

Sensing the dream



## Photoelectric sensors

Diffuse reflection

Retro reflection

Through beam

Polarized reflection

Background suppression



Shanghai Lanbao Sensing Technology Co., Ltd.



## **LANBAO SENSOR** complete solution for the sensors

Established in 1998, Shanghai Lanbao Sensing Technology Co., Ltd. is a leading industrial automation products supplier in China. Our main businesses are industrial sensors R&D, production, sales and application, providing customers with standard and individual products and systems. Lanbao industrial sensors cover over 30 series, 3000 specifications, main products are inductive sensors, photoelectric sensors, capacitive sensors and pressure sensors. Lanbao has been making continuous breakthrough in new technology and new material application, which laid the foundation of its leading position in sensing technology.

Lanbao is an ISO9001:2008 quality management system and EU RoHS environmental directives implemented enterprise. Our series products are with CE, UL and CCC certification. The strict tests in function, quality, reliability and production feasibility at the design stage of each product and the strict quality management in production ensure excellent quality products.

Focus on innovation, quality, service and global market, Lanbao insists on creating maximal value for customers.

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# Photoelectric sensors

In the long list you may find cylinder shape with size from M12 to M30 and two housing materials (plastic and metal) optional. Also, we provide various multifunctional square switches.

Detection mode: diffuse reflection, through beam reflection and retro-reflection.





# Photoelectric sensors

## Diffuse reflection

- The sensor transmitter and the receiver is placed integrally, more economic
- Sensing range adjustable, easy to install, suitable for small space application
- Metal and plastic housing available



## Retro reflection

- Direct reflection, high detection precision
- Adjustable sensing range, easy to install, stable performance regardless of target shape, color and material
- Metal and plastic housing available



## Through beam

- Long sensing range, be able to detect small target, high detection precision
- Stable performance regardless of target shape, color and material
- Strong anti-jamming capability, suitable for various applications

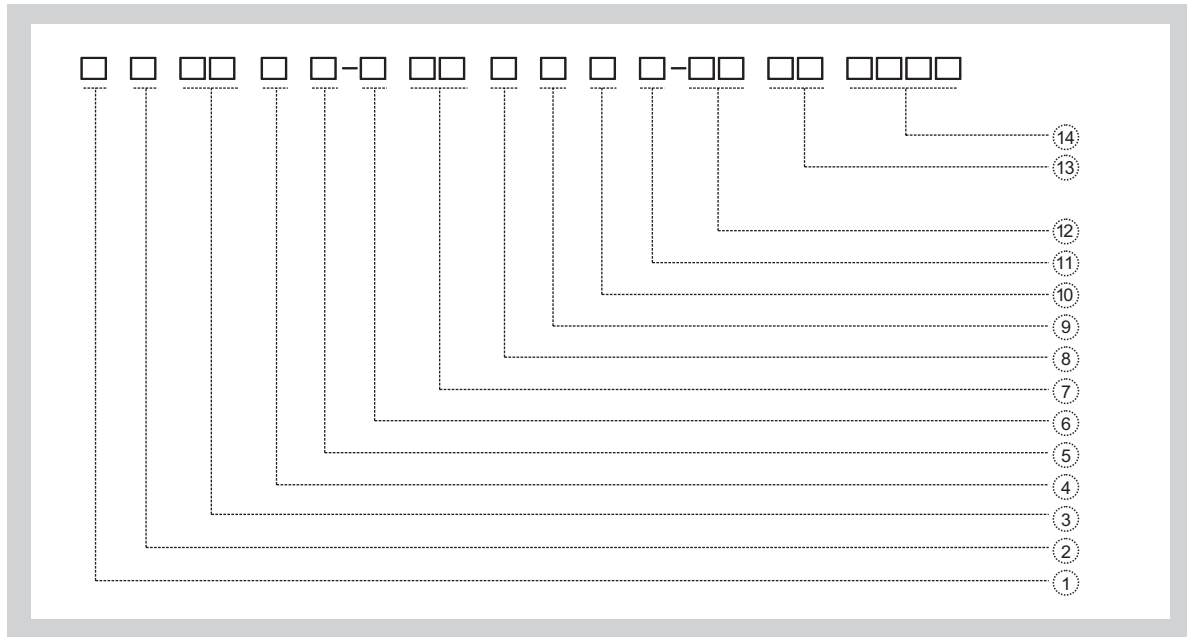


## Background suppression

- No sensing range decrement, regardless of target color and material
- Sensing range adjustable, easy to install, stable performance
- Strong anti-jamming capability, suitable for various applications



## Naming rules



### 1. Type Code

P:Photoelectric

### 2. Shape Code

R:Threaded Cylindrical  
U:U-Shaped  
Q:Smooth Cylindrical  
2 letters:  
Rectangular Housing Code  
TF TL SB SI  
TA TC SL SD SF SC

### 3. Size Code

Number:Housing diameter  
e.g: 08:M8

### 4. Housing Material

N/A:Copper  
S:Plastic

### 5. Housing Length

N/A:Standard  
Short:S  
Long:L

### 6. Mounting

B:Diffuse Reflection  
D:Retro Reflection  
P:Polarized Reflection  
S:Focus Reflection  
T:Through Beam Reflection  
M:Mark Detect  
Y:Background Suppression

### 7. Sensing Distance

C10:10cm  
C40:40cm  
M5:5m  
M10:10m

### 8. Supply Voltage

A:20...250VAC  
A1:110VAC  
A2:220VAC  
B:90...250VAC  
C:380VAC  
D:10...30VDC  
E:10...60VDC  
I:10...40VDC  
J:5VDC  
S:12...240VDC/24...240VAC

T:12...24VDC

R: 10-36VDC

G: 5-60VDC

V: 18-30VDC

N:15-60VDC

Q: 12-24VAC/DC

### 9. Output Way

T:AC 2 wires

P:PNP

N:NPN

E:NPN/PNP

F:NPN+PNP

K:Relay

C:Pull-Push

### 10. Output Status

O:NO

C:NC

R:NO+NC

A:NO/NC Reversible

B:NO/NC Optional

Cable Optional>Potentiometer optional

Note:Relay output is optional

### 11. Time Delay Status

N/A:Without Time Delay Function

T1:With Previous Time Delay Function

T2:With Later Time Delay Function

T3:With Previous/Later Time Delay Function

### 12. Cable Length

N/A:2m

3M:3m

### 13. Connection

N/A:2M cable

E1:M8 connector (3 pins)

E2:M12 connector (4 pins)

E3:M8 trapezoid connector (4 pins)

E4:M12 trapezoid connector (4 pins)

E5:M12 connector (5 pins)

D:Terminal

### 14. Special Requirement

In 4 Digits

## Wiring diagram

Emitter	Lead wire	M8 Connector	M12 Connector	Terminal connect
DC				
AC/DC				

DC 3 Wires	Lead wire	M8 Connector	M12 Connector	Terminal connect
NPN NO				
NPN NC				
PNP NO				
PNP NC				

DC 4 Wires	Lead wire	M12 Connector	Terminal connect
NPN NO+NC			
PNP NO+NC			

# Photoelectric sensors

AC 2 Wires	Lead wire	M12 Connector	Terminal connect
SCR NO			
SCR NC			

AC/DC 5 Wires	Lead wire	Terminal connect
Relay		

NPN(selectable)	Lead wire	M12 Connector

PNP(selectable)	Lead wire	M12 Connector

NPN/PNP (selectable)	Lead wire

Remarks	M8 Connector	M12 Connector	M12 Connector
Connector			

## Diffuse reflection metal type

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Model	Output	Supply Voltage	Sensing Mode	Sensing Distance	Specifications	Housing Material	Connection
DC 3/4 Wires <span style="float: right;">P. 21</span>							
PR12	DC 3 Wires	DC10-30V	Diffuse reflection	15cm	M12*1*50	Nickel-copper Alloy	Cable
PR12	DC 3 Wires	DC10-30V	Diffuse reflection	15cm	M12*1*50	Nickel-copper Alloy	M12 Connector
PR18	DC 3/4 Wires	DC10-30V	Diffuse reflection	10cm , 40cm	M18*1*30	Nickel-copper Alloy	Cable
PR18	DC 3/4 Wires	DC10-30V	Diffuse reflection	10cm , 40cm	M18*1*30	Nickel-copper Alloy	M12 Connector
PR18G	DC 3/4 Wires	DC10-30V	Diffuse reflection	10cm , 40cm	M18*1*30	Nickel-copper Alloy	Cable
PR18G	DC 3/4 Wires	DC10-30V	Diffuse reflection	10cm , 40cm	M18*1*30	Nickel-copper Alloy	M12 Connector
PR30	DC 3/4 Wires	DC10-30V	Diffuse reflection	50cm , 100cm	M30*1.5*50	Nickel-copper Alloy	Cable
PR30	DC 3/4 Wires	DC10-30V	Diffuse reflection	50cm , 100cm	M30*1.5*50	Nickel-copper Alloy	M12 Connector

## AC 2 Wires

P. 25

PR18	AC 2 Wires	AC20-250V	Diffuse reflection	10cm , 40cm	M18*1*46.5	Nickel-copper Alloy	Cable
PR18	AC 2 Wires	AC20-250V	Diffuse reflection	10cm , 40cm	M18*1*46.5	Nickel-copper Alloy	M12 Connector
PR18G	AC 2 Wires	AC20-250V	Diffuse reflection	10cm , 40cm	M18*1*46.5	Nickel-copper Alloy	Cable
PR18G	AC 2 Wires	AC20-250V	Diffuse reflection	10cm , 40cm	M18*1*46.5	Nickel-copper Alloy	M12 Connector
PR30	AC 2 Wires	AC20-250V	Diffuse reflection	50cm , 100cm	M30*1.5*50	Nickel-copper Alloy	Cable
PR30	AC 2 Wires	AC20-250V	Diffuse reflection	50cm , 100cm	M30*1.5*50	Nickel-copper Alloy	M12 Connector

## Diffuse reflection plastic type

P. 28

Model	Output	Supply Voltage	Sensing Mode	Sensing Distance	Specifications	Housing Material	Connection
DC 3/4 Wires <span style="float: right;">P. 28</span>							
PR12S	DC 3 Wires	DC10-30V	Diffuse reflection	15cm	M12*1*50	PBT	Cable
PR12S	DC 3 Wires	DC10-30V	Diffuse reflection	15cm	M12*1*50	PBT	M12 Connector
PR18S	DC 3/4 Wires	DC10-30V	Diffuse reflection	10cm , 40cm	M18*1*30	PBT	Cable
PR18S	DC 3/4 Wires	DC10-30V	Diffuse reflection	10cm , 40cm	M18*1*30	PBT	M12 Connector
PR18GS	DC 3/4 Wires	DC10-30V	Diffuse reflection	10cm , 40cm	M18*1*30	PBT	Cable
PR18GS	DC 3/4 Wires	DC10-30V	Diffuse reflection	10cm , 40cm	M18*1*30	PBT	M12 Connector
PR30S	DC 3/4 Wires	DC10-30V	Diffuse reflection	50cm , 100cm	M30*1.5*60	PBT	Cable
PR30S	DC 3/4 Wires	DC10-30V	Diffuse reflection	50cm , 100cm	M30*1.5*60	PBT	M12 Connector



# Photoelectric sensors

Model	Output	Supply Voltage	Sensing Mode	Sensing Distance	Specifications	Housing Material	Connection
<b>AC 2 Wires</b>							P. 32
PR18S	AC 2 Wires	AC20-250V	Diffuse reflection	10cm , 40cm	M18*1*46.5	PBT	Cable
PR18S	AC 2 Wires	AC20-250V	Diffuse reflection	10cm , 40cm	M18*1*46.5	PBT	M12 Connector
PR18GS	AC 2 Wires	AC20-250V	Diffuse reflection	10cm , 40cm	M18*1*46.5	PBT	Cable
PR18GS	AC 2 Wires	AC20-250V	Diffuse reflection	10cm , 40cm	M18*1*46.5	PBT	M12 Connector
PR30S	AC 2 Wires	AC20-250V	Diffuse reflection	50cm , 100cm	M30*1.5*60	PBT	Cable
PR30S	AC 2 Wires	AC20-250V	Diffuse reflection	50cm , 100cm	M30*1.5*60	PBT	M12 Connector

## Diffuse reflection rectangular type

P. 35

Model	Output	Supply Voltage	Sensing Mode	Sensing Distance	Housing Material	Connection	
<b>DC 3/4 Wires</b>							P. 35
PBA	DC 3 Wires	DC12-24V	Diffuse reflection	2m	PC/ABS	Cable	
PSI	DC 3/4 Wires	DC10-30V	Diffuse reflection	30cm	ABS	Cable	
PSD	DC4 Wires	DC10-30V	Diffuse reflection	30cm	ABS	Cable	
PSC	DC 3 Wires	DC12-24V	Diffuse reflection	30cm , 100cm	PC/ABS	Cable	
PSC	DC 3 Wires	DC12-24V	Diffuse reflection	30cm , 100cm	PC/ABS	M8 Connector	
PSF	DC 3/4 Wires	DC12-24V	Diffuse reflection	30cm , 80cm	PC/ABS	Cable	
PSF	DC 3/4 Wires	DC12-24V	Diffuse reflection	30cm , 80cm	PC/ABS	M8 Connector	
PTE	DC 4 Wires	DC10-30V	Diffuse reflection	30cm , 200cm	PC/ABS	Cable	
PTE	DC 4 Wires	DC10-30V	Diffuse reflection	30cm , 200cm	PC/ABS	M12 Connector	
PTF	DC 3/4 Wires	DC10-30V	Diffuse reflection	50cm , 100cm	PC/ABS	Cable	
PTF	DC 3/4 Wires	DC10-30V	Diffuse reflection	50cm , 100cm	PC/ABS	M12 Connector	
PTL	DC 4 Wires	DC10-30V	Diffuse reflection	80cm , 200cm	PC/ABS	Terminal connect	

## AC/DC 5 Wires

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PTE	AC/DC 5 Wires	24-240VAC/DC	Diffuse reflection	30cm , 200cm	PC/ABS	Cable
PTE	AC/DC 5 Wires	24-240VAC/DC	Diffuse reflection	30cm , 200cm	PC/ABS	M12 Connector
PTF	AC/DC 5 Wires	20-240VAC/12-240VDC	Diffuse reflection	50cm , 100cm	PC/ABS	Cable
PTL	AC/DC 5 Wires	20-240VAC/12-240VDC	Diffuse reflection	80cm , 200cm	PC/ABS	Terminal connect

## Retro reflection metal type

P. 44

Model	Output	Supply Voltage	Sensing Mode	Sensing Distance	Specifications	Housing Material	Connection
DC 3/4 Wires <span style="float: right;">P. 44</span>							
PR18	DC 3/4 Wires	DC10-30V	Retro reflection	3m	M18*1*30	Nickel-copper Alloy	Cable
PR18	DC 3/4 Wires	DC10-30V	Retro reflection	3m	M18*1*30	Nickel-copper Alloy	M12 Connector
PR18G	DC 3/4 Wires	DC10-30V	Retro reflection	3m	M18*1*30	Nickel-copper Alloy	Cable
PR18G	DC 3/4 Wires	DC10-30V	Retro reflection	3m	M18*1*30	Nickel-copper Alloy	M12 Connector
PR30	DC 3/4 Wires	DC10-30V	Retro reflection	5m	M30*1.5*50	Nickel-copper Alloy	Cable
PR30	DC 3/4 Wires	DC10-30V	Retro reflection	5m	M30*1.5*50	Nickel-copper Alloy	M12 Connector

## AC 2 Wires

P. 447

PR18	AC 2 Wires	AC20-250V	Retro reflection	3m	M18*1*46.5	Nickel-copper Alloy	Cable
PR18	AC 2 Wires	AC20-250V	Retro reflection	3m	M18*1*46.5	Nickel-copper Alloy	M12 Connector
PR18G	AC 2 Wires	AC20-250V	Retro reflection	3m	M18*1*46.5	Nickel-copper Alloy	Cable
PR18G	AC 2 Wires	AC20-250V	Retro reflection	3m	M18*1*46.5	Nickel-copper Alloy	M12 Connector
PR30	AC 2 Wires	AC20-250V	Retro reflection	5m	M30*1.5*60	Nickel-copper Alloy	Cable
PR30	AC 2 Wires	AC20-250V	Retro reflection	5m	M30*1.5*60	Nickel-copper Alloy	M12 Connector

## Retro reflection plastic type

P. 51

Model	Output	Supply Voltage	Sensing Mode	Sensing Distance	Specifications	Housing Material	Connection
DC 3/4 Wires <span style="float: right;">P. 51</span>							
PR18S	DC 3/4 Wires	DC10-30V	Retro reflection	3m	M18*1*30	PBT	Cable
PR18S	DC 3/4 Wires	DC10-30V	Retro reflection	3m	M18*1*30	PBT	M12 Connector
PR18GS	DC 3/4 Wires	DC10-30V	Retro reflection	3m	M18*1*30	PBT	Cable
PR18GS	DC 3/4 Wires	DC10-30V	Retro reflection	3m	M18*1*30	PBT	M12 Connector
PR30S	DC 3/4 Wires	DC10-30V	Retro reflection	5m	M30*1.5*60	PBT	Cable
PR30S	DC 3/4 Wires	DC10-30V	Retro reflection	5m	M30*1.5*60	PBT	M12 Connector

# Photoelectric sensors

Model	Output	Supply Voltage	Sensing Mode	Sensing Distance	Specifications	Housing Material	Connection
<b>AC 2 Wires</b>							P. 53
PR18S	AC 2 Wires	AC20-250V	Retro reflection	3m	M18*1*46.5	PBT	Cable
PR18S	AC 2 Wires	AC20-250V	Retro reflection	3m	M18*1*46.5	PBT	M12 Connector
PR18GS	AC 2 Wires	AC20-250V	Retro reflection	3m	M18*1*46.5	PBT	Cable
PR18GS	AC 2 Wires	AC20-250V	Retro reflection	3m	M18*1*46.5	PBT	M12 Connector
PR30S	AC 2 Wires	AC20-250V	Retro reflection	5m	M30*1.5*60	PBT	Cable
PR30S	AC 2 Wires	AC20-250V	Retro reflection	5m	M30*1.5*60	PBT	M12 Connector

## Retro reflection rectangular type

P. 56

Model	Output	Supply Voltage	Sensing Mode	Sensing Distance	Housing Material	Connection	
<b>DC 3/4 Wires</b>							P. 56
PSF	DC 3/4 Wires	DC12-24V	Retro reflection	2m	PC/ABS	Cable	
PSF	DC 3/4 Wires	DC12-24V	Retro reflection	2m	PC/ABS	M8 Connector	
PTF	DC 3/4 Wires	DC10-30V	Retro reflection	3m , 5m	PC/ABS	Cable	
PTF	DC 3/4 Wires	DC10-30V	Retro reflection	3m , 5m	PC/ABS	M12 Connector	
PTL	DC 4 Wires	DC10-30V	Retro reflection	5m	PC/ABS	Terminal connect	
<b>AC/DC 5 Wires</b>							P. 59
PTF	AC/DC 5 Wires	20-240VAC/12-240VDC	Retro reflection	3m , 5m	PC/ABS	Cable	
PTL	AC/DC 5 Wires	20-240VAC/12-240VDC	Retro reflection	5m	PC/ABS	Terminal connect	

# Photoelectric sensors

## Through beam metal type

P. 60

Model	Output	Supply Voltage	Sensing Mode	Sensing Distance	Specifications	Housing Material	Connection
DC 3/4 Wires <span style="float: right;">P. 60</span>							
PR12	DC 3 Wires	DC10-30V	Through beam	5m, 10m	M12*1*50	Nickel-copper Alloy	Cable
PR12	DC 3 Wires	DC10-30V	Through beam	5m, 10m	M12*1*50	Nickel-copper Alloy	M12 Connector
PR18	DC 3/4 Wires	DC10-30V	Through beam	10m , 20m	M18*1*30	Nickel-copper Alloy	Cable
PR18	DC 3/4 Wires	DC10-30V	Through beam	10m , 20m	M18*1*30	Nickel-copper Alloy	M12 Connector
PR18G	DC 3/4 Wires	DC10-30V	Through beam	10m , 20m	M18*1*30	Nickel-copper Alloy	Cable
PR18G	DC 3/4 Wires	DC10-30V	Through beam	10m , 20m	M18*1*30	Nickel-copper Alloy	M12 Connector
PR30	DC 3/4 Wires	DC10-30V	Through beam	20m , 40m	M30*1.5*50	Nickel-copper Alloy	Cable
PR30	DC 3/4 Wires	DC10-30V	Through beam	20m , 40m	M30*1.5*50	Nickel-copper Alloy	M12 Connector
PR30L	DC 3/4 Wires	DC10-30V	Through beam	100m , 150m	M30*1.5*80	Nickel-copper Alloy	Cable

## AC 2 Wires

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PR18	AC 2 Wires	AC20-250V	Through beam	10m	M18*1*46.5	Nickel-copper Alloy	Cable
PR18	AC 2 Wires	AC20-250V	Through beam	10m	M18*1*46.5	Nickel-copper Alloy	M12 Connector
PR18G	AC 2 Wires	AC20-250V	Through beam	10m	M18*1*46.5	Nickel-copper Alloy	Cable
PR18G	AC 2 Wires	AC20-250V	Through beam	10m	M18*1*46.5	Nickel-copper Alloy	M12 Connector
PR30	AC 2 Wires	AC20-250V	Through beam	20m	M30*1.5*60	Nickel-copper Alloy	Cable
PR30	AC 2 Wires	AC20-250V	Through beam	20m	M30*1.5*60	Nickel-copper Alloy	M12 Connector

## Through beam plastic type

P. 72

Model	Output	Supply Voltage	Sensing Mode	Sensing Distance	Specifications	Housing Material	Connection
DC 3/4 Wires <span style="float: right;">P. 72</span>							
PR12S	DC 3/4 Wires	DC10-30V	Through beam	5m, 10m	M12*1*50	PBT	Cable
PR12S	DC 3/4 Wires	DC10-30V	Through beam	5m, 10m	M12*1*50	PBT	M12 Connector
PR18S	DC 3/4 Wires	DC10-30V	Through beam	10m,20m	M18*1*30	PBT	Cable
PR18S	DC 3/4 Wires	DC10-30V	Through beam	10m,20m	M18*1*30	PBT	M12 Connector
PR18GS	DC 3/4 Wires	DC10-30V	Through beam	10m,20m	M18*1*30	PBT	Cable

# Photoelectric sensors

Model	Output	Supply Voltage	Sensing Mode	Sensing Distance	Specifications	Housing Material	Connection
DC 3/4 Wires							P. 72
PR18GS	DC 3/4 Wires	DC10-30V	Through beam	10m,20m	M18*1*30	PBT	M12 Connector
PR30S	DC 3/4 Wires	DC10-30V	Through beam	20m,40m	M30*1.5*60	PBT	Cable
PR30S	DC 3/4 Wires	DC10-30V	Through beam	20m,40m	M30*1.5*60	PBT	M12 Connector
PR30SL	DC 3/4 Wires	DC10-30V	Through beam	100m , 150m	M30*1.5*80	PBT	Cable

AC 2线							P. 81
PR18S	AC 2 Wires	AC20-250V	Through beam	10m	M18*1*46.5	PBT	Cable
PR18S	AC 2 Wires	AC20-250V	Through beam	10m	M18*1*46.5	PBT	M12 Connector
PR18GS	AC 2 Wires	AC20-250V	Through beam	10m	M18*1*46.5	PBT	Cable
PR18GS	AC 2 Wires	AC20-250V	Through beam	10m	M18*1*46.5	PBT	M12 Connector
PR30S	AC 2 Wires	AC20-250V	Through beam	20m	M30*1.5*60	PBT	Cable
PR30S	AC 2 Wires	AC20-250V	Through beam	20m	M30*1.5*60	PBT	M12 Connector

## Through beam rectangular type

P. 84

Model	Output	Supply Voltage	Sensing Mode	Sensing Distance	Housing Material	Connection	
DC 3/4 Wires							P. 84
PSB	DC 3 Wires	DC10-30V	Through beam	3m	ABS	Cable	
PSB	DC 3 Wires	DC10-30V	Through beam	3m	ABS	M8 Connector	
PSI	DC 3/4 Wires	DC10-30V	Through beam	5m , 10m	ABS	Cable	
PSD	DC 4 Wires	DC10-30V	Through beam	5m , 10m	PC/ABS	Cable	
PSJ	DC 3 Wires	DC12-24V	Through beam	1.5m	PC/ABS	Cable	
PSC	DC 3 Wires	DC12-24V	Through beam	5m , 15m , 30m	PC/ABS	Cable	
PSC	DC 3 Wires	DC12-24V	Through beam	5m , 15m , 30m	PC/ABS	M8 Connector	
PSF	DC 3/4 Wires	DC12-24V	Through beam	5m , 10m	PC/ABS	Cable	
PSF	DC 3/4 Wires	DC12-24V	Through beam	5m , 10m	PC/ABS	M8 Connector	
PTE	DC 4 Wires	DC10-30V	Through beam	60m	PC/ABS	Cable	
PTE	DC 4 Wires	DC10-30V	Through beam	60m	PC/ABS	M12 Connector	
PTF	DC 3/4 Wires	DC10-30V	Through beam	10m , 20m	PC/ABS	Cable	
PTF	DC 3/4 Wires	DC10-30V	Through beam	10m , 20m	PC/ABS	M12 Connector	
PTL	DC 4 Wires	DC10-30V	Through beam	20m , 40m	PC/ABS	Terminal connect	



