

INDUCTIVE PROXIMITY SENSOR
LONG DISTANCE CYLINDRICAL TYPE DC 3WIRE



■ Caution for your safety

※Please observe the cautions that follow;

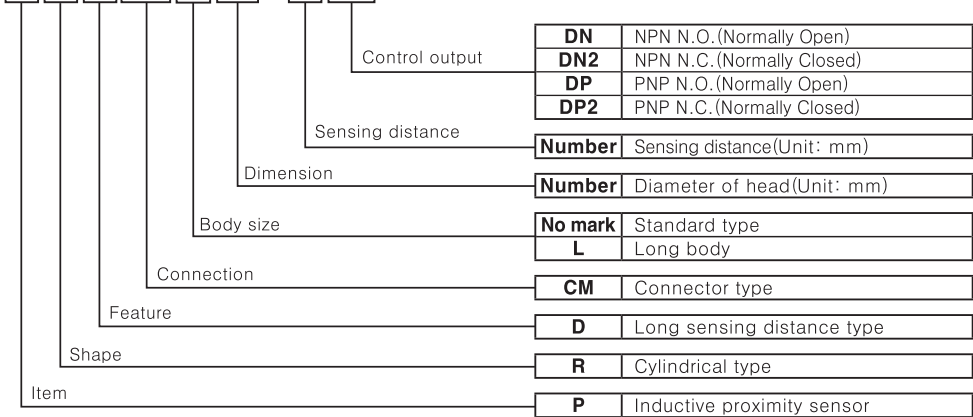
⚠ Caution Product may be damaged, or injury may result if instructions are not followed.

⚠ Caution: Injury or danger may occur under special conditions.

1. In case of using this unit with machinery(nuclear power control, medical equipment vehicle, train, airplane, combustion apparatus, entertainment or safety device etc), it is required to install fail-safe device, or contact us for information on type required.
It may cause a fire, human injury or property loss.

- 1. Do not use this unit where flammable, explosive gas, chemical or strong alkalis, acids exists.**
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. Do not apply AC power and observe specification rating.**
It may result in serious damage to the product.

P R D C M L 18 - 7 DN



NPN																
	<table border="1"> <thead> <tr> <th></th> <th>Normally Open</th> <th>Normally Closed</th> </tr> </thead> <tbody> <tr> <td>Sensing target</td> <td>Presence </td> <td>Presence </td> </tr> <tr> <td>Load (Brown-Black)</td> <td>Operation </td> <td>Operation </td> </tr> <tr> <td>Output voltage (Black-Blue)</td> <td>H L </td> <td>H L </td> </tr> <tr> <td>Indicator (LED)</td> <td>ON OFF </td> <td>ON OFF </td> </tr> </tbody> </table>		Normally Open	Normally Closed	Sensing target	Presence	Presence	Load (Brown-Black)	Operation	Operation	Output voltage (Black-Blue)	H L	H L	Indicator (LED)	ON OFF	ON OFF
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■ Specifications

