

Autonics

INDUCTIVE PROXIMITY SENSOR (CYLINDRICAL METAL AC CONNECTOR TYPE)

PRCM SERIES

M A N U A L



Thank you very much for selecting Autonics products.
For your safety, please read the following before using.

Caution for your safety

※Please keep "Caution for your safety" to avoid accidents or damages as using it correctly.

※The meaning of 'Warning' and 'Caution' is as follows;

Warning In case a serious injury or dead may be occurred.

Caution In case a little injury or damage of this unit may be occurred.

※The meaning of the mark on the product and manual is as follows;

△ is a caution mark for danger in special condition.

Warning

1. In case of using this unit with machinery(Ex: nuclear power control, medical equipment, ship, vehicle, train, airplane, combustion apparatus, safety device, crime/disaster prevention equipment, etc) which may cause damages to human life or property, it is required to install fail-safe device. It may cause a fire, human injury or damage to property.

2. Do not connect power directly without load.

It may result in damage to inner components or burn them out.

Caution

1. Do not use this unit in place where there is flammable, explosive gas, chemical or strong alkalis, acids. It may cause a fire or explosion.

2. Do not impact on this unit.

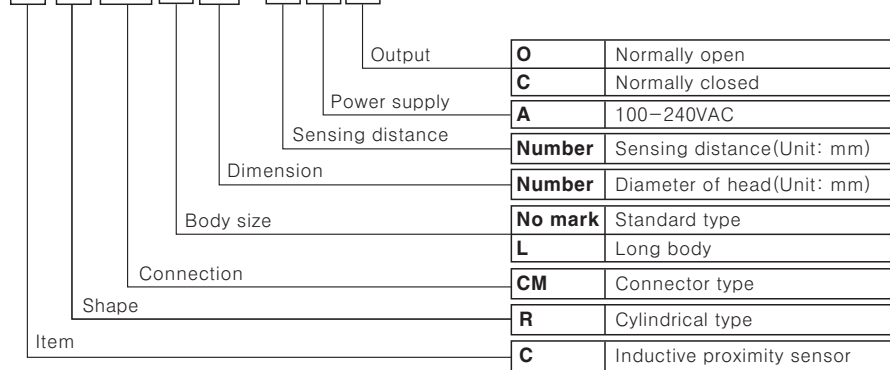
It may result in malfunction or damage to the product.

3. Please observe specification rating.

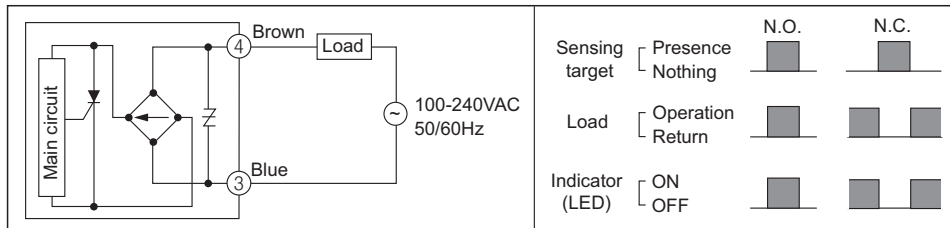
It may result in serious damage to the product.

Ordering information

P R C M L 18-5 A O



Control output diagram & Load operating



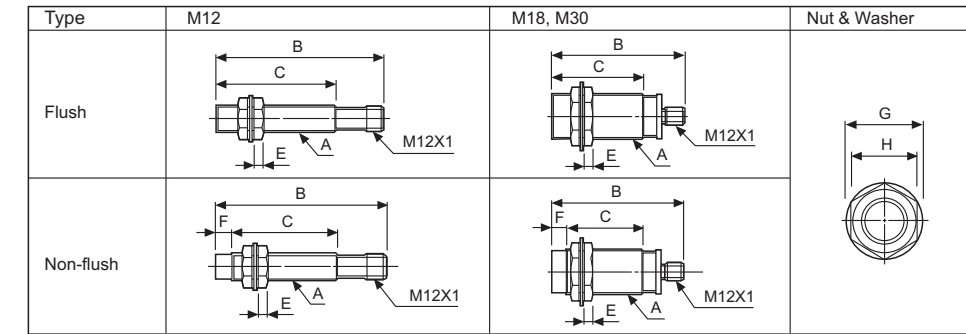
※The above specifications are changeable at anytime without notice.

