Cylindrical Type Proximity Sensor

Features

- Improved the noise immunity with dedicated IC
- Built-in reverse polarity protection circuit (DC 3-wire type)
- Built-in surge protection circuit
- Built-in over-current protection circuit (DC type)
- · Long life cycle and high reliability, and simple operation
- IP67 protection structure (IEC standard)
- Replaceable for micro switches and limit switches



Specifications

• DC 2-wire type



(B) Fiber Optic Sensors

(A) Photoelectric Sensors

(C) Door/Area Sensors

(D) Proximity Sensors

(E) Pressure Sensors

(F) Rotary Encoders

(G) Connectors/ Connector Cables/ Sensor Distribution Boxes/Sockets

(H)

$%$ When the \Box model name is X,	it is non-polarity model.
--------------------------------------	---------------------------

						,	1 2	(H)	
PRT08-1.5DO PRT08-1.5DC PRT08-1.5DO-V	PRT08-2DO PRT08-2DC	PRT12-2DO PRT12-2DC	PRT12-4D0 PRT12-4DC	PRT18-5DO PRT18-5DC	PRT18-8DO PRT18-8DC	PRT30-10DO PRT30-10DC PRT30-10DO-V	PRT30-15DO PRT30-15DC	Temperature Controllers	
1.5mm	2mm	2mm	4mm	5mm	8mm	10mm	15mm	SSRs / Power Controllers	
Max. 10% of s	Max. 10% of sensing distance								
8×8×1mm (iron)		12×12×1mm (iron)		18×18×1mm (iron)	25×25×1mm (iron)	30×30×1mm (iron)	45×45×1mm (iron)	(J) Counters	
0 to 1.05mm	0 to 1.4mm	0 to 1.4mm	0 to 2.8mm	0 to 3.5mm	0 to 5.6mm	0 to 7mm	0 to 10.5mm	(K)	
12-24VDC) (10-30VDC)								Timers	
Max. 0.6mA								(L) Panel	
1.5kHz	1kHz	1.5kHz	500Hz		350Hz	400Hz	200Hz	Meters (M)	
Max. 3.5V (no	on-polarity type	e is Max. 5V)						Tacho / Speed / Pulse Meters	
. Max. ±10% fo	or sensing dista	ance at ambie	nt temperature	e 20°C (for PR	F08 Series: ±2	0% Max.)			
2 to 100mA								(N) Display Units	
e Over 50MΩ (a	Over 50MΩ (at 500VDC megger)								
1,500VAC 50/60Hz for 1 minute								(O) Sensor	
1mm amplitude at frequency of 10 to 55Hz (for 1 min) in each X, Y, Z direction for 2 hours								Controllers	
500m/s² (app	rox. 50G) in X	Y, Z direction for 3 times							
Operation ind	icator: Red LE	D						Switching Mode Power Supplies	
-25 to 70°C, s	-25 to 70°C, storage: -30 to 80°C								
35 to 95% R⊦	35 to 95% RH, storage: 35 to 95% RH								
Protection circuit Surge protection circuit Surge protection circuit, Over-current protection circuit								(R) Graphic/	
n structure IP67 (IEC standard)								Logic Panels	
e Ø3.5mm, 3-wire, 2m (AWG24, Core diameter: 0.08mm, Number of cores: 40, Insulator diameter: Ø1mm) (AWG22, Core diameter: Ø					Ø5mm, 2-wire, 2m : 0.08mm, Number of cores: 60, Insulator diameter: Ø1.25mm)				
	Case/Nut: Nickel plated brass, Washer: Nickel plated iron, Sensing surface: Polybutylene terephthalate, Standard cable (black): Polyvinyl chloride (PVC), Oil resistant cable (gray): Oil resistant polyvinyl chloride (PVC)								
