Long distance proximity sensor

▣ Features

- **Long sensing distance (1.5 to 2 times longer sensing distance guaranteed compared to existing models)**
- Improved the noise resistance with dedicated IC
- Built-in surge protection, reverse polarity protection, overcurrent protection circuit
- Long life cycle and high reliability
- Red LED status indication
- Protection structure IP67(IEC standard)
- Replaceable for micro switches and limit switches
- Improved cable strain relief : More reliable flexural strength of sensor/cable connecting part

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

▣ Specifications

● DC 2-wire type

Model	PRDT12-4□O PRDT12-4□C PRDT12-4□O-V PRDT12-4□C-V PRDLT12-4□O PRDLT12-4□C PRDLT12-4□O-V PRDLT12-4□C-V PRDWT12-4□O PRDWT12-4□C PRDWT12-4□O-I PRDWT12-4□C-I PRDWT12-4□O-IV PRDWT12-4□C-IV	PRDT12-8□O PRDT12-8□C PRDT12-8□O-V PRDT12-8□C-V PRDLT12-8□O PRDLT12-8□C PRDLT12-8□O-V PRDLT12-8□C-V PRDWT12-8□O PRDWT12-8□C PRDWT12-8□O-I PRDWT12-8□C-I PRDWT12-8□O-IV PRDWT12-8□C-IV	PRDT18-7□O PRDT18-7□C PRDT18-7□O-V PRDT18-7□C-V PRDLT18-7□O PRDLT18-7□C PRDLT18-7□O-V PRDLT18-7□C-V PRDWT18-7□O PRDWT18-7□C PRDWT18-7□O-I PRDWT18-7□C-I PRDWT18-7□O-IV PRDWT18-7□C-IV PRDWLT18-7□O-IV PRDWLT18-7□C-IV	PRDT18-14□O PRDT18-14□C PRDT18-14□O-V PRDT18-14□C-V PRDLT18-14□O PRDLT18-14□C PRDLT18-14□O-V PRDLT18-14□C-V PRDWT18-14□O PRDWT18-14□C PRDWT18-14□O-I PRDWT18-14□C-I PRDWT18-14□O-IV PRDWT18-14□C-IV PRDWLT18-14□O-IV PRDWLT18-14□C-IV	PRDT30-15□O PRDT30-15□C PRDT30-15□O-V PRDT30-15□C-V PRDLT30-15□O PRDLT30-15□C PRDLT30-15□O-V PRDLT30-15□C-V PRDWT30-15□O PRDWT30-15□C PRDWT30-15□O-I PRDWT30-15□C-I PRDWT30-15□O-IV PRDWT30-15□C-IV	PRDT30-25□O PRDT30-25□C PRDT30-25□O-V PRDT30-25□C-V PRDLT30-25□O PRDLT30-25□C PRDLT30-25□O-V PRDLT30-25□C-V PRDWT30-25□O PRDWT30-25□C PRDWT30-25□O-I PRDWT30-25□C-I PRDWT30-25□O-IV PRDWT30-25□C-IV
Sensing distance	4mm	8mm	7mm	14mm	15mm	25mm
Hysteresis	Max. 10% of sensing distance					
Standard sensing target	12×12×1mm(Iron)	25×25×1mm (Iron)	20×20×1mm (Iron)	40×40×1mm (Iron)	45×45×1mm (Iron)	75×75×1mm (Iron)
Sensing distance	0 to 2.8mm	0 to 5.6mm	0 to 4.9mm	0 to 9.8mm	0 to 10.5mm	0 to 17.5mm
Power supply (Operating voltage)	12-24VDC (10-30VDC)					
Leakage current	Max. 0.6mA					
Response frequency※1	450HZ	400Hz	250Hz	200Hz	100Hz	
Residual voltage※2	Max. 3.5V(for non-polarity type, max. 5V)					
Affection by Temp.	Max. ±10% for sensing distance at ambient temperature 20℃					
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(for 1 min.) in each of X, Y, Z directions for 2 hours					
Shock	500m/s²(approx. 50G) X, Y, Z directions for 3 times					
Indicator	Operation indicator(red LED)					
Environment: Ambient temperature	-25 to 70℃, Storage: -30 to 80℃					
Environment: Ambient humidity	35 to 95%RH, Storage: 35 to 95%RH					
Protection circuit	Surge protection circuit, Reverse polarity protection circuit, Overcurrent protection circuit					
Material	Case/Nut: Nickel plated Brass, Washer: Nickel plated Iron, Sensing surface: Heat-resistant ABS, Standard cable(Black): Polyvinyl chloride(PVC), Oil resistant cable(Gray): Oil resistant Polyvinyl chloride(PVC)					
Cable	ø4, 2-wire, 2m		ø5, 2-wire, 2m			
	(For cable type, 300mm, M12 connector), (AWG22, Core diameter: 0.08mm, Number of cores: 60, Insulator diameter: ø1.25)					
Approval	CE					
Protection	IP67(IEC Standard)					
Unit weight	PRDT: Approx. 74g PRDLT: Approx. 94g PRDWT: Approx. 44g	PRDT: Approx. 72g PRDLT: Approx. 92g PRDWT: Approx. 42g	PRDT: Approx. 115g PRDLT: Approx. 145g PRDWT: Approx. 80g PRDWLT: Approx. 42g	PRDT: Approx. 110g PRDLT: Approx. 140g PRDWT: Approx. 75g PRDWLT: Approx. 105g	PRDT: Approx. 175g PRDLT: Approx. 215g PRDWT: Approx. 140g	PRDT: Approx. 180g PRDLT: Approx. 220g PRDWT: Approx. 145g