Specifications

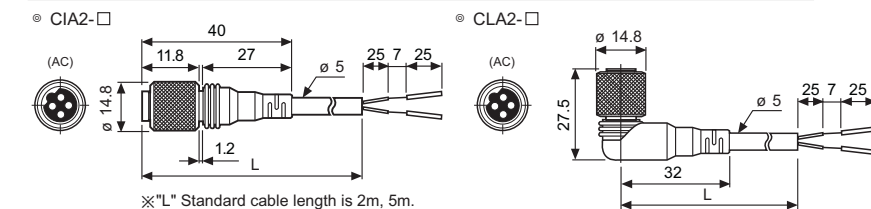
Model	PRCM12-2AO PRCM12-2AC	PRCM12-4AO PRCM12-4AC	PRCM18-5AO PRCM18-5AC PRCML18-5AO PRCML18-5AC	PRCM18-8AO PRCM18-8AC PRCML18-8AO PRCML18-8AC	PRCM30-10AO PRCM30-10AC PRCML30-10AO PRCML30-10AC	PRCM30-15AO PRCM30-15AC PRCML30-15AO PRCML30-15AC
Sensing distance	2mm	4mm	5mm	8mm	10mm	15mm
Hysteresis	Max. 10% of sensing distance					
Standard sensing target	12X12X1mm(Iron)	18X18X1mm(Iron)	25X25X1mm(Iron)	30X30X1mm(Iron)	45X45X1mm(Iron)	45X45X1mm(Iron)
Setting distance	0 to 1.4mm	0 to 2.8mm	0 to 3.5mm	0 to 5.6mm	0 to 7mm	0 to 10.5mm
Power supply (Operating voltage)	100-240VAC 50/60Hz(85-264VAC)					
Leakage current	Max. 2.5mA					
Response frequency※1	20Hz					
Residual voltage	Max. 10V					
Affection by Temp.	When it is 20°C at the rated ambient temperature, it is below 10%					
Control output	5 to 150mA		5 to 200mA			
Insulation resistance	Min. 50MΩ (at 500VDC megger)					
Dielectric strength	2,500VAC 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/s ² (50G) X, Y, Z directions for 3 times					
Indicator	Operating indicator : Red LED					
Environ-ment	Ambient temperature	-25 to 70°C, Storage: -30 to 80°C				
	Ambient humidity	35 to 95%RH, Storage: -30 to 80°C				
Protection circuit	Surge protection circuit					
Protection	IP67(IEC standards)					
Insulation type※2	□					
Material	Case and nut: Nickel-plated brass, Washer: Nickel-plated steel, Sensing part: Heat-resistant ABS					
Approval	CE					
Unit weight	Approx. 30g	PRCM: Approx. 54g PRCML: Approx. 66g	PRCM: Approx. 142g PRCML: Approx. 182g			

※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.
※2: "□" Mark indicated that equipment protected throughout by double insulation or reinforced insulation.
※Environment resistance is rated at no freezing or condensation.

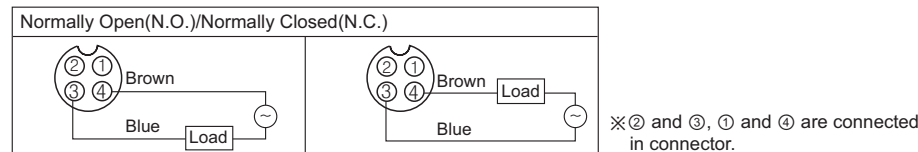
Dimensions



Type		A	B	C	E	F	G	H
Flush	M12	PRCM	M12X1	73	48.5	4	0	21
		PRCML	M12X1	73	48.5	4	0	21
	M18	PRCM	M18X1	61	35.3	4	0	29
		PRCML	M18X1	61	35.3	4	0	29
	M30	PRCM	M30X1.5	86	60	5	0	42
		PRCML	M30X1.5	86	60	5	0	42
Non-flush	M12	PRCM	M12X1	73	41.5	4	7	21
		PRCML	M12X1	73	41.5	4	7	21
	M18	PRCM	M18X1	60	25.3	4	10	29
		PRCML	M18X1	60	25.3	4	10	29
	M30	PRCM	M30X1.5	86	50	5	10	42
		PRCML	M30X1.5	86	50	5	10	42

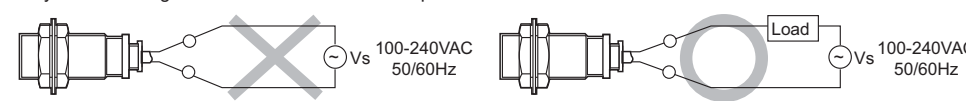


Connections



Connection of the power supply

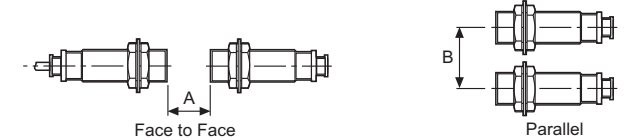
Be sure to connect the power after connecting the load, because direct connection of the proximity sensor may cause damage to the inner elements of this product.



Mutual-interference & Influence by surrounding metals

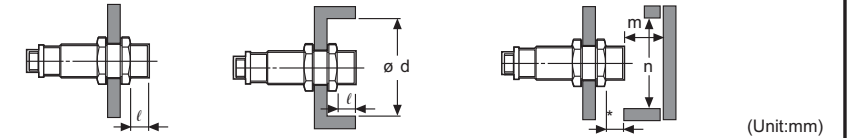
Mutual-interference

When several proximity sensors are mounted closely, malfunction of sensor may be caused due to mutual interference. Therefore, be sure to provide a minimum distance between the two sensors, as below charts.



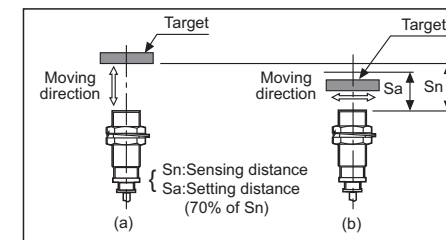
Influence by surrounding metals

When sensors are mounted on metallic panel, it is required to protect the sensors from being affected by any metallic object except target. Therefore, be sure to provide a minimum distance as below chart.



