Cylindrical type proximity sensor

▣Features

- ●Improved the noise resistance with dedicated IC
- ●Integrated surge protection circuit
- ●Integrated overload & short protection circuit (DC 2-wire, 3-wire type)
- ●Integrated reverse polarity protection circuit (DC 3-wire type)
- ●Long life cycle and high reliability, and simple operation
- ●Red LED status indication
- ●Protection structure IP67 (IEC standard)
- ●Replaceable for micro switches and limit switches

⚠ **Please read "Caution for your safety" in operation manual before using.**

CE

▣Specifications

●DC 2-wire type

Model	PRT08-1.5DO PRT08-1.5DC	PRT08-2DO PRT08-2DC	PRT12-2DO PRT12-2DC	PRT12-4DO PRT12-4DC	PRT18-5DO PRT18-5DC	PRT18-8DO PRT18-8DC	PRT30-10DO PRT30-10DC	PRT30-15DO PRT30-15DC
Sensing distance	1.5mm	2mm	2mm	4mm	5mm	8mm	10mm	15mm
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)	45×45×1mm (Iron)
Setting 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 supply (Operation voltage)	12-24VDC (10-30VDC)							
Leakage current	Max. 0.6mA							
Response frequency **(*1)**	1.5kHz	1kHz	1.5kHz	500Hz		350Hz	400Hz	200Hz
Residual voltage	Max. 3.5V							
Affection by Temp.	±10% Max. for sensing distance at 20℃ (For PRT08 series : ±20% Max.)							
Control output	2 to 100mA							
Insulation resistance	Min. 50MΩ (at 500VDC megger)							
Dielectric strength	1500VAC 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 (50G) in X, Y, Z direction for 3 times							
Indicator	Output operation indicator (Red LED)							
Ambient temperature	-25 to 70℃ (at non-freezing status)							
Storage temperature	-30 to 80℃ (at non-freezing status)							
Ambient humidity	35 to 95%RH							
Protection circuit	Surge protection circuit		Surge protection circuit, Overload & Short protection circuit					
Protection	IP67 (IEC standard)							
Cable spec.	φ3.5×2P, 2m		φ4×2P, 2m		φ5×2P, 2m			
Material	Case/Nut: Nikel plated Brass, Washer: Nikel plated Iron, Sensing surface: Heat-resistant ABS, Standard cable (Black): Polyvinyl chloride (PVC), Oil resistant cable (Gray): Oil resistant Polyvinyl chlorde (PVC)							
Approval	CE							
Unit weight	Approx. 52g		Approx. 72g		Approx. 110g		Approx. 170g	

※**(*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.

●DC 3-wire type

Model	PR08-1.5DN PR08-1.5DP PR08-1.5DN2 PR08-1.5DP2 PRL08-1.5DN PRL08-1.5DP PRL08-1.5DN2 PRL08-1.5DP2	PR08-2DN PR08-2DP PR08-2DN2 PR08-2DP2 PRL08-2DN PRL08-2DP PRL08-2DN2 PRL08-2DP2	PR12-2DN PR12-2DP PR12-2DN2 PR12-2DP2 PRS12-2DN PRS12-2DP PRS12-2DN2 PRS12-2DP2	PR12-4DN PR12-4DP PR12-4DN2 PR12-4DP2 PRS12-4DN PRS12-4DP PRS12-4DN2 PRS12-4DP2 PRL12-4DN PRL12-4DP	PR18-5DN PR18-5DP PR18-5DN2 PR18-5DP2 PRL18-5DN PRL18-5DP PRL18-5DN2 PRL18-5DP2	PR18-8DN PR18-8DP PR18-8DN2 PR18-8DP2 PRL18-8DN PRL18-8DP PRL18-8DN2 PRL18-8DP2	PR30-10DN PR30-10DP PR30-10DN2 PR30-10DP2 PRL30-10DN PRL30-10DP PRL30-10DN2 PRL30-10DP2	PR30-15DN PR30-15DP PR30-15DN2 PR30-15DP2 PRL30-15DN PRL30-15DP PRL30-15DN2 PRL30-15DP2
Sensing distance	1.5mm	2mm	2mm	4mm	5mm	8mm	10mm	15mm
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)	45×45×1mm (Iron)
Setting 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 supply (Operation voltage)	12-24VDC (10-30VDC)							
Leakage current	Max. 10mA							
Response frequency(*1)	1.5kHz	1kHz	1.5kHz	500Hz		350Hz	400Hz	200Hz
Residual voltage	Max. 1.5V							
Affection by Temp.	±10% Max. for sensing distance at 20℃ within temperature range of -25 to 70℃, PR08 Series : Max. ±20%							
Control output	Max. 200mA							
Insulation resistance	Min. 50MΩ (at 500VDC megger)							
Dielectric strength	1500VAC 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 (50G) in X, Y, Z direction for 3 times							
Indicator	Output operation indicator(Red LED)							
Ambient temperature	-25 to 70℃ (at non-freezing status)							
Storage temperature	-30 to 80℃ (at non-freezing status)							
Ambient humidity	35 to 95%RH							
Protection circuit	Surge protection circuit, Reverse polarity proteciton circuit, Overload & Short protection circuit							
Protection	IP67 (IEC standard)							
Material	Case/Nut: Nikel plated Brass, Washer: Nikel plated Iron, Sensing surface: Heat-resistant ABS, Standard cable(Black): Polyvinyl chloride(PVC), Oil resistant cable(Gray): Oil resistant Polyvinyl chlorde(PVC)							
Cable spec.	φ3.5×3P, 2m		φ4×3P, 2m		φ5×3P, 2m			
Approval	CE							
Unit weight	PR:Approx. 52g PRL:Approx. 54g		PR:Approx. 72g, PRS:Approx. 70g, PRL:Approx. 76g		PR:Approx. 110g PRL:Approx. 130g		PR:Approx. 170g PRL:Approx. 210g	

※(*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.

●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
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 to 1.4mm	0 to 2.8mm	0 to 3.5mm	0 to 5.6mm	0 to 7mm	0 to 10.5mm
Power supply (Operation voltage)	100-240VAC (85-264VAC)					
Leakage current	Max. 2.5mA					
Response frequency(*1)	20Hz					
Residual voltage	Max. 10V					
Affection by Temp.	±10% Max. for sensing distance at 20℃ within temperature range of -25 to 70℃					
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/s² (50G) in X, Y, Z direction for 3 times					
Indicator	Operation indicator(Red LED)					
Ambient temperature	-25 to 70℃ (at non-freezing status)					
Storage temperature	-30 to 80℃ (at non-freezing status)					
Ambient humidity	35 to 95%RH					
Protection circuit	Surge protection circuit					
Protection	IP67 (IEC standard)					
Cable spec.	φ4×2P, 2m		φ5×2P, 2m			
Material	Case/Nut: Nikel plated Brass, Washer: Nikel plated Iron, Sensing surface: Heat-resistant ABS, Standard cable(Black): Polyvinyl chloride(PVC)					
Approval	CE					
Unit weight	Approx. 66g		PR : Appox. 133g PRL : Appox. 150g		PR : Appox. 185g PRL : Appox. 222g	

※(*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.