※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 device because residual voltage is 5V.
※The '□' of model name is for power type. 'D' is 12-24VDC, 'X' is non-polarity 12-24VDC.
※The last 'V' of model name is for the model with oil-resistance reinforced cable.
※Environment resistance is rated at no freezing or condensation.

▣ Specifications

● DC 3-wire type

Model	PRD12-4DN PRD12-4DP PRD12-4DN2 PRD12-4DP2 PRDL12-4DN PRDL12-4DP PRDL12-4DN2 PRDL12-4DP2 PRDW12-4DN PRDW12-4DP PRDW12-4DN2 PRDW12-4DP2 PRDW12-4DN-V PRDW12-4DP-V PRDWL12-4DN PRDWL12-4DP PRDWL12-4DN2 PRDWL12-4DP2	PRD12-8DN PRD12-8DP PRD12-8DN2 PRD12-8DP2 PRDL12-8DN PRDL12-8DP PRDL12-8DN2 PRDL12-8DP2 PRDW12-8DN PRDW12-8DP PRDW12-8DN2 PRDW12-8DP2 PRDW12-8DN-V PRDW12-8DP-V PRDWL12-8DN PRDWL12-8DP PRDWL12-8DN2 PRDWL12-8DP2	PRD18-7DN PRD18-7DP PRD18-7DN2 PRD18-7DP2 PRDL18-7DN PRDL18-7DP PRDL18-7DN2 PRDL18-7DP2 PRDW18-7DN PRDW18-7DP PRDW18-7DN2 PRDW18-7DP2 PRDW18-7DN-V PRDW18-7DP-V PRDWL18-7DN PRDWL18-7DP PRDWL18-7DN2 PRDWL18-7DP2	PRD18-14DN PRD18-14DP PRD18-14DN2 PRD18-14DP2 PRDL18-14DN PRDL18-14DP PRDL18-14DN2 PRDL18-14DP2 PRDW18-14DN PRDW18-14DP PRDW18-14DN2 PRDW18-14DP2 PRDW18-14DN-V PRDW18-14DP-V PRDWL18-14DN PRDWL18-14DP PRDWL18-14DN2 PRDWL18-14DP2	PRD30-15DN PRD30-15DP PRD30-15DN2 PRD30-15DP2 PRDL30-15DN PRDL30-15DP PRDL30-15DN2 PRDL30-15DP2 PRDW30-15DN PRDW30-15DP PRDW30-15DN2 PRDW30-15DP2 PRDW30-15DN-V PRDW30-15DP-V PRDWL30-15DN PRDWL30-15DP PRDWL30-15DN2 PRDWL30-15DP2	PRD30-25DN PRD30-25DP PRD30-25DN2 PRD30-25DP2 PRDL30-25DN PRDL30-25DP PRDL30-25DN2 PRDL30-25DP2 PRDW30-25DN PRDW30-25DP PRDW30-25DN2 PRDW30-25DP2 PRDW30-25DN-V PRDW30-25DP-V PRDWL30-25DN PRDWL30-25DP PRDWL30-25DN2 PRDWL30-25DP2
Sensing distance	4mm	8mm	7mm	14mm	15mm	25mm
Hysteresis	Max. 10% of sensing distance					
Standard sensing target	12×12×1mm(Iron)	25×25×1mm(Iron)	20×20×1mm (Iron)	40×40×1mm (Iron)	45×45×1mm (Iron)	75×75×1mm (Iron)
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Power supply (Operating voltage)	12-24VDC (10-30VDC)					
Current consumption	Max. 10mA					