Model	PRDCM12-4DN PRDCM12-4DP PRDCM12-4DN2 PRDCM12-4DP2 PRDCML12-4DN PRDCML12-4DP PRDCML12-4DN2 PRDCML12-4DP2	PRDCM12-8DN PRDCM12-8DP PRDCM12-8DN2 PRDCM12-8DP2 PRDCML12-8DN PRDCML12-8DP PRDCML12-8DN2 PRDCML12-8DP2	PRDCM18-7DN PRDCM18-7DP PRDCM18-7DN2 PRDCM18-7DP2 PRDCML18-7DN PRDCML18-7DP PRDCML18-7DN2 PRDCML18-7DP2	PRDCM18-14DN PRDCM18-14DP PRDCM18-14DN2 PRDCM18-14DP2 PRDCML18-14DN PRDCML18-14DP PRDCML18-14DN2 PRDCML18-14DP2	PRDCM30-15DN PRDCM30-15DP PRDCM30-15DN2 PRDCM30-15DP2 PRDCML30-15DN PRDCML30-15DP PRDCML30-15DN2 PRDCML30-15DP2	PRDCM30-25DN PRDCM30-25DP PRDCM30-25DN2 PRDCM30-25DP2 PRDCML30-25DN PRDCML30-25DP PRDCML30-25DN2 PRDCML30-25DP2	
	Sensing distance	4mm	8mm	7mm	14mm	15mm	25mm
	Hysteresis	Max. 10% of sensing distance					
	Standard sensing target	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 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 supply (Operating voltage)	12-24VDC (10-30VDC)					
	Current consumption	Max. 10mA					
	Response frequency	500Hz	400Hz	300Hz	200Hz	100Hz	100Hz
Residual voltage	Max. 1.5V						
Affection by Temp.	Within ±10℃ max. of sensing distance at 20℃ in temperature range of -25 to 70℃						
Control output	Max. 200mA						
Insulation resistance	Min. 50MΩ (at 500VDC megger)						
Dielectric strength	1,500VAC 50/60Hz for 1 minute						
Vibration	1mm amplitude at frequency of 10 ~ 55Hz in each of X, Y, Z directions for 2 hours						
Shock	500ms (50G) X, Y, Z directions for 3 times						
Indicator	Operating 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, Reverse polarity protection, Overload & short circuit protection						
Protection	IP67 (IEC standards)						
Materials	• Case/Nut: Nikel plated Brass		• Washer: Nikel plated Iron		• Sensing surface: Heat-resistant ABS		
Approval	CE						
Unit Weight	PRDCM: Approx. 26g PRDCML: Approx. 36g		PRDCM: Approx. 49g PRDCML: Approx. 73g		PRDCM: Approx. 134g PRDCML: Approx. 169g		

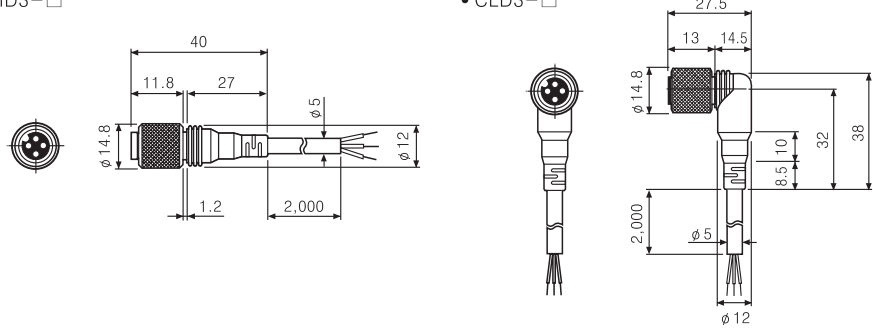
※ Environment resistance is rated at no freezing or condensation.

(Unit:mm)

Type		Connector type							Nut & Washer	
		M12			M18, M30					
Flush										
Flush	M12	PRDCM	M12×1	55.8	31.5	24.3	4	—	17	21
		PRDCML	M12×1	68.3	44	24.3	4	—		
	M18	PRDCM	M18×1	54.3	29.5	24.8	4	—	24	29
		PRDCML	M18×1	87.3	62.5	24.8	4	—		
	M30	PRDCM	M30×1.5	63.8	38	25.8	5	—	35	42
		PRDCML	M30×1.5	85.8	60	25.8	5	—		
Non-flush	M12	PRDCM	M12×1	55.8	24.5	24.3	4	7	17	21
		PRDCML	M12×1	68.3	37	24.3	4	7		
	M18	PRDCM	M18×1	53.8	19	24.8	4	10	24	29
		PRDCML	M18×1	86.8	52	24.8	4	10		
	M30	PRDCM	M30×1.5	63.8	28	25.8	5	10	35	42
		PRDCML	M30×1.5	85.8	50	25.8	5	10		

- CID3-□

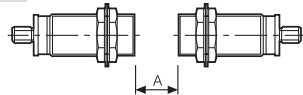
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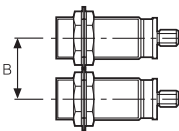
	NPN	PNP
Connector	Diagram showing NPN transistor wiring: Pin 1 (Brown) to +V, Pin 2 (Black) to Load, Pin 3 (Blue) to 0V, and Pin 4 to 0V.	Diagram showing PNP transistor wiring: Pin 1 (Brown) to +V, Pin 2 (Black) to Load, Pin 3 (Blue) to 0V, and Pin 4 to 0V.

