INDUCTIVE PROXIMITY SENSOR

CYLINDRICAL TYPE DC 3WIRE

M A N U A L

※ Thank you very much for selecting Alton products.

- **Improved the noise resistance with dedicated IC**
- Built-in reverse polarity protection circuit (DC 3-wire type)
- Built-in surge protection circuit
- Built-in overcurrent protection circuit (DC type)
- Long life cycle and high reliability, and simple operation
- Replaceable for micro switches and limit switches

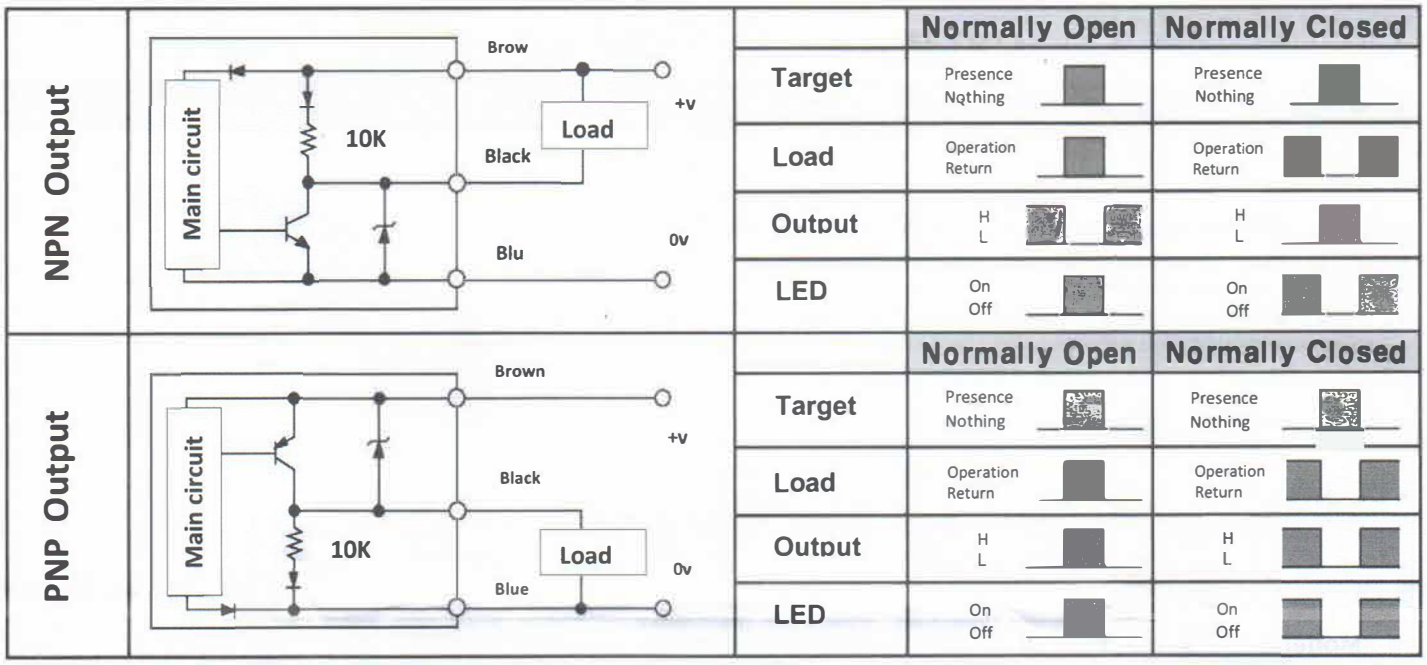
▣ Specifications

- 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 PR18-5DN-V 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)							
Current consumption	Max. 10mA							
Response frequency※1	1.5kHz	1kHz	1.5kHz	500Hz		350Hz	400Hz	200Hz
Residual voltage	Max. 2.0V		Max. 1.5V					
Affection by Temp.	Max. ±10% for sensing distance at ambient temperature 20℃, PR08 Series: Max. ±20%							
Control output	Max. 200mA							
Insulation resistance	Min. 50MΩ (at 500VDC megger)							
Dielectric strength	1500VAC 50/60Hz for 1minute							
Vibration	-----							
Shock	-----							
Indicator	Operation indicator: Red LED							
Environment: Ambient temperature	-25 to 70℃, storage: -30 to 80℃							
Environment: Ambient humidity	30 to 95%RH, storage: 35 to 95%RH							
Protection circuit	Surge protection circuit, Reverse polarity protection circuit, Overcurrent protection circuit							
Protection structure	IP67 (IEC standard)							
Material	Case/Nut: Nickel plated Brass, Washer: Nickel plated Iron, Sensing surface: PBT, Standard cable (Black): Polyvinyl chloride (PVC), Oil resistant cable (Gray): Oil resistant Polyvinyl chloride (PVC)							
Cable	Ø3.5mm, 3-wire, 2m (AWG24, Core diameter: 0.12mm, Number of cores: 20, Insulator diameter: Ø1mm)		Ø4mm, 3-wire, 2m		Ø4mm, 3-wire, 2m			
			AWG22, Core diameter: 0.08mm, Number of cores: 60, Insulator diameter: Ø1.25)					
Approval	-----							
Weight※2	PR:Approx. 64g (approx. 52g) PRL:Approx. 66g (approx. 54g)		PR: Approx. 84g (approx. 72g) PRS: Approx. 82g (approx. 70g) PRL: Approx. 88g (approx. 76g)		PR:Approx. 122g (approx. 110g) PRL:Approx. 142g(approx. 130g)		PR:Approx. 207g (approx. 170g) PRL:Approx. 247g (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.
※2: Before using non-polarity type, check the condition of connected divice because residual voltage is 5V.
※3: The weight includes packaging. The weight in parentheses in for unit

▣ Control output diagram & Load operation



	Normally Open	Normally Closed
Target	Presence Nothing	Presence Nothing
Load	Operation Return	Operation Return
Output	H L	H L
LED	On Off	On Off

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Target	Presence Nothing	Presence Nothing
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Output	H L	H L
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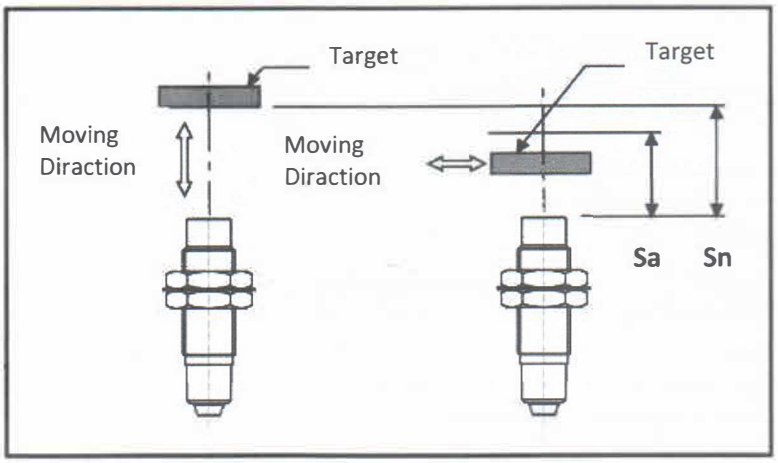
▣ Setting distance



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)PR30-10DN(See ordering information)

Setting distance(Sa) = 10mm × 0.7 = 7mm

SN:sensing distance
SA:setting distance (70% of SN)

▣ Ordering information