Response frequency※1	500Hz	400Hz	300Hz	200Hz	100HZ	100Hz
Residual voltage	Max. 1.5V					
Affection by Temp.	Max. ±10% for sensing distance at ambient temperature 20℃					
Control output	200mA					
Insulation resistance	Min. 50MΩ(at 500VDC megger)					
Dielectric strength	1500VAC 50/60Hz for 1minute					
Vibration	1mm amplitude at frequency of 10 to 55Hz(for 1 min.) in each of X, Y, Z directions for 2 hours					
Shock	500m/s²(approx. 50G) X, Y, Z directions for 3 times					
Indicator	Operation indicator(red LED)					
Environment: Ambient temperature	-25 to 70℃, Storage: -30 to 80℃					
Environment: Ambient humidity	35 to 95%RH, Storage: 35 to 95%RH					
Protection circuit	Surge protection circuit, Reverse polarity protection circuit, Overcurrent protection circuit					
Protection	IP67(IEC Standard)					
Material	Case/Nut: Nickel plated Brass, Washer: Nickel plated Iron, Sensing surface: Heat-resistant ABS, Standard cable(Black): Polyvinyl chloride(PVC), Oil resistant cable(Gray): Oil resistant Polyvinyl chloride(PVC)					
Cable	ø4, 3-wire, 2m		ø5, 3-wire, 2m			
	(For cable type, 300mm, M12 connector), (AWG22, Core diameter: 0.08mm, Number of cores: 60, Insulator diameter: ø1.25)					
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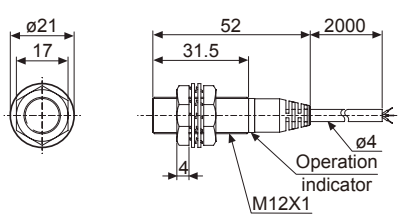
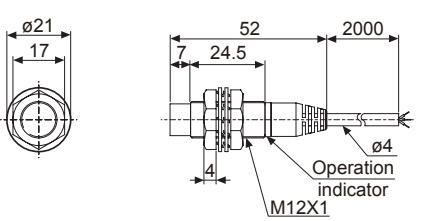
Unit weight	PRD: Approx. 74g PRDL: Approx. 94g PRDW: Approx. 44g PRDWL: Approx. 64g	PRD: Approx. 72g PRDL: Approx. 92g PRDW: Approx. 42g PRDWL: Approx. 62g	PRD: Approx. 115g PRDL: Approx. 145g PRDW: Approx. 80g PRDWL: Approx. 110g	PRD: Approx. 110g PRDL: Approx. 140g PRDW: Approx. 75g PRDWL: Approx. 105g	PRD: Approx. 175g PRDL: Approx. 215g PRDW: Approx. 140g PRDWL: Approx. 180g	PRD: Approx. 180g PRDL: Approx. 220g PRDW: Approx. 145g PRDWL: Approx. 185g

※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.
※The last 'V' of model name is for the model with oil-resistance reinforced cable.
※Environment resistance is rated at no freezing or condensation.

▣ Dimensions

(unit: mm)

● PRD(T)12-4D□



● PRD(T)12-8D□