

Autonics

**INDUCTIVE PROXIMITY SENSOR
LONG DISTANCE CYLINDRICAL TYPE DC 3WIRE**

INSTRUCTION MANUAL



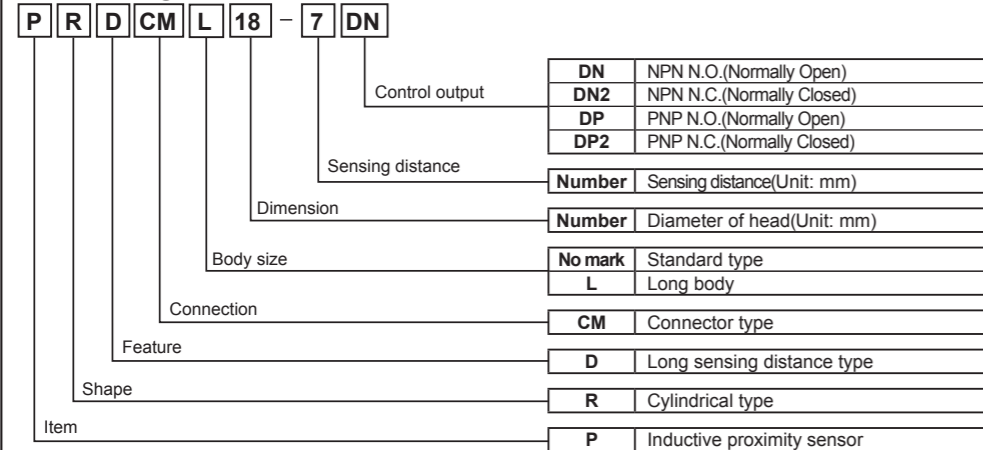
Thank you for choosing our Autonics product.
Please read the following safety considerations before use.

■ Safety Considerations

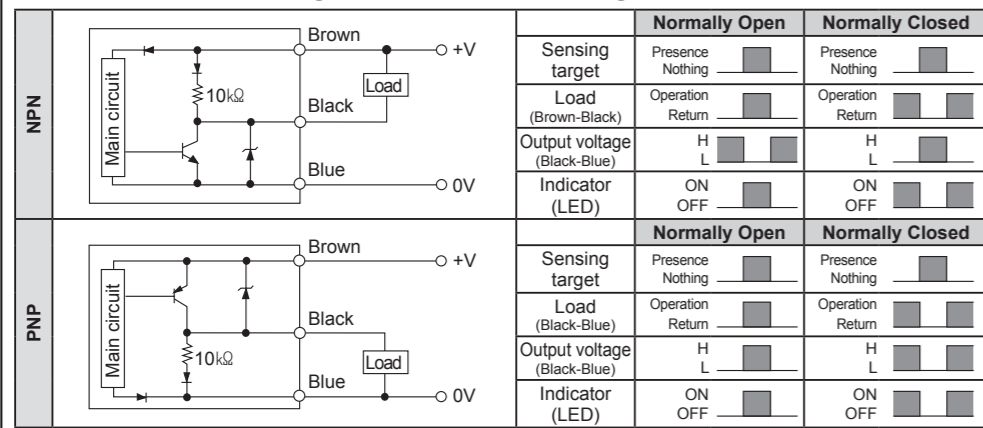
- ※Please observe all safety considerations for safe and proper product operation to avoid hazards.
 - ※⚠ symbol represents caution due to special circumstances in which hazards may occur.
 - ⚠ **Warning** Failure to follow these instructions may result in serious injury or death.
 - ⚠ **Caution** Failure to follow these instructions may result in personal injury or product damage.
 - ⚠ **Warning**
- Fail-safe device must be installed when using the unit with machinery that may cause serious injury or substantial economic 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.
 - Do not disassemble or modify the unit.
Failure to follow this instruction may result in fire.
 - 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**
- Use the unit within the rated specifications.
Failure to follow this instruction may result in fire or product damage.
 - Use dry cloth to clean the unit, and do not use water or organic solvent.
Failure to follow this instruction may result in fire.
 - Do not use the unit in the place where flammable/explosive/corrosive gas, humidity, direct sunlight, radiant heat, vibration, impact, or salinity may be present.
Failure to follow this instruction may result in fire or explosion.