# Photoelectric sensors

Model	Output	Supply Voltage	Sensing Mode	Sensing Distance	Housing Material	Connection
AC/DC 5 Wires						P. 98
PTE	AC/DC 5 Wires	24-240VAC/DC	Through beam	60m	PC/ABS	Cable
PTE	AC/DC 5 Wires	24-240VAC/DC	Through beam	60m	PC/ABS	M12 Connector
PTF	AC/DC 5 Wires	20-240VAC/12-240VDC	Through beam	10m , 20m	PC/ABS	Cable
PTL	AC/DC 5 Wires	20-240VAC/12-240VDC	Through beam	20m , 30m	PC/ABS	Terminal connect
U-Type						P. 101
PU07	DC 3 Wires	DC10-30V	Through beam	7mm	PBT	Cable
PU15	DC 3 Wires	DC10-30V	Through beam	15mm	PBT	Cable
PU30	DC 3/4 Wires	DC10-30V	Through beam	30mm	Aluminum alloy	Cable

## Polarized reflection

P. 103

Model	Output	Supply Voltage	Sensing Mode	Sensing Distance	Housing Material	Connection
DC 3/4 Wires						P. 103
PSD	DC 4 Wires	DC10-30V	Polarized reflection	2m	ABS	Cable
PSC	DC 3 Wires	DC12-24V	Polarized reflection	4m	PC/ABS	Cable
PSC	DC 3 Wires	DC12-24V	Polarized reflection	4m	PC/ABS	M8 Connector
PSF	DC 3/4 Wires	DC12-24V	Polarized reflection	2m	PC/ABS	Cable
PSF	DC 3/4 Wires	DC12-24V	Polarized reflection	2m	PC/ABS	M8 Connector
PTE	DC 4 Wires	DC10-30V	Polarized reflection	5m	PC/ABS	Cable
PTE	DC 4 Wires	DC10-30V	Polarized reflection	5m	PC/ABS	M12 Connector
PTF	DC 3/4 Wires	DC10-30V	Polarized reflection	5m	PC/ABS	Cable
PTF	DC 3/4 Wires	DC10-30V	Polarized reflection	5m	PC/ABS	M12 Connector
PSD	DC 4 Wires	DC10-30V	Polarized reflection	2m	ABS	Cable
PTL	DC 4 Wires	DC10-30V	Polarized reflection	12m	PC/ABS	Terminal connect

# Photoelectric sensors

## AC/DC 5 Wires

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PTE	AC/DC 5 Wires	24-240VAC/DC	Polarized reflection	5m	PC/ABS	Cable
PTE	AC/DC 5 Wires	24-240VAC/DC	Polarized reflection	5m	PC/ABS	M12 Connector
PTF	AC/DC 5 Wires	20-240VAC/12-240VDC	Polarized reflection	5m	PC/ABS	Cable
PTL	AC/DC 5 Wires	20-240VAC/12-240VDC	Polarized reflection	12m	PC/ABS	Terminal connect

## Background suppression metal type

P. 111

Model	Output	Supply Voltage	Sensing Mode	Sensing Distance	Specifications	Housing Material	Connection
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### DC 3/4 Wires

P. 111

PR18	DC 4 Wires	DC10-30V	Background suppression	10cm	M18*1*50	Nickel-copper Alloy	Cable
PR18	DC 4 Wires	DC10-30V	Background suppression	10cm	M18*1*50	Nickel-copper Alloy	M12 Connector
PSE	DC 3/4 Wires	DC12-24V	Background suppression	8cm	27*20*14	ABS	Cable
PSE	DC 3/4 Wires	DC12-24V	Background suppression	8cm	27*20*14	ABS	M8 Connector
PSC	DC 3/4 Wires	DC12-24V	Background suppression	35cm	31*20*11	PC/ABS	Cable
PSC	DC 3/4 Wires	DC12-24V	Background suppression	35cm	31*20*11	PC/ABS	M8 Connector

## Background suppression rectangular type

P. 113

Model	Output	Supply Voltage	Sensing Mode	Sensing Distance	Housing Material	Connection
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### DC 5 Wires

P. 113

PTB	DC 5 Wires	10-30VDC	Background suppression	2m	ABS	Cable
PTB	DC 5 Wires	10-30VDC	Background suppression	2m	ABS	M12 Connector

Item Code	PR12	PR12
Sensing mode	Diffuse reflection	Diffuse reflection
Sensing distance	15cm ( Adjustable )	15cm ( Adjustable )

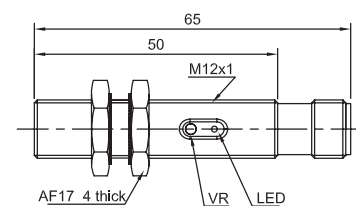
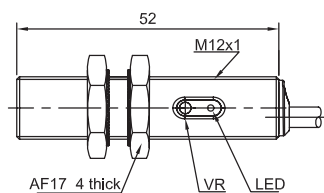


Output	NPN NO	PR12-BC15DNO	PR12-BC15DNO-E2
	NPN NC	PR12-BC15DNC	PR12-BC15DNC-E2
Output	PNP NO	PR12-BC15DPO	PR12-BC15DPO-E2
	PNP NC	PR12-BC15DPC	PR12-BC15DPC-E2

### Technical Parameter

Supply voltage	10...30 VDC	10...30 VDC
Light source	Infrared LED ( 880nm )	Infrared LED ( 880nm )
Load current	<200mA	<200mA
Voltage drop	<2.5V	<2.5V
Consumption current	<25mA	<25mA
Hysteresis	3...20%	3...20%
Repeat accuracy	<5%	<5%
Response time	< 8.2ms	< 8.2ms
Output indicator	Yellow LED	Yellow LED
Polarity protection	yes	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	yes	yes
Ambient temperature	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%
Protection degree	Ip67	IP67
Housing material	Nickel-copper Alloy	Nickel-copper Alloy
Connection	2m PVC Cable	M12 Connector
Certification	CE	CE

\* Cable material and length can be customized



Item Code	PR18		PR18	
Sensing mode	Diffuse reflection		Diffuse reflection	
Sensing distance	10cm ( Non-adjustable )	40cm ( Adjustable )	10cm ( Non-adjustable )	40cm ( Adjustable )

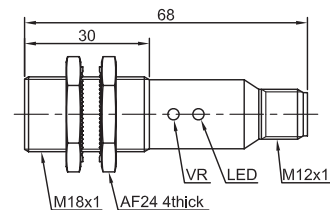
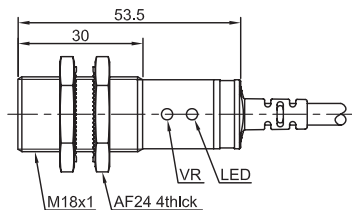


Output	NPN NO	PR18-BC10DNO	PR18-BC40DNO	PR18-BC10DNO-E2	PR18-BC40DNO-E2
	NPN NC	PR18-BC10DNC	PR18-BC40DNC	PR18-BC10DNC-E2	PR18-BC40DNC-E2
	NPN NO+NC	PR18-BC10DNR	PR18-BC40DNR	PR18-BC10DNR-E2	PR18-BC40DNR-E2
Output	PNP NO	PR18-BC10DPO	PR18-BC40DPO	PR18-BC10DPO-E2	PR18-BC40DPO-E2
	PNP NC	PR18-BC10DPC	PR18-BC40DPC	PR18-BC10DPC-E2	PR18-BC40DPC-E2
	PNP NO+NC	PR18-BC10DPR	PR18-BC40DPR	PR18-BC10DPR-E2	PR18-BC40DPR-E2

### Technical Parameter

Supply voltage	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC
Light source	Infrared LED ( 880nm )	Infrared LED ( 880nm )	Infrared LED ( 880nm )	Infrared LED ( 880nm )
Load current	<200mA	<200mA	<200mA	<200mA
Voltage drop	<2.5V	<2.5V	<2.5V	<2.5V
Consumption current	<25mA	<25mA	<25mA	<25mA
Hysteresis	3...20%	3...20%	3...20%	3...20%
Repeat accuracy	<5%	<5%	<5%	<5%
Response time	< 8.2ms	< 8.2ms	< 8.2ms	< 8.2ms
Output indicator	Yellow LED	Yellow LED	Yellow LED	Yellow LED
Polarity protection	yes	yes	yes	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	yes	yes	yes	yes
Ambient temperature	-15...+55°C	-15...+55°C	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	Ip67	Ip67	IP67	IP67
Housing material	Nickel-copper Alloy	Nickel-copper Alloy	Nickel-copper Alloy	Nickel-copper Alloy
Connection	2m PVC Cable	2m PVC Cable	M12 Connector	M12 Connector
Certification	CE U <sub>L</sub>	CE U <sub>L</sub>	CE U <sub>L</sub>	CE U <sub>L</sub>

\* Cable material and length can be customized



Item Code	PR18G		PR18G	
Sensing mode	Diffuse reflection		Diffuse reflection	
Sensing distance	10cm ( Non-adjustable )	40cm ( Adjustable )	10cm ( Non-adjustable )	40cm ( Adjustable )

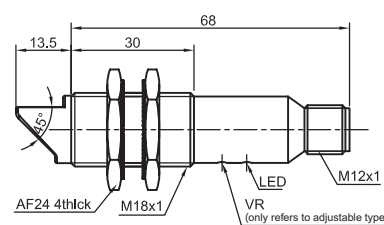
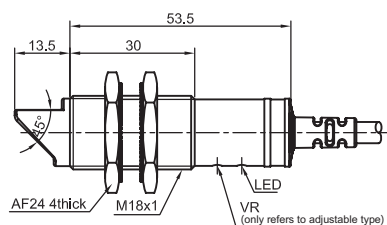


Output	NPN NO	PR18G-BC10DNO	PR18G-BC40DNO	PR18G-BC10DNO-E2	PR18G-BC40DNO-E2
	NPN NC	PR18G-BC10DNC	PR18G-BC40DNC	PR18G-BC10DNC-E2	PR18G-BC40DNC-E2
	NPN NO+NC	PR18G-BC10DNR	PR18G-BC40DNR	PR18G-BC10DNR-E2	PR18G-BC40DNR-E2
Output	PNP NO	PR18G-BC10DPO	PR18G-BC40DPO	PR18G-BC10DPO-E2	PR18G-BC40DPO-E2
	PNP NC	PR18G-BC10DPC	PR18G-BC40DPC	PR18G-BC10DPC-E2	PR18G-BC40DPC-E2
	PNP NO+NC	PR18G-BC10DPR	PR18G-BC40DPR	PR18G-BC10DPR-E2	PR18G-BC40DPR-E2

### Technical Parameter

Supply voltage	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC
Light source	Infrared LED ( 880nm )	Infrared LED ( 880nm )	Infrared LED ( 880nm )	Infrared LED ( 880nm )
Load current	<200mA	<200mA	<200mA	<200mA
Voltage drop	<2.5V	<2.5V	<2.5V	<2.5V
Consumption current	<25mA	<25mA	<25mA	<25mA
Hysteresis	3...20%	3...20%	3...20%	3...20%
Repeat accuracy	<5%	<5%	<5%	<5%
Response time	< 8.2ms	< 8.2ms	< 8.2ms	< 8.2ms
Output indicator	Yellow LED	Yellow LED	Yellow LED	Yellow LED
Polarity protection	yes	yes	yes	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	yes	yes	yes	yes
Ambient temperature	-15...+55°C	-15...+55°C	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP65	IP65	IP65	IP65
Housing material	Nickel-copper Alloy	Nickel-copper Alloy	Nickel-copper Alloy	Nickel-copper Alloy
Connection	2m PVC Cable	2m PVC Cable	M12 Connector	M12 Connector
Certification	CE U <sub>L</sub>	CE U <sub>L</sub>	CE U <sub>L</sub>	CE U <sub>L</sub>

\* Cable material and length can be customized





Item Code	PR30		PR30	
Sensing mode	Diffuse reflection		Diffuse reflection	
Sensing distance	50cm ( Adjustable )	100cm ( Adjustable )	50cm ( Adjustable )	100cm ( Adjustable )

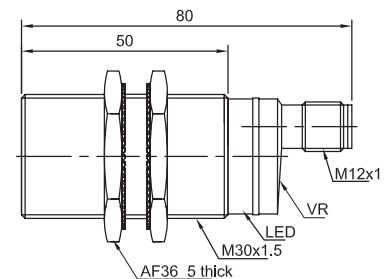
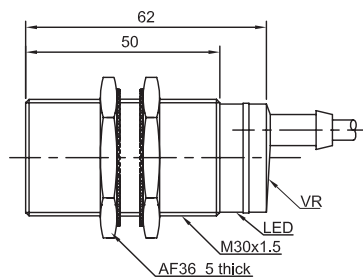


Output	NPN NO	PR30-BC50DNO	PR30-BC100DNO	PR30-BC50DNO-E2	PR30-BC100DNO-E2
	NPN NC	PR30-BC50DNC	PR30-BC100DNC	PR30-BC50DNC-E2	PR30-BC100DNC-E2
	NPN NO+NC	PR30-BC50DNR	PR30-BC100DNR	PR30-BC50DNR-E2	PR30-BC100DNR-E2
Output	PNP NO	PR30-BC50DPO	PR30-BC100DPO	PR30-BC50DPO-E2	PR30-BC100DPO-E2
	PNP NC	PR30-BC50DPC	PR30-BC100DPC	PR30-BC50DPC-E2	PR30-BC100DPC-E2
	PNP NO+NC	PR30-BC50DPR	PR30-BC100DPR	PR30-BC50DPR-E2	PR30-BC100DPR-E2

### Technical Parameter

Supply voltage	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC
Light source	Infrared LED ( 880nm )	Infrared LED ( 880nm )	Infrared LED ( 880nm )	Infrared LED ( 880nm )
Load current	<200mA	<200mA	<200mA	<200mA
Voltage drop	<2.5V	<2.5V	<2.5V	<2.5V
Consumption current	<25mA	<25mA	<25mA	<25mA
Hysteresis	3...20%	3...20%	3...20%	3...20%
Repeat accuracy	<5%	<5%	<5%	<5%
Response time	<8.2ms	<8.2ms	<8.2ms	<8.2ms
Output indicator	Yellow LED	Yellow LED	Yellow LED	Yellow LED
Polarity protection	yes	yes	yes	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	yes	yes	yes	yes
Ambient temperature	-15...+55°C	-15...+55°C	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	Ip67	Ip67	Ip67	Ip67
Housing material	Nickel-copper Alloy	Nickel-copper Alloy	Nickel-copper Alloy	Nickel-copper Alloy
Connection	2m PVC Cable	2m PVC Cable	M12 Connector	M12 Connector
Certification	CE	CE	CE	CE

\* Cable material and length can be customized



Item Code	PR18		PR18	
Sensing mode	Diffuse reflection		Diffuse reflection	
Sensing distance	10cm ( Non-adjustable )	40cm ( Adjustable )	10cm ( Non-adjustable )	40cm ( Adjustable )

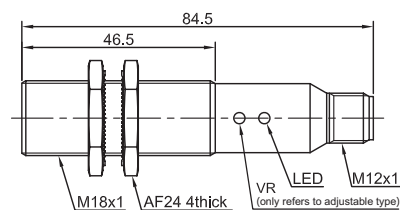
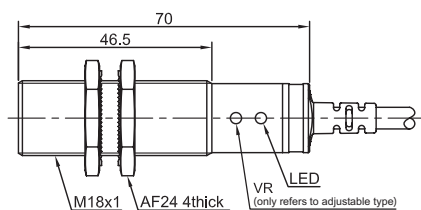


Output	AC 2 Wires NO	PR18-BC10ATO	PR18-BC40ATO	PR18-BC10ATO-E2	PR18-BC40ATO-E2
	AC 2 Wires NC	PR18-BC10ATC	PR18-BC40ATC	PR18-BC10ATC-E2	PR18-BC40ATC-E2

### Technical Parameter

Supply voltage	20...250 VAC	20...250 VAC	20...250 VAC	20...250 VAC
Light source	Infrared LED ( 880nm )	Infrared LED ( 880nm )	Infrared LED ( 880nm )	Infrared LED ( 880nm )
Load current	< 300mA	< 300mA	< 300mA	< 300mA
Voltage drop	< 10V	< 10V	< 10V	< 10V
Leakage current	< 3mA	< 3mA	< 3mA	< 3mA
Hysteresis	3...20%	3...20%	3...20%	3...20%
Repeat accuracy	< 5%	< 5%	< 5%	< 5%
Response time	< 50ms	< 50ms	< 50ms	< 50ms
Output indicator	Yellow LED	Yellow LED	Yellow LED	Yellow LED
Polarity protection	...	...	...	...
Impulse voltage withstand	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s
Short-circuit protection	...	...	...	...
Ambient temperature	-15...+55°C	-15...+55°C	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP67	IP67	IP67	IP67
Housing material	Nickel-copper Alloy	Nickel-copper Alloy	Nickel-copper Alloy	Nickel-copper Alloy
Connection	2m PVC Cable	2m PVC Cable	M12 Connector	M12 Connector
Certification	CE UL	CE UL	CE UL	CE UL

\* Cable material and length can be customized



Item Code	PR18G		PR18G	
Sensing mode	Diffuse reflection			
Sensing distance	10cm ( Non-adjustable )	40cm ( Adjustable )	10cm ( Non-adjustable )	40cm ( Adjustable )

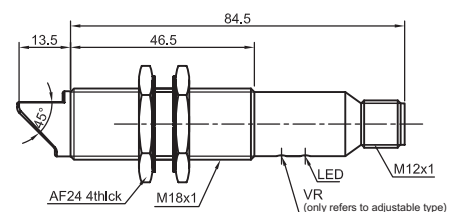
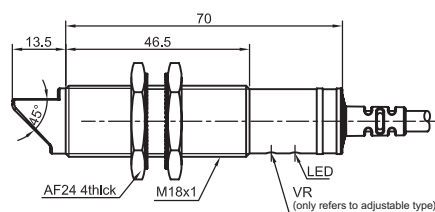


Output	AC 2 Wires NO	PR18G-BC10ATO	PR18G-BC40ATO	PR18G-BC10ATO-E2	PR18G-BC40ATO-E2
	AC 2 Wires NC	PR18G-BC10ATC	PR18G-BC40ATC	PR18G-BC10ATC-E2	PR18G-BC40ATC-E2
Output					

### Technical Parameter

Supply voltage	20...250 VAC	20...250 VAC	20...250 VAC	20...250 VAC
Light source	Infrared LED ( 880nm )	Infrared LED ( 880nm )	Infrared LED ( 880nm )	Infrared LED ( 880nm )
Load current	< 300mA	< 300mA	< 300mA	< 300mA
Voltage drop	< 10V	< 10V	< 10V	< 10V
Leakage current	< 3mA	< 3mA	< 3mA	< 3mA
Hysteresis	3...20%	3...20%	3...20%	3...20%
Repeat accuracy	< 5%	< 5%	< 5%	< 5%
Response time	< 50ms	< 50ms	< 50ms	< 50ms
Output indicator	Yellow LED	Yellow LED	Yellow LED	Yellow LED
Polarity protection	...	...	...	...
Impulse voltage withstand	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s
Short-circuit protection	...	...	...	...
Ambient temperature	-15...+55°C	-15...+55°C	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	Ip65	Ip65	Ip65	Ip65
Housing material	Nickel-copper Alloy	Nickel-copper Alloy	Nickel-copper Alloy	Nickel-copper Alloy
Connection	2m PVC Cable	2m PVC Cable	M12 Connector	M12 Connector
Certification	CE U <sub>L</sub>	CE U <sub>L</sub>	CE U <sub>L</sub>	CE U <sub>L</sub>

\* Cable material and length can be customized



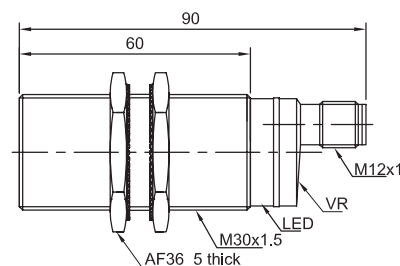
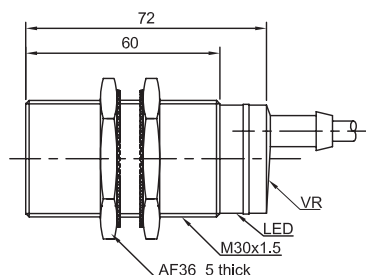
Item Code	PR30		PR30	
Sensing mode	Diffuse reflection		Diffuse reflection	
Sensing distance	50cm ( Adjustable )	100cm ( Adjustable )	50cm ( Adjustable )	100cm ( Adjustable )



Output	AC 2 Wires NO	PR30-BC50ATO	PR30-BC100ATO	PR30-BC50ATO-E2	PR30-BC100ATO-E2
	AC 2 Wires NC	PR30-BC50ATC	PR30-BC100ATC	PR30-BC50ATC-E2	PR30-BC100ATC-E2

Technical Parameter				
Supply voltage	20...250 VAC	20...250 VAC	20...250 VAC	20...250 VAC
Light source	Infrared LED ( 880nm )	Infrared LED ( 880nm )	Infrared LED ( 880nm )	Infrared LED ( 880nm )
Load current	< 300mA	< 300mA	< 300mA	< 300mA
Voltage drop	< 10V	< 10V	< 10V	< 10V
Leakage current	< 3mA	< 3mA	< 3mA	< 3mA
Hysteresis	3...20%	3...20%	3...20%	3...20%
Repeat accuracy	< 5%	< 5%	< 5%	< 5%
Response time	< 50ms	< 50ms	< 50ms	< 50ms
Output indicator	Yellow LED	Yellow LED	Yellow LED	Yellow LED
Polarity protection	...	...	...	...
Impulse voltage withstand	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s
Short-circuit protection	...	...	...	...
Ambient temperature	-15...+55°C	-15...+55°C	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP67	IP67	IP67	IP67
Housing material	Nickel-copper Alloy	Nickel-copper Alloy	Nickel-copper Alloy	Nickel-copper Alloy
Connection	2m PVC Cable	2m PVC Cable	M12 Connector	M12 Connector
Certification	CE	CE	CE	CE

\* Cable material and length can be customized



Item Code	PR12S	PR12S
Sensing mode	Diffuse reflection	Diffuse reflection
Sensing distance	15cm ( Adjustable )	15cm ( Adjustable )

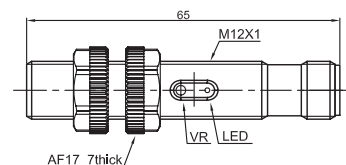
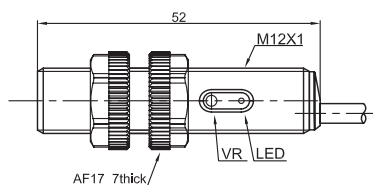


Output	NPN NO	PR12S-BC15DNO	PR12S-BC15DNO-E2
	NPN NC	PR12S-BC15DNC	PR12S-BC15DNC-E2
Output	PNP NO	PR12S-BC15DPO	PR12S-BC15DPO-E2
	PNP NC	PR12S-BC15DPC	PR12S-BC15DPC-E2

### Technical Parameter

Supply voltage	10...30 VDC	10...30 VDC
Light source	Infrared LED ( 880nm )	Infrared LED ( 880nm )
Load current	< 200mA	< 200mA
Voltage drop	< 2.5V	< 2.5V
Consumption current	< 25mA	< 25mA
Hysteresis	3...20%	3...20%
Repeat accuracy	< 5%	< 5%
Response time	< 8.2ms	< 8.2ms
Output indicator	Yellow LED	Yellow LED
Polarity protection	yes	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	yes	yes
Ambient temperature	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%
Protection degree	IP67	IP67
Housing material	PBT	PBT
Connection	2m PVC Cable	M12 Connector
Certification	CE	CE

\* Cable material and length can be customized





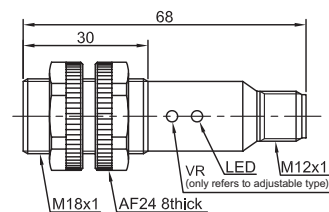
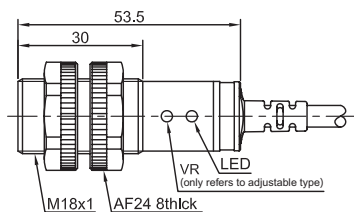
Item Code	PR18S		PR18S	
Sensing mode	Diffuse reflection		Diffuse reflection	
Sensing distance	10cm ( Non-adjustable )	40cm ( Adjustable )	10cm ( Non-adjustable )	40cm ( Adjustable )



