

Inductive cylindrical type Proximity switch

■ Features

- U Surge protection function.
- U All DC switching types have reverse polarity protection.
- U PR $\phi 12$, $\phi 18$, $\phi 30$ series has short-circuit protection.
- U Long life cycle & high reliability.
- U Red LED indicator for monitoring the operation.
- U Wide application for replacement of micro switch, limit switch, etc.
- U The load with Max. 200mA can be operated within range of operating voltage 10 to 30VDC, 90 to 250VAC (at resistive load).
- U Wide application for replacement of micro switch, limit switch, etc.



■ Type

◎ DC 3wire switching type

Appearances	Model	
	PR08-1.5DN	
	PR08-1.5DP	
	PR08-1.5DN2 ※	
	PR08-1.5DP2 ※	
	PR08-2DN	
	PR08-2DP	
	PR08-2DN2 ※	
	PR08-2DP2 ※	
		PR12-2DN
		PR12-2DP
PR12-2DN2 ※		
PR12-2DP2 ※		
	PR12-4DN	
	PR12-4DP	
	PR12-4DN2 ※	
	PR12-4DP2 ※	
	PR18-5DN	
	PR18-5DP	
	PR18-5DN2 ※	
	PR18-5DP2 ※	
	PR18-8DN	
	PR18-8DP	
	PR18-8DN2 ※	
	PR18-8DP2 ※	
	PR30-10DN	
	PR30-10DP	
	PR30-10DN2 ※	
	PR30-10DP2 ※	
	PR30-15DN	
PR30-15DP		
PR30-15DN2 ※		
PR30-15DP2 ※		

◎ AC 2wire switching type

Appearances	Model
	PR12-2AO
	PR12-2AC
	PR12-4AO
	PR12-4AC
	PR18-5AO
	PR18-5AC
	PR18-8AO
	PR18-8AC
	PR30-10AO
	PR30-10AC
	PR30-15AO
PR30-15AC	

◎ AC 2wire switching long size type

Appearances	Model
	PRL18-5AO
	PRL18-5AC
	PRL18-8AO
	PRL18-8AC
	PRL30-10AO
	PRL30-10AC
	PRL30-15AO
PRL30-15AC	

◎ DC 3wire switching short/long size type

Appearances	Model
	PRS12-2DN
	PRS12-2DP
	PRS12-2DN2 ※
	PRS12-2DP2 ※
	PRS12-4DN
	PRS12-4DP
	PRL18-5DN
	PRL18-5DP
	PRL18-5DN2 ※
	PRL18-5DP2 ※
	PRL18-8DN
	PRL18-8DP
	PRL18-8DN2 ※
	PRL18-8DP2 ※
	PRL30-10DN
	PRL30-10DP
	PRL30-10DN2 ※
	PRL30-10DP2 ▣
	PRL30-15DN
PRL30-15DP	
PRL30-15DN2 ※	
PRL30-15DP2 ▣	

◎ DC 2wire switching type

Appearances	Model
	PRT08-1.5DO
	PRT08-1.5DC
	PRT08-2DO
	PRT08-2DC
PRT12-2DC	
	PRT12-4DO
	PRT12-4DC
	PRT18-5DO
	PRT18-5DC
	PRT18-8DO
	PRT18-8DC
	PRT30-10DO
	PRT30-10DC
	PRT30-15DO
PRT30-15DC	

※ Mark is option. ▣는 개발중 입니다.