Model Item	PRCM12-2A□	PRCM12-4A□	PRCM(L)18-5A□	PRCM(L)18-8A□	PRCM(L)30-10A□	PRCM(L)30-15A□
A	12	24	30	48	60	90
B	24	36	36	54	60	90
ℓ	0	11	0	14	0	15
∅ d	12	36	18	54	30	90
m	6	12	15	24	30	45
n	18	36	27	54	45	90

Setting distance

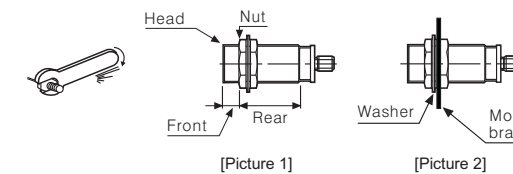


※ Sensing distance can be changed by the shape, size or material of the target. Therefore please check the sensing distance like (a), then pass the target within range of setting distance(Sa).

※ Setting distance(Sa)
=Sensing distance(Sn)X70%
Ex)PRCM30-10AO
Setting distance(Sa)=10mmX0.7=7mm

Caution for using

- This equipment shall not be used outdoors or beyond specified temperature range.
- Do not apply over tensile strength of cord.
- Do not use the same conduit with cord of this unit and electric power line or power line.
- Do not put overload to tighten nut, please use the supplied washer for tightening.



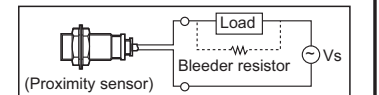
Model	Strength	Front		Rear	
		Size	Torque	Size	Torque
PRCM12 Series	Flush	13mm	65kgf-cm (6.37N-m)	120kgf-cm (11.76N-m)	
	Non-flush	7mm			
PRCM18 Series	Flush	-	150kgf-cm (14.7N-m)		
	Non-flush	-			
PRCM30 Series	Flush	26mm	500kgf-cm (49N-m)	800kgf-cm (78.4N-m)	
	Non-flush	12mm			

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].

- Please check the voltage changes of power source in order not to exceed rating power input.
- Do not connect capacity load to output part directly.
- Please make wire short as much as possible in order to avoid noise.
- Be sure to cable as indicated specification on this product. If use wrong cable or bended cable, it shall not maintain the water-proof.
- It is possible to extend cable with over 0.3mm² and max. 200m.
- If the target is plated, the operating distance can be changed by the plating material.
- It may result in malfunction by metal particle on product.
- 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.
- If connect the load with big inrush current(DC type bulb) to this unit, the big inrush current will flow due to 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.
- In case of the load current is small : When the load current is under 5mA, make the residual voltage is less than return voltage to connect the bleeder resistor to load in parallel.
※110VAC 50/60Hz:20kΩ, Min. 3W, 220VAC 50/60Hz:39kΩ, Min. 5W
- If make a transceiver close to proximity sensor or wire connection, it may cause malfunction.

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



Major products

- Proximity sensors
- Area sensors
- Door/Door side sensors
- Counters
- Rotary encoders
- Power controllers
- Panel meters
- Temperature controllers
- Temperature/Humidity transducers
- Stepping motors/drivers/motion controllers
- Laser marking system(CO₂, Nd:YAG)
- Laser welding/soldering system
- Photoelectric sensors
- Fiber optic sensors
- Pressure sensors
- Timers
- Display units
- Sensor controllers
- Graphic/Logic panels
- Tachometer/Pulse(Rate) meters

Autonics Corporation
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The proposal of a product improvement and development : product@autonics.com

EP-KE-07-0220E

Autonics

INDUCTIVE PROXIMITY SENSOR DC 2-WIRE TYPE



Thank you very much for selecting Autonics products.
For your safety, please read the following before using.

Caution for your safety

※Please keep these instructions and review them before using this unit.

※Please observe the cautions that follow;

Warning Serious injury may result if instructions are not followed.

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

※The following is an explanation of the symbols used in the operation manual.

Caution: Injury or danger may occur under special conditions.

Warning

- In case of using this unit with machinery (Ex: nuclear power control, medical equipment, ship, vehicle, train, airplane, combustion apparatus, safety device, crime/disaster prevention equipment, etc) which may cause damages to human life or property, it is required to install fail-safe device. It may cause a fire, human injury or damage to property.
- Do not connect power directly without load. It may cause damage to inner components or burn them out.

Caution

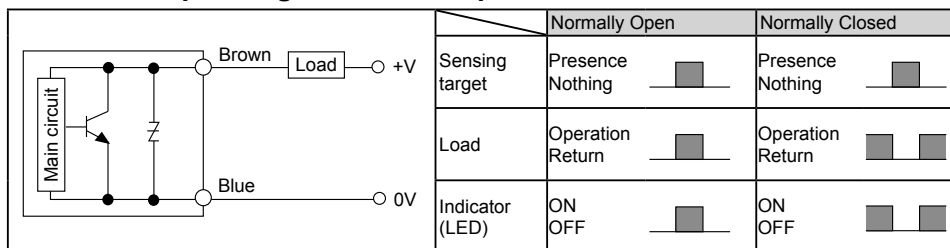
- Do not use this unit in place where there is flammable, explosive gas, chemical or strong alkalis, acids. It may cause a fire or explosion.
- Do not impact on this unit. It may cause malfunction or damage to the product.
- Do not use this product beyond rated voltage or apply AC power to DC power. It may cause serious damage to the product.

