

Feature

- Adopting new specialized IC, its performance more stable
- Reverse polarity protection, Short circuit protection(DC type)
- Long endurance and high reliability
- Power supply indicator:Green LED, Operating indicator:Red LED
- IP67 (IEC)



Ordering information

● DC 3-Wire

Appearance		Detecting distance	Output	Model
Symbol	Image			
M8	[Image]	1.5mm	NPN NO	TR08-1.5DN
			NPN NC	TR08-1.5DN2
			PNP NO	TR08-1.5DP
			PNP NC	TR08-1.5DP2
	[Image]	2mm	NPN NO	TR08-2DN
			NPN NC	TR08-2DN2
M12	[Image]	2mm	NPN NO	TR12-2DN
			NPN NC	TR12-2DN2
			PNP NO	TR12-2DP
			PNP NC	TR12-2DP2
	[Image]	4mm	NPN NO	TR12-4DN
			NPN NC	TR12-4DN2
M18	[Image]	5mm	NPN NO	TR18-5DN
			NPN NC	TR18-5DN2
			PNP NO	TR18-5DP
			PNP NC	TR18-5DP2
	[Image]	8mm	NPN NO	TR18-8DN
			NPN NC	TR18-8DN2
M30	[Image]	10mm	NPN NO	TR30-10DN
			NPN NC	TR30-10DN2
			PNP NO	TR30-10DP
			PNP NC	TR30-10DP2
	[Image]	15mm	NPN NO	TR30-15DN
			NPN NC	TR30-15DN2
			PNP NO	TR30-15DP
			PNP NC	TR30-15DP2

● DC 2-Wire

Appearance		Detecting distance	Output	Model
Symbol	Image			
M12	[Image]	2mm	NO	TR12-2DO
			NC	TR12-2DC
	[Image]	4mm	NO	TR12-4DO
			NC	TR12-4DC
M18	[Image]	5mm	NO	TR18-5DO
			NC	TR18-5DC
	[Image]	8mm	NO	TR18-8DO
			NC	TR18-8DC
M30	[Image]	10mm	NO	TR30-10DO
			NC	TR30-10DC
	[Image]	15mm	NO	TR30-15DO
			NC	TR30-15DC

● AC 2-Wire

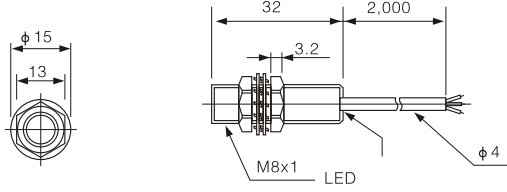
Appearance		Detecting distance	Output	Model
Symbol	Image			
M12	[Image]	2mm	NO	TR12-2AO
			NC	TR12-2AC
	[Image]	4mm	NO	TR12-4AO
			NC	TR12-4AC
M18	[Image]	5mm	NO	TR18-5AO
			NC	TR18-5AC
	[Image]	8mm	NO	TR18-8AO
			NC	TR18-8AC
M30	[Image]	10mm	NO	TR30-10AO
			NC	TR30-10AC
	[Image]	15mm	NO	TR30-15AO
			NC	TR30-15AC