■ Ordering Information



■ Control Output Diagram & Load Operating



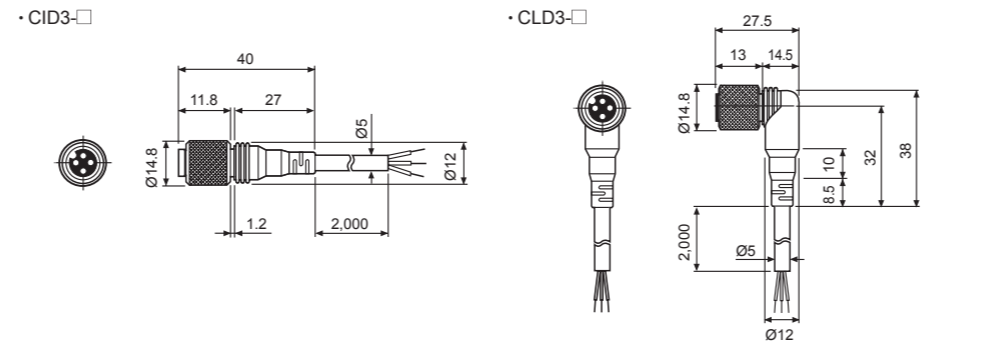
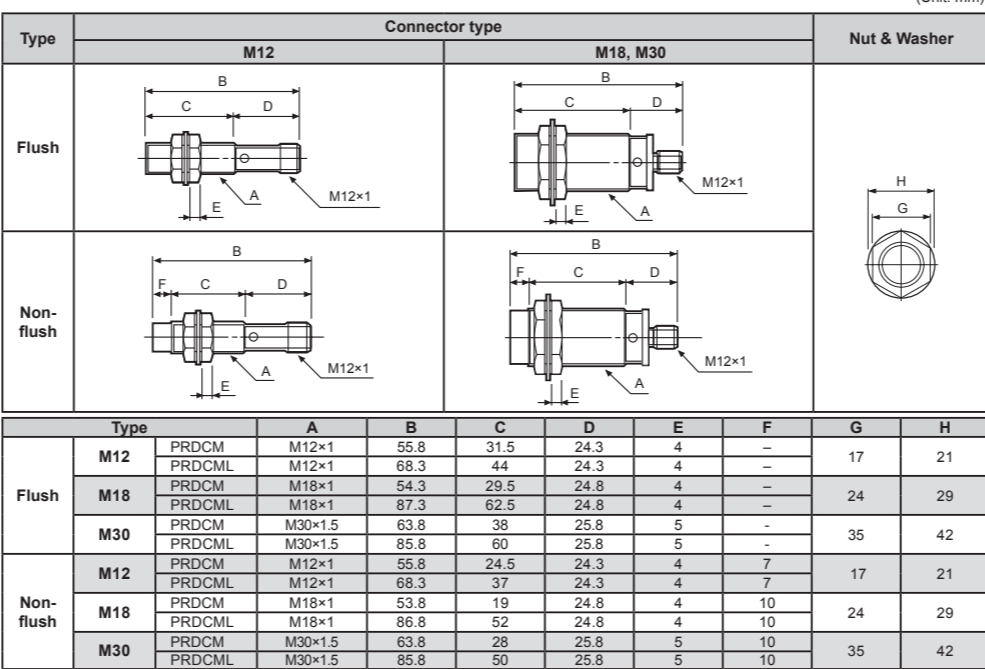
※The above specifications are subject to change and some models may be discontinued without notice.
※Be sure to follow cautions written in the instruction manual and the technical descriptions (catalog, homepage).

■ Specifications

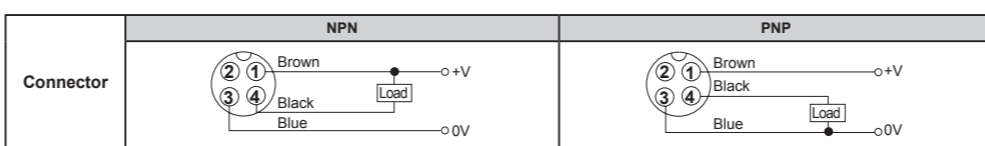
Model	PRDCM12-4DN PRDCM12-4DP PRDCM12-4DN2 PRDCM12-4DP2 PRDCML12-4DN PRDCML12-4DP PRDCML12-4DN2 PRDCML12-4DP2	PRDCM12-8DN PRDCM12-8DP PRDCM12-8DN2 PRDCM12-8DP2 PRDCML12-8DN PRDCML12-8DP PRDCML12-8DN2 PRDCML12-8DP2	PRDCM18-7DN PRDCM18-7DP PRDCM18-7DN2 PRDCM18-7DP2 PRDCML18-7DN PRDCML18-7DP PRDCML18-7DN2 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°C max. of sensing distance at 20°C in temperature range of -25 to 70°C					
Control output	Max. 200mA					
Insulation resistance	Min. 50MΩ(at 500VDC megger)					
Dielectric strength	1,500VAC 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/s²(approx. 50G) X, Y, Z directions for 3 times					
Indicator	Operating indicator(RED 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, 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.