Ordering information

P R CMT 12 - 2 D O U - IV

Cable type	No mark	Standard cable
	I	Standard cable(IEC standards model)
	V	Oil resistant cable
	IV	Oil resistant cable(IEC standards model)
Sensing side	No mark	Standard type
	U	Upper sensing type
	O	Normally Open(N.O.)
Control output	C	Normally Closed(N.O.)
	X	12-24VDC(Non-polarity type)
Power supply	D	12-24VDC
	Number	Standard sensing distance(Unit: mm)
Dimension	Number	Diameter of head(mm)
	Number	One side length(mm)
	T	DC 2-wire, cable outgoing type
Connection	WT	DC 2-wire, cable outgoing connector type
	CMT	DC 2-wire, connector type
	R	Cylindrical type
Shape	SN	Square new design type
	P	Inductive proximity sensor

Control output diagram & Load operation



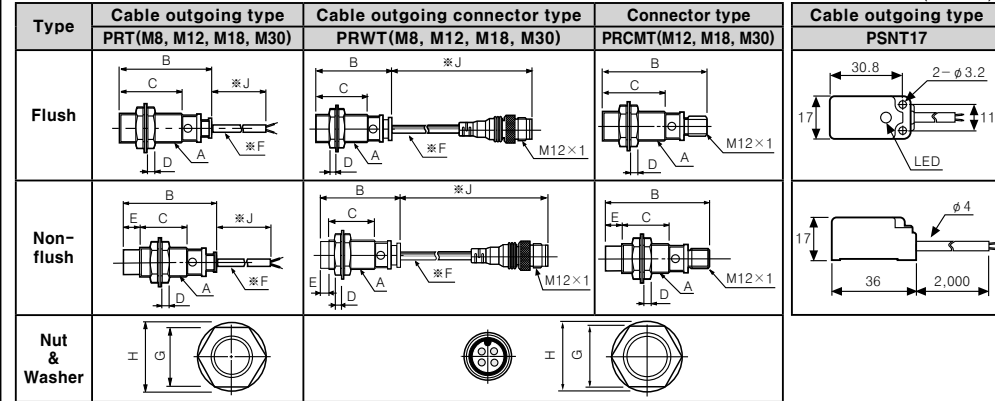
※The above specifications are subject to change without notice.

Specifications

Model	PRT08-1.5DO PRT08-1.5DC PRWT08-1.5DO PRWT08-1.5DC PRWT08-1.5DO-V PRWT08-1.5DC-V	PRT08-2DO PRT08-2DC PRWT08-2DO PRWT08-2DC PRWT08-2DO-V PRWT08-2DC-V	PRT12-2 O PRT12-2 C PRWT12-2 O PRWT12-2 C PRWT12-2 O-V PRWT12-2 C-V	PRT12-4 O PRT12-4 C PRWT12-4 O PRWT12-4 C PRWT12-4 O-V PRWT12-4 C-V	PRT18-5 O PRT18-5 C PRWT18-5 O PRWT18-5 C PRWT18-5 O-V PRWT18-5 C-V	PRT18-8 O PRT18-8 C PRWT18-8 O PRWT18-8 C PRWT18-8 O-V PRWT18-8 C-V	PRT30-10 O PRT30-10 C PRWT30-10 O PRWT30-10 C PRWT30-10 O-V PRWT30-10 C-V	PRT30-15 O PRT30-15 C PRWT30-15 O PRWT30-15 C PRWT30-15 O-V PRWT30-15 C-V	PSNT17-5DO PSNT17-5DC PSNT17-5DOU PSNT17-5DCU	
Sensing distance	1.5mm	2mm	2mm	4mm	5mm	8mm	10mm	15mm	5mm	
Hysteresis	Max. 10% of sensing distance									
Standard sensing target	8×8×1mm(Iron)		12×12×1mm(Iron)		18×18×1mm(Iron)		25×25×1mm(Iron)		30×30×1mm(Iron)	
Setting distance	0 to 1.05mm		0 to 1.4mm		0 to 2.8mm		0 to 3.5mm		0 to 5.6mm	
Power supply (Operating voltage)	12-24VDC(10-30VDC)									
Leakage current	Max. 0.6mA									
Response frequency	1.5kHz		1.0kHz		1.5kHz		500Hz		350Hz	
Residual voltage	Max. 3.5V(Non-polarity type is Max. 5V)									
Affection by Temp.	Within ±10°C max. of sensing distance at 20°C in temperature range of -25 to 70°C(PR-T08 Series: Max. ±20%)									
Control output	2 to 100mA									
Insulation resistance	Min. 500MΩ(500VDC megger)									
Dielectric strength	1,500VAC 50/60Hz for 1minute									
Vibration	1mm amplitude at frequency 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 Temp.	-25 to 70°C, Storage: -30 to 80°C								
	Ambient humidity	35~95%RH, Storage: 35 to 95%RH								
Protection circuit	Surge protection		Surge protection circuit, overload & short circuit protection							
Protection	IP67(IEC Standard)									
Materials	Case/Nut: Nickel plated Brass, Washer: Nickel plated Iron, Sensing surface: Heat-resistant ABS, Standard cable(Black): Polyvinyl chloride(PVC), Oil resistant cable(Gray): Oil resistant Polyvinyl chloride(PVC)									
Approval	CE									
Weight	PRT: Approx. 52g	PRT: Approx. 72g	PRT: Approx. 110g	PRT: Approx. 170g						PSNT: Approx. 71g
	PRWT: Approx. 32g	PRWT: Approx. 42g	PRWT: Approx. 58g	PRWT: Approx. 122g						

※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.
※2: Before using non-polarity type, check the condition of connected device because residual voltage is 5V.
※Environment resistance is rated at no freezing or condensation.