Specification

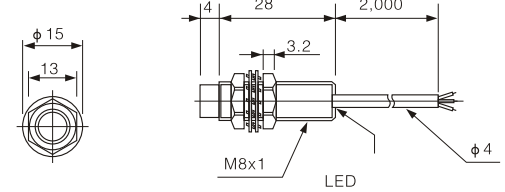
Model	DC 3-wire	TR08-1.5DN TR08-1.5DN2 TR08-1.5DP TR08-1.5DP2	TR08-2DN TR08-2DN2 TR08-2DP TR08-2DP2	TR12-2DN TR12-2DN2 TR12-2DP TR12-2DP2	TR12-4DN TR12-4DN2 TR12-4DP TR12-4DP2	TR18-5DN TR18-5DN2 TR18-5DP TR18-5DP2	TR18-8DN TR18-8DN2 TR18-8DP TR18-8DP2	TR30-10DN TR30-10DN2 TR30-10DP TR30-10DP2	TR30-15DN TR30-15DN2 TR30-15DP TR30-15DP2
	DC 2-wire			TR12-2DO TR12-2DC	TR12-4DO TR12-4DC	TR18-5DO TR18-5DC	TR18-8DO TR18-8DC	TR30-10DO TR30-10DC	TR30-15DO TR30-15DC
	AC 2-wire			TR12-2AO TR12-2AC	TR12-4AO TR12-4AC	TR18-5AO TR18-5AC	TR18-8AO TR18-8AC	TR30-10AO TR30-10AC	TR30-15AO TR30-15AC
Detecting distance		1mm ± 10%	2mm ± 10%	2mm ± 10%	4mm ± 10%	5mm ± 10%	8mm ± 10%	10mm ± 10%	15mm ± 10%
Setting distance		0 to 0.7mm	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
Standard Detecting target		Iron 8x8x1mm		Iron 12x12x1mm		Iron 18x18x1mm		Iron 30x30x1mm	
Hysteresis		Max.10% of detecting distance							
Power supply		DC 3-wire type : 12-24VDC(5-30VDC) DC 2-wire type : 12-30VDC AC 2-wire type : 90-250VAC							
Current consumption		DC 3-wire type : Max.12mA DC 2-wire type : Max.0.9mA AC 2-wire type : Max.2.2mA							
Response frequency	DC	800HZ	600HZ	400HZ	300HZ	200HZ	200HZ	100HZ	
	AC	20HZ							
Residual voltage		DC 3-wire type : Max.1.5V DC 2-wire type : Max.6V AC 2-wire type : Max.10V							
Control output		Max.100mA	DC 3-wire type : Max.200mA DC 2-wire type : Max.100mA AC 2-wire type : Max.200mA						
Protection circuit		Reverse polarity protection , Surge absorber M12 M18 M30 DC3-wire type							
Indicator		Power supply indicator : Green LED, Operating indicator Red LED							
Insulation resistance		Min.50MΩ (500VDC)							
Dielectric strength		1500VAC 50/60HZ for 1 minute							
Vibration		1 mm amplitude at frequency of 10 to55HZ in each of X, Y, Z directions for 2 hours							
Shock		500m/s ² (50G) X, Y, Z directions for 3times							
Operating temperature		-25 to +70°C (non-freezing condition)							
Ambient humidity		35 to 95% RH							
Protection		IP67 (IEC Specification)							
Material		Case:brass.Detecting surface:ABS							

Dimensions (unit:mm)