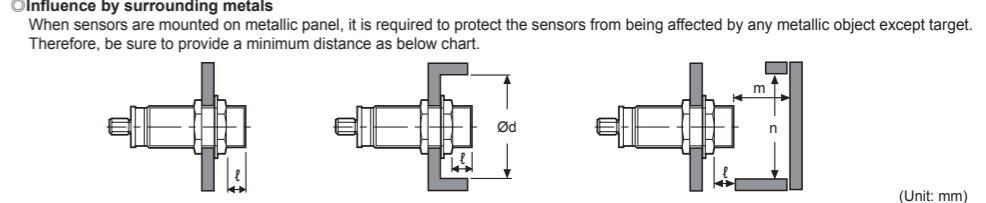
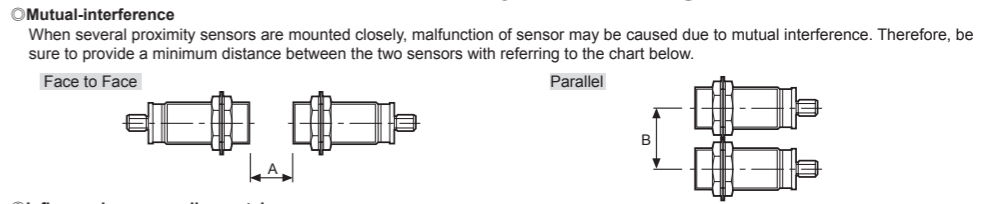
■ Dimensions



■ Connections

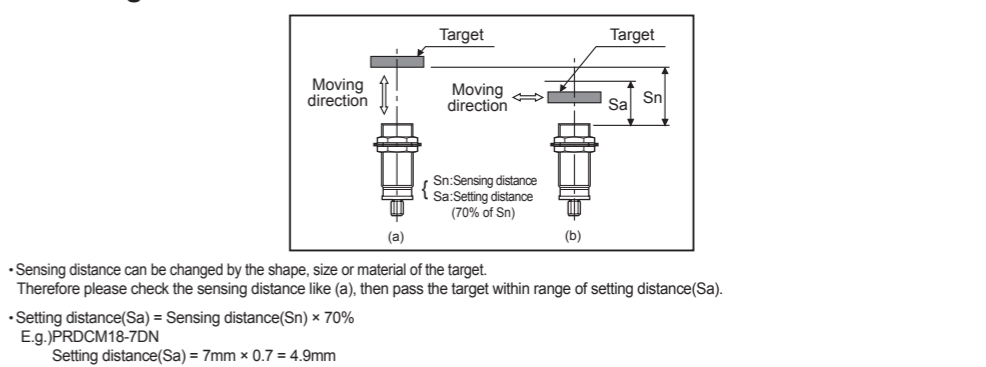


■ Mutual-interference & Influence by Surrounding Metals

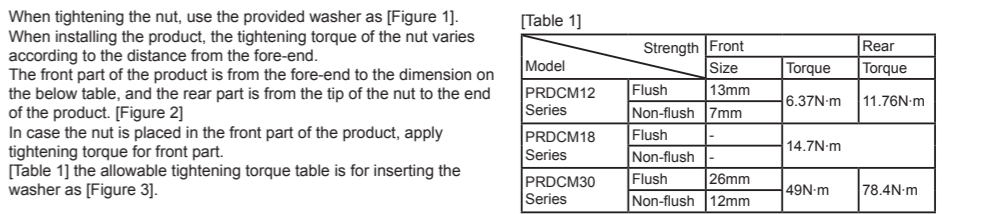


Model/Item	PRDCM(L)12-4D□	PRDCM(L)12-8D□	PRDCM(L)18-7D□	PRDCM(L)18-14D□	PRDCM(L)30-15D□	PRDCM(L)30-25D□
A	24	48	42	84	90	150
B	24	36	36	54	60	90
ℓ	0	11	0	14	0	15
Ød	12	36	18	54	30	90
m	12	24	21	42	45	75
n	18	36	27	54	45	90

■ Setting Distance



■ Installation and Tightening Torque



[Table 1]

Model	Strength	Front		Rear	
		Size	Torque	Size	Torque
PRDCM12 Series	Flush	13mm	6.37N·m	11.76N·m	
	Non-flush	7mm			
PRDCM18 Series	Flush	-	14.7N·m		
	Non-flush	-			
PRDCM30 Series	Flush	26mm	49N·m	78.4N·m	
	Non-flush	12mm			

■ 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.
- 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.
- This unit may be used in the following environments.
 - ① Indoors (in the environment condition rated in 'Specifications')
 - ② Altitude max. 2,000m
 - ③ Pollution degree 2
 - ④ Installation category II

■ Major Products

- Photoelectric Sensors
- Fiber Optic Sensors
- Door Sensors
- Door Side Sensors
- Area Sensors
- Proximity Sensors
- Pressure Sensors
- Rotary Encoders
- Connector/Sockets
- Temperature Controllers
- Temperature/Humidity Transducers
- SSRs/Power Controllers
- Counters
- Timers
- Panel Meters
- Tachometers/Pulse (Rate) Meters
- Display Units
- Sensor Controllers
- Switching Mode Power Supplies
- Control Switches/Lamps/Buzzers
- IO Terminal Blocks & Cables
- Stepper Motors/Drivers/Motion Controllers
- Graphic/Logic Panels
- Field Network Devices
- Laser Marking System (Fiber, Co, Nd: YAG)
- Laser Welding/Cutting System

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