PR SERIES

■ Specification(DC switching type)

Model	PR08-1.5DN PR08-1.5DP PR08-1.5DN2 PR08-1.5DP2	PR08-2DN PR08-2DP PR08-2DN2 PR08-2DP2	PR12-2DN PR12-2DP PR12-2DN2 PR12-2DN2 PR12-2DN2 PR12-2DN2 PR12-2DN2 PR12-2DP2	PR12-4DN PR12-4DP PR12-4DN2 PR12-4DN PR12-4DP PR12-4DN2 PR12-4DN2	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
Detecting distance	1.5mm ±10%	2mm ±10%	2mm ±10%	4mm ±10%	5mm ±10%	8mm ±10%	10mm ±10%	15mm ±10%
Hysteresis	Max. 10% of detecting distance							
Standard detecting 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 1.05	0 to 1.4	0 to 1.4	0 to 2.8	0 to 3.5	0 to 5.6	0 to 7	0 to 10.5
Power supply (Operating voltage)	12 to 24VDC (10 to 30VDC)							
Power consumption	10mA							
Response frequency	800Hz			400Hz	350Hz	200Hz	250Hz	100Hz
Residual voltage	Max. 2V			Max. 1.5V				
Variation due to Temp. fluctuation	±10% Max. of detecting distance at +20°C within temperature range of -25 to +70°C, PR08 series:Max. ±20%							
Control output	Resistive load:200mA, Inductive load:100mA							
Insulation resistance	Min. 50MΩ (500VDC)							
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	500ms ² (50G) in X,Y,Z directions for 3 times							
Indicator	Operating indicator : red LED							
Operating temperature	-25 to +70°C (non-freezing condition)							
Storage temperature	-30 to +80°C (non-freezing condition)							
Ambient humidity	35 to 95% RH							
Protection circuit	Reverse polarity protection, surge protection circuit, overload & short-circuit protection (PR08 SERIES는 제외)							
Protection	IP67 (IEC specification)							
Insulation type(*1)	☐							
Cable	4φ, 3P, 2M				5φ, 3P, 2M			
Weight	About 36g	About 36g	PR:About 70g PRS:About 68g	PR:About 70g PRS:About 68g	PR:About 119g PRL:About 149g	PR:About 118g PRL:About 142g	PR:About 184g PRL:About 222g	PR:About 181g PRL:About 227g

■ Specification(AC switching 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
Detecting distance	2mm ±10%	4mm ±10%	5mm ±10%	8mm ±10%	10mm ±10%	15mm ±10%
Hysteresis	Max. 10% of detecting distance					
Standard detecting 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 1.4	0 to 2.8	0 to 3.5	0 to 5.6	0 to 7	0 to 10.5
Power supply (Operating voltage)	110 to 220VAC (90 to 250VAC)					
Leakage current	Max. 2.5mA					
Response frequency	20Hz					
Residual voltage	Max. 10V					
Variation due to Temp. fluctuation	±10% Max. of detecting distance at +20°C within temperature range of -25 to +70°C					
Control output	Resistive load:150mA, Inductive load:75mA		Resistive load:200mA, Inductive load:100mA			
Insulation resistance	Min. 50MΩ (500VDC)					
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	500ms ² (50G) in X,Y,Z directions for 3 times					
Indicator	Operating indicator : red LED					
Operating temperature	-25 to +70°C (non-freezing condition)					
Storage temperature	-30 to +80°C (non-freezing condition)					
Ambient humidity	35 to 95% RH					
Protection circuit	Surge protection circuit					
Protection	IP67 (IEC specification)					
Insulation type(*1)	☐					
Cable	4φ, 2P, 2M			5φ, 2P, 2M		
Weight	About 66g	About 66g	PR:About 130g PRL:About 150g	PR:About 130g PRL:About 150g	PR:About 185g PRL:About 224g	PR:About 117g PRL:About 222g

※ The weight of above chart is net weight.

※ (*1) ☐ Mark indicated that equipment protected throughout by double insulation or reinforced insulation.