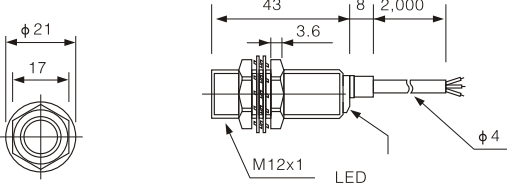
TR08-1.5D



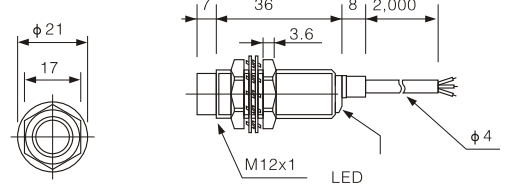
TR08-2D



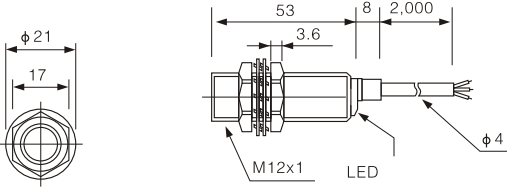
TR12-2D



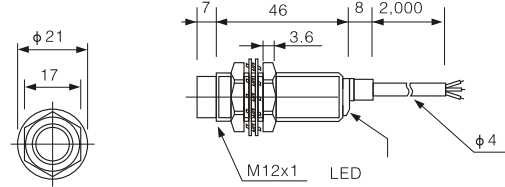
TR12-4D



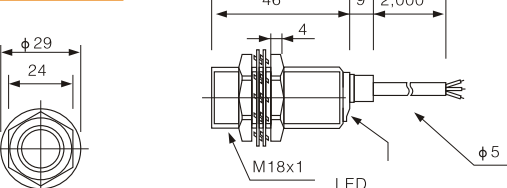
TR12-2A



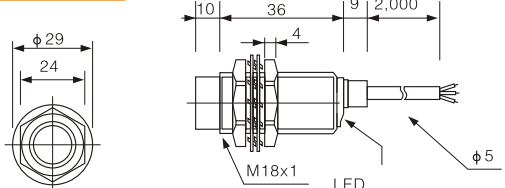
TR12-4A



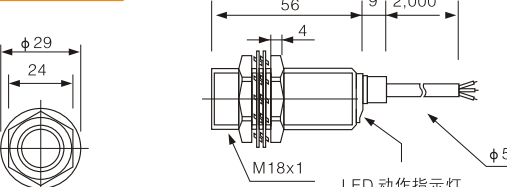
TR18-5D



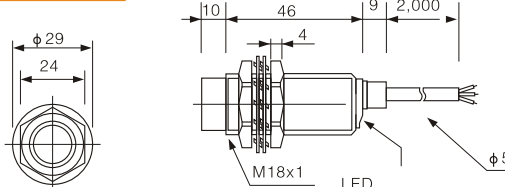
TR18-8D



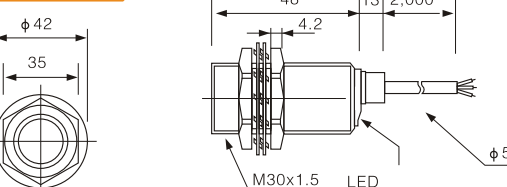
TR18-5A



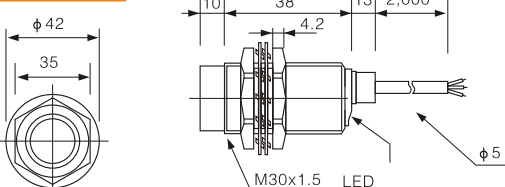
TR18-8A



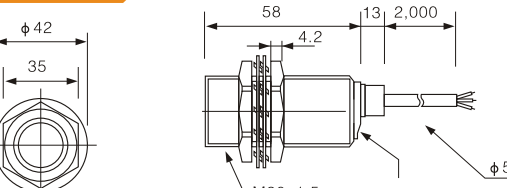
TR30-10D



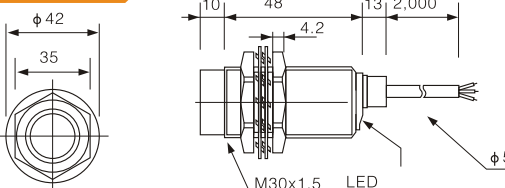
TR30-15D



TR30-10A

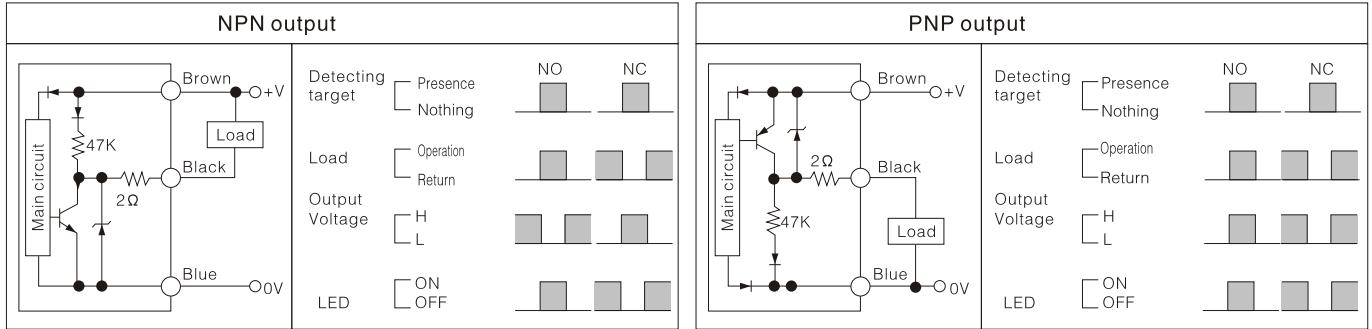


TR30-15A

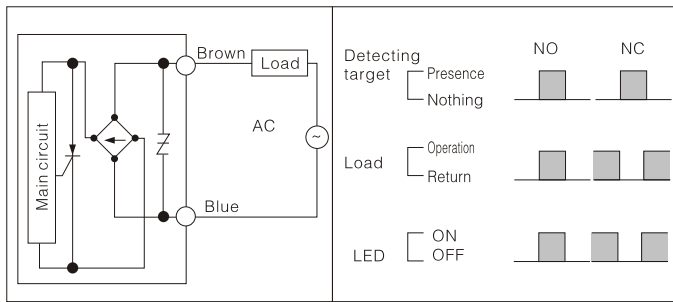


Control output diagram

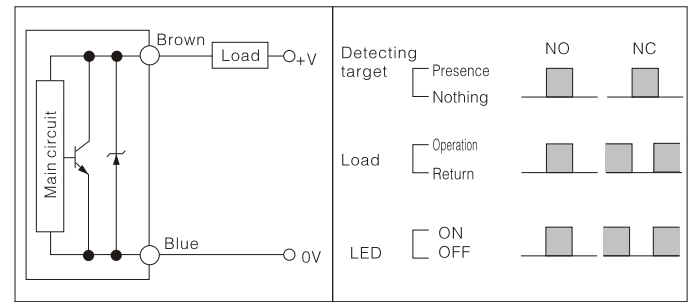
DC 3-wire



AC 2-wire

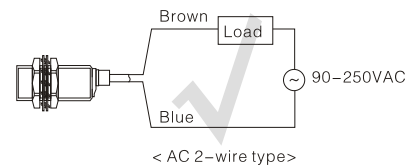
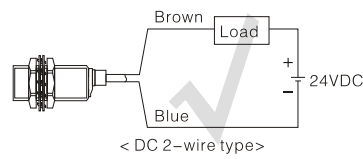
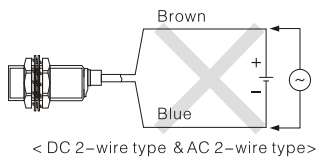


DC 2-wire



Proper usage

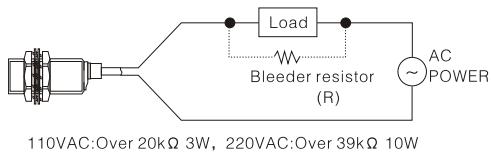
Load connections



When using C2-wire or AC2-wire type proximity switch, the load must be connected otherwise internal components may be damaged, And the load can be connected to other wire.

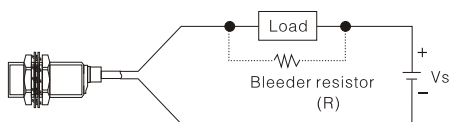
In case of the load current is small

AC 2-wire type



It may cause return failure of load by residual voltage. If the load current is under 5mA, please make sure the residual voltage is less than the return voltage of the load by connecting a bleeder resistor in parallel with the load as shown in the diagram.

DC 2-wire type



Please make the current on proximity switch smaller than the return current of load by connecting a bleeder resistor in parallel.

※ W value of Bleeder resistor should be bigger for pro

$$R \leq \frac{V_s}{I_o - I_{off}} \text{ (k}\Omega\text{)}$$

V_s : Power supply
 P : Bleeder resistor, number of W

$$P > \frac{V_s^2}{R} \text{ (mW)}$$

I_o : Operating current 2mA of proximity switch
 I_{off} : Return current of load