PR series DC 3 wire inductive proximity sensor manual

Thank you very much for selecting Finglai 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

1. 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

1. 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.

2. Do not impact on this unit.

It may result in malfunction or damage to the product.

3. Do not apply AC power and observe specification rating.

It may result in serious damage to the product.

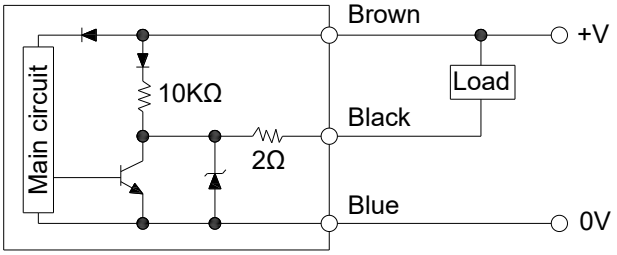
▉ Ordering information

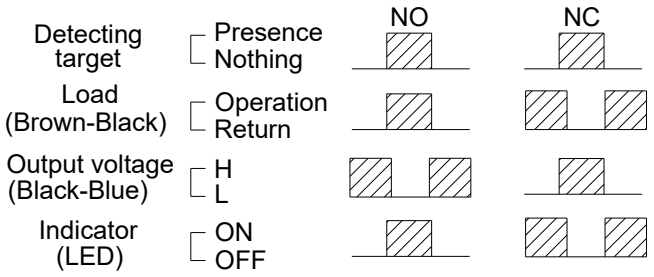
P	R	L	18	-	5	DN
Inductive proximity sensor	Appearance: Cylindrical type	Type: No indication: Standard S: Short pipe type L: Long pipe type W: Outgoing connector cable type WL: Outgoing connector cable type with long pipe	Diameter of head (mm)		Standard detecting distance (mm)	DN: NPN NO (Normal Open) DN2: NPN NC (Normal Close) DP: PNP NO (Normal Open) DP2 :PNPNC (Normal Close)

www.finglai.com

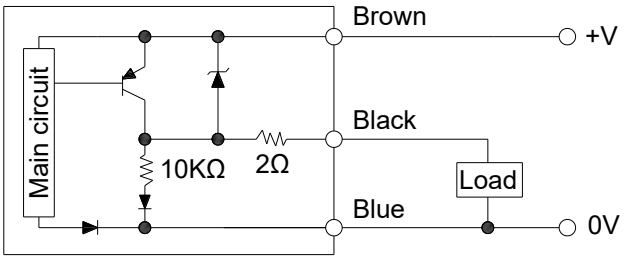
Control output diagram & Load operating

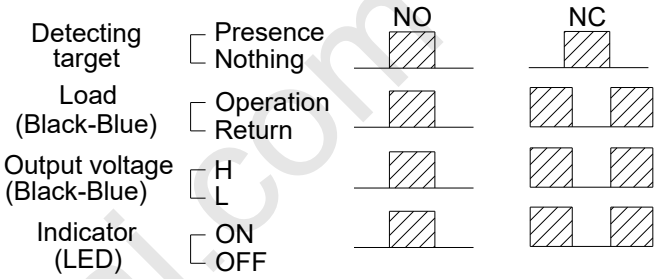
NPN



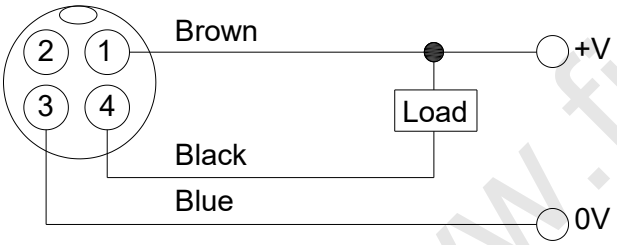


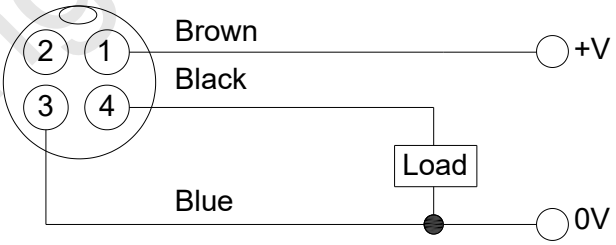
PNP





Connection

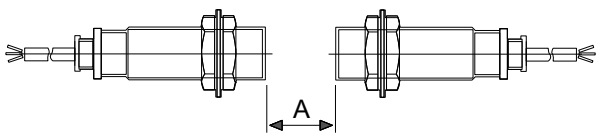




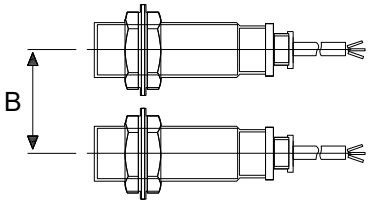
Mutual-interference & Influence by surrounding metals