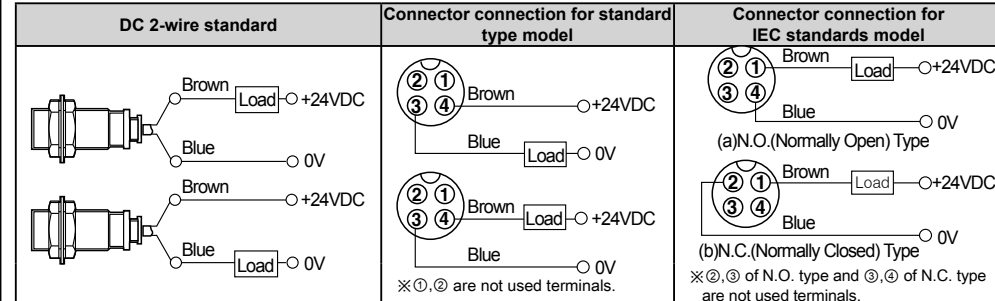
Dimensions



Type		A	B	C	D	E	F	G	H	J	
Flush	M8	PRT	M8×1	30	30	4	-	3.5	13	15	2,000
		PRWT	M8×1	30	30	4	-	4	13	15	300
	M12	PRT	M12×1	46	31.5	4	-	4	17	21	2,000
		PRWT	M12×1	46	31.5	4	-	4	17	21	300
	M18	PRT	M18×1	47.5	29.5	4	-	5	24	29	2,000
		PRWT	M18×1	47.5	29.5	4	-	5	24	29	300
M30	PRT	M30×1.5	58	38	5	-	5	35	42	2,000	
	PRWT	M30×1.5	58	38	5	-	5	35	42	300	
Non-flush	M8	PRT	M8×1	30	26	4	4	3.5	13	15	2,000
		PRWT	M8×1	30	26	4	4	4	13	15	300
	M12	PRT	M12×1	46	24.5	4	7	4	17	21	2,000
		PRWT	M12×1	46	24.5	4	7	4	17	21	300
	M18	PRT	M18×1	47	19	4	10	5	24	29	2,000
		PRWT	M18×1	47	19	4	10	5	24	29	300
M30	PRT	M30×1.5	58	28	5	10	5	35	42	2,000	
	PRWT	M30×1.5	58	28	5	10	5	35	42	300	

※'J' type standard: Cable outgoing type/2,000mm, Cable outgoing connector type/300mm
※'F' type: ø3.5, 2 cores(Conductor cross section:0.2mm², Insulator diameter:ø1), ø4, 2 cores/ø5, 2 cores(Conductor cross section:0.3mm², Insulator diameter:ø1.25)

Connections

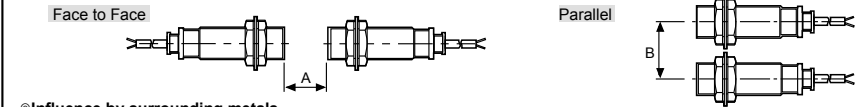


※Load can be wired to any direction.
※No need to consider polarity for non-polarity type of power supply.

Mutual-interference & Influence by surrounding metals

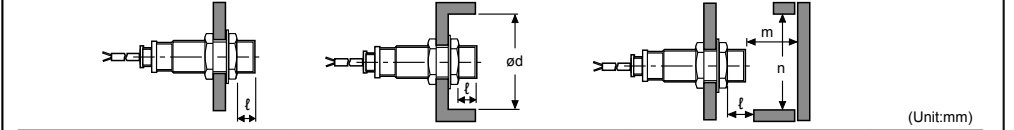
Mutual-interference

When plural proximity sensors are mounted in a close row, malfunction of sensor may be caused due to mutual interference. Therefore, be sure to provide a minimum distance between the two sensors, as below table.



Influence by surrounding metals

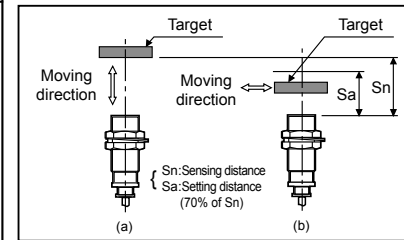
When sensors are mounted on metallic panel, it must be prevented sensors from being affected by any metallic object except target. Therefore, be sure to provide a minimum distance as below chart.



Model	PRT08-1.5DO PRWT08-1.5DO	PRT08-2DO PRWT08-2DO	PRT12-2DO PRWT12-2DO	PRT12-4DO PRWT12-4DO	PRT18-5DO PRWT18-5DO	PRT18-8DO PRWT18-8DO	PRT30-10DO PRWT30-10DO	PRT30-15DO PRWT30-15DO
A	9	12	12	24	30	48	60	90
B	16	24	24	36	36	54	60	90
l	0	8	0	11	0	14	0	15
ød	8	24	12	36	18	54	30	90
m	4.5	6	6	12	15	24	30	45
n	12	24	18	36	27	54	45	90