■ Specification

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
Detecting distance	1.5mm ±10%	2mm ±10%	2mm ±10%	4mm ±10%	5mm ±10%	8mm ±10%	10mm ±10%	15mm ±10%
Hysteresis	Max. 10% of detecting distance							
Standard detecting 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 1.05	0 to 1.4	0 to 1.4	0 to 2.8	0 to 3.5	0 to 5.6	0 to 7	0 to 10.5
Power supply (Operating voltage)	24VDC (15 to 30VDC)							
Power consumption	Max. 0.9mA							
Response frequency	800Hz			400Hz	350Hz	200Hz	250Hz	100Hz
Residual voltage	Max. 7V							
Variation due to Temp. fluctuation	±10% Max. of detecting distance at +20℃ within temperature range of -25 to +70℃							
Control output	Resistive load:50mA, Inductive load:25mA							
Insulation resistance	Min. 50M Ω (500VDC)							
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/s ² (50G) in X,Y,Z directions for 3 times							
Indicator	Operating indicator : red LED							
Operating temperature	-25 to +70℃ (non-freezing condition)							
Storage temperature	-30 to +80℃ (non-freezing condition)							
Ambient humidity	35 to 95% RH							
Protection circuit	surge protection circuit, overload & short-circuit protection(PRT08 SERIES는 제외)							
Protection	IP67(IEC specification)							
Insulation type(*1)	☐							
Cable	4 ϕ , 2P, 2M			5 ϕ , 2P, 2M				
Weight	About 36g	About 36g	About 63g	About 63g	About 122g	About 122g	About 181g	About 181g

※The weight of above chart is net weight.

※(*1) ☐ "Mark indicated that equipment protected throughout by double insulation or reinforced insulation.

PRA SERIES

Spatter resistant Proximity switch

■ Features

- U용접장소 및 스파크가 일어나는 장소에서
안심하고 사용할수 있습니다.
- URReverse polarity protection.
- UPRA $\phi 12$, $\phi 18$, $\phi 30$ series has overload &
short-circuit protection
- ULong life cycle & high reliability.
- UWide application for replacement of micro switch,
limit switch, etc.



■ Type

◎DC 3wire switching type

Appearances	Model
M12	PRA12-2DN
	PRA12-
	PRA12-2DN2 ※
	PRA12-2DP2 ※
M18	PRA18-5DN
	PRA18-5DP
	PRA18-5DN2 ※
	PRA18-5DP2 ※
M30	PRA30-10DN
	PRA30-10DP
	PRA30-10DN2 ※
	PRA30-10DP2 ※

◎AC 2wire switching type

Appearances	Model
M12	PRA12-2AO
	PRA12-2AC
M18	PRA18-5AO
	PRA18-5AC
M30	PRA30-10AO
	PRA30-10AC

◎DC 2wire switching type

Appearances	Model
M12	PRAT12-2DO
	PRAT12-2DC
M18	PRAT18-5DO
	PRAT18-5DC
M30	PRAT30-10DO
	PRAT30-10DC

※Mark is option.

■ Specification(DC switching type)

Model	PRA12-2DN PRA12-2DP PRA12-2DN2 PRA12-2DP2	PRA18-5DN PRA18-5DP PRA18-5DN2 PRA18-5DP2	PRA30-10DN PRA30-10DP PRA30-10DN2 PRA30-10DP2
Detecting distance	2mm $\pm 10\%$	5mm $\pm 10\%$	10mm $\pm 10\%$
Hysteresis	Max. 10% of detecting distance		
Standard detecting target	12 \times 12 \times 1mm (Iron)	18 \times 18 \times 1mm (Iron)	30 \times 30 \times 1mm (Iron)
Setting distance	0 to 1.4	0 to 3.5	0 to 7
Power supply (Operating voltage)	12 to 24VDC (10 to 30VDC)		
Power consumption	10mA		
Response frequency	800Hz	350Hz	250Hz
Residual voltage	Max. 1.5V		
Variation due to Temp. fluctuation	$\pm 10\%$ Max. of detecting distance at +20 $^{\circ}$ C within temperature range of -25 to +70 $^{\circ}$ C		
Control output	Resistive load:200mA, Inductive load:100mA		
Insulation resistance	Min. 50M Ω (500VDC)		
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/s ² (50G) in X,Y,Z directions for 3 times		
Indicator	Operating indicator : red LED		
Operating temperature	-25 to +70 $^{\circ}$ C (non-freezing condition)		
Storage temperature	-30 to +80 $^{\circ}$ C (non-freezing condition)		
Ambient humidity	35 to 95% RH		
Protection circuit	Reverse polarity protection, surge protection circuit, overload & short-circuit protection		
Protection	IP67(IEC specification)		
Insulation type(*1)			
Cable	4 ϕ , 3P, 2M	5 ϕ , 3P, 2M	
Weight	About 70g	About 119g	About 184g

※The weight of above chart is net weight.