CE									
	PRT08-1.5DC PRT08-1.5DO-V 1.5mm Max. 10% of i 8×8×1mm (iron) 0 to 1.05mm 12-24VDC (10-30VDC) Max. 0.6mA 1.5kHz Max. 3.5V (nd 0. Max. 3.5V (nd 0. Max. 410% fc 2 to 100mA 0 Over 50MΩ (d 1,500VAC 500) 1mm amplitud 500m/s² (app Operation ind re -25 to 70°C, s 35 to 95% RH Surge protect Number of cor Insulator diam Case/Nut: Nic Standard cab C € Approx. 64g (d	PRT08-1.5DC PRT08-1.5DO-V PRT08-2DO PRT08-2DC 1.5mm 2mm Max. 10% of sensing distant 8×8×1mm (iron) 0 to 1.4mm 0 to 1.05mm 0 to 1.4mm 12-24VDC (10-30VDC) 0 to 1.4mm Max. 0.6mA 1 Max. 3.5V (non-polarity type) Max. 3.5V (non-polarity type) Max. ±10% for sensing distant 2 to 100mA 1 Over 50MΩ (at 500VDC me 1,500VAC 50/60Hz for 1 mi 1mm amplitude at frequenc 500m/s² (approx. 50G) in X 0 Operation indicator: Red LE re -25 to 70°C, storage: -30 to 35 to 95% RH, storage: 35 to Surge protection circuit re IP67 (IEC standard) Ø3.5mm, 3-wire, 2m (AWG24, Core diameter: 0.08mm Number of cores: 40, Insulator diameter: Ø1mm) Case/Nut: Nickel plated bra Standard cable (black): Poly C € Approx. 64g (approx. 52g) Approx. 54g (approx. 52g)	PRT08-1.5DC PRT08-1.5DO-V PRT08-2DC PRT08-2DC PRT12-2_D PRT12-2_D 1.5mm 2mm 2mm Max. 10% of sensing distance 8×8×1mm (iron) 12×12×1mm (iron) 0 to 1.05mm 0 to 1.4mm 0 to 1.4mm 12-24VDC (10-30VDC) 0 to 1.4mm 0 to 1.4mm 12-24VDC (10-30VDC) Max. 0.6mA 1.5kHz 1.5kHz Max. 3.5V (non-polarity type is Max. 5V) Max. ±10% for sensing distance at ambie 2 to 100mA 500VDC megger) 0 Voer 50MΩ (at 500VDC megger) 1,500VAC 50/60Hz for 1 minute 1mm amplitude at frequency of 10 to 55H 500m/s² (approx. 50G) in X, Y, Z direction 0 operation indicator: Red LED -25 to 70°C, storage: -30 to 80°C 35 to 95% RH, storage: 35 to 95% RH Surge protection circuit Surge protection circuit Surge protection circuit Ø3.5mm, 3-wire, 2m (AWG24, Core diameter: 0.08mm, Number of cores: 40, Insulator diameter: Ø1mm) Ø4mm, 2-w (AWG22, C Case/Nut: Nickel plated brass, Washer: N Standard cable (black): Polyvinyl chloride Q f C € Approx. 64g (approx. 52g) Approx.84g	PRT08-1.5DC PRT08-1.5DO-VPRT08-2DC PRT08-1.5DO-VPRT08-2DC PRT08-2DCPRT12-4_D PRT12	PRT08-1.5DC PRT08-1.5DO-V PRT08-2DC PRT12-2DC PRT12-4DC PRT18-5DC 1.5mm 2mm 2mm 4mm 5mm Max. 10% of sensing distance 8×8×1mm (iron) 12×12×1mm (iron) 18×18×1mm (iron) 18×18×1mm (iron) 0 to 1.05mm 0 to 1.4mm 0 to 1.4mm 0 to 2.8mm 0 to 3.5mm 12-24VDC (10-30VDC) Max. 0.6mA 1.5kHz 1kHz 1.5kHz 500Hz Max. 3.5V (non-polarity type is Max. 5V) Max. ±10% for sensing distance at ambient temperature 20°C (for PRT 2 to 100mA 500Hz ve Over 50MΩ (at 500VDC megger) 1,500VAC 50/60Hz for 1 minute 1mm amplitude at frequency of 10 to 55Hz (for 1 min) in each X, Y, Z of 500m/s² (approx. 