● Mutual-interference

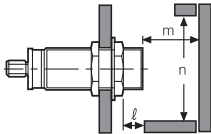
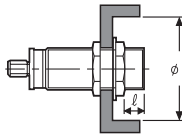
Face to Face



Parallel



©Influence by surrounding metals

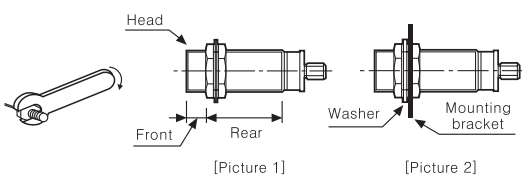


(Unit:mm)

Model \ Item	PRDCM(L)12-4D	PRDCM(L)12-8D	PRDCM(L)18-7D	PRDCM(L)18-14D	PRDCM(L)30-15D	PRDCM(L)30-25D
A	24	48	42	84	90	150
B	24	36	36	54	60	90
ℓ	0	11	0	14	0	15
$\emptyset d$	12	36	18	54	30	90
m	12	24	21	42	45	75
n	18	36	27	54	45	90

- Setting distance(Sa)
= Sensing distance(Sn) × 70%
Ex)PRDCM18-7DN
Setting distance(Sa) = 7mm × 0.7 = 4.9mm

1. This equipment shall not be used outdoors or beyond specified temperature range.
2. Do not apply over tensile strength of cord. (φ4: max. 30N, φ5: max. 50N)
3. Do not use the same conduit with cord of this unit and electric power line or power line.
4. Do not put overload to tighten nut, please use the supplied washer for tightening.



[Picture 1]

[Picture 2]

Strength		Front		Rear
		Size	Torque	Torque
PRDCM12 Series	Flush	13mm	65kgf · cm (6.37N · m)	120kgf · cm (11.76N · m)
	Non-flush	7mm		
PRDCM18 Series	Flush		150kgf · cm (14.7N · m)	
	Non-flush			
PRDCM30 Series	Flush	26mm	500kgf · cm (49N · m)	800kgf · cm (78.4N · m)
	Non-flush	12mm		

[Table 1]

Note1) Allowable tightening torque of a nut may be different by the distance from the head. For allowable tightening torque and the range of front and rear parts, refer to [Table 1] and above [Picture 1] respectively. The rear part includes a nut on the head side (see above [Picture 1]). Please apply a tightening torque of the front part when the nut on the front is located in the front part.

Note2) The allowable tightening torque denotes a torque value when using a provided washer as above [Picture 2].

5. Please check the voltage changes of power source in order not to exceed the rated power input.
6. Do not use this unit during transient time(80ms) after apply power.
7. It might result in damage to this product, if use automatic transformer. So please use insulated transformer.
8. Please make wire as short as possible in order to avoid noise.
9. Be sure to use cable as indicated specification on this product. If wrong cable or bended cable is used, it shall not maintain the water-proof.
10. 0.3mm² or larger cable can be extended up to 200m.
11. If the target is plated, the operating distance can be changed by the plating material.
12. It may result in malfunction by metal particle on product.
13. 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.
14. If connecting the load with big inrush current(DC type bulb, etc.) to this unit, the big inrush current will flow because 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.
15. When the transceiver is attached to the proximity sensor or close to the wires, it may cause a malfunction.

※It may cause malfunction if above instructions are not followed.

■ Photoelectric sensors	■ Temperature controllers	■ Switching mode power supplies
■ Fiber optic sensors	■ Temperature/Humidity transducers	■ Control switches/Lamps/Buzzers
■ Door sensors	■ SSR/Power controllers	■ I/O Terminal Blocks & Cables
■ Door side sensors	■ Counters	■ Stepper motors/drivers/motion controllers
■ Area sensors	■ Timers	■ Graphic/Logic panels
■ Proximity sensors	■ Panel meters	■ Field network devices
■ Pressure sensors	■ Tachometer/Pulse(Rate) meters	■ Laser marking system(Fiber, CO ₂ , Nd:YAG)
■ Rotary encoders	■ Display units	■ Laser welding/soldering system
■ Connector/Sockets	■ Sensor controllers	

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EP-KE-07-0500B