Mutual-interference

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



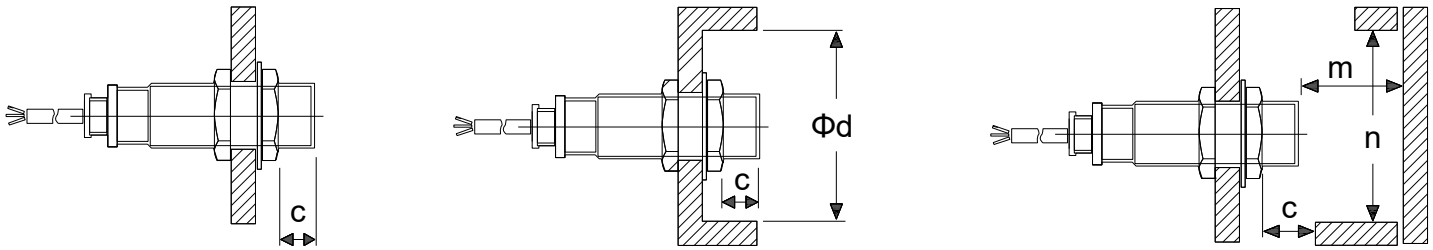
Face to face



Parallel

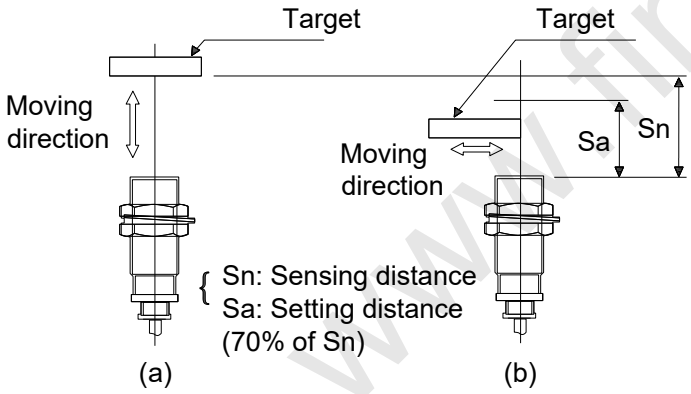
www.finglai.com

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 / Item	PR08-1.5D□	PR08-2D□	PR□12-2D□	PR□12-4D□	PR□18-5D□ PRW□18-5D□	PRD16-8D□ PRW08-8D□	PR□30-10D□ PRW□30-100□	PR□30-150□P RW□30-15D□
A	9	12	12	24	30	48	60	90
B	16	24	24	36	36	54	60	90
c	0	8	0	11	0	14	0	15
Φd	8	12	12	36	18	54	30	90
m	4.5	6	6	12	15	24	30	54
n	12	18	18	36	27	54	45	90

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 or setting distance (Sa).

•Setting distance (Sa) =Detecting distance (Sn) x70% ex)PR30-10DN(See ordering information)

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

Caution for using

1. This equipment shall not be used outdoors or beyond specified temperature range

2. Do not load over than tensile strength of cord. (04:3ON max., 05:5ON max.)

3. Do not use the same conduct with cord of this unit and electric power line. Also avoid the same connection.

4. Do not put overload to tighten nut, please use washer for tightening.

Note 1: Allowable strength may be different by the length of head. As see the picture, allowable tightening strength of front part and rear part are in (Chart 1). Rear part induces head nut as like picture.

www.finglai.com

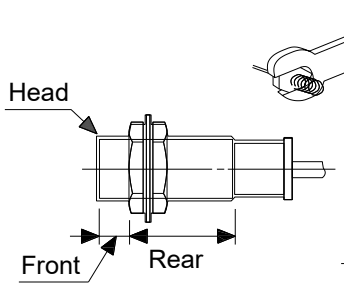
Note 2: (Chart 1) is for using washer.

5. Please check the voltage changes of power source in order not to excess rating power input.

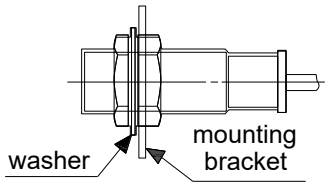
6. Do not use this unit during transient time (80ms) after apply power.

7. It might result in damage to this product, if use automatic transformer. So please use insulated transformer.

8. Please make wire short as much as possible in order to avoid noise.



[Picture 1]



[Picture 2]

9. Be sure to cable as indicated specification on this product. If use wrong cable or bended cable

not maintain the water-proof.

10. It is possible to extend cable with over0.3mmz and max. 200m.

11. If the target is plated, the operating distance can be changed by the plating material.

12. It may result in malfunction by metal particle on product.

Strength / Model		Front		Rear
		Size	Torque	Torque
PR08 Series	Flush	7mm	90kgf*cm	120kgf*cm
	Non-flush	5mm		
PR12 Series	Flush	13mm	65kgf*cm	120kgf*cm
	Non-flush	7mm		
PR18 Series	Flush	22mm	150kgf*cm	150kgf*cm
	Non-flush	12.5mm		
PR30 Series	Flush	26mm	500kgf*cm	800kgf*cm
	Non-flush	12mm		

13. If there are machines(Motor, Welding machinery), which occurs big surge around this unit, please install the Visitor or absorber to source of surge, even though there is built-in surge absorber in this unit.

14. If connect the load with big inrush current (DC type blub) 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 build, please connect relay or resistance in order to protect proximity sensor from.

15. 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.

www.finglai.com