※(*1) "Mark indicated that equipment protected throughout by double insulation or reinforced insulation.

■ Specification (AC switching type/DC 2wire type)

Type	AC type			DC 2wire type		
Model	PRA12-2AO PRA12-2AC	PRA18-5AO PRA18-5AC	PRA30-10AO PRA30-10AC	PRAT12-2DO PRAT12-2DC	PRAT18-5DO PRAT18-5DC	PRAT30-10DO PRAT30-10DC
Detecting distance	2mm ±10%	5mm ±10%	10mm ±10%	2mm ±10%	5mm ±10%	10mm ±10%
Hysteresis	Max. 10% of detecting distance					
Standard detecting target	12×12×1mm(Iron)	18×18×1mm(Iron)	30×30×1mm(Iron)	12×12×1mm(Iron)	18×18×1mm(Iron)	30×30×1mm(Iron)
Setting distance	0 to 1.4	0 to 3.5	0 to 7	0 to 1.4	0 to 3.5	0 to 7
Power supply (Operating voltage)	110 to 220VAC (90 to 250VAC)			24VDC (15 to 30VDC)		
Leakage current	Max. 2.5mA			Max. 0.9mA		
Response frequency	20Hz			800Hz	350Hz	250Hz
Residual voltage	Max. 10V			Max. 7V		
Variation due to Temp. fluctuation	±10% Max. of detecting distance at +20°C within temperature range of -25 to +70°C					
Control output	Resistive load:150mA, Inductive load:75mA	Resistive load:200mA, Inductive load:100mA		Resistive load:50mA, Inductive load:25mA		
Insulation resistance	Min. 50MΩ (500VDC)					
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/s ² (50G) in X,Y,Z directions for 3 times					
Indicator	Operating indicator : red LED					
Operating temperature	-25 to +70°C (non-freezing condition)					
Storage temperature	-30 to +80°C (non-freezing condition)					
Ambient humidity	35 to 95% RH					
Protection circuit	surge protection circuit			surge protection circuit, overload & short-circuit protection		
Protection	IP67(IEC specification)					
Insulation type(*1)	☐					
Cable	4φ, 2P, 2M		5φ, 2P, 2M			
Weight	About 66g	About 130g	About 185g	About 63g	About 122g	About 181g