Model	PSNT17-5DO
A	30
B	36
C	5
d	15
e	24
m	18

Setting distance

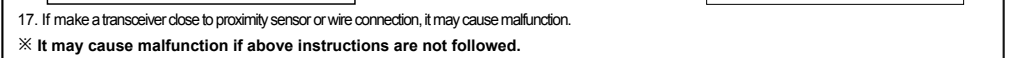


- Detecting distance can be changed by the shape, size or material of the target. Therefore please check the detecting distance like (a), then pass the target within range of setting distance(Sa).
- Setting distance(Sa) = Sensing distance(Sn) × 70%
Ex) PRCMT12-2DC
Setting distance(Sa) = 2mm × 0.7 = 1.4mm

Caution for using

- This equipment shall not be used outdoors or beyond specified temperature range.
- Do not load over than tensile strength of cord.(ø3.5: 25N max., ø4: 30N max., ø5: 50N max.)
- Do not use the same conduit with cord of this unit and electric power line or power line. Also avoid the same connection.
- Do not put overload to tighten nut, please use washer for tightening.
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 [Figure 1] respectively. The rear part includes a nut on the head side(see above [Figure 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 [Figure 2].
Note3)PSNT17 Series: Tighten strength of installing bolts should be under 15kgf-cm(1.47N-m).
- Please check the voltage changes of power source in order not to exceed rating power input.
- Do not use this unit during transient time(80ms) after apply power.
- Do not connect capacity load to output part directly.
- It may result in damage to the product, if use automatic transformer.
So please use insulated transformer.
- Please make wire short as much as possible in order to avoid noise.
- Be sure to cable as indicated specification on this product. If use wrong cable or bended cable, it shall not maintain the water-proof.
- It is possible to extend cable with over 0.3mm and max. 200m.
- If the target is plated, the sensing distance can be changed by the plating material.
- It may result in malfunction by metal particle on product.
- 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.
- If connect the load with big inrush current(DC type bulb) to this unit, the big inrush current will flow due to 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.
- In case of the load current is small: Make the residual current is less than return current to connect the bleeder resistor to load in parallel.
$$R_s \leq \frac{V_s}{I_o - I_{off}} \text{ (k}\Omega\text{)}$$

$$P > \frac{V_s^2}{R} \text{ (mW)}$$



17. If make a transceiver close to proximity sensor or wire connection, it may cause malfunction.
※ It may cause malfunction if above instructions are not followed.

Major products

- Proximity sensors
- Area sensors
- Photoelectric sensors
- Fiber optic sensors
- Door/Door side sensors
- Sensor controllers
- Graphic/Logic panels
- Temperature controllers
- Temperature/Humidity transducers
- Stepping motors/drivers/motion controllers
- Laser marking system(CO₂, Nd:YAG)
- Laser welding/soldering system
- Counters
- Timers
- Display units
- Panel meters
- Pressure sensors
- Rotary encoders
- Power controllers
- Tachometer/Pulse(Rate) meters
- Switching power supplies
- Field network devices

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Autonics

INDUCTIVE PROXIMITY SENSOR (CYLINDRICAL DC 3WIRE CONNECTOR)

PRCM SERIES

M A N U A L



Thank you very much for selecting Autonics products.
For your safety, please read the following before using.

Caution for your safety

*Please keep these instructions and review them before using this unit.

*Please observe the cautions that follow:

Warning Serious injury may result if instructions are not followed.

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

*The following is an explanation of the symbols used in the operation manual.

Caution: Injury or danger may occur under special conditions.

Warning

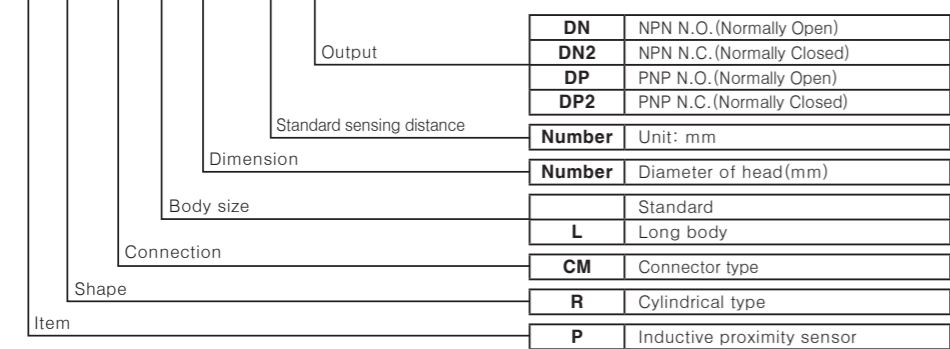
- In case of using this unit with machineries (Nuclear power control, medical equipment vehicle, train, airplane, combustion apparatus, entertainment or safety device etc), it requires installing fall-safe device, or contact us for information on type required. It may result in serious damage, fire or human injury.