Output	NPN NO	PR18S-BC10DNO	PR18S-BC40DNO	PR18S-BC10DNO-E2	PR18S-BC40DNO-E2
	NPN NC	PR18S-BC10DNC	PR18S-BC40DNC	PR18S-BC10DNC-E2	PR18S-BC40DNC-E2
	NPN NO+NC	PR18S-BC10DNR	PR18S-BC40DNR	PR18S-BC10DNR-E2	PR18S-BC40DNR-E2
Output	PNP NO	PR18S-BC10DPO	PR18S-BC40DPO	PR18S-BC10DPO-E2	PR18S-BC40DPO-E2
	PNP NC	PR18S-BC10DPC	PR18S-BC40DPC	PR18S-BC10DPC-E2	PR18S-BC40DPC-E2
	PNP NO+NC	PR18S-BC10DPR	PR18S-BC40DPR	PR18S-BC10DPR-E2	PR18S-BC40DPR-E2

Technical Parameter				
Supply voltage	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC
Light source	Infrared LED ( 880nm )	Infrared LED ( 880nm )	Infrared LED ( 880nm )	Infrared LED ( 880nm )
Load current	< 200mA	< 200mA	< 200mA	< 200mA
Voltage drop	< 2.5V	< 2.5V	< 2.5V	< 2.5V
Consumption current	< 25mA	< 25mA	< 25mA	< 25mA
Hysteresis	3...20%	3...20%	3...20%	3...20%
Repeat accuracy	< 5%	< 5%	< 5%	< 5%
Response time	< 8.2ms	< 8.2ms	< 8.2ms	< 8.2ms
Output indicator	Yellow LED	Yellow LED	Yellow LED	Yellow LED
Polarity protection	yes	yes	yes	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	yes	yes	yes	yes
Ambient temperature	-15...+55°C	-15...+55°C	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP67	IP67	IP67	IP67
Housing material	PBT	PBT	PBT	PBT
Connection	2m PVC Cable	2m PVC Cable	M12 Connector	M12 Connector
Certification	CE U <sub>L</sub>	CE U <sub>L</sub>	CE U <sub>L</sub>	CE U <sub>L</sub>

\* Cable material and length can be customized



Item Code	PR18GS		PR18GS	
Sensing mode	Diffuse reflection		Diffuse reflection	
Sensing distance	10cm ( Non-adjustable )	40cm ( Adjustable )	10cm ( Non-adjustable )	40cm ( Adjustable )

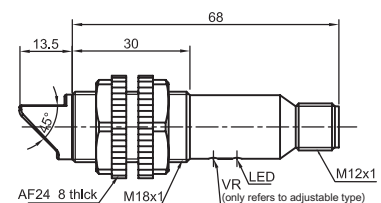
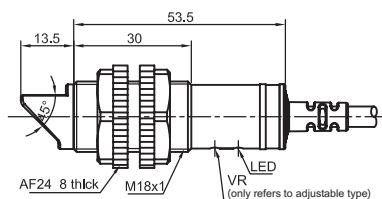


Output	NPN NO	PR18GS-BC10DNO	PR18GS-BC40DNO	PR18GS-BC10DNO-E2	PR18GS-BC40DNO-E2
	NPN NC	PR18GS-BC10DNC	PR18GS-BC40DNC	PR18GS-BC10DNC-E2	PR18GS-BC40DNC-E2
	NPN NO+NC	PR18GS-BC10DNR	PR18GS-BC40DNR	PR18GS-BC10DNR-E2	PR18GS-BC40DNR-E2
Output	PNP NO	PR18GS-BC10DPO	PR18GS-BC40DPO	PR18GS-BC10DPO-E2	PR18GS-BC40DPO-E2
	PNP NC	PR18GS-BC10DPC	PR18GS-BC40DPC	PR18GS-BC10DPC-E2	PR18GS-BC40DPC-E2
	PNP NO+NC	PR18GS-BC10DPR	PR18GS-BC40DPR	PR18GS-BC10DPR-E2	PR18GS-BC40DPR-E2

### Technical Parameter

Supply voltage	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC
Light source	Infrared LED ( 880nm )	Infrared LED ( 880nm )	Infrared LED ( 880nm )	Infrared LED ( 880nm )
Load current	< 200mA	< 200mA	< 200mA	< 200mA
Voltage drop	< 2.5V	< 2.5V	< 2.5V	< 2.5V
Consumption current	< 25mA	< 25mA	< 25mA	< 25mA
Hysteresis	3...20%	3...20%	3...20%	3...20%
Repeat accuracy	< 5%	< 5%	< 5%	< 5%
Response time	< 8.2ms	< 8.2ms	< 8.2ms	< 8.2ms
Output indicator	Yellow LED	Yellow LED	Yellow LED	Yellow LED
Polarity protection	yes	yes	yes	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	yes	yes	yes	yes
Ambient temperature	-15...+55°C	-15...+55°C	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP65	IP65	IP65	IP65
Housing material	PBT	PBT	PBT	PBT
Connection	2m PVC Cable	2m PVC Cable	M12 Connector	M12 Connector
Certification	CE	CE	CE	CE

\* Cable material and length can be customized



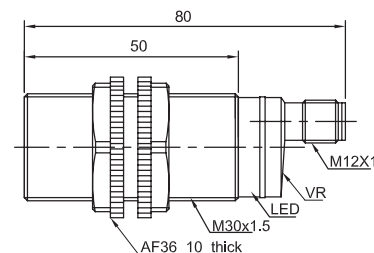
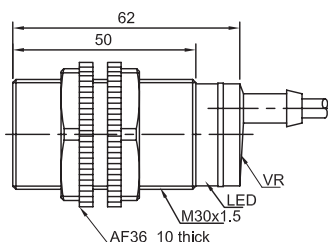
Item Code	PR30S		PR30S	
Sensing mode	Diffuse reflection		Diffuse reflection	
Sensing distance	50cm (Adjustable)	100cm (Adjustable)	50cm (Adjustable)	100cm (Adjustable)



Output	NPN NO	PR30S-BC50DNO	PR30S-BC100DNO	PR30S-BC50DNO-E2	PR30S-BC100DNO-E2
	NPN NC	PR30S-BC50DNC	PR30S-BC100DNC	PR30S-BC50DNC-E2	PR30S-BC100DNC-E2
	NPN NO+NC	PR30S-BC50DNR	PR30S-BC100DNR	PR30S-BC50DNR-E2	PR30S-BC100DNR-E2
Output	PNP NO	PR30S-BC50DPO	PR30S-BC100DPO	PR30S-BC50DPO-E2	PR30S-BC100DPO-E2
	PNP NC	PR30S-BC50DPC	PR30S-BC100DPC	PR30S-BC50DPC-E2	PR30S-BC100DPC-E2
	PNP NO+NC	PR30S-BC50DPR	PR30S-BC100DPR	PR30S-BC50DPR-E2	PR30S-BC100DPR-E2

Technical Parameter				
Supply voltage	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC
Light source	Infrared LED ( 880nm )	Infrared LED ( 880nm )	Infrared LED ( 880nm )	Infrared LED ( 880nm )
Load current	< 200mA	< 200mA	< 200mA	< 200mA
Voltage drop	< 2.5V	< 2.5V	< 2.5V	< 2.5V
Consumption current	< 25mA	< 25mA	< 25mA	< 25mA
Hysteresis	3...20%	3...20%	3...20%	3...20%
Repeat accuracy	< 5%	< 5%	< 5%	< 5%
Response time	< 8.2ms	< 8.2ms	< 8.2ms	< 8.2ms
Output indicator	Yellow LED	Yellow LED	Yellow LED	Yellow LED
Polarity protection	yes	yes	yes	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	yes	yes	yes	yes
Ambient temperature	-15...+55°C	-15...+55°C	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP67	IP67	IP67	IP67
Housing material	PBT	PBT	PBT	PBT
Connection	2m PVC Cable	2m PVC Cable	M12 Connector	M12 Connector
Certification	CE U <sub>L</sub>	CE U <sub>L</sub>	CE U <sub>L</sub>	CE U <sub>L</sub>

\* Cable material and length can be customized



Item Code	PR18S		PR18S	
Sensing mode	Diffuse reflection		Diffuse reflection	
Sensing distance	10cm ( Non-adjustable )	40cm ( Adjustable )	10cm ( Non-adjustable )	40cm ( Adjustable )

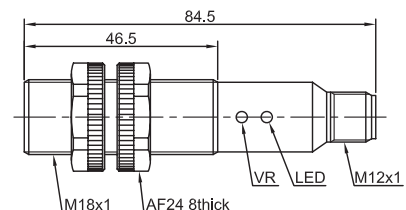
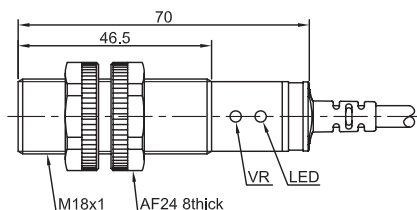


Output	AC 2 Wires NO	PR18S-BC10ATO	PR18S-BC40ATO	PR18S-BC10ATO-E2	PR18S-BC40ATO-E2
	AC 2 Wires NC	PR18S-BC10ATC	PR18S-BC40ATC	PR18S-BC10ATC-E2	PR18S-BC40ATC-E2

### Technical Parameter

Supply voltage	20...250 VAC	20...250 VAC	20...250 VAC	20...250 VAC
Light source	Infrared LED ( 880nm )	Infrared LED ( 880nm )	Infrared LED ( 880nm )	Infrared LED ( 880nm )
Load current	< 300mA	< 300mA	< 300mA	< 300mA
Voltage drop	< 10V	< 10V	< 10V	< 10V
Leakage current	< 3mA	< 3mA	< 3mA	< 3mA
Hysteresis	3...20%	3...20%	3...20%	3...20%
Repeat accuracy	< 5%	< 5%	< 5%	< 5%
Response time	< 50ms	< 50ms	< 50ms	< 50ms
Output indicator	Yellow LED	Yellow LED	Yellow LED	Yellow LED
Polarity protection	...	...	...	...
Impulse voltage withstand	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s
Short-circuit protection	...	...	...	...
Ambient temperature	-15...+55°C	-15...+55°C	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP67	IP67	IP67	IP67
Housing material	PBT	PBT	PBT	PBT
Connection	2m PVC Cable	2m PVC Cable	M12 Connector	M12 Connector
Certification	CE U <sub>L</sub>	CE U <sub>L</sub>	CE U <sub>L</sub>	CE U <sub>L</sub>

\* Cable material and length can be customized



Item Code	PR18GS		PR18GS	
Sensing mode	Diffuse reflection		Diffuse reflection	
Sensing distance	10cm ( Non-adjustable )	40cm ( Adjustable )	10cm ( Non-adjustable )	40cm ( Adjustable )

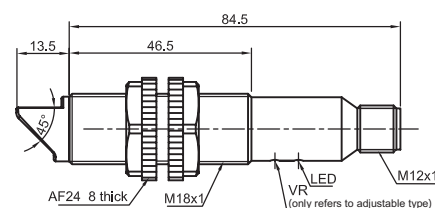
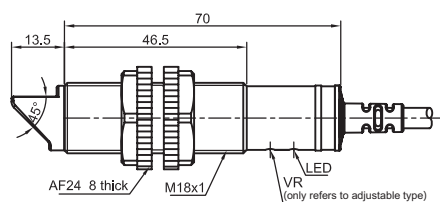


Output	AC 2 Wires NO	PR18GS-BC10ATO	PR18GS-BC40ATO	PR18GS-BC10ATO-E2	PR18GS-BC40ATO-E2
	AC 2 Wires NC	PR18GS-BC10ATC	PR18GS-BC40ATC	PR18GS-BC10ATC-E2	PR18GS-BC40ATC-E2

### Technical Parameter

Supply voltage	20...250 VAC	20...250 VAC	20...250 VAC	20...250 VAC
Light source	Infrared LED ( 880nm )	Infrared LED ( 880nm )	Infrared LED ( 880nm )	Infrared LED ( 880nm )
Load current	< 300mA	< 300mA	< 300mA	< 300mA
Voltage drop	< 10V	< 10V	< 10V	< 10V
Leakage current	< 3mA	< 3mA	< 3mA	< 3mA
Hysteresis	3...20%	3...20%	3...20%	3...20%
Repeat accuracy	< 5%	< 5%	< 5%	< 5%
Response time	< 50ms	< 50ms	< 50ms	< 50ms
Output indicator	Yellow LED	Yellow LED	Yellow LED	Yellow LED
Polarity protection	...	...	...	...
Impulse voltage withstand	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s
Short-circuit protection	...	...	...	...
Ambient temperature	-15...+55°C	-15...+55°C	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP65	IP65	IP65	IP65
Housing material	PBT	PBT	PBT	PBT
Connection	2m PVC Cable	2m PVC Cable	M12 Connector	M12 Connector
Certification	CE	CE	CE	CE

\* Cable material and length can be customized



Item Code	PR30S		PR30S	
Sensing mode	Diffuse reflection		Diffuse reflection	
Sensing distance	50cm ( Adjustable )	100cm ( Adjustable )	50cm ( Adjustable )	100cm ( Adjustable )

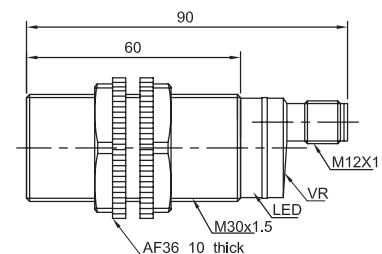
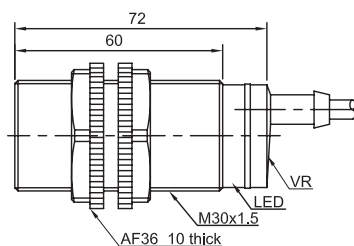


Output	AC 2 Wires NO	PR30S-BC50ATO	PR30S-BC100ATO	PR30S-BC50ATO-E2	PR30S-BC100ATO-E2
	AC 2 Wires NC	PR30S-BC50ATC	PR30S-BC100ATC	PR30S-BC50ATC-E2	PR30S-BC100ATC-E2

### Technical Parameter

Supply voltage	20...250 VAC	20...250 VAC	20...250 VAC	20...250 VAC
Light source	Infrared LED ( 880nm )	Infrared LED ( 880nm )	Infrared LED ( 880nm )	Infrared LED ( 880nm )
Load current	< 300mA	< 300mA	< 300mA	< 300mA
Voltage drop	< 10V	< 10V	< 10V	< 10V
Leakage current	< 3mA	< 3mA	< 3mA	< 3mA
Hysteresis	3...20%	3...20%	3...20%	3...20%
Repeat accuracy	< 5%	< 5%	< 5%	< 5%
Response time	< 50ms	< 50ms	< 50ms	< 50ms
Output indicator	Yellow LED	Yellow LED	Yellow LED	Yellow LED
Polarity protection	...	...	...	...
Impulse voltage withstand	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s
Short-circuit protection	...	...	...	...
Ambient temperature	-15...+55°C	-15...+55°C	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP67	IP67	IP67	IP67
Housing material	PBT	PBT	PBT	PBT
Connection	2m PVC Cable	2m PVC Cable	M12 Connector	M12 Connector
Certification	CE	CE	CE	CE

\* Cable material and length can be customized



Item Code	PBA		
Sensing mode	Diffuse reflection		
Sensing distance	2m ( Adjustable )		

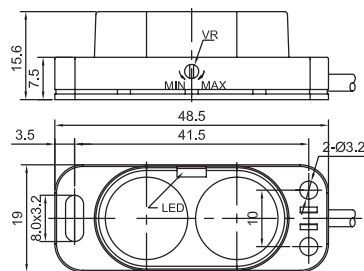


Output	NPN NO	PBA-BC200DNO		
	NPN NC	PBA-BC200DNC		
Output	PNP NO	PBA-BC200DPO		
	PNP NC	PBA-BC200DPC		

### Technical Parameter

Supply voltage	12...24 VDC		
Light source	Infrared LED ( 880nm )		
Load current	<100mA		
Voltage drop	<2.5V		
Consumption current	<25mA		
Hysteresis	3...20%		
Repeat accuracy	<5%		
Response time	< 3ms		
Output indicator	Red LED		
Polarity protection	yes		
Impulse voltage withstand	1000V/AC 50/60Hz 60s		
Short-circuit protection	yes		
Ambient temperature	-15...+55°C		
Ambient moisture	35...95%		
Protection degree	IP54		
Housing material	PC/ABS		
Connection	2m PVC Cable		
Certification	CE		

\* Cable material and length can be customized



Item Code	PSI	PSD
Sensing mode	Diffuse reflection	Diffuse reflection
Sensing distance	30cm ( Adjustable )	30cm ( Adjustable )

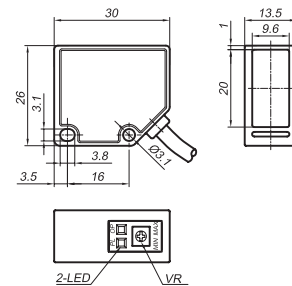
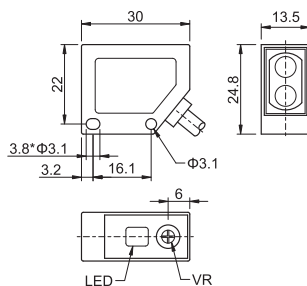


Output	NPN NO	PSI-BC30DNO		
	NPN NC	PSI-BC30DNC		
	NPN NO+NC	PSI-BC30DNR		PSD-BC30DNR
Output	PNP NO	PSI-BC30DPO		
	PNP NC	PSI-BC30DPC		
	PNP NO+NC	PSI-BC30DPR		PSD-BC30DPR

### Technical Parameter

Supply voltage	10...30 VDC	10...30VDC
Light source	Infrared LED ( 880nm )	Infrared LED ( 850nm )
Load current	<200mA	<200mA
Voltage drop	<2.5V	<2.5V
Consumption current	<25mA	<25mA
Hysteresis	3...20%	3...20%
Repeat accuracy	<5%	<5%
Response time	<8.2ms	<8.2ms
Output indicator	Yellow LED	Yellow LED
Polarity protection	yes	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	yes	yes
Ambient temperature	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%
Protection degree	IP65	IP54
Housing material	ABS	ABS
Connection	2m PVC Cable	2m PVC Cable
Certification	CE	CE

\* Cable material and length can be customized





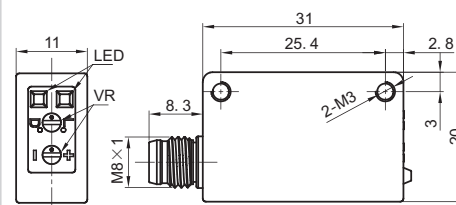
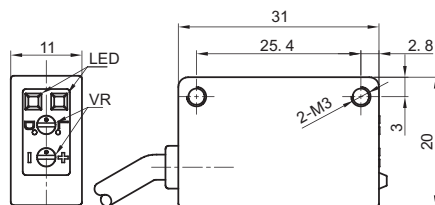
Item Code	PSC		PSC	
Sensing mode	Diffuse reflection			
Sensing distance	30cm ( Adjustable )	100cm ( Adjustable )	30cm ( Adjustable )	100cm ( Adjustable )



Output	NPN NO/NC	PSC-BC30TNBR	PSC-BC100TNB	PSC-BC30TNBR-E1	PSC-BC100TNB-E1
	PNP NO/NC	PSC-BC30TPBR	PSC-BC100TPB	PSC-BC30TPBR-E1	PSC-BC100TPB-E1

Technical Parameter					
Supply voltage	12...24 VDC	12...24 VDC	12...24 VDC	12...24 VDC	
Light source	Red light LED ( 650nm )	Red light LED ( 850nm )	Red light LED ( 650nm )	Red light LED ( 850nm )	
Load current	<100mA	<100mA	<100mA	<100mA	
Voltage drop	<2.5V	<2.5V	<2.5V	<2.5V	
Consumption current	<15mA	<15mA	<15mA	<15mA	
Hysteresis	3...20%	3...20%	3...20%	3...20%	
Repeat accuracy	<5%	<5%	<5%	<5%	
Response time	<2ms	<2ms	<2ms	<2ms	
Output indicator	Yellow LED	Yellow LED	Yellow LED	Yellow LED	
Polarity protection	yes	yes	yes	yes	
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	
Short-circuit protection	yes	yes	yes	yes	
Ambient temperature	-25...+55°C	-25...+55°C	-25...+55°C	-25...+55°C	
Ambient moisture	35...95%	35...95%	35...95%	35...95%	
Protection degree	IP67	IP67	IP67	IP67	
Housing material	PC/ABS	PC/ABS	PC/ABS	PC/ABS	
Connection	2m PVC Cable	2m PVC Cable	M8 Connector	M8 Connector	
Certification	CE	CE	CE	CE	

\* Cable material and length can be customized



Item Code	PSF		PSF	
Sensing mode	Diffuse reflection		Diffuse reflection	
Sensing distance	30cm (Adjustable)	80cm (Adjustable)	30cm (Adjustable)	80cm (Adjustable)

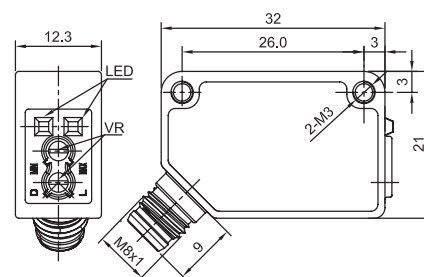
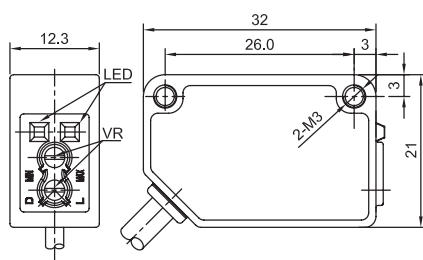




Output	NPN NO	PSF-BC30DNO	PSF-BC80DNO	PSF-BC30DNO-E1	PSF-BC80DNO-E1
	NPN NC	PSF-BC30DNC	PSF-BC80DNC	PSF-BC30DNC-E1	PSF-BC80DNC-E1
	NPN NO/NC	PSF-BC30DNB	PSF-BC80DNB	PSF-BC30DNB-E1	PSF-BC80DNB-E1
Output	PNP NO	PSF-BC30DPO	PSF-BC80DPO	PSF-BC30DPO-E1	PSF-BC80DPO-E1
	PNP NC	PSF-BC30DPC	PSF-BC80DPC	PSF-BC30DPC-E1	PSF-BC80DPC-E1
	PNP NO/NC	PSF-BC30DPB	PSF-BC80DPB	PSF-BC30DPB-E1	PSF-BC80DPB-E1

### Technical Parameter

Supply voltage	12...24 VDC	12...24 VDC	12...24 VDC	12...24 VDC
Light source	Red light LED ( 660nm )	Infrared LED ( 880nm )	Red light LED ( 660nm )	Infrared LED ( 880nm )
Load current	<100mA	<100mA	<100mA	<100mA
Voltage drop	<2.5V	<2.5V	<2.5V	<2.5V
Consumption current	<25mA	<25mA	<25mA	<25mA
Hysteresis	3...20%	3...20%	3...20%	3...20%
Repeat accuracy	<5%	<5%	<5%	<5%
Response time	<1ms	<1ms	<1ms	<1ms
Output indicator	Yellow LED	Yellow LED	Yellow LED	Yellow LED
Polarity protection	yes	yes	yes	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	yes	yes	yes	yes
Ambient temperature	-15...+55°C	-15...+55°C	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP67	IP67	IP67	IP67
Housing material	PC/ABS	PC/ABS	PC/ABS	PC/ABS
Connection	2m PVC Cable	2m PVC Cable	M8 Connector	M8 Connector
Certification	CE	CE	CE	CE

\* Cable material and length can be customized

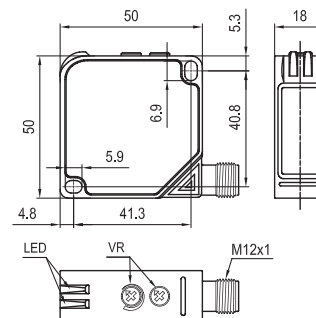
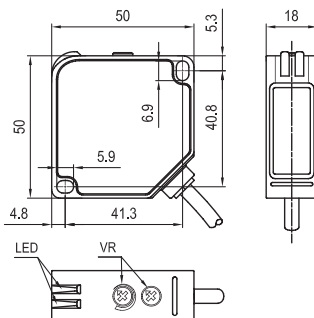


Item Code	PTE		PTE		
Sensing mode	Diffuse reflection		Diffuse reflection		
Sensing distance	30cm ( Adjustable )	200cm ( Adjustable )	30cm ( Adjustable )	200cm ( Adjustable )	
					
