit only.

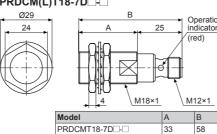
Environment resistance is rated at no freezing or condensation

Dimensions

PRDCMT12-4D□-□

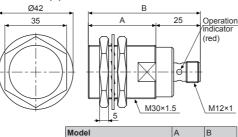


○ PRDCM(L)T18-7D□-□

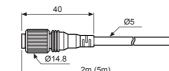


PRDCMLT18-7D 62 87

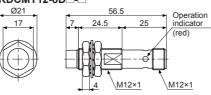
PRDCM(L)T30-15D_-



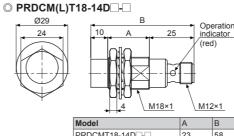




○ PRDCMT12-8D□-□

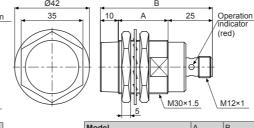


(unit: mm)



PRDCMT18-14D 23 58 PRDCMLT18-14D 52 87

○ PRDCM(L)T30-25D□-□

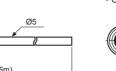


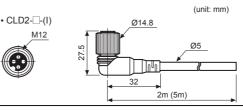
7 1		
Model	A	В
PRDCMT30-25D□-□	28	63
PRDCMLT30-25D -	50	85

Connector cable (sold separately)

Cable length (2: 2m, 5: 5m) CID2-[]-(I)

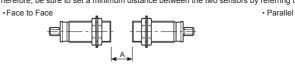
M12



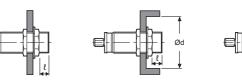


Mutual-Interference & Influence by Surrounding Metals

When more than 2 proximity sensors are mounted closely, malfunction of sensor may be caused due to mutual frequency interference

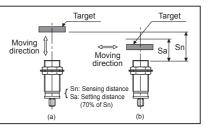


•Influence by surrounding metals
When sensors are mounted on metallic panel, it is required to prevent sensors from being affected by any metallic object except target Therefore, be sure to set a minimum distance as below chart



Model Item	PRDCMT12-4D□					PRDCMT30-25D PRDCMLT30-25D
A	24	48	42	84	90	150
В	24	36	36	54	60	90
l	0	11	0	14	0	15
Ød	12	36	18	54	30	90
m	12	24	21	42	45	75
n	18	36	27	54	45	90

■ 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) of (b).

Setting distance (Sa): Sensing distance×70% E.g.) PRDCMT18-7DO-I

Setting distance(Sa) = 7mm × 0.7 = 4.9mm

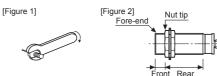
Installation and Tightening Torque

When tightening the nut, use the provided washer as [Figure 1]. When installing the product, the tightening torque of the nut varies according to the distance from the fore-end.

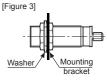
The front part of the product is from the fore-end to the dimension on the below table, and the rear part is from the tip of the nut to the end of the product. [Figure 2]

In case the nut is placed in the front part of the product, apply tightening torque for front part.

[Table 1] the allowable tightening torque table is for inserting the







Cautions during Use

- Follow instructions in 'Cautions during Use'. Otherwise, it may cause unexpected accidents.
- 12-24VDC power supply should be insulated and limited voltage/current or Class 2, SELV power supply device.
 Use the product, after 0.8 sec of supplying power.

4. Wire as short as possible and keep away from high voltage lines or power lines, to prevent surge and inductive noise. Do not use near the equipment which generates strong magnetic force or high frequency noise (transceiver, etc.). In case installing the product near the equipment which generates strong surge (motor, welding machine, etc.), use diode or varistor

to remove surge. 5. This unit may be used in the following environments.

1) Indoors (in the environment condition rated in 'Specifications')

Altitude max. 2,000m

3 Pollution degree 2

4 Installation category II

Major Products

Fiber Optic Sensors

■ Temperature/Humidity Transducers
■ Control Switches/Lamps/Buzzers

■ Door Side Sensors

Area Sensors

■ Pressure Sensors

■ Rotary Encoders

Timers

■ Tachometers/Pulse (Rate) Meters ■ Display Units

■ Graphic/Logic Panels

■ Laser Marking System (Fiber, Co., Nd; YAG) Laser Welding/Cutting System

Switching Mode Power Supplies

I/O Terminal Blocks & Cables Stepper Motors/Drivers/Motion C

Autonics Corporation

■ HEADQUARTERS: 18, Bansong-ro 513beon-gil, Haeundae-gu, Busan.

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