

Autonics

INDUCTIVE PROXIMITY SENSOR

CYLINDRICAL TYPE DC 3WIRE

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

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 fail-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	L	18	-	5	DN	-	V				
										Cable type		Standard cable	
											V	Oil resistant cable	
											S	Option	
										Output		DN	NPN N.O. (Normally Open)
												DN2	NPN N.C. (Normally Closed)
												DP	PNP N.O. (Normally Open)
												DP2	PNP N.C. (Normally Closed)
										Standard sensing distance		Number	Unit: mm
										Dimension		Number	Diameter of head(mm)
										Body size			Standard
												S	Short body
										Connection		L	Long body
													DC 3 wire, cable outgoing type
										Shape		W	DC 3 wire, cable outgoing connector type
										Item		R	Cylindrical type
												P	Inductive proximity sensor

Control output diagram & Load operating

NPN Output			Normally Open	Normally Closed
		Sensing target	Presence	Presence
		Load (Brown-Black)	Operation Return	Operation Return
		Output voltage (Black-Blue)	H	L
		Indicator (LED)	ON OFF	ON OFF
PNP Output			Normally Open	Normally Closed
		Sensing target	Presence	Presence
		Load (Black-Blue)	Operation Return	Operation Return
		Output voltage (Black-Blue)	H	L
		Indicator (LED)	ON OFF	ON OFF

※ The above specifications are subject to change without notice.

Specifications

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 PRW08-1.5DN PRW08-1.5DP PRW08-1.5DN2 PRW08-1.5DP2 PRW08-1.5DN-V PRW08-1.5DP-V PRLW08-1.5DN PRLW08-1.5DP PRLW08-1.5DN2 PRLW08-1.5DP2	PR08-2DN PR08-2DP PR08-2DN2 PR08-2DP2 PRL08-2DN PRL08-2DP PRL08-2DN2 PRL08-2DP2 PRW08-2DN PRW08-2DP PRW08-2DN2 PRW08-2DP2 PRW08-2DN-V PRW08-2DP-V PRLW08-2DN PRLW08-2DP PRLW08-2DN2 PRLW08-2DP2		PR12-2DN PR12-2DP PR12-2DN2 PR12-2DP2 PRS12-2DN PRS12-2DP PRS12-2DN2 PRS12-2DP2 PRW12-2DN PRW12-2DP PRW12-2DN2 PRW12-2DP2 PRLW12-2DN PRLW12-2DP	PR12-4DN PR12-4DP PR12-4DN2 PR12-4DP2 PRS12-4DN PRS12-4DP PRS12-4DN2 PRS12-4DP2 PRW12-4DN PRW12-4DP PRW12-4DN2 PRW12-4DP2 PRLW12-4DN PRLW12-4DP	PR18-5DN PR18-5DP PR18-5DN2 PR18-5DP2 PRL18-5DN PRL18-5DP PRL18-5DN2 PRL18-5DP2 PRW18-5DN PRW18-5DP PRW18-5DN2 PRW18-5DP2 PRLW18-5DN PRLW18-5DP PRLW18-5DN2 PRLW18-5DP2	PR18-8DN PR18-8DP PR18-8DN2 PR18-8DP2 PRL18-8DN PRL18-8DP PRL18-8DN2 PRL18-8DP2 PRW18-8DN PRW18-8DP PRW18-8DN2 PRW18-8DP2 PRLW18-8DN PRLW18-8DP PRLW18-8DN2 PRLW18-8DP2	PR30-10DN PR30-10DP PR30-10DN2 PR30-10DP2 PRL30-10DN PRL30-10DP PRL30-10DN2 PRL30-10DP2 PRW30-10DN PRW30-10DP PRW30-10DN2 PRW30-10DP2 PRLW30-10DN PRLW30-10DP PRLW30-10DN2 PRLW30-10DP2	PR30-15DN PR30-15DP PR30-15DN2 PR30-15DP2 PRL30-15DN PRL30-15DP PRL30-15DN2 PRL30-15DP2 PRW30-15DN PRW30-15DP PRW30-15DN2 PRW30-15DP2 PRLW30-15DN PRLW30-15DP PRLW30-15DN2 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※ Condition for use in Environment is no freezing or condensation.