Output	NPN+PNP NO/NC	PTE-BC30DFB	PTE-BC200DFB	PTE-BC30DFB-E2	PTE-BC200DFB-E2

### Technical Parameter

	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC
Supply voltage	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC
Light source	Infrared LED ( 850nm )	Infrared LED ( 850nm )	Infrared LED ( 850nm )	Infrared LED ( 850nm )
Load current	<200mA	<200mA	<200mA	<200mA
Voltage drop	<2.5V	<2.5V	<2.5V	<2.5V
Consumption current	<40mA	<40mA	<40mA	<40mA
Hysteresis	3...20%	3...20%	3...20%	3...20%
Repeat accuracy	<5%	<5%	<5%	<5%
Response time	< 2ms	< 2ms	< 2ms	< 2ms
Output indicator	Yellow LED	Yellow LED	Yellow LED	Yellow LED
Polarity protection	yes	yes	yes	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	yes	yes	yes	yes
Ambient temperature	-25...+55°C	-25...+55°C	-25...+55°C	-25...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP67	IP67	IP67	IP67
Housing material	PC/ABS	PC/ABS	PC/ABS	PC/ABS
Connection	2m PVC Cable	2m PVC Cable	M12 Connector	M12 Connector
Certification	CE	CE	CE	CE

\* Cable material and length can be customized



Item Code	PTF		PTF	
Sensing mode	Diffuse reflection		Diffuse reflection	
Sensing distance	50cm (Adjustable)	100cm (Adjustable)	50cm (Adjustable)	100cm (Adjustable)

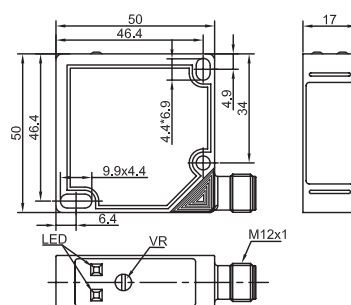
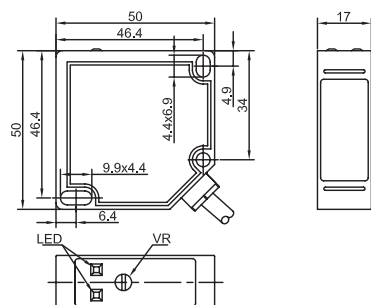


Output	NPN NO	PTF-BC50DNO	PTF-BC100DNO	PTF-BC50DNO-E2	PTF-BC100DNO-E2
	NPN NC	PTF-BC50DNC	PTF-BC100DNC	PTF-BC50DNC-E2	PTF-BC100DNC-E2
	NPN NO+NC	PTF-BC50DNR	PTF-BC100DNR	PTF-BC50DNR-E2	PTF-BC100DNR-E2
Output	PNP NO	PTF-BC50DPO	PTF-BC100DPO	PTF-BC50DPO-E2	PTF-BC100DPO-E2
	PNP NC	PTF-BC50DPC	PTF-BC100DPC	PTF-BC50DPC-E2	PTF-BC100DPC-E2
	PNP NO+NC	PTF-BC50DPR	PTF-BC100DPR	PTF-BC50DPR-E2	PTF-BC100DPR-E2

### Technical Parameter

Supply voltage	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC
Light source	Infrared LED ( 880nm )	Infrared LED ( 880nm )	Infrared LED ( 880nm )	Infrared LED ( 880nm )
Load current	<200mA	<200mA	<200mA	<200mA
Voltage drop	<2.5V	<2.5V	<2.5V	<2.5V
Consumption current	<25mA	<25mA	<25mA	<25mA
Hysteresis	3...20%	3...20%	3...20%	3...20%
Repeat accuracy	<5%	<5%	<5%	<5%
Response time	< 8.2ms	< 8.2ms	< 8.2ms	< 8.2ms
Output indicator	Yellow LED	Yellow LED	Yellow LED	Yellow LED
Polarity protection	yes	yes	yes	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	yes	yes	yes	yes
Ambient temperature	-15...+55°C	-15...+55°C	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP64	IP64	IP64	IP64
Housing material	PC/ABS	PC/ABS	PC/ABS	PC/ABS
Connection	2m PVC Cable	2m PVC Cable	M12 Connector	M12 Connector
Certification	CE	CE	CE	CE

\* Cable material and length can be customized

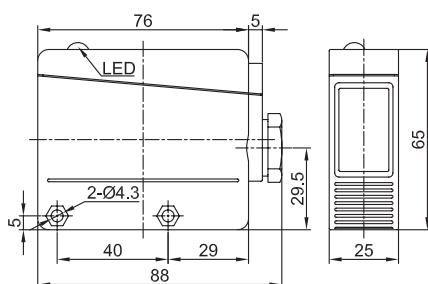




Item Code	PTL	
Sensing mode	Diffuse reflection	
Sensing distance	80cm ( Adjustable )	2m ( Adjustable )



Output	NPN NO+NC	PTL-BC80DNRT3-D	PTL-BC200DNRT3-D
	PNP NO+NC	PTL-BC80DPRT3-D	PTL-BC200DPRT3-D

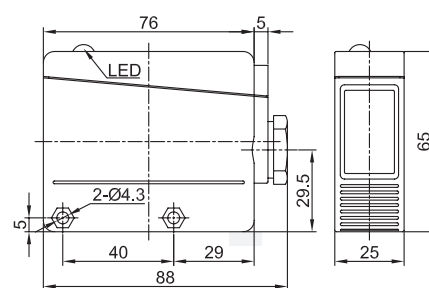
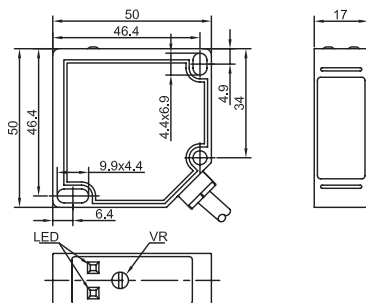
Technical Parameter	
Supply voltage	10...30 VDC
Light source	Infrared LED ( 880nm )
Load current	<200mA
Voltage drop	<2.5V
Consumption current	<25mA
Hysteresis	5...20%
Repeat accuracy	<5%
Response time	< 8.2ms
Output indicator	Yellow LED
Polarity protection	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s
Short-circuit protection	yes
Ambient temperature	-15...+55°C
Ambient moisture	35...95%
Protection degree	IP67
Housing material	PC/ABS
Connection	Terminal Connect
Certification	CE





Item Code		PTF		PTL	
Sensing mode		Diffuse reflection			
Sensing distance		50cm (Adjustable)	100cm (Adjustable)	80cm (Adjustable)	200cm (Adjustable)
					
Output					
	Relay output	PTF-BC50SK	PTF-BC100SK	PTL-BC80SKT3-D	PTL-BC200SKT3-D
Output					

Technical Parameter					
Supply voltage	24...240 VAC/12...240 VDC		24...240 VAC/12...240 VDC		
Light source	Infrared LED ( 880nm )		Infrared LED ( 880nm )		
Load current	<3A		<3A		
Voltage drop	...		...		
Leakage current	...		...		
Hysteresis	3...20%		3...20%		
Repeat accuracy	<5%		<5%		
Response time	< 30ms		< 30ms		
Output indicator	Yellow LED	Yellow LED	Yellow LED	Yellow LED	
Polarity protection	...		...		
Impulse voltage withstand	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s	
Short-circuit protection	...		...		
Ambient temperature	-15...+55°C		-15...+55°C		
Ambient moisture	35...95%		35...95%		
Protection degree	IP64		IP67		
Housing material	PC/ABS		PC/ABS		
Connection	2m PVC Cable		Terminal Connect		
Certification	CE (CCC)		CE (CCC)		

\* Cable material and length can be customized

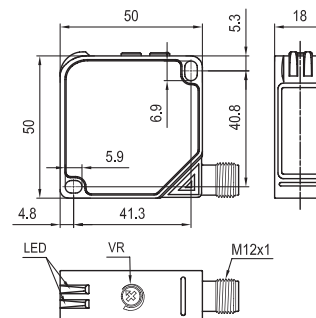
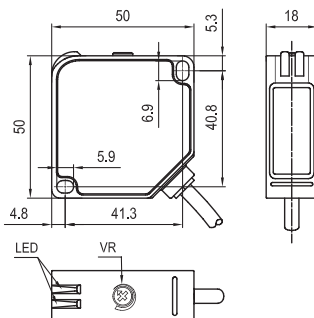


Item Code		PTE		PTE	
Sensing mode		Diffuse reflection		Diffuse reflection	
Sensing distance		30cm (Adjustable)	200cm (Adjustable)	30cm (Adjustable)	200cm (Adjustable)
					
Output					
	Relay output	PTE-BC30SK	PTE-BC200SK	PTE-BC30SK-E5	PTE-BC200SK-E5

### Technical Parameter

Supply voltage	24...240 VAC/DC		24...240 VAC/DC	
Light source	Infrared LED ( 850nm )		Infrared LED ( 850nm )	
Load current	<3A		<3A	
Voltage drop	...		...	
Consumption current	...		...	
Hysteresis	3...20%		3...20%	
Repeat accuracy	<5%		<5%	
Response time	<10ms		<10ms	
Output indicator	Yellow LED	Yellow LED	Yellow LED	Yellow LED
Polarity protection	...	...	...	...
Impulse voltage withstand	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s
Short-circuit protection	...	...	...	...
Ambient temperature	-25...+55°C	-25...+55°C	-25...+55°C	-25...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP67	IP67	IP67	IP67
Housing material	PC/ABS	PC/ABS	PC/ABS	PC/ABS
Connection	2m PVC Cable	2m PVC Cable	M12 Connector	M12 Connector
Certification	CE	CE	CE	CE

\* Cable material and length can be customized



Item Code	PR18	PR18
Sensing mode	Retro reflection	Retro reflection
Sensing distance	3m ( Non-adjustable )	3m ( Non-adjustable )

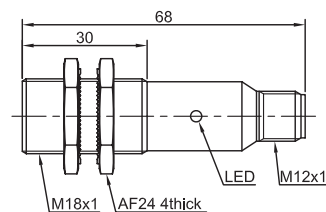
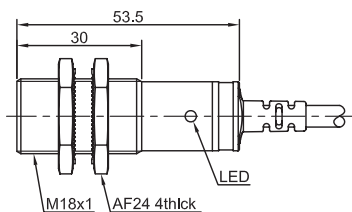


Output	NPN NO	PR18-DM3DNO	PR18-DM3DNO-E2
	NPN NC	PR18-DM3DNC	PR18-DM3DNC-E2
	NPN NO+NC	PR18-DM3DNR	PR18-DM3DNR-E2
Output	PNP NO	PR18-DM3DPO	PR18-DM3DPO-E2
	PNP NC	PR18-DM3DPC	PR18-DM3DPC-E2
	PNP NO+NC	PR18-DM3DPR	PR18-DM3DPR-E2

### Technical Parameter

Supply voltage	10...30 VDC	10...30 VDC
Light source	Infrared LED ( 880nm )	Infrared LED ( 880nm )
Load current	<200mA	<200mA
Voltage drop	<2.5V	<2.5V
Consumption current	<25mA	<25mA
Reflector	TD-09	TD-09
Repeat accuracy	<5%	<5%
Response time	< 8.2ms	< 8.2ms
Output indicator	Yellow LED	Yellow LED
Polarity protection	yes	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	yes	yes
Ambient temperature	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%
Protection degree	IP67	IP67
Housing material	Nickel-copper Alloy	Nickel-copper Alloy
Connection	2m PVC Cable	M12 Connector
Certification	CE	CE

\* Cable material and length can be customized





Item Code	PR18G	PR18G
Sensing mode	Retro reflection	Retro reflection
Sensing distance	3m ( Non-adjustable )	3m ( Non-adjustable )

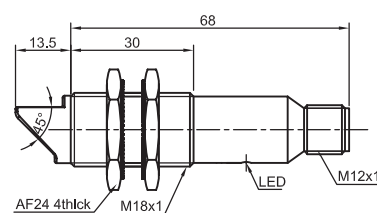
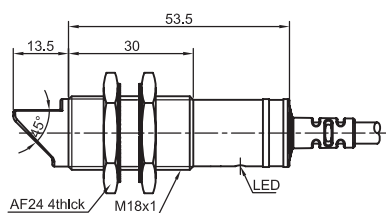


Output	NPN NO	PR18G-DM3DNO	PR18G-DM3DNO-E2
	NPN NC	PR18G-DM3DNC	PR18G-DM3DNC-E2
	NPN NO+NC	PR18G-DM3DNR	PR18G-DM3DNR-E2
Output	PNP NO	PR18G-DM3DPO	PR18G-DM3DPO-E2
	PNP NC	PR18G-DM3DPC	PR18G-DM3DPC-E2
	PNP NO+NC	PR18G-DM3DPR	PR18G-DM3DPR-E2

### Technical Parameter

Supply voltage	10...30 VDC	10...30 VDC
Light source	Infrared LED ( 880nm )	Infrared LED ( 880nm )
Load current	<200mA	<200mA
Voltage drop	<2.5V	<2.5V
Consumption current	<25mA	<25mA
Reflector	TD-09	TD-09
Repeat accuracy	<5%	<5%
Response time	< 8.2ms	< 8.2ms
Output indicator	Yellow LED	Yellow LED
Polarity protection	yes	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	yes	yes
Ambient temperature	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%
Protection degree	Ip65	IP65
Housing material	Nickel-copper Alloy	Nickel-copper Alloy
Connection	2m PVC Cable	M12 Connector
Certification	CE	CE

\* Cable material and length can be customized



Item Code	PR30	PR30
Sensing mode	Retro reflection	Retro reflection
Sensing distance	5m ( Non-adjustable )	5m ( Non-adjustable )

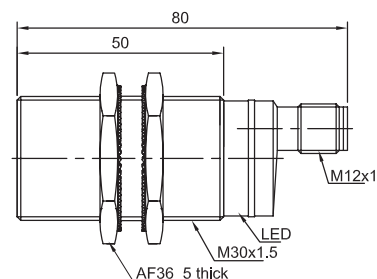
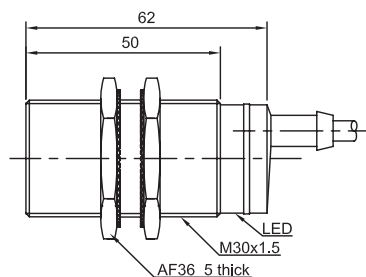


Output	NPN NO	PR30-DM5DNO	PR30-DM5DNO-E2
	NPN NC	PR30-DM5DNC	PR30-DM5DNC-E2
	NPN NO+NC	PR30-DM5DNR	PR30-DM5DNR-E2
Output	PNP NO	PR30-DM5DPO	PR30-DM5DPO-E2
	PNP NC	PR30-DM5DPC	PR30-DM5DPC-E2
	PNP NO+NC	PR30-DM5DPR	PR30-DM5DPR-E2

### Technical Parameter

Supply voltage	10...30 VDC	10...30 VDC
Light source	Infrared LED ( 880nm )	Infrared LED ( 880nm )
Load current	<200mA	<200mA
Voltage drop	<2.5V	<2.5V
Consumption current	<25mA	<25mA
Reflector	TD-09	TD-09
Repeat accuracy	<5%	<5%
Response time	< 8.2ms	< 8.2ms
Output indicator	Yellow LED	Yellow LED
Polarity protection	yes	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	yes	yes
Ambient temperature	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%
Protection degree	IP67	IP67
Housing material	Nickel-copper Alloy	Nickel-copper Alloy
Connection	2m PVC Cable	M12 Connector
Certification	CE U <sub>L</sub>	CE U <sub>L</sub>

\* Cable material and length can be customized



Item Code	PR18	PR18
Sensing mode	Retro reflection	Retro reflection
Sensing distance	3m ( Non-adjustable )	3m ( Non-adjustable )

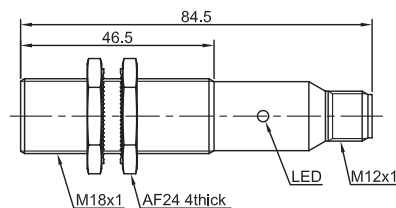
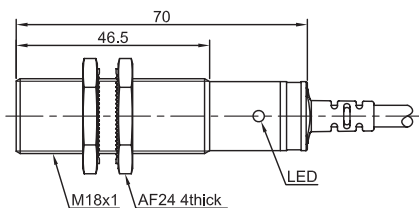


Output	AC 2Wires NO	PR18-DM3ATO	PR18-DM3ATO-E2
	AC 2Wires NC	PR18-DM3ATC	PR18-DM3ATC-E2

### Technical Parameter

Supply voltage	20...250 VAC	20...250 VAC
Light source	Infrared LED ( 880nm )	Infrared LED ( 880nm )
Load current	< 300mA	< 300mA
Voltage drop	< 10V	< 10V
Leakage current	< 3mA	< 3mA
Reflector	TD-09	TD-09
Repeat accuracy	< 5%	< 5%
Response time	< 50ms	< 50ms
Output indicator	Yellow LED	Yellow LED
Polarity protection	...	...
Impulse voltage withstand	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s
Short-circuit protection	...	...
Ambient temperature	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%
Protection degree	Ip67	Ip67
Housing material	Nickel-copper Alloy	Nickel-copper Alloy
Connection	2m PVC Cable	M12 Connector
Certification	CE	CE

\* Cable material and length can be customized



Item Code	PR18G	PR18G
Sensing mode	Retro reflection	Retro reflection
Sensing distance	3m ( Non-adjustable )	3m ( Non-adjustable )

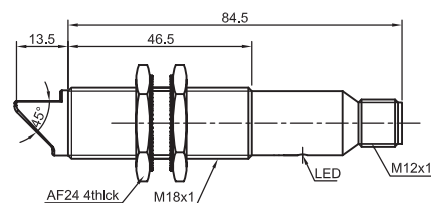
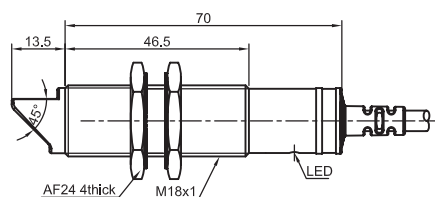


Output	AC 2Wires NO	PR18G-DM3ATO	PR18G-DM3ATO-E2
	AC 2Wires NC	PR18G-DM3ATC	PR18G-DM3ATC-E2

### Technical Parameter

Supply voltage	20...250 VAC	20...250 VAC
Light source	Infrared LED ( 880nm )	Infrared LED ( 880nm )
Load current	< 300mA	< 300mA
Voltage drop	< 10V	< 10V
Leakage current	< 3mA	< 3mA
Reflector	TD-09	TD-09
Repeat accuracy	< 5%	< 5%
Response time	< 50ms	< 50ms
Output indicator	Yellow LED	Yellow LED
Polarity protection	...	...
Impulse voltage withstand	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s
Short-circuit protection	...	...
Ambient temperature	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%
Protection degree	IP65	IP65
Housing material	Nickel-copper Alloy	Nickel-copper Alloy
Connection	2m PVC Cable	M12 Connector
Certification	CE	CE

\* Cable material and length can be customized



Item Code	PR30	PR30
Sensing mode	Retro reflection	Retro reflection
Sensing distance	5m ( Adjustable )	5m ( Adjustable )

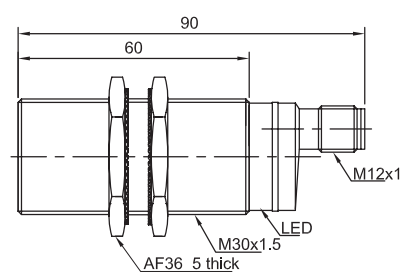
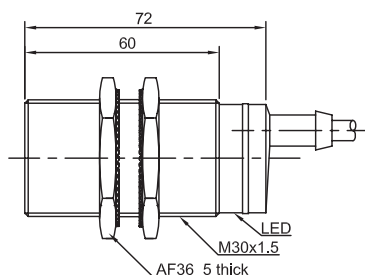


Output	AC 2Wires NO	PR30-DM5ATO		PR30-DM5ATO-E2	
	AC 2Wires NC	PR30-DM5ATC		PR30-DM5ATC-E2	

### Technical Parameter

Supply voltage	20...250 VAC	20...250 VAC
Light source	Infrared LED ( 880nm )	Infrared LED ( 880nm )
Load current	< 300mA	< 300mA
Voltage drop	< 10V	< 10V
Leakage current	< 3mA	< 3mA
Reflector	TD-09	TD-09
Repeat accuracy	< 5%	< 5%
Response time	< 50ms	< 50ms
Output indicator	Yellow LED	Yellow LED
Polarity protection	...	...
Impulse voltage withstand	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s
Short-circuit protection	...	...
Ambient temperature	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%
Protection degree	Ip67	Ip67
Housing material	Nickel-copper Alloy	Nickel-copper Alloy
Connection	2m PVC Cable	M12 Connector
Certification	CE U <sub>L</sub>	CE U <sub>L</sub>

\* Cable material and length can be customized



Item Code	PR18S	PR18S
Sensing mode	Retro reflection	Retro reflection
Sensing distance	3m ( Non-adjustable )	3m ( Non-adjustable )

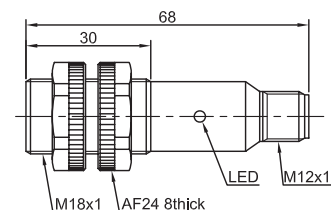
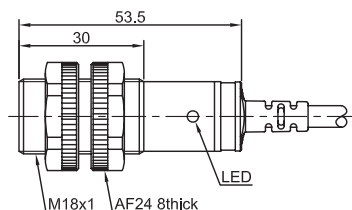


Output	NPN NO	PR18S-DM3DNO	PR18S-DM3DNO-E2
	NPN NC	PR18S-DM3DNC	PR18S-DM3DNC-E2
	NPN NO+NC	PR18S-DM3DNR	PR18S-DM3DNR-E2
Output	PNP NO	PR18S-DM3DPO	PR18S-DM3DPO-E2
	PNP NC	PR18S-DM3DPC	PR18S-DM3DPC-E2
	PNP NO+NC	PR18S-DM3DPR	PR18S-DM3DPR-E2

### Technical Parameter

Supply voltage	10...30 VDC	10...30 VDC
Light source	Infrared LED ( 880nm )	Infrared LED ( 880nm )
Load current	< 200mA	< 200mA
Voltage drop	< 2.5V	< 2.5V
Consumption current	< 25mA	< 25mA
Reflector	TD-09	TD-09
Repeat accuracy	< 5%	< 5%
Response time	< 8.2ms	< 8.2ms
Output indicator	Yellow LED	Yellow LED
Polarity protection	yes	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	yes	yes
Ambient temperature	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%
Protection degree	IP67	IP67
Housing material	PBT	PBT
Connection	2m PVC Cable	M12 Connector
Certification	CE	CE

\* Cable material and length can be customized



Item Code	PR18GS	PR18GS
Sensing mode	Retro reflection	Retro reflection
Sensing distance	3m ( Non-adjustable )	3m ( Non-adjustable )

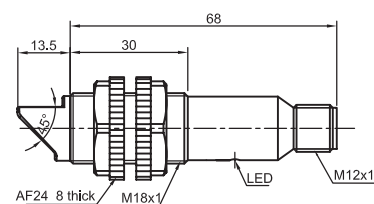
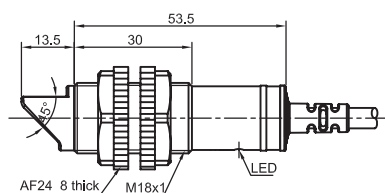


Output	NPN NO	PR18GS-DM3DNO	PR18GS-DM3DNO-E2
	NPN NC	PR18GS-DM3DNC	PR18GS-DM3DNC-E2
	NPN NO+NC	PR18GS-DM3DNR	PR18GS-DM3DNR-E2
Output	PNP NO	PR18GS-DM3DPO	PR18GS-DM3DPO-E2
	PNP NC	PR18GS-DM3DPC	PR18GS-DM3DPC-E2
	PNP NO+NC	PR18GS-DM3DPR	PR18GS-DM3DPR-E2

### Technical Parameter

Supply voltage	10...30 VDC	10...30 VDC
Light source	Infrared LED ( 880nm )	Infrared LED ( 880nm )
Load current	< 200mA	< 200mA
Voltage drop	< 2.5V	< 2.5V
Consumption current	< 25mA	< 25mA
Reflector	TD-09	TD-09
Repeat accuracy	< 5%	< 5%
Response time	< 8.2ms	< 8.2ms
Output indicator	Yellow LED	Yellow LED
Polarity protection	yes	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	yes	yes
Ambient temperature	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%
Protection degree	IP65	IP65
Housing material	PBT	PBT
Connection	2m PVC Cable	M12 Connector
Certification	CE	CE

\* Cable material and length can be customized



Item Code	PR30S	PR30S
Sensing mode	Retro reflection	Retro reflection
Sensing distance	5m ( Non-adjustable )	5m ( Non-adjustable )

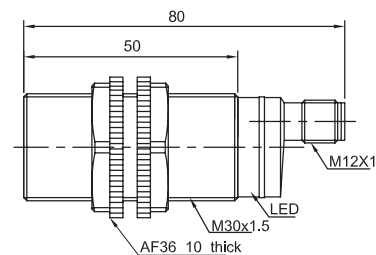
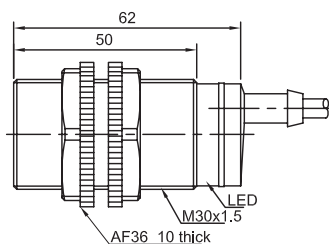