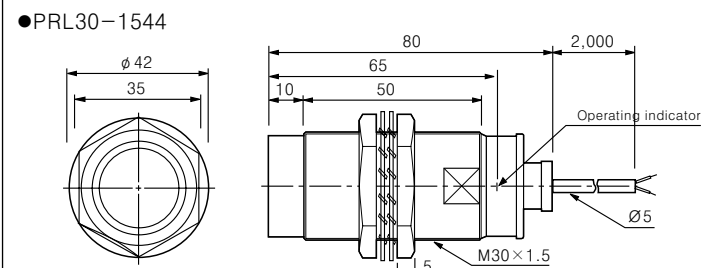
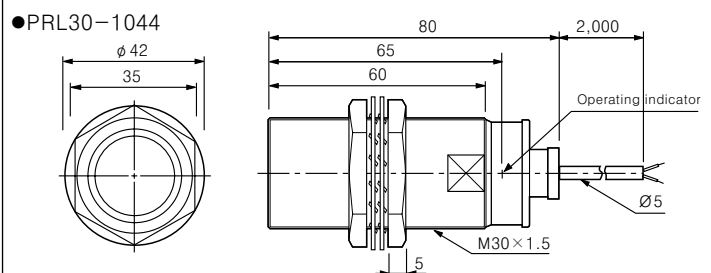
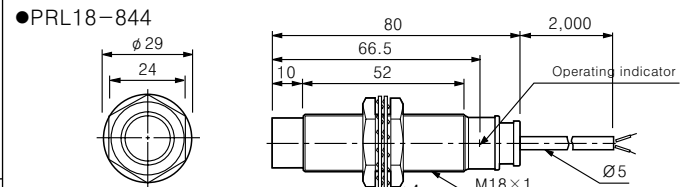
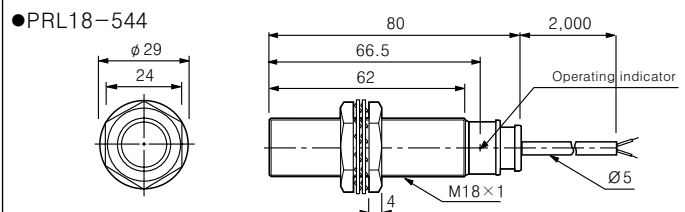
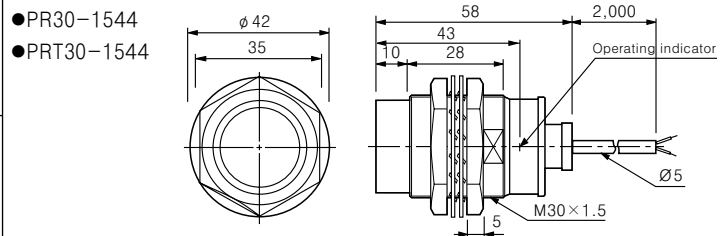
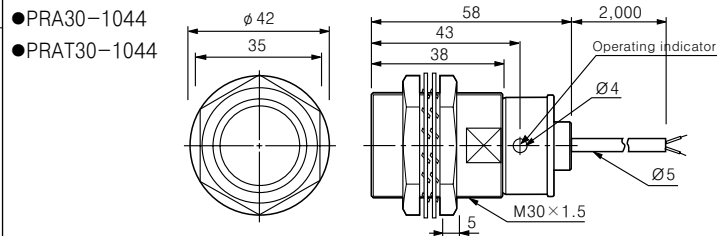
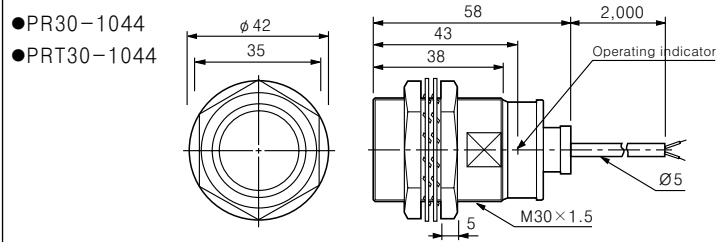
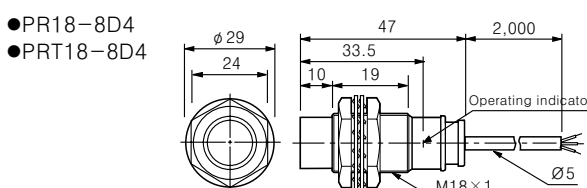
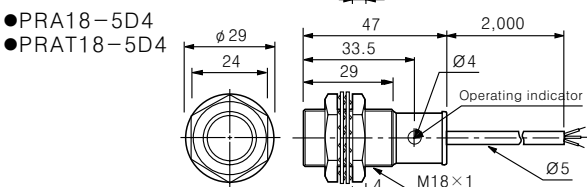