50G) in X, Y, Z direction for 3 times Operation indicator: Red LED ref -25 to 70°C, storage: -30 to 80°C 35 to 95% RH, storage: 35 to 95% RH Surge protection circuit Surge protection circuit, Over-current price IP67 (IEC standard) Ø3.5mm, 3-wire, 2m (AWG24, Core diameter: 0.08mm, Numl Ø4mm, 2-wire, 2m (AWG22, Core diameter: 0.08mm, Numl Case/Nut: Nickel plated brass, Washer: Nickel plated iron, Sensing su Standard cable (black): Polyvinyl chloride (PVC), Oil resistant cable (g C € Approx. 64g (approx. 52g) Approx.84g (approx. 72g) Approx.122g <td>PRT08-15DC PRT08-15DV PRT08-2DC PRT12-2C/PRT12-4C/C PRT12-4C/C PRT18-5C/PRT18-5C/C PRT18-6C/PRT18-5C/C 1.5mm 2mm 2mm 4mm 5mm 8mm Max. 10% of sensing distance 8×8×1mm 12×12×1mm 18×18×1mm 25×25×1mm (iron) 0 to 1.05mm 0 to 1.4mm 0 to 2.8mm 0 to 3.5mm 0 to 5.6mm 12-24VDC (iron) 0 to 1.4mm 0 to 2.8mm 0 to 3.5mm 0 to 5.6mm 12-24VDC (iron) 18×18×1mm 25×25×1mm (iron) 0 to 5.6mm 12-24VDC (iron) 0 to 1.4mm 0 to 2.8mm 0 to 3.5mm 0 to 5.6mm 12-24VDC (iron) 18×18×1mm 25×25×1mm (iron) 0 to 5.6mm 12-24VDC (iron) 0 to 3.5mm 0 to 5.6mm 12×12×1mm 350Hz Max. 3.5V (non-polarity type is Max. 5V) Max. 3.5V 1.5kHz 1.5kHz 500Hz 350Hz Max. ±10% for sensing distance at ambient temperature 20°C (for PRT08 Series: ±2' 2 to 100mA 2 to 100mA 2 to 100m/s² (approx. 50G) in X, Y, Z direction for 3 ti</td> <td>PRT08-1.50C PRT08-2DC PRT0-2DC PRT12-2DC PRT12-4DC PRT12-4DC PRT10-4DC PRT10-4DC PRT30-10DC PRT30-10DC PRT30-10DC-V 1.5mm 2mm 2mm 4mm 5mm 8mm 10mm Max. 10% of sensing distance 8x8×1mm 12×12×1mm 18×18×1mm 25×25×1mm 30×30×1mm (iron) 0 to 1.4mm 0 to 1.4mm 0 to 2.8mm 0 to 3.5mm 0 to 5.6mm 0 to 7mm 12-24VDC (iron) 0 to 1.4mm 0 to 1.4mm 0 to 2.8mm 0 to 3.5mm 0 to 5.6mm 0 to 7mm 12-24VDC (iron) 15.KHz 1KHz 1.5KHz 500Hz 350Hz 400Hz Max. 0.6mA 1.5kHz 1kHz 1.5kHz 500Hz 400Hz 400Hz Max. 10% for sensing distance at ambient temperature 20°C (for PRT08 Series: ±20% Max.) 2 2 100mA 2 to 100mA 500Fz 1500Mz 500Fz 500m/s² (aprox. 50G) in X, Y, Z direction for 3 times 500m/s² (aprox. 50G) in X, Y, Z direction for 3 times Operation indicator: Red LED 25 to 70°C, storage: -30 to 80°C 25 to 70°C, storage: -3</td> <td>PRT08-1.5DC PRT08-1.5DC PRT08-2DC PRT12-2DC PRT12-2DC PRT12-4DC PRT12-4DC PRT12-4DC PRT18-5DC PRT30-10DC PRT30-10DC-V PRT30-16DC PRT30-10DC-V 1.5mm 2mm 2mm 4mm 5mm 8mm 10mm 15mm Max. 10% of sensing distance 12×12×1mm 18×18×1mm 25×25×1mm 30×30×1mm 45×45×1mm (iron) 0 to 1.05mm 0 to 1.4mm 0 to 2.8mm 0 to 3.5mm 0 to 5.6mm 0 to 10.5mm 0 to 1.05mm 12-24VDC 12-24VDC 12×12×1mm 18×18×1mm 25×25×1mm 30×30×1mm 45×45×1mm 12-24VDC 12-24VDC 12-24VDC 