Output	NPN NO	PR30S-DM5DNO	PR30S-DM5DNO-E2
	NPN NC	PR30S-DM5DNC	PR30S-DM5DNC-E2
	NPN NO+NC	PR30S-DM5DNR	PR30S-DM5DNR-E2
Output	PNP NO	PR30S-DM5DPO	PR30S-DM5DPO-E2
	PNP NC	PR30S-DM5DPC	PR30S-DM5DPC-E2
	PNP NO+NC	PR30S-DM5DPR	PR30S-DM5DPR-E2

### Technical Parameter

Supply voltage	10...30 VDC	10...30 VDC
Light source	Infrared LED ( 880nm )	Infrared LED ( 880nm )
Load current	< 200mA	< 200mA
Voltage drop	< 2.5V	< 2.5V
Consumption current	< 25mA	< 25mA
Reflector	TD-09	TD-09
Repeat accuracy	< 5%	< 5%
Response time	< 8.2ms	< 8.2ms
Output indicator	Yellow LED	Yellow LED
Polarity protection	yes	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	yes	yes
Ambient temperature	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%
Protection degree	IP67	IP67
Housing material	PBT	PBT
Connection	2m PVC Cable	M12 Connector
Certification	CE U <sub>L</sub>	CE U <sub>L</sub>

\* Cable material and length can be customized





Item Code	PR18S	PR18S
Sensing mode	Retro reflection	Retro reflection
Sensing distance	3m ( Non-adjustable )	3m ( Non-adjustable )

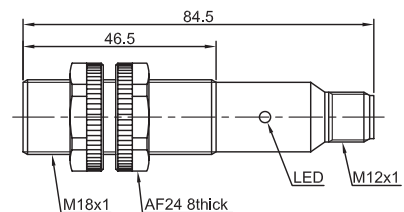
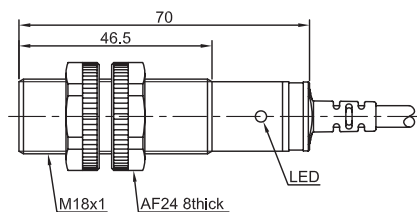


Output	AC 2 Wires NO	PR18S-DM3ATO	PR18S-DM3ATO-E2
	AC 2 Wires NC	PR18S-DM3ATC	PR18S-DM3ATC-E2
Output			
Output			

### Technical Parameter

Supply voltage	20...250 VAC	20...250 VAC
Light source	Infrared LED ( 880nm )	Infrared LED ( 880nm )
Load current	< 300mA	< 300mA
Voltage drop	< 10V	< 10V
Leakage current	< 3mA	< 3mA
Reflector	TD-09	TD-09
Repeat accuracy	< 5%	< 5%
Response time	< 50ms	< 50ms
Output indicator	Yellow LED	Yellow LED
Polarity protection	...	...
Impulse voltage withstand	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s
Short-circuit protection	...	...
Ambient temperature	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%
Protection degree	IP67	IP67
Housing material	PBT	PBT
Connection	2m PVC Cable	M12 Connector
Certification	CE	CE

\* Cable material and length can be customized



Item Code	PR18GS	PR18GS
Sensing mode	Retro reflection	Retro reflection
Sensing distance	3m ( Non-adjustable )	3m ( Non-adjustable )

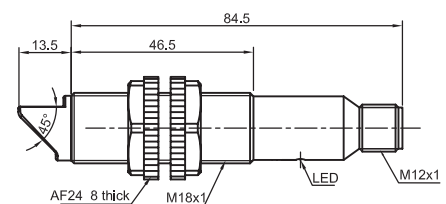
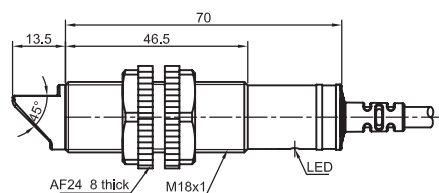


Output	AC 2 Wires NO	PR18GS-DM3ATO	PR18GS-DM3ATO-E2
	AC 2 Wires NC	PR18GS-DM3ATC	PR18GS-DM3ATC-E2

### Technical Parameter

Supply voltage	20...250 VAC	20...250 VAC
Light source	Infrared LED ( 880nm )	Infrared LED ( 880nm )
Load current	< 300mA	< 300mA
Voltage drop	< 10V	< 10V
Leakage current	< 3mA	< 3mA
Reflector	TD-09	TD-09
Repeat accuracy	< 5%	< 5%
Response time	< 50ms	< 50ms
Output indicator	Yellow LED	Yellow LED
Polarity protection	...	...
Impulse voltage withstand	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s
Short-circuit protection	...	...
Ambient temperature	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%
Protection degree	IP65	IP65
Housing material	PBT	PBT
Connection	2m PVC Cable	M12 Connector
Certification	CE	CE

\* Cable material and length can be customized



Item Code	PR30S	PR30S
Sensing mode	Retro reflection	Retro reflection
Sensing distance	5m ( Non-adjustable )	5m ( Non-adjustable )

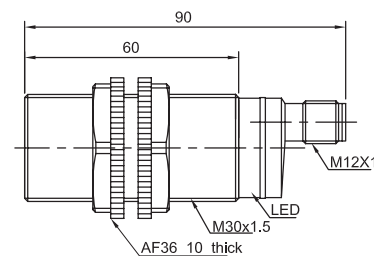
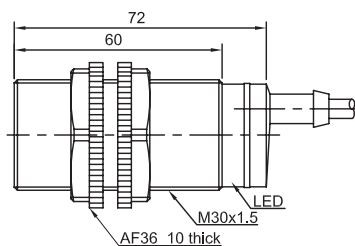


Output	AC 2 Wires NO	PR30S-DM5ATO	PR30S-DM5ATO-E2
	AC 2 Wires NC	PR30S-DM5ATC	PR30S-DM5ATC-E2

### Technical Parameter

Supply voltage	20...250 VAC	20...250 VAC
Light source	Infrared LED ( 880nm )	Infrared LED ( 880nm )
Load current	< 300mA	< 300mA
Voltage drop	< 10V	< 10V
Leakage current	< 3mA	< 3mA
Reflector	TD-09	TD-09
Repeat accuracy	< 5%	< 5%
Response time	< 50ms	< 50ms
Output indicator	Yellow LED	Yellow LED
Polarity protection	...	...
Impulse voltage withstand	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s
Short-circuit protection	...	...
Ambient temperature	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%
Protection degree	IP67	IP67
Housing material	PBT	PBT
Connection	2m PVC Cable	M12 Connector
Certification	CE U <sub>L</sub>	CE U <sub>L</sub>

\* Cable material and length can be customized



Item Code	PSF	PSF
Sensing mode	Retro reflection	Retro reflection
Sensing distance	2m ( Adjustable )	2m ( Adjustable )

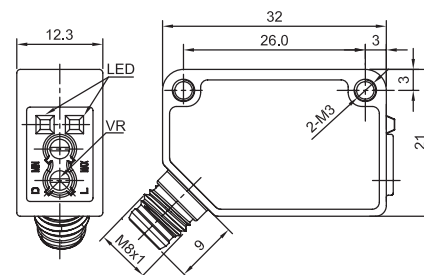
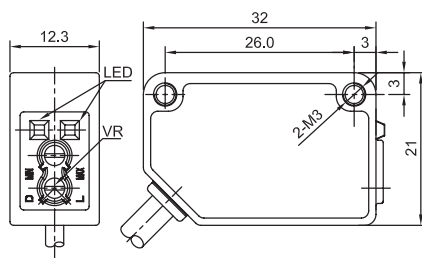


Output	NPN NO	PSF-DM2DNO	PSF-DM2DNO-E1
	NPN NC	PSF-DM2DNC	PSF-DM2DNC-E1
	NPN NO/NC	PSF-DM2DNB	PSF-DM2DNB-E1
Output	PNP NO	PSF-DM2DPO	PSF-DM2DPO-E1
	PNP NC	PSF-DM2DPC	PSF-DM2DPC-E1
	PNP NO/NC	PSF-DM2DPB	PSF-DM2DPB-E1

### Technical Parameter

Supply voltage	12...24 VDC	12...24 VDC
Light source	Infrared LED ( 880nm )	Infrared LED ( 880nm )
Load current	<100mA	<100mA
Voltage drop	<2.5V	<2.5V
Consumption current	<25mA	<25mA
Reflector	TD-09	TD-09
Repeat accuracy	<5%	<5%
Response time	<1ms	<1ms
Output indicator	Yellow LED	Yellow LED
Polarity protection	yes	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	yes	yes
Ambient temperature	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%
Protection degree	IP67	IP67
Housing material	PC/ABS	PC/ABS
Connection	2m PVC Cable	M8 Connector
Certification	CE	CE

\* Cable material and length can be customized



Item Code	PTF		PTF	
Sensing mode	Retro reflection			
Sensing distance	3m ( Non-adjustable )	5m ( Non-adjustable )	3m ( Non-adjustable )	5m ( Non-adjustable )

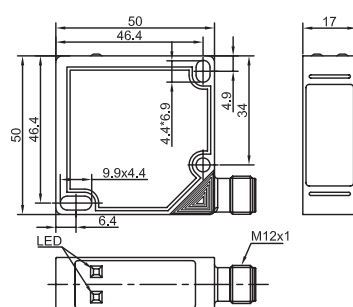
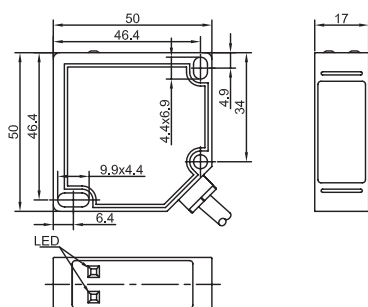


Output	NPN NO	PTF-DM3DNO	PTF-DM5DNO	PTF-DM3DNO-E2	PTF-DM5DNO-E2
	NPN NC	PTF-DM3DNC	PTF-DM5DNC	PTF-DM3DNC-E2	PTF-DM5DNC-E2
	NPN NO+NC	PTF-DM3DNR	PTF-DM5DNR	PTF-DM3DNR-E2	PTF-DM5DNR-E2
Output	PNP NO	PTF-DM3DPO	PTF-DM5DPO	PTF-DM3DPO-E2	PTF-DM5DPO-E2
	PNP NC	PTF-DM3DPC	PTF-DM5DPC	PTF-DM3DPC-E2	PTF-DM5DPC-E2
	PNP NO+NC	PTF-DM3DPR	PTF-DM5DPR	PTF-DM3DPR-E2	PTF-DM5DPR-E2

### Technical Parameter

Supply voltage	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC
Light source	Infrared LED ( 880nm )	Infrared LED ( 880nm )	Infrared LED ( 880nm )	Infrared LED ( 880nm )
Load current	<200mA	<200mA	<200mA	<200mA
Voltage drop	<2.5V	<2.5V	<2.5V	<2.5V
Consumption current	<25mA	<25mA	<25mA	<25mA
Reflector	TD-09	TD-09	TD-09	TD-09
Repeat accuracy	<5%	<5%	<5%	<5%
Response time	< 8.2ms	< 8.2ms	< 8.2ms	< 8.2ms
Output indicator	Yellow LED	Yellow LED	Yellow LED	Yellow LED
Polarity protection	yes	yes	yes	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	yes	yes	yes	yes
Ambient temperature	-15...+55°C	-15...+55°C	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP64	IP64	IP64	IP64
Housing material	PC/ABS	PC/ABS	PC/ABS	PC/ABS
Connection	2m PVC Cable	2m PVC Cable	M12 Connector	M12 Connector
Certification	CE	CE	CE	CE

\* Cable material and length can be customized

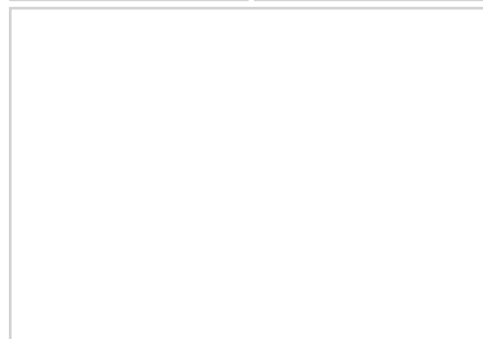
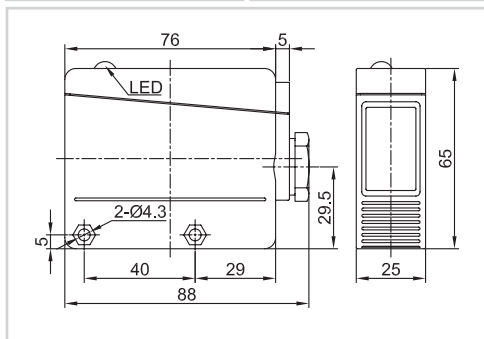




Item Code	PTL		
Sensing mode	Retro reflection		
Sensing distance	5m ( Non-adjustable )		



Output				
	NPN NO+NC	PTL-DM5DNRT3-D		
Output				
	PNP NO+NC	PTL-DM5DPRT3-D		

Technical Parameter			
Supply voltage	10...30 VDC		
Light source	Infrared LED ( 880nm )		
Load current	<200mA		
Voltage drop	<2.5V		
Consumption current	<25mA		
Reflector	TD-05		
Repeat accuracy	<5%		
Response time	< 8.2ms		
Output indicator	Yellow LED		
Polarity protection	yes		
Impulse voltage withstand	1000V/AC 50/60Hz 60s		
Short-circuit protection	yes		
Ambient temperature	-15...+55°C		
Ambient moisture	35...95%		
Protection degree	IP67		
Housing material	PC/ABS		
Connection	Terminal Connect		
Certification	CE		

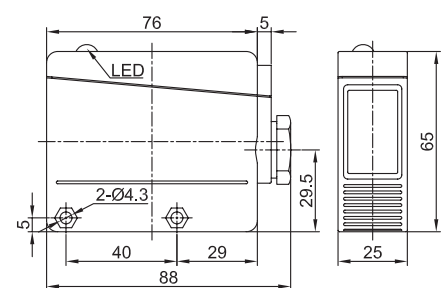
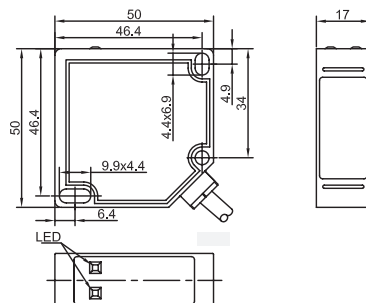


Item Code		PTF		PTL	
Sensing mode		Retro reflection		Retro reflection	
Sensing distance		3m ( Non-adjustable )	5m ( Non-adjustable )	5m ( Non-adjustable )	
					
Output					
	Relay output	PTF-DM3SK	PTF-DM5SK	PTL-DM5SKT3-D	

### Technical Parameter

Supply voltage	24...240 VAC/12...240 VDC		24...240 VAC/12...240 VDC	
Light source	Infrared LED ( 880nm )		Infrared LED ( 880nm )	
Load current	<3A		<3A	
Voltage drop	...		...	
Leakage current	...		...	
Reflector	TD-09		TD-05	
Repeat accuracy	<5%		<5%	
Response time	< 30ms		< 30ms	
Output indicator	Yellow LED	Yellow LED	Yellow LED	
Polarity protection	...	...	...	
Impulse voltage withstand	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s	
Short-circuit protection	...	...	...	
Ambient temperature	-15...+55°C		-15...+55°C	
Ambient moisture	35...95%		35...95%	
Protection degree	IP64	IP64	IP67	
Housing material	PC/ABS		PC/ABS	
Connection	2m PVC Cable	2m PVC Cable	Terminal Connect	
Certification	CE CCC		CE CCC	

\* Cable material and length can be customized



Item Code	PR12		PR12	
Sensing mode	Through beam(Emitter)	Through beam(Receiver)	Through beam(Emitter)	Through beam(Receiver)
Sensing distance	5m ( Non-adjustable )	5m ( Non-adjustable )	10m ( Non-adjustable )	10m ( Non-adjustable )

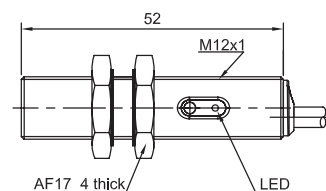
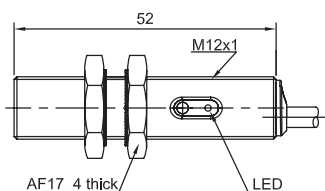


Output	NPN NO	PR12-TM5D	PR12-TM5DNO	PR12-TM10D	PR12-TM10DNO
	NPN NC	PR12-TM5D	PR12-TM5DNC	PR12-TM10D	PR12-TM10DNC
Output	PNP NO	PR12-TM5D	PR12-TM5DPO	PR12-TM10D	PR12-TM10DPO
	PNP NC	PR12-TM5D	PR12-TM5DPC	PR12-TM10D	PR12-TM10DPC

### Technical Parameter

Supply voltage	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC
Light source	Infrared LED ( 880nm )	...	Infrared LED ( 880nm )	...
Load current	...	<200mA	...	<200mA
Voltage drop	...	<2.5V	...	<2.5V
Consumption current	<25mA	<25mA	<25mA	<25mA
Hysteresis	...	...	...	...
Repeat accuracy	<5%	<5%	<5%	<5%
Response time	...	< 8.2ms	...	< 8.2ms
Output indicator	Green LED	Yellow LED	Green LED	Yellow LED
Polarity protection	yes	yes	yes	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	...	yes	...	yes
Ambient temperature	-15...+55°C	-15...+55°C	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP67	IP67	IP67	IP67
Housing material	Nickel-copper Alloy	Nickel-copper Alloy	Nickel-copper Alloy	Nickel-copper Alloy
Connection	2m PVC Cable	2m PVC Cable	2m PVC Cable	2m PVC Cable
Certification	CE U <sub>L</sub>	CE U <sub>L</sub>	CE U <sub>L</sub>	CE U <sub>L</sub>

\* Cable material and length can be customized





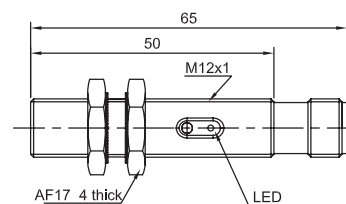
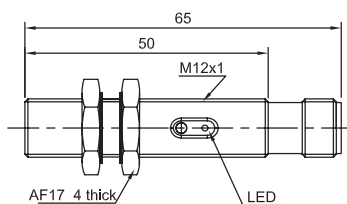
Item Code	PR12		PR12	
Sensing mode	Through beam(Emitter)	Through beam(Receiver)	Through beam(Emitter)	Through beam(Receiver)
Sensing distance	5m ( Non-adjustable )	5m ( Non-adjustable )	10m ( Non-adjustable )	10m ( Non-adjustable )



Output	NPN NO	PR12-TM5D-E2	PR12-TM5DNO-E2	PR12-TM10D-E2	PR12-TM10DNO-E2
	NPN NC	PR12-TM5D-E2	PR12-TM5DNC-E2	PR12-TM10D-E2	PR12-TM10DNC-E2
Output	PNP NO	PR12-TM5D-E2	PR12-TM5DPO-E2	PR12-TM10D-E2	PR12-TM10DPO-E2
	PNP NC	PR12-TM5D-E2	PR12-TM5DPC-E2	PR12-TM10D-E2	PR12-TM10DPC-E2

### Technical Parameter

Supply voltage	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC
Light source	Infrared LED ( 880nm )	...	Infrared LED ( 880nm )	...
Load current	...	<200mA	...	<200mA
Voltage drop	...	<2.5V	...	<2.5V
Consumption current	<25mA	<25mA	<25mA	<25mA
Hysteresis	...	...	...	...
Repeat accuracy	<5%	<5%	<5%	<5%
Response time	...	< 8.2ms	...	< 8.2ms
Output indicator	Green LED	Yellow LED	Green LED	Yellow LED
Polarity protection	yes	yes	yes	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	...	yes	...	yes
Ambient temperature	-15...+55°C	-15...+55°C	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP67	IP67	IP67	IP67
Housing material	Nickel-copper Alloy	Nickel-copper Alloy	Nickel-copper Alloy	Nickel-copper Alloy
Connection	M12 Connector	M12 Connector	M12 Connector	M12 Connector
Certification	CE U <sub>L</sub>	CE U <sub>L</sub>	CE U <sub>L</sub>	CE U <sub>L</sub>



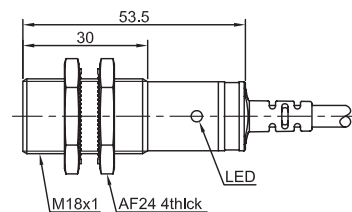
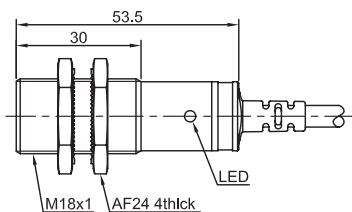
Item Code	PR18		PR18	
Sensing mode	Through beam(Emitter)	Through beam(Receiver)	Through beam(Emitter)	Through beam(Receiver)
Sensing distance	10m ( Non-adjustable )	10m ( Non-adjustable )	20m ( Non-adjustable )	20m ( Non-adjustable )



Output	NPN NO	PR18-TM10D	PR18-TM10DNO	PR18-TM20D	PR18-TM20DNO
	NPN NC	PR18-TM10D	PR18-TM10DNC	PR18-TM20D	PR18-TM20DNC
	NPN NO+NC	PR18-TM10D	PR18-TM10DNR	PR18-TM20D	PR18-TM20DNR
Output	PNP NO	PR18-TM10D	PR18-TM10DPO	PR18-TM20D	PR18-TM20DPO
	PNP NC	PR18-TM10D	PR18-TM10DPC	PR18-TM20D	PR18-TM20DPC
	PNP NO+NC	PR18-TM10D	PR18-TM10DPR	PR18-TM20D	PR18-TM20DPR

Technical Parameter				
Supply voltage	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC
Light source	Infrared LED ( 880nm )	...	Infrared LED ( 880nm )	...
Load current	...	<200mA	...	<200mA
Voltage drop	...	<2.5V	...	<2.5V
Consumption current	<25mA	<25mA	<25mA	<25mA
Hysteresis	...	...	...	...
Repeat accuracy	<5%	<5%	<5%	<5%
Response time	...	< 8.2ms	...	< 8.2ms
Output indicator	Green LED	Yellow LED	Green LED	Yellow LED
Polarity protection	yes	yes	yes	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	...	yes	...	yes
Ambient temperature	-15...+55°C	-15...+55°C	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP67	IP67	IP67	IP67
Housing material	Nickel-copper Alloy	Nickel-copper Alloy	Nickel-copper Alloy	Nickel-copper Alloy
Connection	2m PVC Cable	2m PVC Cable	2m PVC Cable	2m PVC Cable
Certification	CE U <sub>L</sub>	CE U <sub>L</sub>	CE U <sub>L</sub>	CE U <sub>L</sub>

\* Cable material and length can be customized



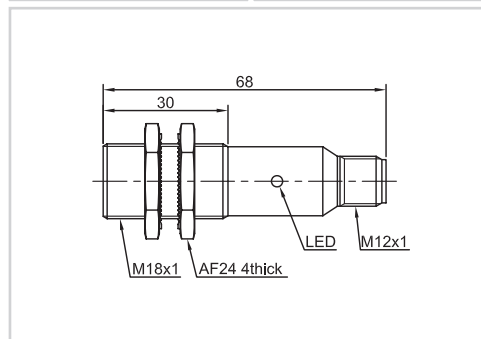
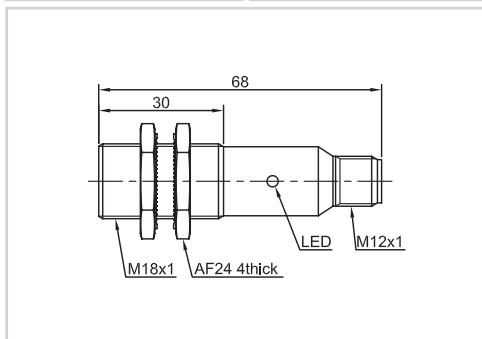
Item Code	PR18		PR18	
Sensing mode	Through beam(Emitter)	Through beam(Receiver)	Through beam(Emitter)	Through beam(Receiver)
Sensing distance	10m ( Non-adjustable )	10m ( Non-adjustable )	20m ( Non-adjustable )	20m ( Non-adjustable )



Output	NPN NO	PR18-TM10D-E2	PR18-TM10DNO-E2	PR18-TM20D-E2	PR18-TM20DNO-E2
	NPN NC	PR18-TM10D-E2	PR18-TM10DNC-E2	PR18-TM20D-E2	PR18-TM20DNC-E2
	NPN NO+NC	PR18-TM10D-E2	PR18-TM10DNR-E2	PR18-TM20D-E2	PR18-TM20DNR-E2
Output	PNP NO	PR18-TM10D-E2	PR18-TM10DPO-E2	PR18-TM20D-E2	PR18-TM20DPO-E2
	PNP NC	PR18-TM10D-E2	PR18-TM10DPC-E2	PR18-TM20D-E2	PR18-TM20DPC-E2
	PNP NO+NC	PR18-TM10D-E2	PR18-TM10DPR-E2	PR18-TM20D-E2	PR18-TM20DPR-E2