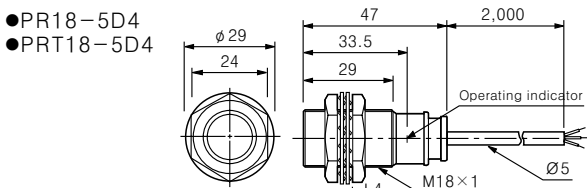
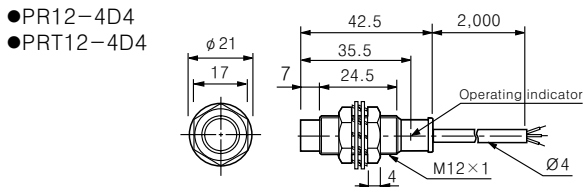
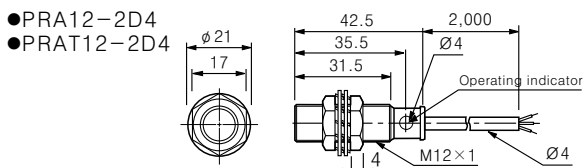
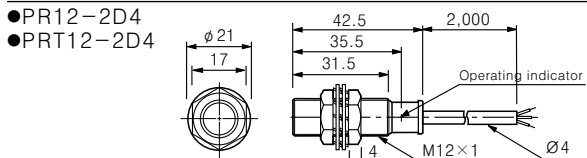
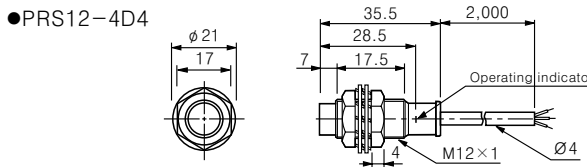
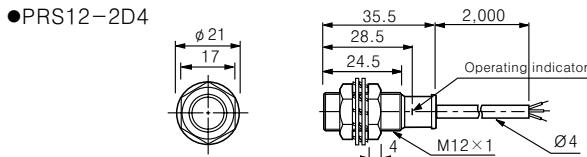
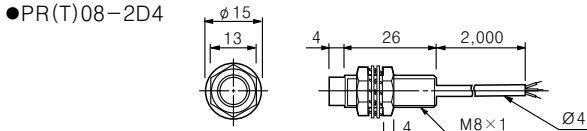
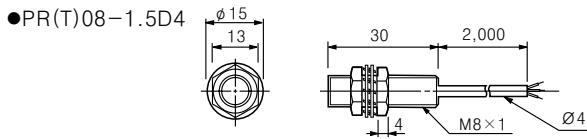
※The weight of above chart is net weight.