0 to 3.5mm 0 to 5.6mm 0 to 7mm 0 to 1.05mm Max. 0.6mA 12-24VDC 15KHz 1KHz 500Hz 350Hz 400Hz 200Hz Max. 10% for sensing distance at ambient temperature 20°C (for PRT08 Series: ±20% Max.) 2 2 2 1 2 to 100mA 500V/DC meger) 1 1 1500VAC 50/60Hz for 1 minute 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 <td< td=""></td<></td>	PRT08-15DC PRT08-15DV PRT08-2DC PRT12-2C/PRT12-4C/C PRT12-4C/C PRT18-5C/PRT18-5C/C PRT18-6C/PRT18-5C/C 1.5mm 2mm 2mm 4mm 5mm 8mm Max. 10% of sensing distance 8×8×1mm 12×12×1mm 18×18×1mm 25×25×1mm (iron) 0 to 1.05mm 0 to 1.4mm 0 to 2.8mm 0 to 3.5mm 0 to 5.6mm 12-24VDC (iron) 0 to 1.4mm 0 to 2.8mm 0 to 3.5mm 0 to 5.6mm 12-24VDC (iron) 18×18×1mm 25×25×1mm (iron) 0 to 5.6mm 12-24VDC (iron) 0 to 1.4mm 0 to 2.8mm 0 to 3.5mm 0 to 5.6mm 12-24VDC (iron) 18×18×1mm 25×25×1mm (iron) 0 to 5.6mm 12-24VDC (iron) 0 to 3.5mm 0 to 5.6mm 12×12×1mm 350Hz Max. 3.5V (non-polarity type is Max. 5V) Max. 3.5V 1.5kHz 1.5kHz 500Hz 350Hz Max. ±10% for sensing distance at ambient temperature 20°C (for PRT08 Series: ±2' 2 to 100mA 2 to 100mA 2 to 100m/s² (approx. 50G) in X, Y, Z direction for 3 ti	PRT08-1.50C PRT08-2DC PRT0-2DC PRT12-2DC PRT12-4DC PRT12-4DC PRT10-4DC PRT10-4DC PRT30-10DC PRT30-10DC PRT30-10DC-V 1.5mm 2mm 2mm 4mm 5mm 8mm 10mm Max. 10% of sensing distance 8x8×1mm 12×12×1mm 18×18×1mm 25×25×1mm 30×30×1mm (iron) 0 to 1.4mm 0 to 1.4mm 0 to 2.8mm 0 to 3.5mm 0 to 5.6mm 0 to 7mm 12-24VDC (iron) 0 to 1.4mm 0 to 1.4mm 0 to 2.8mm 0 to 3.5mm 0 to 5.6mm 0 to 7mm 12-24VDC (iron) 15.KHz 1KHz 1.5KHz 500Hz 350Hz 400Hz Max. 0.6mA 1.5kHz 1kHz 1.5kHz 500Hz 400Hz 400Hz Max. 10% for sensing distance at ambient temperature 20°C (for PRT08 Series: ±20% Max.) 2 2 100mA 2 to 100mA 500Fz 1500Mz 500Fz 500m/s² (aprox. 50G) in X, Y, Z direction for 3 times 500m/s² (aprox. 50G) in X, Y, Z direction for 3 times Operation indicator: Red LED 25 to 70°C, storage: -30 to 80°C 25 to 70°C, storage: -3	PRT08-1.5DC PRT08-1.5DC PRT08-2DC PRT12-2DC PRT12-2DC PRT12-4DC PRT12-4DC PRT12-4DC PRT18-5DC PRT30-10DC PRT30-10DC-V PRT30-16DC PRT30-10DC-V 1.5mm 2mm 2mm 4mm 5mm 8mm 10mm 15mm Max. 10% of sensing distance 12×12×1mm 18×18×1mm 25×25×1mm 30×30×1mm 45×45×1mm (iron) 0 to 1.05mm 0 to 1.4mm 0 to 2.8mm 0 to 3.5mm 0 to 5.6mm 0 to 10.5mm 0 to 1.05mm 12-24VDC 12-24VDC 12×12×1mm 18×18×1mm 25×25×1mm 30×30×1mm 45×45×1mm 12-24VDC 12-24VDC 12-24VDC 0 to 3.5mm 0 to 5.6mm 0 to 7mm 0 to 1.05mm Max. 0.6mA 12-24VDC 15KHz 1KHz 500Hz 350Hz 400Hz 200Hz Max. 10% for sensing distance at ambient temperature 20°C (for PRT08 Series: ±20% Max.) 2 2 2 1 2 to 100mA 500V/DC meger) 1 1 1500VAC 50/60Hz for 1 minute 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 <td< td=""></td<>	