Caution

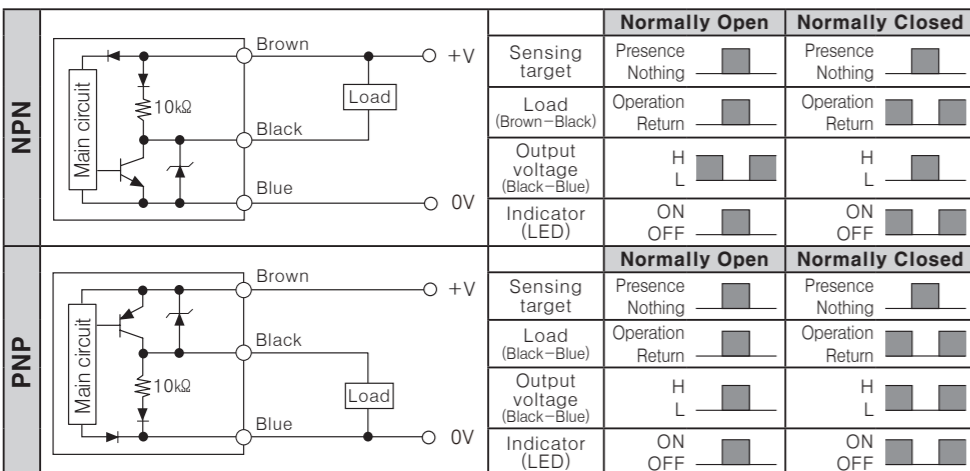
- Do not use this unit in place where there are flammable, explosive gas, chemical or strong alkalis, acids. It may cause a fire or explosion.
- Do not impact on this unit. It may result in malfunction or damage to the product.
- Do not apply AC power and observe specification rating. It may result in serious damage to the product.

Ordering information

P R CM L 18 - 5 DN



Control output diagram & Load operating



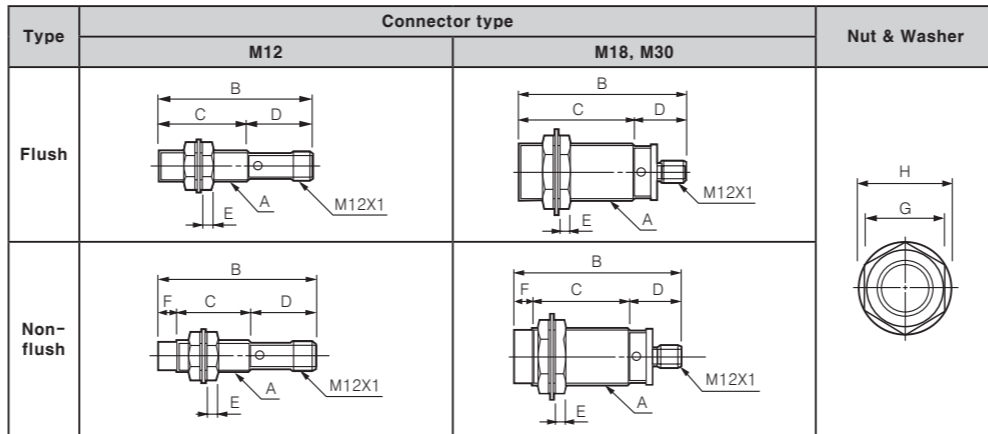
* The above specifications are subject to change without notice.

Specifications

Model	PRCM12-2DN PRCM12-2DP PRCM12-2DN2 PRCM12-2DP2	PRCM12-4DN PRCM12-4DP PRCM12-4DN2 PRCM12-4DP2	PRCM18-5DN PRCM18-5DP PRCM18-5DN2 PRCM18-5DP2	PRCM18-8DN PRCM18-8DP PRCM18-8DN2 PRCM18-8DP2	PRCM30-10DN PRCM30-10DP PRCM30-10DN2 PRCM30-10DP2	PRCM30-15DN PRCM30-15DP PRCM30-15DN2 PRCM30-15DP2
Sensing distance	2mm	4mm	5mm	8mm	10mm	15mm
Hysteresis	Max. 10% of sensing distance					
Standard sensing target	12×12×1mm (Iron)	18×18×1mm (Iron)	25×25×1mm (Iron)	30×30×1mm (Iron)	45×45×1mm (Iron)	
Setting distance	0~1.4mm	0~2.8mm	0~3.5mm	0~5.6mm	0~7mm	0~10.5mm
Power supply (Operating voltage)	12~24VDC (10~30VDC)					
Current consumption	Max. 10mA					
Response frequency	1.5kHz	500Hz	500Hz	350Hz	400Hz	200Hz
Residual voltage	Max. 1.5V					
Affection by Temp.	Within ±10°C max. of sensing distance at 20°C in temperature range of -25 ~ 70°C					
Control output	Max. 200mA					
Insulation resistance	Min. 50MΩ (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 ~ 70°C, Storage: -30 ~ 80°C					
	Ambient humidity: 35 ~ 95%RH, Storage: 35 ~ 95%RH					
Protection circuit	surge protection circuit, Reverse polarity protection circuit, Overcurrent protection					
Protection	IP67 (IEC Standards)					
Materials	Case/Nut: Nikel plated Brass, Washer: Nikel plated Iron, Sensing surface: Heat-resistant ABS					
Approval	CE					
Unit weight	Approx. 26g	PRCM: Approx. 49g PRCML: Approx. 73g		PRCM: Approx. 134g PRCML: Approx. 169g		

* Condition for use in Environment is no freezing or condensation.