※(*1)☐Mark indicated that equipment protected throughout by double insulation or reinforced insulation.

PR(A) SERIES

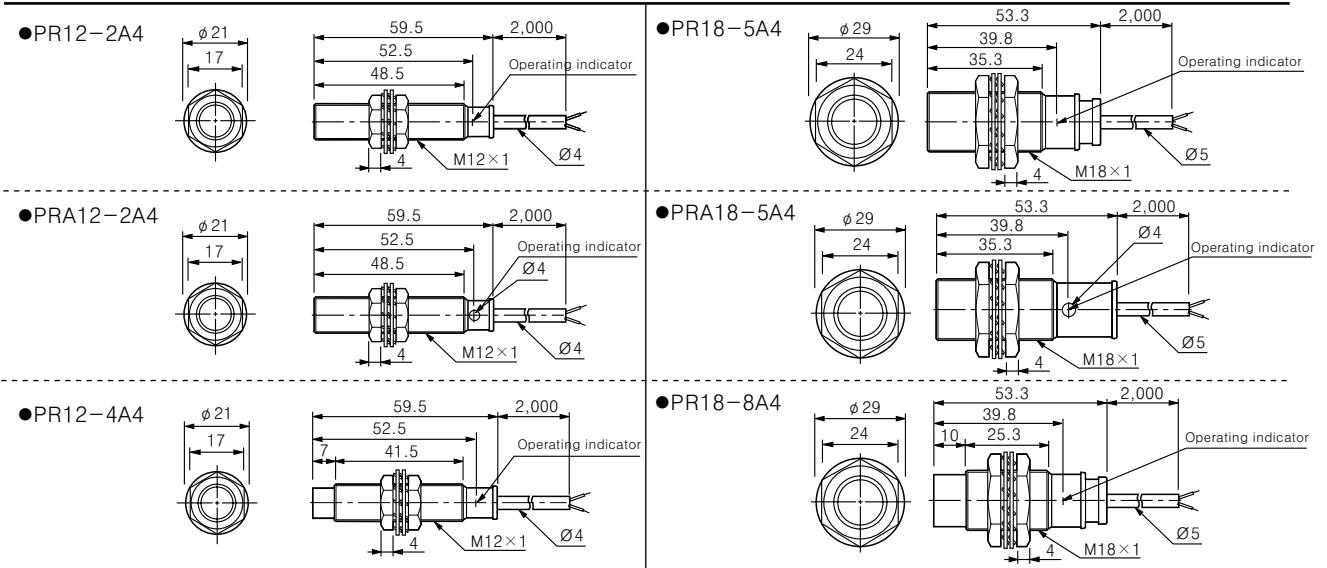
■ Dimensions

Unit:mm



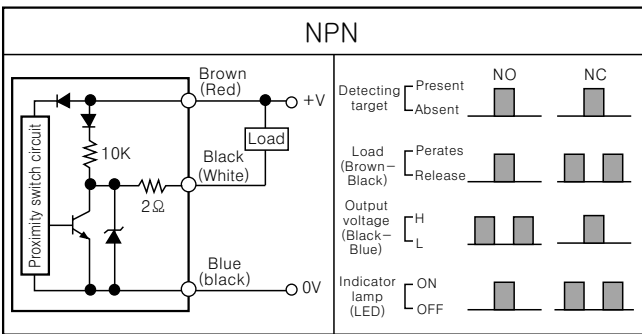
Dimensions

Unit:mm

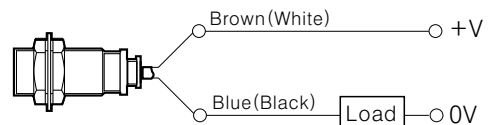
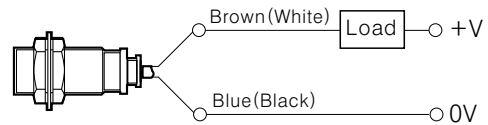
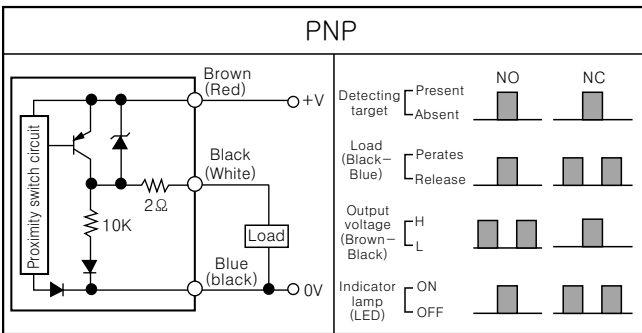
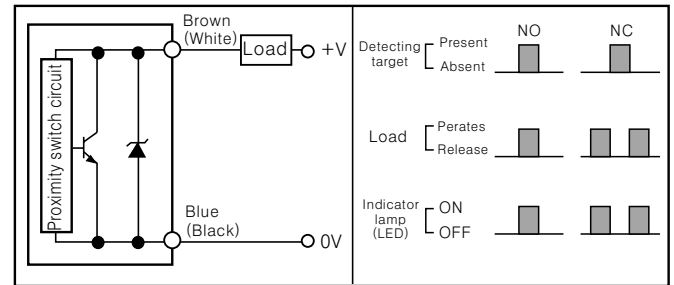


Control output circuit & operating load

DC switching type



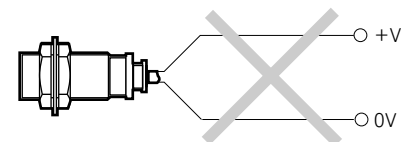
DC 2wire type



< DC 2wire standard >

Power connection

The load must be connected.



When the load is connected with proximity switch, please connect the Brown(White) color wire at +V, the Blue(Black) color wire at 0V.

AC switch type