### Technical Parameter

Supply voltage	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC
Light source	Infrared LED ( 880nm )	...	Infrared LED ( 880nm )	...
Load current	...	<200mA	...	<200mA
Voltage drop	...	<2.5V	...	<2.5V
Consumption current	<25mA	<25mA	<25mA	<25mA
Hysteresis	...	...	...	...
Repeat accuracy	<5%	<5%	<5%	<5%
Response time	...	<8.2ms	...	<8.2ms
Output indicator	Green LED	Yellow LED	Green LED	Yellow LED
Polarity protection	yes	yes	yes	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	...	yes	...	yes
Ambient temperature	-15...+55°C	-15...+55°C	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP67	IP67	IP67	IP67
Housing material	Nickel-copper Alloy	Nickel-copper Alloy	Nickel-copper Alloy	Nickel-copper Alloy
Connection	M12 Connector	M12 Connector	M12 Connector	M12 Connector
Certification	CE U <sub>L</sub>	CE U <sub>L</sub>	CE U <sub>L</sub>	CE U <sub>L</sub>



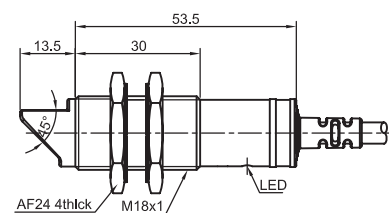
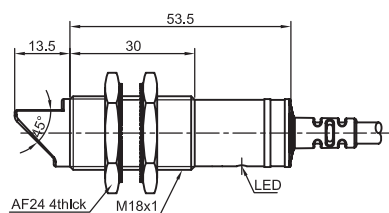
Item Code	PR18G		PR18G	
Sensing mode	Through beam(Emitter)	Through beam(Receiver)	Through beam(Emitter)	Through beam(Receiver)
Sensing distance	10m ( Non-adjustable )	10m ( Non-adjustable )	20m ( Non-adjustable )	20m ( Non-adjustable )



Output	NPN NO	PR18G-TM10D	PR18G-TM10DNO	PR18G-TM20D	PR18G-TM20DNO
	NPN NC	PR18G-TM10D	PR18G-TM10DNC	PR18G-TM20D	PR18G-TM20DNC
	NPN NO+NC	PR18G-TM10D	PR18G-TM10DNR	PR18G-TM20D	PR18G-TM20DNR
Output	PNP NO	PR18G-TM10D	PR18G-TM10DPO	PR18G-TM20D	PR18G-TM20DPO
	PNP NC	PR18G-TM10D	PR18G-TM10DPC	PR18G-TM20D	PR18G-TM20DPC
	PNP NO+NC	PR18G-TM10D	PR18G-TM10DPR	PR18G-TM20D	PR18G-TM20DPR

Technical Parameter				
Supply voltage	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC
Light source	Infrared LED ( 880nm )	...	Infrared LED ( 880nm )	...
Load current	...	<200mA	...	<200mA
Voltage drop	...	<2.5V	...	<2.5V
Consumption current	<25mA	<25mA	<25mA	<25mA
Hysteresis	...	...	...	...
Repeat accuracy	<5%	<5%	<5%	<5%
Response time	...	<8.2ms	...	<8.2ms
Output indicator	Green LED	Yellow LED	Green LED	Yellow LED
Polarity protection	yes	yes	yes	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	...	yes	...	yes
Ambient temperature	-15...+55°C	-15...+55°C	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP65	IP65	IP65	IP65
Housing material	Nickel-copper Alloy	Nickel-copper Alloy	Nickel-copper Alloy	Nickel-copper Alloy
Connection	2m PVC Cable	2m PVC Cable	2m PVC Cable	2m PVC Cable
Certification	CE UL	CE UL	CE UL	CE UL

\* Cable material and length can be customized

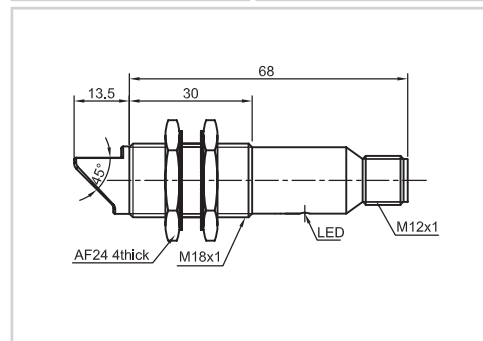
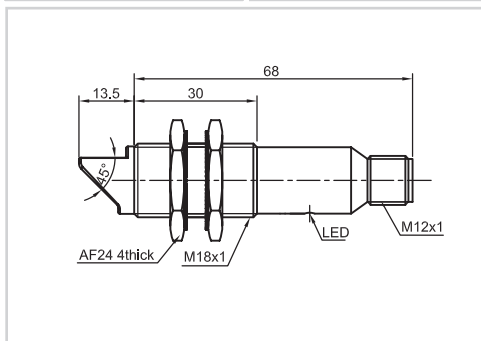


Item Code	PR18G		PR18G	
Sensing mode	Through beam(Emitter)	Through beam(Receiver)	Through beam(Emitter)	Through beam(Receiver)
Sensing distance	10m ( Non-adjustable )	10m ( Non-adjustable )	20m ( Non-adjustable )	20m ( Non-adjustable )



Output	NPN NO	PR18G-TM10D-E2	PR18G-TM10DNO-E2	PR18G-TM20D-E2	PR18G-TM20DNO-E2
	NPN NC	PR18G-TM10D-E2	PR18G-TM10DNC-E2	PR18G-TM20D-E2	PR18G-TM20DNC-E2
	NPN NO+NC	PR18G-TM10D-E2	PR18G-TM10DNR-E2	PR18G-TM20D-E2	PR18G-TM20DNR-E2
Output	PNP NO	PR18G-TM10D-E2	PR18G-TM10DPO-E2	PR18G-TM20D-E2	PR18G-TM20DPO-E2
	PNP NC	PR18G-TM10D-E2	PR18G-TM10DPC-E2	PR18G-TM20D-E2	PR18G-TM20DPC-E2
	PNP NO+NC	PR18G-TM10D-E2	PR18G-TM10DPR-E2	PR18G-TM20D-E2	PR18G-TM20DPR-E2

Technical Parameter				
Supply voltage	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC
Light source	Infrared LED ( 880nm )	...	Infrared LED ( 880nm )	...
Load current	...	<200mA	...	<200mA
Voltage drop	...	<2.5V	...	<2.5V
Consumption current	<25mA	<25mA	<25mA	<25mA
Hysteresis	...	...	...	...
Repeat accuracy	<5%	<5%	<5%	<5%
Response time	...	< 8.2ms	...	< 8.2ms
Output indicator	Green LED	Yellow LED	Green LED	Yellow LED
Polarity protection	yes	yes	yes	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	...	yes	...	yes
Ambient temperature	-15...+55°C	-15...+55°C	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP65	IP65	IP65	IP65
Housing material	Nickel-copper Alloy	Nickel-copper Alloy	Nickel-copper Alloy	Nickel-copper Alloy
Connection	M12 Connector	M12 Connector	M12 Connector	M12 Connector
Certification	CE U <sub>L</sub>	CE U <sub>L</sub>	CE U <sub>L</sub>	CE U <sub>L</sub>



Item Code	PR30		PR30	
Sensing mode	Through beam(Emitter)	Through beam(Receiver)	Through beam(Emitter)	Through beam(Receiver)
Sensing distance	20m ( Non-adjustable )	20m ( Non-adjustable )	40m ( Non-adjustable )	40m ( Non-adjustable )

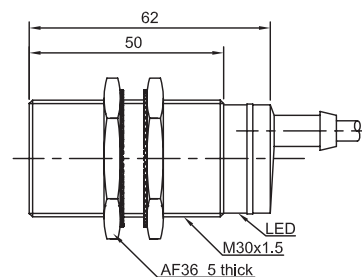
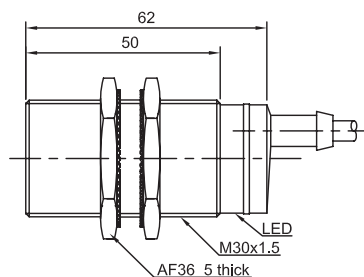


Output	NPN NO	PR30-TM20D	PR30-TM20DNO	PR30-TM40D	PR30-TM40DNO
	NPN NC	PR30-TM20D	PR30-TM20DNC	PR30-TM40D	PR30-TM40DNC
	NPN NO+NC	PR30-TM20D	PR30-TM20DNR	PR30-TM40D	PR30-TM40DNR
Output	PNP NO	PR30-TM20D	PR30-TM20DPO	PR30-TM40D	PR30-TM40DPO
	PNP NC	PR30-TM20D	PR30-TM20DPC	PR30-TM40D	PR30-TM40DPC
	PNP NO+NC	PR30-TM20D	PR30-TM20DPR	PR30-TM40D	PR30-TM40DPR

### Technical Parameter

Supply voltage	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC
Light source	Infrared LED ( 880nm )	...	Infrared LED ( 880nm )	...
Load current	...	<200mA	...	<200mA
Voltage drop	...	<2.5V	...	<2.5V
Consumption current	<25mA	<25mA	<25mA	<25mA
Hysteresis	...	...	...	...
Repeat accuracy	<5%	<5%	<5%	<5%
Response time	...	<8.2ms	...	<8.2ms
Output indicator	Green LED	Yellow LED	Green LED	Yellow LED
Polarity protection	yes	yes	yes	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	...	yes	...	yes
Ambient temperature	-15...+55°C	-15...+55°C	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP67	IP67	IP67	IP67
Housing material	Nickel-copper Alloy	Nickel-copper Alloy	Nickel-copper Alloy	Nickel-copper Alloy
Connection	2m PVC Cable	2m PVC Cable	2m PVC Cable	2m PVC Cable
Certification	CE U <sub>L</sub>	CE U <sub>L</sub>	CE	CE

\* Cable material and length can be customized



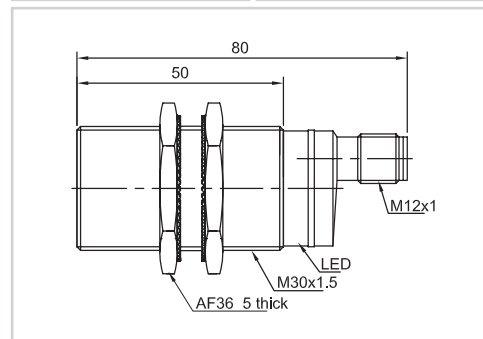
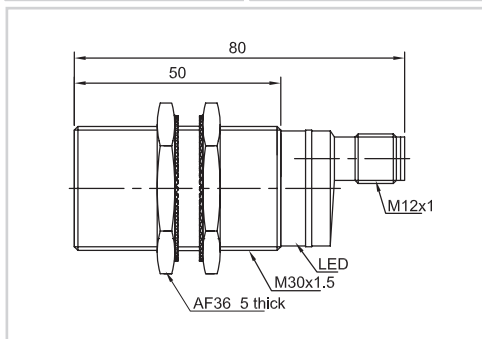
Item Code	PR30		PR30	
Sensing mode	Through beam(Emitter)	Through beam(Receiver)	Through beam(Emitter)	Through beam(Receiver)
Sensing distance	20m ( Non-adjustable )	20m ( Non-adjustable )	40m ( Non-adjustable )	40m ( Non-adjustable )



Output	NPN NO	PR30-TM20D-E2	PR30-TM20DNO-E2	PR30-TM40D-E2	PR30-TM40DNO-E2
	NPN NC	PR30-TM20D-E2	PR30-TM20DNC-E2	PR30-TM40D-E2	PR30-TM40DNC-E2
	NPN NO+NC	PR30-TM20D-E2	PR30-TM20DNR-E2	PR30-TM40D-E2	PR30-TM40DNR-E2
Output	PNP NO	PR30-TM20D-E2	PR30-TM20DPO-E2	PR30-TM40D-E2	PR30-TM40DPO-E2
	PNP NC	PR30-TM20D-E2	PR30-TM20DPC-E2	PR30-TM40D-E2	PR30-TM40DPC-E2
	PNP NO+NC	PR30-TM20D-E2	PR30-TM20DPR-E2	PR30-TM40D-E2	PR30-TM40DPR-E2

### Technical Parameter

Supply voltage	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC
Light source	Infrared LED ( 880nm )	...	Infrared LED ( 880nm )	...
Load current	...	<200mA	...	<200mA
Voltage drop	...	<2.5V	...	<2.5V
Consumption current	<25mA	<25mA	<25mA	<25mA
Hysteresis	...	...	...	...
Repeat accuracy	<5%	<5%	<5%	<5%
Response time	...	< 8.2ms	...	< 8.2ms
Output indicator	Green LED	Yellow LED	Green LED	Yellow LED
Polarity protection	yes	yes	yes	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	...	yes	...	yes
Ambient temperature	-15...+55°C	-15...+55°C	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP67	IP67	IP67	IP67
Housing material	Nickel-copper Alloy	Nickel-copper Alloy	Nickel-copper Alloy	Nickel-copper Alloy
Connection	M12 Connector	M12 Connector	M12 Connector	M12 Connector
Certification	CE U <sub>L</sub>	CE U <sub>L</sub>	CE	CE



Item Code	PR30L		PR30L	
Sensing mode	Through beam(Emitter)	Through beam(Receiver)	Through beam(Emitter)	Through beam(Receiver)
Sensing distance	100m ( Non-adjustable )	100m ( Non-adjustable )	150m ( Non-adjustable )	150m ( Non-adjustable )

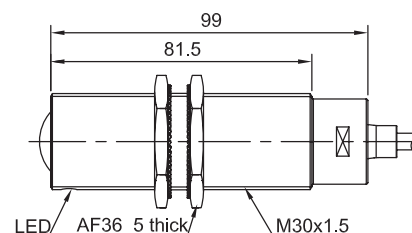
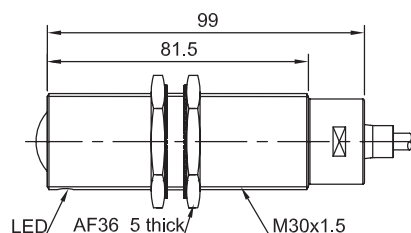


Output	NPN/PNP NO/NC	PR30L-TM100D	PR30L-TM100DEB	PR30L-TM150D	PR30L-TM150DEB
	NPN/PNP NO/NC	PR30L-TM100D 1001	PR30L-TM100DEB 1001	PR30L-TM150D 1001	PR30L-TM150DEB 1001
	NPN/PNP NO/NC	PR30L-TM100D 1002	PR30L-TM100DEB 1002	PR30L-TM150D 1002	PR30L-TM150DEB 1002

### Technical Parameter

Supply voltage	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC
Light source	Infrared LED ( 880nm )	...	Infrared LED ( 880nm )	...
Load current	...	<200mA	...	<200mA
Voltage drop	...	<2.5V	...	<2.5V
Consumption current	<25mA	<25mA	<25mA	<25mA
Hysteresis	...	...	...	...
Repeat accuracy	<5%	<5%	<5%	<5%
Response time	...	< 8.2ms	...	< 8.2ms
Output indicator	Green LED	Red LED	Green LED	Red LED
Polarity protection	yes	yes	yes	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	...	yes	...	yes
Ambient temperature	-15...+55°C	-15...+55°C	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP67	IP67	IP67	IP67
Housing material	Nickel-copper Alloy	Nickel-copper Alloy	Nickel-copper Alloy	Nickel-copper Alloy
Connection	2m PVC Cable	2m PVC Cable	2m PVC Cable	2m PVC Cable
Certification	CE	CE	CE	CE

\* Cable material and length can be customized





Item Code	PR18		PR18	
Sensing mode	Through beam(Emitter)	Through beam(Receiver)	Through beam(Emitter)	Through beam(Receiver)
Sensing distance	10m ( Non-adjustable )	10m ( Non-adjustable )	10m ( Non-adjustable )	10m ( Non-adjustable )

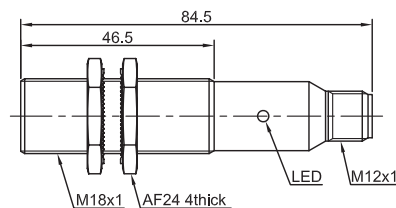
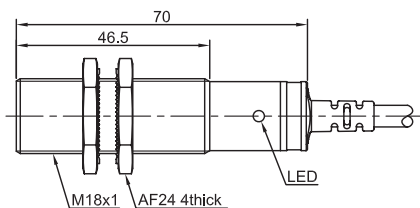


Output	AC 2 Wires NO	PR18-TM10A	PR18-TM10ATO	PR18-TM10A-E2	PR18-TM10ATO-E2
	AC 2 Wires NC	PR18-TM10A	PR18-TM10ATC	PR18-TM10A-E2	PR18-TM10ATC-E2

### Technical Parameter

Supply voltage	20...250 VAC	20...250 VAC	20...250 VAC	20...250 VAC
Light source	Infrared LED ( 880nm )	...	Infrared LED ( 880nm )	...
Load current	...	< 300mA	...	< 300mA
Voltage drop	...	< 10V	...	< 10V
Leakage current	< 3mA	< 3mA	< 3mA	< 3mA
Hysteresis	...	...	...	...
Repeat accuracy	< 5%	< 5%	< 5%	< 5%
Response time	...	< 50ms	...	< 50ms
Output indicator	Green LED	Yellow LED	Green LED	Yellow LED
Polarity protection	...	...	...	...
Impulse voltage withstand	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s
Short-circuit protection	...	...	...	...
Ambient temperature	-15...+55°C	-15...+55°C	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	Ip67	Ip67	Ip67	Ip67
Housing material	Nickel-copper Alloy	Nickel-copper Alloy	Nickel-copper Alloy	Nickel-copper Alloy
Connection	2m PVC Cable	2m PVC Cable	M12 Connector	M12 Connector
Certification	CE U <sub>L</sub>	CE U <sub>L</sub>	CE U <sub>L</sub>	CE U <sub>L</sub>

\* Cable material and length can be customized



Item Code	PR18G		PR18G	
Sensing mode	Through beam(Emitter)	Through beam(Receiver)	Through beam(Emitter)	Through beam(Receiver)
Sensing distance	10m ( Non-adjustable )	10m ( Non-adjustable )	10m ( Non-adjustable )	10m ( Non-adjustable )

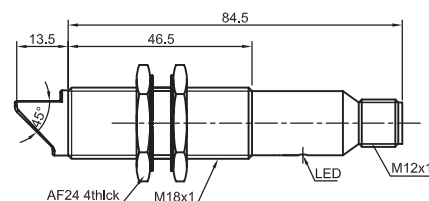
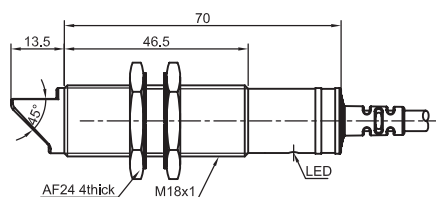


Output		PR18G-TM10A	PR18G-TM10ATO	PR18G-TM10A-E2	PR18G-TM10ATO-E2
AC 2 Wires NO		PR18G-TM10A	PR18G-TM10ATO	PR18G-TM10A-E2	PR18G-TM10ATO-E2
AC 2 Wires NC		PR18G-TM10A	PR18G-TM10ATC	PR18G-TM10A-E2	PR18G-TM10ATC-E2

### Technical Parameter

Supply voltage	20...250 VAC	20...250 VAC	20...250 VAC	20...250 VAC
Light source	Infrared LED ( 880nm )	...	Infrared LED ( 880nm )	...
Load current	...	< 300mA	...	< 300mA
Voltage drop	...	< 10V	...	< 10V
Leakage current	< 3mA	< 3mA	< 3mA	< 3mA
Hysteresis	...	...	...	...
Repeat accuracy	< 5%	< 5%	< 5%	< 5%
Response time	...	< 50ms	...	< 50ms
Output indicator	Green LED	Yellow LED	Green LED	Yellow LED
Polarity protection	...	...	...	...
Impulse voltage withstand	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s
Short-circuit protection	...	...	...	...
Ambient temperature	-15...+55°C	-15...+55°C	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP65	IP65	IP65	IP65
Housing material	Nickel-copper Alloy	Nickel-copper Alloy	Nickel-copper Alloy	Nickel-copper Alloy
Connection	2m PVC Cable	2m PVC Cable	M12 Connector	M12 Connector
Certification	CE U <sub>L</sub>	CE U <sub>L</sub>	CE U <sub>L</sub>	CE U <sub>L</sub>

\* Cable material and length can be customized



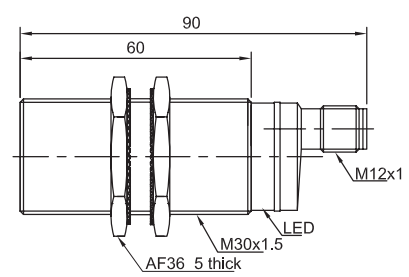
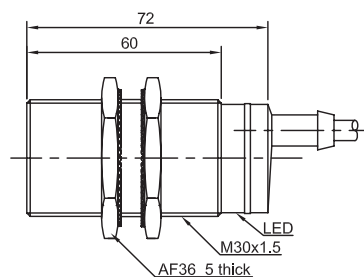
Item Code	PR30		PR30	
Sensing mode	Through beam(Emitter)	Through beam(Receiver)	Through beam(Emitter)	Through beam(Receiver)
Sensing distance	20m ( Non-adjustable )	20m ( Non-adjustable )	20m ( Non-adjustable )	20m ( Non-adjustable )



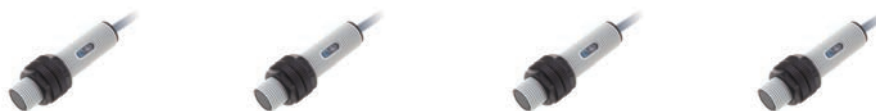
Output	AC 2 Wires NO	PR30-TM20A	PR30-TM20ATO	PR30-TM20A-E2	PR30-TM20ATO-E2
	AC 2 Wires NC	PR30-TM20A	PR30-TM20ATC	PR30-TM20A-E2	PR30-TM20ATC-E2
Output					

Technical Parameter				
Supply voltage	20...250 VAC	20...250 VAC	20...250 VAC	20...250 VAC
Light source	Infrared LED ( 880nm )	...	Infrared LED ( 880nm )	...
Load current	...	< 300mA	...	< 300mA
Voltage drop	...	< 10V	...	< 10V
Leakage current	< 3mA	< 3mA	< 3mA	< 3mA
Hysteresis	...	...	...	...
Repeat accuracy	< 5%	< 5%	< 5%	< 5%
Response time	...	< 50ms	...	< 50ms
Output indicator	Green LED	Yellow LED	Green LED	Yellow LED
Polarity protection	...	...	...	...
Impulse voltage withstand	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s
Short-circuit protection	...	...	...	...
Ambient temperature	-15...+55°C	-15...+55°C	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	Ip67	Ip67	Ip67	Ip67
Housing material	Nickel-copper Alloy	Nickel-copper Alloy	Nickel-copper Alloy	Nickel-copper Alloy
Connection	2m PVC Cable	2m PVC Cable	M12 Connector	M12 Connector
Certification	CE U <sub>L</sub>	CE U <sub>L</sub>	CE U <sub>L</sub>	CE U <sub>L</sub>

\* Cable material and length can be customized



Item Code	PR12S		PR12S	
Sensing mode	Through beam(Emitter)	Through beam(Receiver)	Through beam(Emitter)	Through beam(Receiver)
Sensing distance	5m ( Non-adjustable )	5m ( Non-adjustable )	10m ( Non-adjustable )	10m ( Non-adjustable )

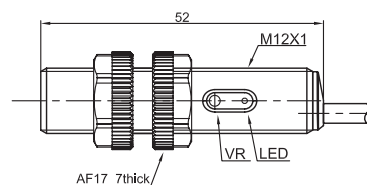
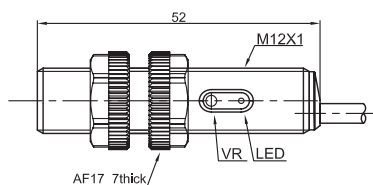


Output	NPN NO	PR12S-TM5D	PR12S-TM5DNO	PR12S-TM10D	PR12S-TM10DNO
	NPN NC	PR12S-TM5D	PR12S-TM5DNC	PR12S-TM10D	PR12S-TM10DNC
	NPN NO+NC	PR12S-TM5D	PR12S-TM5DNR	PR12S-TM10D	PR12S-TM10DNR
Output	PNP NO	PR12S-TM5D	PR12S-TM5DPO	PR12S-TM10D	PR12S-TM10DPO
	PNP NC	PR12S-TM5D	PR12S-TM5DPC	PR12S-TM10D	PR12S-TM10DPC
	PNP NO+NC	PR12S-TM5D	PR12S-TM5DPR	PR12S-TM10D	PR12S-TM10DPR