%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 divice because residual voltage is 5V.

X3: The weight includes packaging. The weight in parentheses in for unit only.

 $\label{eq:thm:linear} \ensuremath{\mathbb{X}}\xspace{-1mu} \ensuremath{\mathsf{The}}\xspace{-1mu}\xspace{-$

*Environment resistance is rated at no freezing or condensation.

Specifications

• DC 3-wire type

Model		PR08-1.5DN PR08-1.5DP PR08-1.5DP2 PR08-1.5DP2 PRL08-1.5DN PRL08-1.5DP PRL08-1.5DN2 PRL08-1.5DP2		PR12-2DN PR12-2DP PR12-2DN2 PR12-2DP2 PRS12-2DN PRS12-2DP PRS12-2DN2 PRS12-2DP2	PR12-4DN PR12-4DP PR12-4DP2 PR512-4DN2 PR512-4DN PR512-4DN PR512-4DP2 PR512-4DP2 PR12-4DP PRL12-4DP	PR18-5DN PR18-5DP PR18-5DP2 PR18-5DP2 PR18-5DN-V PRL18-5DN PRL18-5DP PRL18-5DP2 PRL18-5DP2	PR18-8DN PR18-8DP PR18-8DN2 PR18-8DN2 PRL18-8DN PRL18-8DN PRL18-8DN2 PRL18-8DP2		PR30-15DN PR30-15DP PR30-15DP2 PR130-15DP2 PRL30-15DN PRL30-15DP PRL30-15DP2	
	distance	1.5mm	2mm	2mm	4mm	5mm	8mm	10mm	15mm	
Hysteres		Max. 10% of se	ensing distanc	e						
target	d sensing	8×8×1mm (iron	,	12×12×1mm (,	18×18×1mm (iron)	25×25×1mm (iron)	30×30×1mm (iron)	45×45×1mm (iron)	
Setting of	distance	0 to 1.05mm	0 to 1.4mm	0 to 1.4mm	0 to 2.8mm	0 to 3.5mm	0 to 5.6mm	0 to 7mm	0 to 10.5mm	
Power s (operation	upply on voltage)	12-24VDC (10-30VDC)								
Current	consumption	Max. 10mA								
Respons frequenc	se cy ^{×1}	1.5kHz	1kHz	1.5kHz	500Hz		350Hz	400Hz	200Hz	
Residua	I voltage	Max. 2.0V		Max. 1.5V						
Affectior	n by Temp.	Max. ±10% for sensing distance at ambient temperature 20°C, PR08 Series: Max. ±20%								
Control	output	Max. 200mA								
Insulatio	n resistance	Over 50MΩ (at	500VDC meg	lger)						
Dielectri	c strength	1,500VAC 50/6	0Hz for 1 min	ute						
Vibratior	n	1mm amplitude	e at frequency	of 10 to 55Hz ((for 1 min) in ea	ach X, Y, Z direo	tion for 2 hours	6		
Shock		500m/s² (appro	ox. 50G) in X, '	Y, Z direction fo	or 3 times					
Indicator	r	Operation indic	ator: Red LED)						
Environ-	Ambient temperature	e -25 to 70°C, storage: -30 to 80°C								
ment	Ambient humidity	35 to 95%RH, storage: 35 to 95%RH								
Protectio	on circuit	Surge protection circuit, Reverse polarity protection circuit, Over-current protection circuit								
Protectio	rotection structure IP67 (IEC standard)									
Material Case/Nut: Nickel plated brass, Washer: Nickel plated iron, Sensing surface: Polybutylene terephthalate, Standard cable (black): Polyvinyl chloride (PVC), Oil resistant cable (gray): Oil resistant polyvinyl chloride (PVC)							e (PVC)			
Cable		Ø3.5mm, 3-wir (AWG24, Core dia		Ø4mm, 3-wire, 2m Ø5mm, 3-wire, 2m						
		(AWG22, Core diameter: 0.08mm, Number of cores: 60, Insulator diameter: Ø1.25mm) diameter: Ø1mm)								
Approva	al	CE								
Weight ^{%2}		PR: Approx. 64g PRL: Approx. 66		PR: Approx. 84g PRS: Approx. 82 PRL: Approx. 88	g (approx. 70g)	PR: Approx. 122 PRL: Approx. 14		PR: Approx. 2070 PRL: Approx. 247		