Dimensions

Type	Cable outgoing type M8, M12, M18, M30	Cable outgoing connector type M8, M12, M18, M30	Nut & Washer
Flush			
Non-flush			

Type		A	B	C	D	E	F	G	H	J	K
Flush	M8	PR M8×1	30	30	4	—	2,000	—	3.5	13	15
		PRL M8×1	40	40	4	—	2,000	—	3.5	13	15
		PRW M8×1	30	30	4	—	300	43.5	4	13	15
		PRWL M8×1	40	40	4	—	300	43.5	4	13	15
	M12	PR M12×1	46	31.5	4	—	2,000	—	4	17	21
		PRS M12×1	39	24.5	4	—	2,000	—	4	17	21
		PRW M12×1	46	31.5	4	—	300	43.5	4	17	21
		PRL M12×1	58.5	44	4	—	2,000	43.5	4	17	21
	M18	PR M18×1	47.5	29.5	4	—	2,000	—	5	24	29
		PRL M18×1	80.5	62	4	—	2,000	—	5	24	29
		PRW M18×1	47.5	29.5	4	—	300	43.5	5	24	29
		PRWL M18×1	80.5	62	4	—	300	43.5	5	24	29
	M30	PR M30×1.5	58	38	5	—	2,000	—	5	35	42
		PRL M30×1.5	80	60	5	—	2,000	—	5	35	42
		PRW M30×1.5	58	38	5	—	300	43.5	5	35	42
		PRWL M30×1.5	80	60	5	—	300	43.5	5	35	42
Non-flush	M8	PR M8×1	30	30	4	4	2,000	—	3.5	13	15
		PRL M8×1	40	40	4	4	2,000	—	3.5	13	15
		PRW M8×1	30	30	4	4	300	43.5	4	13	15
		PRWL M8×1	40	40	4	4	300	43.5	4	13	15
	M12	PR M12×1	46	31.5	4	7	2,000	—	4	17	21
		PRS M12×1	39	24.5	4	7	2,000	—	4	17	21
		PRW M12×1	46	31.5	4	7	300	43.5	4	17	21
		PRL M12×1	58.5	37	4	7	2,000	43.5	4	17	21
	M18	PR M18×1	47	29	4	10	2,000	—	5	24	29
		PRL M18×1	80	62	4	10	2,000	—	5	24	29
		PRW M18×1	47	29	4	10	300	43.5	5	24	29
		PRWL M18×1	80	62	4	10	300	43.5	5	24	29
	M30	PR M30×1.5	58	38	5	10	2,000	—	5	35	42
		PRL M30×1.5	80	60	5	10	2,000	—	5	35	42
		PRW M30×1.5	58	38	5	10	300	43.5	5	35	42
		PRWL M30×1.5	80	60	5	10	300	43.5	5	35	42

※ 'F' type standard: Cable outgoing type/2,000mm, Cable outgoing connector type/300mm

※ 'H' type: φ3.5, 3 cores(Conductor cross section: 0.2mm², Insulator diameter: φ1) and φ4, 3 cores/φ5, 3 cores(Conductor cross section: 0.3mm², Insulator diameter: φ1.25)

Connections

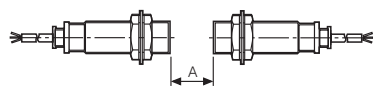
Connector	NPN	PNP

Multi-interference & Influence by surrounding metals

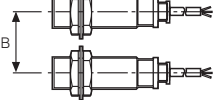
Mutual-interference

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.

Face to Face

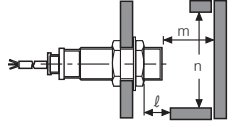
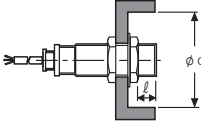
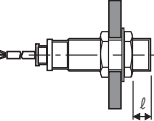


Parallel



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.



(Unit:mm)

Model Item	PR08-1.5D	PR08-2D	PR12-2D	PR12-4D	PR18-5D PRW18-5D	PR18-8D PRW18-8D	PR30-10D PRW30-10D	PR30-15D PRW30-15D
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
φ d	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