### Technical Parameter

Supply voltage	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC
Light source	Infrared LED ( 880nm )	...	Infrared LED ( 880nm )	...
Load current	...	< 200mA	...	< 200mA
Voltage drop	...	< 2.5V	...	< 2.5V
Consumption current	< 25mA	< 25mA	< 25mA	< 25mA
Hysteresis	...	...	...	...
Repeat accuracy	< 5%	< 5%	< 5%	< 5%
Response time	...	< 8.2ms	...	< 8.2ms
Output indicator	Green LED	Yellow LED	Green LED	Yellow LED
Polarity protection	yes	yes	yes	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	...	yes	...	yes
Ambient temperature	-15...+55°C	-15...+55°C	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP67	IP67	IP67	IP67
Housing material	PBT	PBT	PBT	PBT
Connection	2m PVC Cable	2m PVC Cable	2m PVC Cable	2m PVC Cable
Certification	CE U <sub>L</sub>	CE U <sub>L</sub>	CE U <sub>L</sub>	CE U <sub>L</sub>

\* Cable material and length can be customized



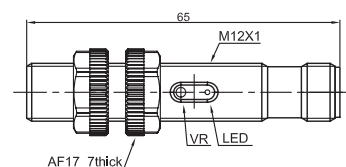
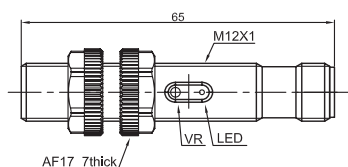
Item Code	PR12S		PR12S	
Sensing mode	Through beam(Emitter)	Through beam(Receiver)	Through beam(Emitter)	Through beam(Receiver)
Sensing distance	5m ( Non-adjustable )	5m ( Non-adjustable )	10m ( Non-adjustable )	10m ( Non-adjustable )



Output	NPN NO	PR12S-TM5D-E2	PR12S-TM5DNO-E2	PR12S-TM10D-E2	PR12S-TM10DNO-E2
	NPN NC	PR12S-TM5D-E2	PR12S-TM5DNC-E2	PR12S-TM10D-E2	PR12S-TM10DNC-E2
	NPN NO+NC	PR12S-TM5D-E2	PR12S-TM5DNR-E2	PR12S-TM10D-E2	PR12S-TM10DNR-E2
Output	PNP NO	PR12S-TM5D-E2	PR12S-TM5DPO-E2	PR12S-TM10D-E2	PR12S-TM10DPO-E2
	PNP NC	PR12S-TM5D-E2	PR12S-TM5DPC-E2	PR12S-TM10D-E2	PR12S-TM10DPC-E2
	PNP NO+NC	PR12S-TM5D-E2	PR12S-TM5DPR-E2	PR12S-TM10D-E2	PR12S-TM10DPR-E2

### Technical Parameter

Supply voltage	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC
Light source	Infrared LED ( 880nm )	...	Infrared LED ( 880nm )	...
Load current	...	< 200mA	...	< 200mA
Voltage drop	...	< 2.5V	...	< 2.5V
Consumption current	< 25mA	< 25mA	< 25mA	< 25mA
Hysteresis	...	...	...	...
Repeat accuracy	< 5%	< 5%	< 5%	< 5%
Response time	...	< 8.2ms	...	< 8.2ms
Output indicator	Green LED	Yellow LED	Green LED	Yellow LED
Polarity protection	yes	yes	yes	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	...	yes	...	yes
Ambient temperature	-15...+55°C	-15...+55°C	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP67	IP67	IP67	IP67
Housing material	PBT	PBT	PBT	PBT
Connection	M12 Connector	M12 Connector	M12 Connector	M12 Connector
Certification	CE U <sub>L</sub>	CE U <sub>L</sub>	CE U <sub>L</sub>	CE U <sub>L</sub>



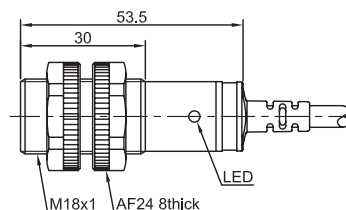
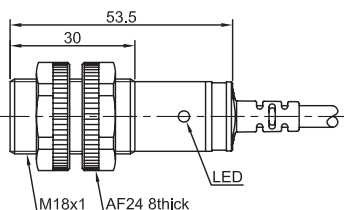
Item Code	PR18S		PR18S	
Sensing mode	Through beam(Emitter)	Through beam(Receiver)	Through beam(Emitter)	Through beam(Receiver)
Sensing distance	10m ( Non-adjustable )	10m ( Non-adjustable )	20m ( Non-adjustable )	20m ( Non-adjustable )



Output	NPN NO	PR18S-TM10D	PR18S-TM10DNO	PR18S-TM20D	PR18S-TM20DNO
	NPN NC	PR18S-TM10D	PR18S-TM10DNC	PR18S-TM20D	PR18S-TM20DNC
	NPN NO+NC	PR18S-TM10D	PR18S-TM10DNR	PR18S-TM20D	PR18S-TM20DNR
Output	PNP NO	PR18S-TM10D	PR18S-TM10DPO	PR18S-TM20D	PR18S-TM20DPO
	PNP NC	PR18S-TM10D	PR18S-TM10DPC	PR18S-TM20D	PR18S-TM20DPC
	PNP NO+NC	PR18S-TM10D	PR18S-TM10DPR	PR18S-TM20D	PR18S-TM20DPR

Technical Parameter				
Supply voltage	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC
Light source	Infrared LED ( 880nm )	...	Infrared LED ( 880nm )	...
Load current	...	< 200mA	...	< 200mA
Voltage drop	...	< 2.5V	...	< 2.5V
Consumption current	< 25mA	< 25mA	< 25mA	< 25mA
Hysteresis	...	...	...	...
Repeat accuracy	< 5%	< 5%	< 5%	< 5%
Response time	...	< 8.2ms	...	< 8.2ms
Output indicator	Green LED	Yellow LED	Green LED	Yellow LED
Polarity protection	yes	yes	yes	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	...	yes	...	yes
Ambient temperature	-15...+55°C	-15...+55°C	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP67	IP67	IP67	IP67
Housing material	PBT	PBT	PBT	PBT
Connection	2m PVC Cable	2m PVC Cable	2m PVC Cable	2m PVC Cable
Certification	CE U <sub>L</sub>	CE U <sub>L</sub>	CE U <sub>L</sub>	CE U <sub>L</sub>

\* Cable material and length can be customized

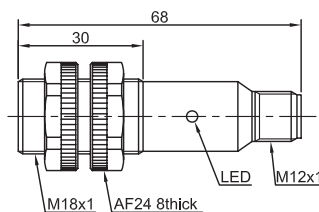
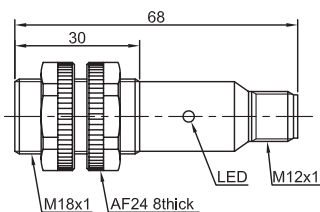


Item Code	PR18S		PR18S	
Sensing mode	Through beam(Emitter)	Through beam(Receiver)	Through beam(Emitter)	Through beam(Receiver)
Sensing distance	10m ( Non-adjustable )	10m ( Non-adjustable )	20m ( Non-adjustable )	20m ( Non-adjustable )



Output	NPN NO	PR18S-TM10D-E2	PR18S-TM10DNO-E2	PR18S-TM20D-E2	PR18S-TM20DNO-E2
	NPN NC	PR18S-TM10D-E2	PR18S-TM10DNC-E2	PR18S-TM20D-E2	PR18S-TM20DNC-E2
	NPN NO+NC	PR18S-TM10D-E2	PR18S-TM10DNR-E2	PR18S-TM20D-E2	PR18S-TM20DNR-E2
Output	PNP NO	PR18S-TM10D-E2	PR18S-TM10DPO-E2	PR18S-TM20D-E2	PR18S-TM20DPO-E2
	PNP NC	PR18S-TM10D-E2	PR18S-TM10DPC-E2	PR18S-TM20D-E2	PR18S-TM20DPC-E2
	PNP NO+NC	PR18S-TM10D-E2	PR18S-TM10DPR-E2	PR18S-TM20D-E2	PR18S-TM20DPR-E2

Technical Parameter				
Supply voltage	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC
Light source	Infrared LED ( 880nm )	...	Infrared LED ( 880nm )	...
Load current	...	< 200mA	...	< 200mA
Voltage drop	...	< 2.5V	...	< 2.5V
Consumption current	< 25mA	< 25mA	< 25mA	< 25mA
Hysteresis	...	...	...	...
Repeat accuracy	< 5%	< 5%	< 5%	< 5%
Response time	...	< 8.2ms	...	< 8.2ms
Output indicator	Green LED	Yellow LED	Green LED	Yellow LED
Polarity protection	yes	yes	yes	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	...	yes	...	yes
Ambient temperature	-15...+55°C	-15...+55°C	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP67	IP67	IP67	IP67
Housing material	PBT	PBT	PBT	PBT
Connection	M12 Connector	M12 Connector	M12 Connector	M12 Connector
Certification	CE (U)	CE (U)	CE (U)	CE (U)



Item Code	PR18GS		PR18GS	
Sensing mode	Through beam(Emitter)	Through beam(Receiver)	Through beam(Emitter)	Through beam(Receiver)
Sensing distance	10m ( Non-adjustable )	10m ( Non-adjustable )	20m ( Non-adjustable )	20m ( Non-adjustable )

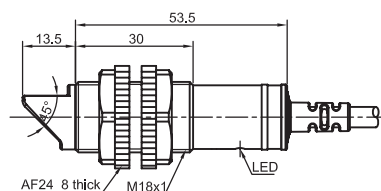
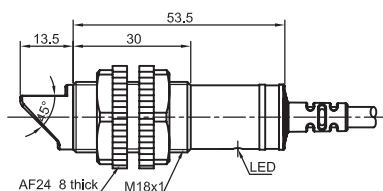


Output	NPN NO	PR18GS-TM10D	PR18GS-TM10DNO	PR18GS-TM20D	PR18GS-TM20DNO
	NPN NC	PR18GS-TM10D	PR18GS-TM10DNC	PR18GS-TM20D	PR18GS-TM20DNC
	NPN NO+NC	PR18GS-TM10D	PR18GS-TM10DNR	PR18GS-TM20D	PR18GS-TM20DNR
Output	PNP NO	PR18GS-TM10D	PR18GS-TM10DPO	PR18GS-TM20D	PR18GS-TM20DPO
	PNP NC	PR18GS-TM10D	PR18GS-TM10DPC	PR18GS-TM20D	PR18GS-TM20DPC
	PNP NO+NC	PR18GS-TM10D	PR18GS-TM10DPR	PR18GS-TM20D	PR18GS-TM20DPR

### Technical Parameter

Supply voltage	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC
Light source	Infrared LED ( 880nm )	...	Infrared LED ( 880nm )	...
Load current	...	< 200mA	...	< 200mA
Voltage drop	...	< 2.5V	...	< 2.5V
Consumption current	< 25mA	< 25mA	< 25mA	< 25mA
Hysteresis	...	...	...	...
Repeat accuracy	< 5%	< 5%	< 5%	< 5%
Response time	...	< 8.2ms	...	< 8.2ms
Output indicator	Green LED	Yellow LED	Green LED	Yellow LED
Polarity protection	yes	yes	yes	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	...	yes	...	yes
Ambient temperature	-15...+55°C	-15...+55°C	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP65	IP65	IP65	IP65
Housing material	PBT	PBT	PBT	PBT
Connection	2m PVC Cable	2m PVC Cable	2m PVC Cable	2m PVC Cable
Certification	CE	CE	CE	CE

\* Cable material and length can be customized





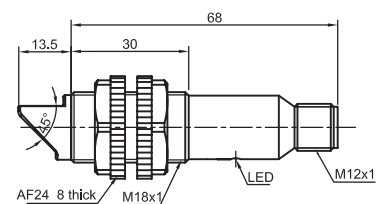
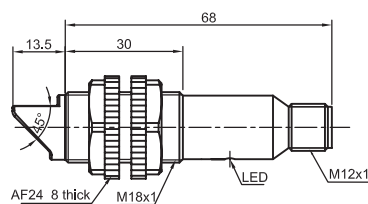
Item Code	PR18GS		PR18GS	
Sensing mode	Through beam(Emitter)	Through beam(Receiver)	Through beam(Emitter)	Through beam(Receiver)
Sensing distance	10m ( Non-adjustable )	10m ( Non-adjustable )	20m ( Non-adjustable )	20m ( Non-adjustable )



Output	NPN NO	PR18GS-TM10D-E2	PR18GS-TM10DNO-E2	PR18GS-TM20D-E2	PR18GS-TM20DNO-E2
	NPN NC	PR18GS-TM10D-E2	PR18GS-TM10DNC-E2	PR18GS-TM20D-E2	PR18GS-TM20DNC-E2
	NPN NO+NC	PR18GS-TM10D-E2	PR18GS-TM10DNR-E2	PR18GS-TM20D-E2	PR18GS-TM20DNR-E2
Output	PNP NO	PR18GS-TM10D-E2	PR18GS-TM10DPO-E2	PR18GS-TM20D-E2	PR18GS-TM20DPO-E2
	PNP NC	PR18GS-TM10D-E2	PR18GS-TM10DPC-E2	PR18GS-TM20D-E2	PR18GS-TM20DPC-E2
	PNP NO+NC	PR18GS-TM10D-E2	PR18GS-TM10DPR-E2	PR18GS-TM20D-E2	PR18GS-TM20DPR-E2

### Technical Parameter

Supply voltage	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC
Light source	Infrared LED ( 880nm )	...	Infrared LED ( 880nm )	...
Load current	...	< 200mA	...	< 200mA
Voltage drop	...	< 2.5V	...	< 2.5V
Consumption current	< 25mA	< 25mA	< 25mA	< 25mA
Hysteresis	...	...	...	...
Repeat accuracy	< 5%	< 5%	< 5%	< 5%
Response time	...	< 8.2ms	...	< 8.2ms
Output indicator	Green LED	Yellow LED	Green LED	Yellow LED
Polarity protection	yes	yes	yes	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	...	yes	...	yes
Ambient temperature	-15...+55°C	-15...+55°C	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP65	IP65	IP65	IP65
Housing material	PBT	PBT	PBT	PBT
Connection	M12 Connector	M12 Connector	M12 Connector	M12 Connector
Certification	CE	CE	CE	CE



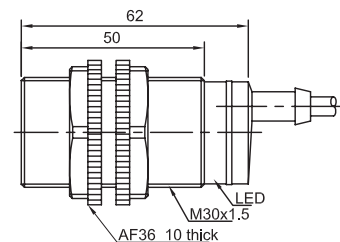
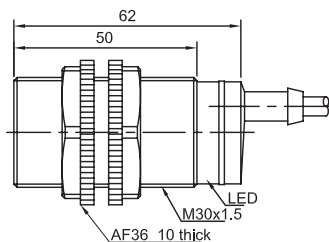
Item Code	PR30S		PR30S	
Sensing mode	Through beam(Emitter)	Through beam(Receiver)	Through beam(Emitter)	Through beam(Receiver)
Sensing distance	20m ( Non-adjustable )	20m ( Non-adjustable )	40m ( Non-adjustable )	40m ( Non-adjustable )



Output	NPN NO	PR30S-TM20D	PR30S-TM20DNO	PR30S-TM40D	PR30S-TM40DNO
	NPN NC	PR30S-TM20D	PR30S-TM20DNC	PR30S-TM40D	PR30S-TM40DNC
	NPN NO+NC	PR30S-TM20D	PR30S-TM20DNR	PR30S-TM40D	PR30S-TM40DNR
Output	PNP NO	PR30S-TM20D	PR30S-TM20DPO	PR30S-TM40D	PR30S-TM40DPO
	PNP NC	PR30S-TM20D	PR30S-TM20DPC	PR30S-TM40D	PR30S-TM40DPC
	PNP NO+NC	PR30S-TM20D	PR30S-TM20DPR	PR30S-TM40D	PR30S-TM40DPR

Technical Parameter				
Supply voltage	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC
Light source	Infrared LED ( 880nm )	...	Infrared LED ( 880nm )	...
Load current	...	< 200mA	...	< 200mA
Voltage drop	...	< 2.5V	...	< 2.5V
Consumption current	< 25mA	< 25mA	< 25mA	< 25mA
Hysteresis	...	...	...	...
Repeat accuracy	< 5%	< 5%	< 5%	< 5%
Response time	...	< 8.2ms	...	< 8.2ms
Output indicator	Green LED	Yellow LED	Green LED	Yellow LED
Polarity protection	yes	yes	yes	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	...	yes	...	yes
Ambient temperature	-15...+55°C	-15...+55°C	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP67	IP67	IP67	IP67
Housing material	PBT	PBT	PBT	PBT
Connection	2m PVC Cable	2m PVC Cable	2m PVC Cable	2m PVC Cable
Certification	CE U <sub>L</sub>	CE U <sub>L</sub>	CE U <sub>L</sub>	CE U <sub>L</sub>

\* Cable material and length can be customized

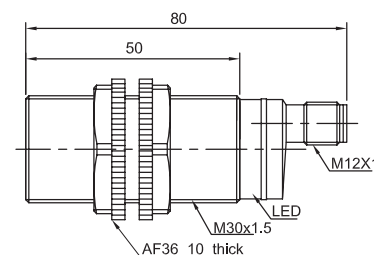
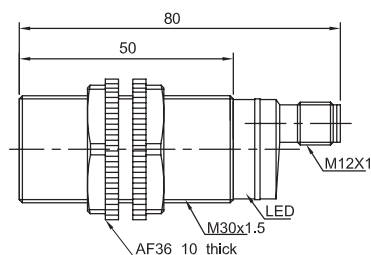


Item Code	PR30S		PR30S	
Sensing mode	Through beam(Emitter)	Through beam(Receiver)	Through beam(Emitter)	Through beam(Receiver)
Sensing distance	20m ( Non-adjustable )	20m ( Non-adjustable )	40m ( Non-adjustable )	40m ( Non-adjustable )



Output	NPN NO	PR30S-TM20D-E2	PR30S-TM20DNO-E2	PR30S-TM40D-E2	PR30S-TM40DNO-E2
	NPN NC	PR30S-TM20D-E2	PR30S-TM20DNC-E2	PR30S-TM40D-E2	PR30S-TM40DNC-E2
	NPN NO+NC	PR30S-TM20D-E2	PR30S-TM20DNR-E2	PR30S-TM40D-E2	PR30S-TM40DNR-E2
Output	PNP NO	PR30S-TM20D-E2	PR30S-TM20DPO-E2	PR30S-TM40D-E2	PR30S-TM40DPO-E2
	PNP NC	PR30S-TM20D-E2	PR30S-TM20DPC-E2	PR30S-TM40D-E2	PR30S-TM40DPC-E2
	PNP NO+NC	PR30S-TM20D-E2	PR30S-TM20DPR-E2	PR30S-TM40D-E2	PR30S-TM40DPR-E2

Technical Parameter				
Supply voltage	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC
Light source	Infrared LED ( 880nm )	...	Infrared LED ( 880nm )	...
Load current	...	< 200mA	...	< 200mA
Voltage drop	...	< 2.5V	...	< 2.5V
Consumption current	< 25mA	< 25mA	< 25mA	< 25mA
Hysteresis	...	...	...	...
Repeat accuracy	< 5%	< 5%	< 5%	< 5%
Response time	...	< 8.2ms	...	< 8.2ms
Output indicator	Green LED	Yellow LED	Green LED	Yellow LED
Polarity protection	yes	yes	yes	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	...	yes	...	yes
Ambient temperature	-15...+55°C	-15...+55°C	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP67	IP67	IP67	IP67
Housing material	PBT	PBT	PBT	PBT
Connection	M12 Connector	M12 Connector	M12 Connector	M12 Connector
Certification	CE U <sub>L</sub>	CE U <sub>L</sub>	CE	CE



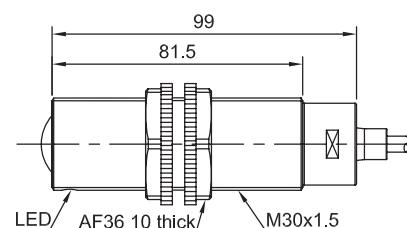
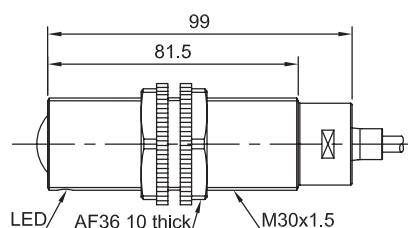
Item Code	PR30SL		PR30SL	
Sensing mode	Through beam(Emitter)	Through beam(Receiver)	Through beam(Emitter)	Through beam(Receiver)
Sensing distance	100m ( Non-adjustable )	100m ( Non-adjustable )	150m ( Non-adjustable )	150m ( Non-adjustable )



Output	NPN/PNP NO/NC	PR30SL-TM100D	PR30SL-TM100DEB	PR30SL-TM150D	PR30SL-TM150DEB
	NPN/PNP NO/NC	PR30SL-TM100D 1001	PR30SL-TM100DEB 1001	PR30SL-TM150D 1001	PR30SL-TM150DEB 1001
	NPN/PNP NO/NC	PR30SL-TM100D 1002	PR30SL-TM100DEB 1002	PR30SL-TM150D 1002	PR30SL-TM150DEB 1002

Technical Parameter				
Supply voltage	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC
Light source	Infrared LED ( 880nm )	...	Infrared LED ( 880nm )	...
Load current	...	< 200mA	...	< 200mA
Voltage drop	...	< 2.5V	...	< 2.5V
Consumption current	< 25mA	< 25mA	< 25mA	< 25mA
Hysteresis	...	...	...	...
Repeat accuracy	< 5%	< 5%	< 5%	< 5%
Response time	...	< 8.2ms	...	< 8.2ms
Output indicator	Green LED	Red LED	Green LED	Red LED
Polarity protection	yes	yes	yes	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	...	yes	...	yes
Ambient temperature	-15...+55°C	-15...+55°C	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP67	IP67	IP67	IP67
Housing material	PBT	PBT	PBT	PBT
Connection	2m PVC Cable	2m PVC Cable	2m PVC Cable	2m PVC Cable
Certification	CE	CE	CE	CE

\* Cable material and length can be customized



Item Code	PR18S		PR18S	
Sensing mode	Through beam(Emitter)	Through beam(Receiver)	Through beam(Emitter)	Through beam(Receiver)
Sensing distance	10m ( Non-adjustable )	10m ( Non-adjustable )	10m ( Non-adjustable )	10m ( Non-adjustable )

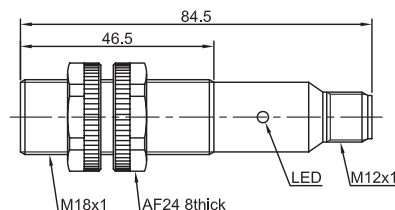
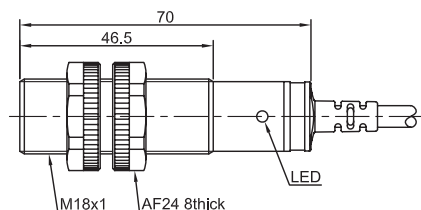


Output	AC 2 Wires NO	PR18S-TM10A	PR18S-TM10ATO	PR18S-TM10A-E2	PR18S-TM10ATO-E2
	AC 2 Wires NC	PR18S-TM10A	PR18S-TM10ATC	PR18S-TM10A-E2	PR18S-TM10ATC-E2

### Technical Parameter

Supply voltage	20...250 VAC	20...250 VAC	20...250 VAC	20...250 VAC
Light source	Infrared LED ( 880nm )	...	Infrared LED ( 880nm )	...
Load current	...	< 300mA	...	< 300mA
Voltage drop	...	< 10V	...	< 10V
Leakage current	< 3mA	< 3mA	< 3mA	< 3mA
Hysteresis	...	...	...	...
Repeat accuracy	< 5%	< 5%	< 5%	< 5%
Response time	...	< 50ms	...	< 50ms
Output indicator	Green LED	Yellow LED	Green LED	Yellow LED
Polarity protection	...	...	...	...
Impulse voltage withstand	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s
Short-circuit protection	...	...	...	...
Ambient temperature	-15...+55°C	-15...+55°C	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP67	IP67	IP67	IP67
Housing material	PBT	PBT	PBT	PBT
Connection	2m PVC Cable	2m PVC Cable	M12 Connector	M12 Connector
Certification	CE U <sub>L</sub>	CE U <sub>L</sub>	CE U <sub>L</sub>	CE U <sub>L</sub>

\* Cable material and length can be customized



Item Code	PR18GS		PR18GS	
Sensing mode	Through beam(Emitter)	Through beam(Receiver)	Through beam(Emitter)	Through beam(Receiver)
Sensing distance	10m ( Non-adjustable )	10m ( Non-adjustable )	10m ( Non-adjustable )	10m ( Non-adjustable )