×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: The weight includes packaging. The weight in parentheses in for unit only.

XEnvironment resistance is rated at no freezing or condensation.

Cylindrical Type

(A) Photoelectric Sensors

Specifications

• AC 2-wire type

Model		PR12-2AO PR12-2AC	PR12-4AO PR12-4AC	PR18-5AO PR18-5AC PRL18-5AO PRL18-5AC	PR18-8AO PR18-8AC PRL18-8AO PRL18-8AC	PR30-10AO PR30-10AC PRL30-10AO PRL30-10AC	PR30-15AO PR30-15AC PRL30-15AO PRL30-15AC	Fiber Optic Sensors (C) Door/Ar		
Sensing of	distance	2mm	4mm	5mm	8mm	10mm	15mm	Sensors		
Hysteresi	s	Max. 10% of sen	sing distance	· · ·	·			(D)		
Standard target	sensing	12×12×1mm (iron) 18×18×1mm (iron) 25×25×1mm 30×30×1mm 45×45×1mm (iron) (iron) (iron)						(D) Proximit Sensors		
Setting di	stance	0 to 1.4mm	0 to 2.8mm	0 to 3.5mm	0 to 5.6mm	0 to 7mm	0 to 10.5mm	(E) Pressure		
Power su (operatior	pply voltage)	100-240VAC (85-264VAC)								
Leakage	current	Max. 2.5mA						(F) Rotary		
Response	frequency ^{*1}	20Hz						Encoder		
Residual voltage Max. 10V								(G) Connector		
Affection by Temp. Max. ±10% for sensing distance at ambient temperature 20°C								Connector Sensor Di Boxes/Sor		
Control o	utput	5 to 150mA		5 to 200mA				(H)		
Insulation	resistance	esistance Over 50MΩ (at 500VDC megger)								
Dielectric	strength	2,500VAC 50/60Hz for 1 minute								
Vibration		1mm amplitude at frequency of 10 to 55Hz (for 1 min) in each X, Y, Z direction for 2 hours								
Shock		500m/s ² (approx. 50G) in X, Y, Z direction for 3 times								
Indicator Operation indicator: Red LED							(J) Counter			
Environ-	Ambient temperature	-25 to 70°C, stor	-25 to 70°C, storage: -30 to 80°C							
ment	Ambient humidity	35 to 95%RH, storage: 35 to 95%RH								
Protection	n circuit	Surge protection circuit								
Protection	n structure	IP67 (IEC standard)								
Cable		Ø4mm, 2-wire, 2m Ø5mm, 2-wire, 2m								
Janie		(AWG22, Core diameter: 0.08mm, Number of cores: 60, Insulator diameter: Ø1.25mm)								
Insulation	type	Double insulation or reinforced insulation (Mark: 回, dielectric strength between the measuring input part and the power part: 1kV)								
Material		Case/Nut: Nickel plated brass, Washer: Nickel plated iron, Sensing surface: Polybutylene terephthalate, Standard cable (black): Polyvinyl chloride (PVC)								
Approval		CE						(O) Sensor Controll		
Weight ^{×2}		Approx. 84g (app		PR: Approx. 130g (ap	oprox. 118g) approx. 130g)	PR: Approx. 207g	(approx. 170g)	1		

×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: The weight includes packaging. The weight in parentheses in for unit only.%Environment resistance is rated at no freezing or condensation.