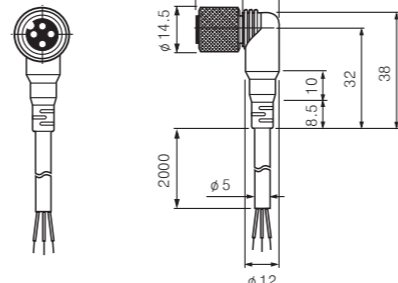
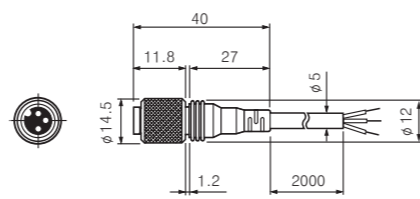
Dimensions



Type		A	B	C	D	E	F	G	H
Flush	M12	PRCM M12×1	55.8	31.5	24.3	4	—	17	21
	M18	PRCM M18×1	54.3	29.5	24.8	4	—	24	29
	M18	PRCML M18×1	87.3	62.5	24.8	4	—	24	29
	M30	PRCM M30×1.5	63.8	38	25.8	5	—	35	42
M30	PRCML M30×1.5	85.8	60	25.8	5	—	35	42	
Non-flush	M12	PRCM M12×1	55.8	24.5	24.3	4	7	17	21
	M18	PRCM M18×1	53.8	19	24.8	4	10	24	29
	M18	PRCML M18×1	86.8	52	24.8	4	10	24	29
	M30	PRCM M30×1.5	63.8	28	25.8	5	10	35	42
M30	PRCML M30×1.5	85.8	50	25.8	5	10	35	42	

• CID3-□

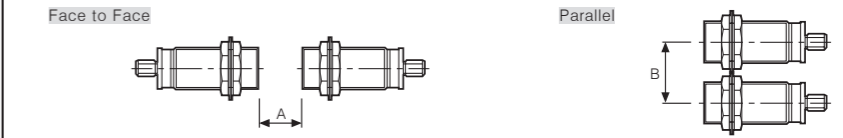
• CLD3-□



Multi-interference & Influence by surrounding metals

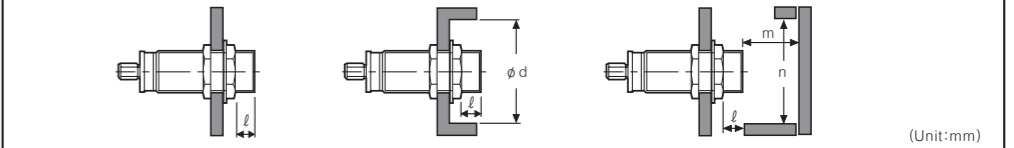
Mutual-interference

When several proximity sensors are mounted closely, malfunction of sensor may be caused due to mutual interference. Therefore, be sure to provide a minimum distance between the two sensors with referring to the chart below.



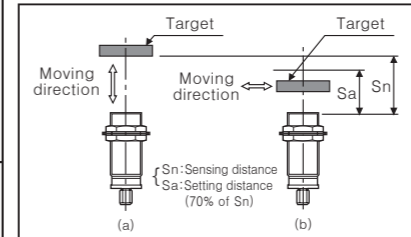
Influence by surrounding metals

When sensors are mounted on metallic panel, it is required to protect the sensors from being affected by any metallic object except target. Therefore, be sure to provide a minimum distance as below chart.



Model	PRCM12-2□	PRCM12-4□	PRCM(L)18-5□	PRCM(L)18-8□	PRCM(L)30-10□	PRCM(L)30-15□
Item						
A	12	24	30	48	60	90
B	24	36	36	54	60	90
l	0	11	0	14	0	15
phi d	12	36	18	54	30	90
m	6	12	15	24	30	45
n	18	36	27	54	45	90

Setting distance

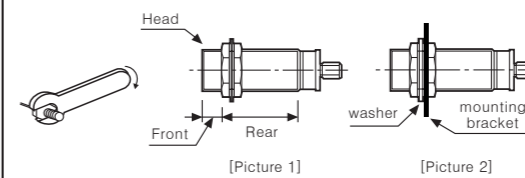


• Sensing distance can be changed by the shape, size or material of the target. Therefore please check the sensing distance like (a), then pass the target within range of setting distance (Sa).

• Setting distance (Sa)
= Sensing distance (Sn) × 70%
Ex) PRCM30-10DN
Setting distance (Sa) = 10mm × 0.7 = 7mm

Caution for using

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



Model	Strength	Front		Rear
		Size	Torque	Torque
PRCM12 Series	Flush	13mm	65kgf·cm	120kgf·cm
	Non-flush	7mm	(6.37N·m)	(11.76N·m)
PRCM18 Series	Flush	—	—	150kgf·cm
	Non-flush	—	—	(14.7N·m)
PRCM30 Series	Flush	26mm	500kgf·cm	800kgf·cm
	Non-flush	12mm	(49N·m)	(78.4N·m)

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].
- Do not use this unit during transient time (80ms) after apply power.
 - It might result in damage to this product, if use automatic transformer. So please use insulated transformer.
 - Please make wire as short as possible in order to avoid noise.
 - 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.
 - It is possible to extend cable with over 0.3mm² and max. 200m.
 - If the target is plated, the operating distance can be changed by the plating material.
 - It may result in malfunction by metal particle on product.
 - 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.
 - If connecting the load with big inrush current (DC type bulb) to this unit, the big inrush current will flow since 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.
 - If making a transceiver close to proximity sensor or wire connection, it may cause malfunction.

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

Major products

- Proximity sensors
- Area sensors
- Photoelectric sensors
- Fiber optic sensors
- Door/Door side sensors
- Sensor controllers
- Graphic/Logic panels
- Temperature controllers
- Tachometer/Pulse(Rate) meters
- Temperature/Humidity transducers
- Switching power supplies
- Stepping motors/drivers/motion controllers
- Field network devices
- Laser marking system (CO₂, Nd:YAG)
- Laser welding/soldering system
- Counters
- Timers
- Display units
- Panel meters
- Pressure sensors
- Rotary encoders
- Power controllers

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