(R) Graphic/ Logic Panels

(Q) Stepper Motors & Drivers & Controllers

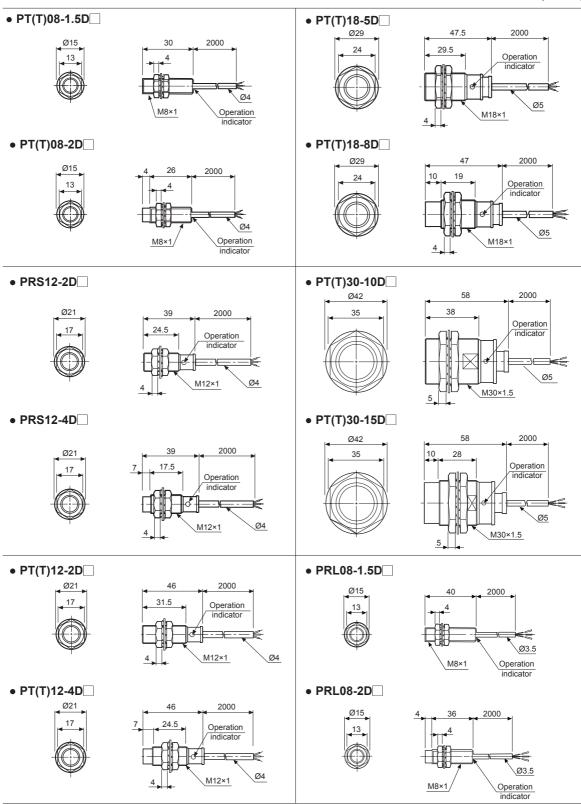
(S) Field Network Devices

(T) Software

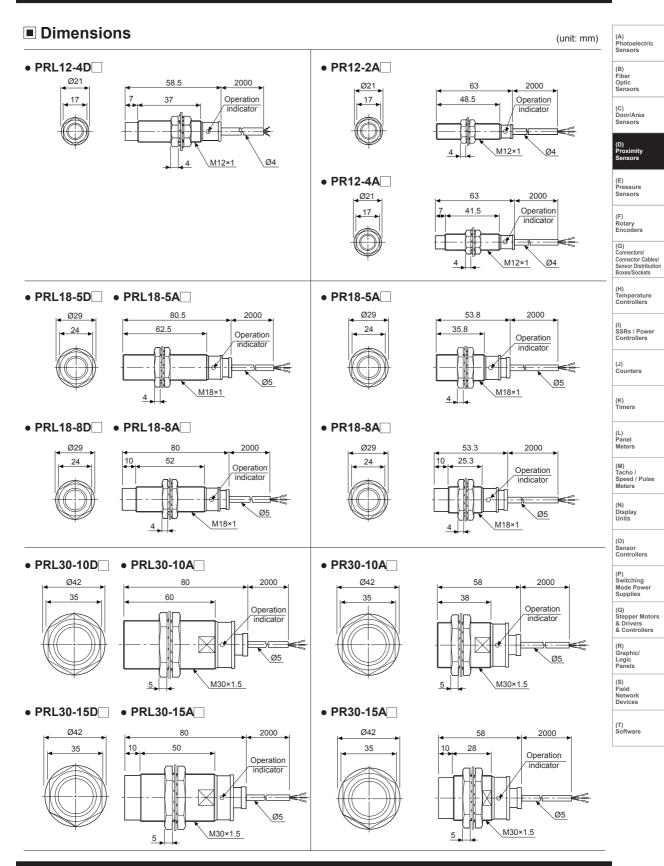
PR Series

Dimensions

(unit: mm)

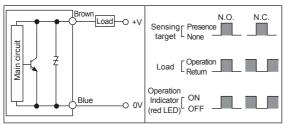


Cylindrical Type

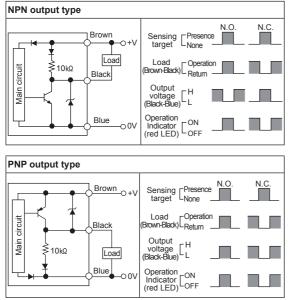


Control Output Diagram And Load Operation

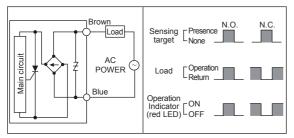
◎ DC 2-wire type



◎ DC 3-wire type

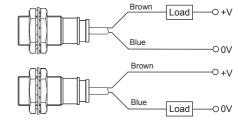


◎ AC 2-wire type



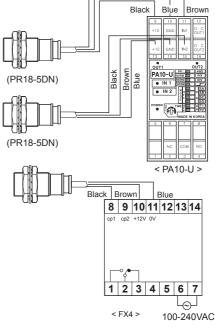
Connections

\odot DC 2-wire type

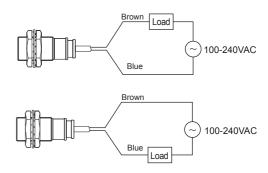


%The load can be connected to either wire.

O DC 3-wire type

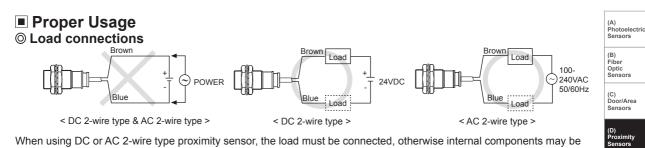


◎ AC 2-wire type



XThe load can be connected to either wire.

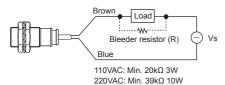
Cylindrical Type



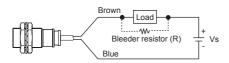
When using DC or AC 2-wire type proximity sensor, the load must be connected, otherwise internal components may be damaged. The load can be connected to either wire.

◎ In case of the load current is small

AC 2-wire type



DC 2-wire type



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.

$$R \le \frac{V_s}{I}(k\Omega)$$
 $P > \frac{V_s^2}{R}(W)$

[I:Action current of load, R:Bleeder resistance, P:Permissible power] Please make the current on proximity sensor smaller than the return current of load by connecting a bleeder resistor in parallel.

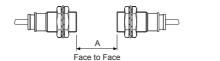
XW value of Bleeder resistor should be bigger for proper heat dissipation.

$$R \le \frac{Vs}{Io-Ioff}$$
 (k Ω) $P > \frac{Vs^2}{R}$ (W)

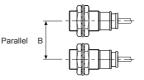
lo: Min. action current of proximity sensor, [Vs: Power supply, Io: Min. action current of proximity senses] [loff: Return current of load, P: Number of Bleeder resistance watt

O 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 keep a minimum distance between the two sensors as below chart indicates.



except target. Therefore, be sure to provide a minimum distance as below chart indicates.



(O) Sensor Controllers (P) Switching Mode Power Supplies When sensors are mounted on metallic panel, it is required to protect the sensors from being affected by any metallic object

(E) Pressure Sensors

(F) Rotary Encoders

(G) Connectors/ Connector Cables/ Sensor Distribution Boxes/Sockets

Temperature Controllers

(I) SSRs / Power Controllers

(J) Counters

(K) Timers

(L) Panel Meters

(M) Tacho / Speed / Puls Meters

(N) Display Units

(Q) Stepper Motors

& Drivers & Controllers

(R) Graphic/ Logic Panels

(S) Field Network Devices

(T) Software

								(unit: mm)
	PR08-1.5D PRT08-1.5D	PR08-2D PRT08-2D	PT(T)12-2D PRS12-2D PR12-2A	PT(T)12-4D PRS12-4D PR12-4A	PRL18-5D PR18-5A	PRL18-8D PR18-8A	PT(T)30-10D PRL30-10D PR30-10A PRL30-10A	PT(T)30-15D PRL30-15D PR30-15A PRL30-15A
A	9	12	12	24	30	48	60	90
В	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

Øc