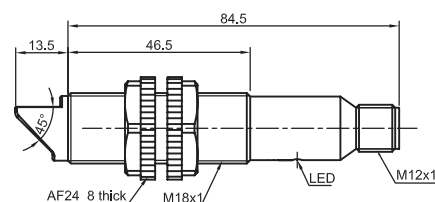
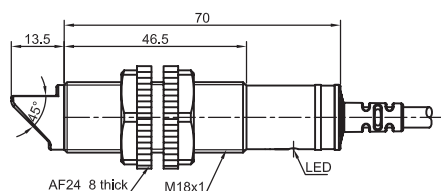


Output	AC 2 Wires NO	PR18GS-TM10A	PR18GS-TM10ATO	PR18GS-TM10A-E2	PR18GS-TM10ATO-E2
	AC 2 Wires NC	PR18GS-TM10A	PR18GS-TM10ATC	PR18GS-TM10A-E2	PR18GS-TM10ATC-E2

### Technical Parameter

Supply voltage	20...250 VAC	20...250 VAC	20...250 VAC	20...250 VAC
Light source	Infrared LED ( 880nm )	...	Infrared LED ( 880nm )	...
Load current	...	< 300mA	...	< 300mA
Voltage drop	...	< 10V	...	< 10V
Leakage current	< 3mA	< 3mA	< 3mA	< 3mA
Hysteresis	...	...	...	...
Repeat accuracy	< 5%	< 5%	< 5%	< 5%
Response time	...	< 50ms	...	< 50ms
Output indicator	Green LED	Yellow LED	Green LED	Yellow LED
Polarity protection	...	...	...	...
Impulse voltage withstand	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s
Short-circuit protection	...	...	...	...
Ambient temperature	-15...+55°C	-15...+55°C	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP65	IP65	IP65	IP65
Housing material	PBT	PBT	PBT	PBT
Connection	2m PVC Cable	2m PVC Cable	M12 Connector	M12 Connector
Certification	CE	CE	CE	CE

\* Cable material and length can be customized



Item Code	PR30S		PR30S	
Sensing mode	Through beam(Emitter)	Through beam(Receiver)	Through beam(Emitter)	Through beam(Receiver)
Sensing distance	20m ( Non-adjustable )	20m ( Non-adjustable )	20m ( Non-adjustable )	20m ( Non-adjustable )

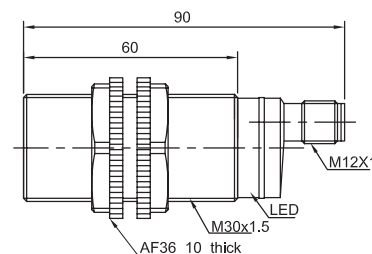
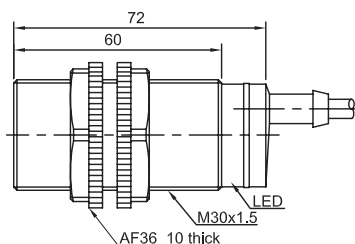


Output	AC 2 Wires NO	PR30S-TM20A	PR30S-TM20ATO	PR30S-TM20A-E2	PR30S-TM20ATO-E2
	AC 2 Wires NC	PR30S-TM20A	PR30S-TM20ATC	PR30S-TM20A-E2	PR30S-TM20ATC-E2

### Technical Parameter

Supply voltage	20...250 VAC	20...250 VAC	20...250 VAC	20...250 VAC
Light source	Infrared LED ( 880nm )	...	Infrared LED ( 880nm )	...
Load current	...	< 300mA	...	< 300mA
Voltage drop	...	< 10V	...	< 10V
Leakage current	< 3mA	< 3mA	< 3mA	< 3mA
Hysteresis	...	...	...	...
Repeat accuracy	< 5%	< 5%	< 5%	< 5%
Response time	...	< 50ms	...	< 50ms
Output indicator	Green LED	Yellow LED	Green LED	Yellow LED
Polarity protection	...	...	...	...
Impulse voltage withstand	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s
Short-circuit protection	...	...	...	...
Ambient temperature	-15...+55°C	-15...+55°C	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP67	IP67	IP67	IP67
Housing material	PBT	PBT	PBT	PBT
Connection	2m PVC Cable	2m PVC Cable	M12 Connector	M12 Connector
Certification	CE U <sub>L</sub>	CE U <sub>L</sub>	CE U <sub>L</sub>	CE U <sub>L</sub>

\* Cable material and length can be customized



Item Code	PSB		PSB	
Sensing mode	Through beam(Emitter)	Through beam(Receiver)	Through beam(Emitter)	Through beam(Receiver)
Sensing distance	3m ( Non-adjustable )	3m ( Non-adjustable )	3m ( Non-adjustable )	3m ( Non-adjustable )

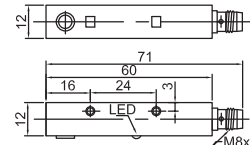
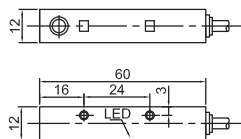


Output	NPN NO	PSB-TM3D	PSB-TM3DNO	PSB-TM3D-E1	PSB-TM3DNO-E1
	NPN NC	PSB-TM3D	PSB-TM3DNC	PSB-TM3D-E1	PSB-TM3DNC-E1
Output	PNP NO	PSB-TM3D	PSB-TM3DPO	PSB-TM3D-E1	PSB-TM3DPO-E1
	PNP NC	PSB-TM3D	PSB-TM3DPC	PSB-TM3D-E1	PSB-TM3DPC-E1

### Technical Parameter

Supply voltage	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC
Light source	Infrared LED ( 880nm )	...	Infrared LED ( 880nm )	...
Load current	...	<200mA	...	<200mA
Voltage drop	...	<2.5V	...	<2.5V
Consumption current	<25mA	<25mA	<25mA	<25mA
Hysteresis	...	...	...	...
Repeat accuracy	<5%	<5%	<5%	<5%
Response time	...	<8.2ms	...	<8.2ms
Output indicator	Green LED	Red LED	Green LED	Red LED
Polarity protection	yes	yes	yes	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	...	...	...	...
Ambient temperature	-15...+55°C	-15...+55°C	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP67	IP67	IP67	IP67
Housing material	ABS	ABS	ABS	ABS
Connection	2m PVC Cable	2m PVC Cable	M8 Connector	M8 Connector
Certification	CE	CE	CE	CE

\* Cable material and length can be customized





Item Code	PSI		PSI	
Sensing mode	Through beam(Emitter)	Through beam(Receiver)	Through beam(Emitter)	Through beam(Receiver)
Sensing distance	5m ( Non-adjustable )	5m ( Non-adjustable )	10m ( Non-adjustable )	10m ( Non-adjustable )

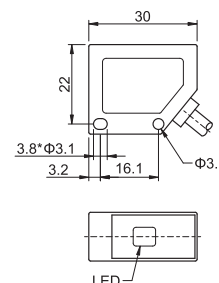
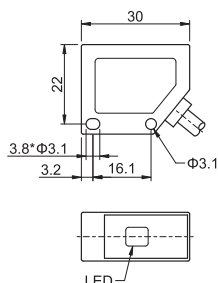


Output	NPN NO	PSI-TM5D	PSI-TM5DNO	PSI-TM10D	PSI-TM10DNO
	NPN NC	PSI-TM5D	PSI-TM5DNC	PSI-TM10D	PSI-TM10DNC
	NPN NO+NC	PSI-TM5D	PSI-TM5DNR	PSI-TM10D	PSI-TM10DNR
Output	PNP NO	PSI-TM5D	PSI-TM5DPO	PSI-TM10D	PSI-TM10DPO
	PNP NC	PSI-TM5D	PSI-TM5DPC	PSI-TM10D	PSI-TM10DPC
	PNP NO+NC	PSI-TM5D	PSI-TM5DPR	PSI-TM10D	PSI-TM10DPR

### Technical Parameter

Supply voltage	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC
Light source	Infrared LED ( 880nm )	...	Infrared LED ( 880nm )	...
Load current	...	<200mA	...	<200mA
Voltage drop	...	<2.5V	...	<2.5V
Consumption current	<25mA	<25mA	<25mA	<25mA
Hysteresis	...	...	...	...
Repeat accuracy	<5%	<5%	<5%	<5%
Response time	...	< 8.2ms	...	< 8.2ms
Output indicator	Green LED	Yellow LED	Green LED	Yellow LED
Polarity protection	yes	yes	yes	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	...	yes	...	yes
Ambient temperature	-15...+55°C	-15...+55°C	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP65	IP65	IP65	IP65
Housing material	ABS	ABS	ABS	ABS
Connection	2m PVC Cable	2m PVC Cable	2m PVC Cable	2m PVC Cable
Certification	CE	CE	CE	CE

\* Cable material and length can be customized



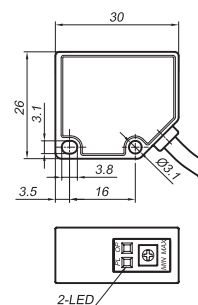
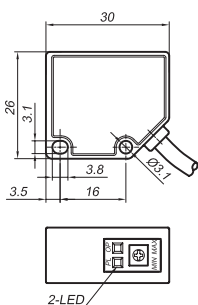
Item Code	PSD		PSD	
Sensing mode	Through beam(Emitter)	Through beam(Receiver)	Through beam(Emitter)	Through beam(Receiver)
Sensing distance	5m ( Non-adjustable )	5m ( Non-adjustable )	10m ( Non-adjustable )	10m ( Non-adjustable )



Output	NPN NO+NC	PSD-TM5D	PSD-TM5DNR	PSD-TM10D	PSD-TM10DNR
	PNP NO+NC	PSD-TM5D	PSD-TM5DPR	PSD-TM10D	PSD-TM10DPR

Technical Parameter				
Supply voltage	10...30VDC	10...30VDC	10...30VDC	10...30VDC
Light source	Infrared LED ( 850nm )	...	Infrared LED ( 850nm )	...
Load current	...	<200mA	...	<200mA
Voltage drop	...	<2.5V	...	<2.5V
Consumption current	<25mA	<25mA	<25mA	<25mA
Hysteresis	3...20%	3...20%	3...20%	3...20%
Repeat accuracy	<5%	<5%	<5%	<5%
Response time	...	<8.2ms	...	<8.2ms
Output indicator	Green LED	Yellow LED	Green LED	Yellow LED
Polarity protection	yes	yes	yes	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	...	yes	...	yes
Ambient temperature	-15...+55°C	-15...+55°C	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP54	IP54	IP54	IP54
Housing material	PC/ABS	PC/ABS	PC/ABS	PC/ABS
Connection	2m PVC Cable	2m PVC Cable	2m PVC Cable	2m PVC Cable
Certification	CE	CE	CE	CE

\* Cable material and length can be customized



Item Code	PSJ	
Sensing mode	Through beam(Emitter)	Through beam(Receiver)
Sensing distance	1.5m ( Non-adjustable )	1.5m ( Non-adjustable )

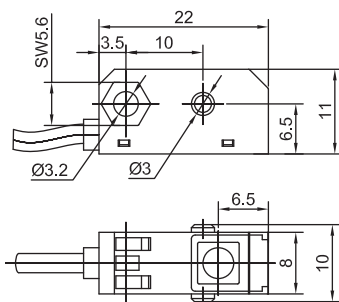


Output	NPN NO	PSJ-TM15T	PSJ-TM15TNO
	NPN NC	PSJ-TM15T	PSJ-TM15TNC
Output	PNP NO	PSJ-TM15T	PSJ-TM15TPO
	PNP NC	PSJ-TM15T	PSJ-TM15TPC

### Technical Parameter

Supply voltage	12...24 VDC	
Light source	Infrared LED ( 850nm )	
Sensing object	>Φ6mm Opaque object	
Scanning angle	2°~10°	
Load current	...	<100mA
Voltage drop	...	<2.5V
Consumption current	<20mA	<20mA
Response time	...	< 1ms
Output indicator	...	Red LED
Ambient light immunity	...	Incandescent lamp:3000Lx, Sunlight:5000Lx
Polarity protection	yes	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	...	yes
Ambient temperature	-20...+55°C	-20...+55°C
Ambient moisture	35...95%	35...95%
Protection degree	IP40	IP40
Housing material	PC/ABS	PC/ABS
Connection	2m PVC Cable	2m PVC Cable
Certification	CE	CE

\* Cable material and length can be customized



Item Code	PSC		PSC	
Sensing mode	Through beam(Emitter)	Through beam(Receiver)	Through beam(Emitter)	Through beam(Receiver)
Sensing distance	5m ( Adjustable )	5m ( Non-adjustable )	15m ( Adjustable )	15m ( Non-adjustable )

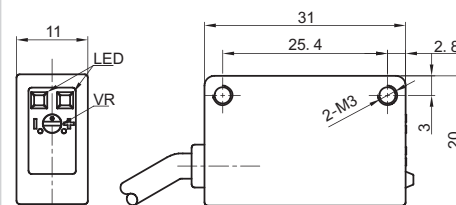
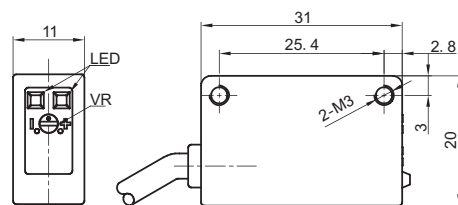


Output				
	NPN NO/NC	PSC-TM5T	PSC-TM5TNB	PSC-TM15T
Output				
	PNP NO/NC	PSC-TM5T	PSC-TM5TPB	PSC-TM15T

### Technical Parameter

Supply voltage	12...24 VDC	12...24 VDC	12...24 VDC	12...24 VDC
Light source	Infrared LED ( 850nm )	Infrared LED ( 850nm )	Infrared LED ( 850nm )	Infrared LED ( 850nm )
Load current	...	<100mA	...	<100mA
Voltage drop	...	<2.5V	...	<2.5V
Consumption current	<15mA	<15mA	<15mA	<15mA
Hysteresis	...	...	...	...
Repeat accuracy	<5%	<5%	<5%	<5%
Response time	...	< 2ms	...	< 2ms
Output indicator	Green LED	Yellow LED	Green LED	Yellow LED
Polarity protection	yes	yes	yes	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	...	yes	...	yes
Ambient temperature	-25...+55°C	-25...+55°C	-25...+55°C	-25...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP67	IP67	IP67	IP67
Housing material	PC/ABS	PC/ABS	PC/ABS	PC/ABS
Connection	2m PVC Cable	2m PVC Cable	2m PVC Cable	2m PVC Cable
Certification	CE	CE	CE	CE

\* Cable material and length can be customized



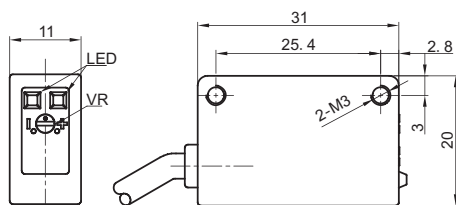
Item Code	PSC	
Sensing mode	Through beam(Emitter)	Through beam(Receiver)
Sensing distance	30m ( Adjustable )	30m ( Non-adjustable )



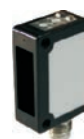
Output				
	NPN NO/NC	PSC-TM30T	PSC-TM30TNB	
Output				
	PNP NO/NC	PSC-TM30T	PSC-TM30TPB	

Technical Parameter	
Supply voltage	12...24 VDC
Light source	Infrared LED ( 850nm )
Load current	<100mA
Voltage drop	<2.5V
Consumption current	<25mA
Hysteresis	...
Repeat accuracy	<5%
Response time	<2ms
Output indicator	Green LED
Polarity protection	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s
Short-circuit protection	yes
Ambient temperature	-25...+55°C
Ambient moisture	35...95%
Protection degree	IP67
Housing material	PC/ABS
Connection	2m PVC Cable
Certification	CE

\* Cable material and length can be customized

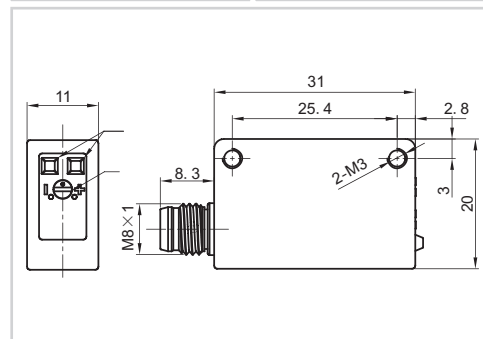
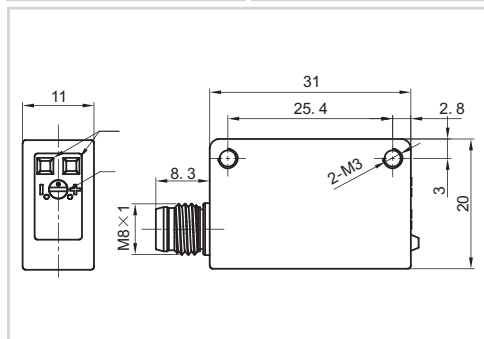


Item Code	PSC		PSC	
Sensing mode	Through beam(Emitter)	Through beam(Receiver)	Through beam(Emitter)	Through beam(Receiver)
Sensing distance	5m ( Adjustable )	5m ( Non-adjustable )	15m ( Adjustable )	15m ( Non-adjustable )



Output	NPN NO/NC	PSC-TM5T-E1	PSC-TM5TNB-E1	PSC-TM15T-E1	PSC-TM15TNB-E1
	PNP NO/NC	PSC-TM5T-E1	PSC-TM5TPB-E1	PSC-TM15T-E1	PSC-TM15TPB-E1

Technical Parameter				
Supply voltage	12...24 VDC	12...24 VDC	12...24 VDC	12...24 VDC
Light source	Infrared LED ( 850nm )	Infrared LED ( 850nm )	Infrared LED ( 850nm )	Infrared LED ( 850nm )
Load current	...	<100mA	...	<100mA
Voltage drop	...	<2.5V	...	<2.5V
Consumption current	<15mA	<15mA	<15mA	<15mA
Hysteresis	...	...	...	...
Repeat accuracy	<5%	<5%	<5%	<5%
Response time	...	< 2ms	...	< 2ms
Output indicator	Green LED	Yellow LED	Green LED	Yellow LED
Polarity protection	yes	yes	yes	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	...	yes	...	yes
Ambient temperature	-25...+55°C	-25...+55°C	-25...+55°C	-25...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP67	IP67	IP67	IP67
Housing material	PC/ABS	PC/ABS	PC/ABS	PC/ABS
Connection	M8 Connector	M8 Connector	M8 Connector	M8 Connector
Certification	CE	CE	CE	CE

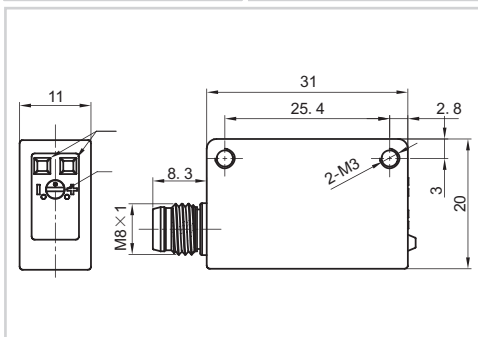


Item Code	PSC	
Sensing mode	Through beam(Emitter)	Through beam(Receiver)
Sensing distance	30m ( Adjustable )	30m ( Non-adjustable )



Output	NPN NO/NC	PSC-TM30T-E1	PSC-TM30TNB-E1
	PNP NO/NC	PSC-TM30T-E1	PSC-TM30TPB-E1

Technical Parameter	
Supply voltage	12...24 VDC
Light source	Infrared LED ( 850nm )
Load current	<100mA
Voltage drop	<2.5V
Consumption current	<25mA
Hysteresis	...
Repeat accuracy	<5%
Response time	<2ms
Output indicator	Green LED
Polarity protection	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s
Short-circuit protection	yes
Ambient temperature	-25...+55°C
Ambient moisture	35...95%
Protection degree	IP67
Housing material	PC/ABS
Connection	M8 Connector
Certification	CE



Item Code	PSF		PSF	
Sensing mode	Through beam(Emitter)	Through beam(Receiver)	Through beam(Emitter)	Through beam(Receiver)
Sensing distance	5m ( Non-adjustable )	5m ( Adjustable )	10m ( Non-adjustable )	10m ( Adjustable )

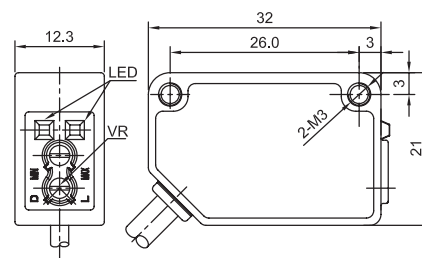
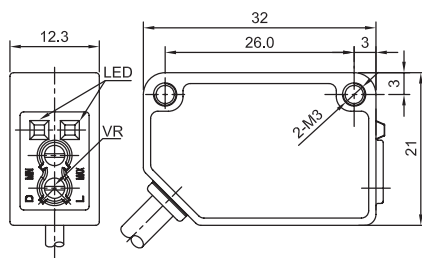


Output	NPN NO	PSF-TM5D	PSF-TM5DNO	PSF-TM10D	PSF-TM10DNO
	NPN NC	PSF-TM5D	PSF-TM5DNC	PSF-TM10D	PSF-TM10DNC
	NPN NO/NC	PSF-TM5D	PSF-TM5DNB	PSF-TM10D	PSF-TM10DNB
Output	PNP NO	PSF-TM5D	PSF-TM5DPO	PSF-TM10D	PSF-TM10DPO
	PNP NC	PSF-TM5D	PSF-TM5DPC	PSF-TM10D	PSF-TM10DPC
	PNP NO/NC	PSF-TM5D	PSF-TM5DPB	PSF-TM10D	PSF-TM10DPB

### Technical Parameter

Supply voltage	12...24 VDC	12...24 VDC	12...24 VDC	12...24 VDC
Light source	Infrared LED ( 880nm )	...	Infrared LED ( 880nm )	...
Load current	...	<100mA	...	<100mA
Voltage drop	...	<2.5V	...	<2.5V
Consumption current	<25mA	<25mA	<25mA	<25mA
Hysteresis	...	...	...	...
Repeat accuracy	<5%	<5%	<5%	<5%
Response time	...	<1ms	...	<1ms
Output indicator	Green LED	Yellow LED	Green LED	Yellow LED
Polarity protection	yes	yes	yes	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	...	yes	...	yes
Ambient temperature	-15...+55°C	-15...+55°C	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP67	IP67	IP67	IP67
Housing material	PC/ABS	PC/ABS	PC/ABS	PC/ABS
Connection	2m PVC Cable	2m PVC Cable	2m PVC Cable	2m PVC Cable
Certification	CE	CE	CE	CE

\* Cable material and length can be customized



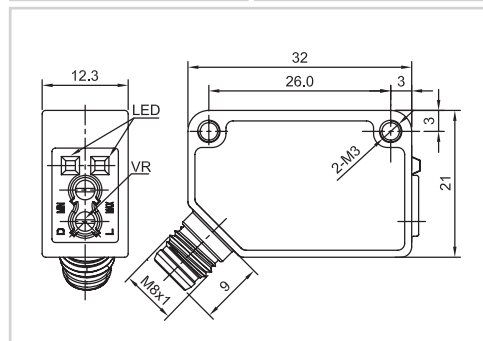
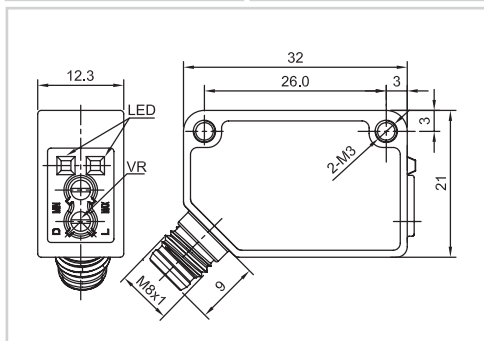


Item Code	PSF		PSF	
Sensing mode	Through beam(Emitter)	Through beam(Receiver)	Through beam(Emitter)	Through beam(Receiver)
Sensing distance	5m ( Non-adjustable )	5m ( Adjustable )	10m ( Non-adjustable )	10m ( Adjustable )



Output	NPN NO	PSF-TM5D-E1	PSF-TM5DNO-E1	PSF-TM10D-E1	PSF-TM10DNO-E1
	NPN NC	PSF-TM5D-E1	PSF-TM5DNC-E1	PSF-TM10D-E1	PSF-TM10DNC-E1
	NPN NO/NC	PSF-TM5D-E1	PSF-TM5DNB-E1	PSF-TM10D-E1	PSF-TM10DNB-E1
Output	PNP NO	PSF-TM5D-E1	PSF-TM5DPO-E1	PSF-TM10D-E1	PSF-TM10DPO-E1
	PNP NC	PSF-TM5D-E1	PSF-TM5DPC-E1	PSF-TM10D-E1	PSF-TM10DPC-E1
	PNP NO/NC	PSF-TM5D-E1	PSF-TM5DPB-E1	PSF-TM10D-E1	PSF-TM10DPB-E1

Technical Parameter				
Supply voltage	12...24 VDC	12...24 VDC	12...24 VDC	12...24 VDC
Light source	Infrared LED ( 880nm )	...	Infrared LED ( 880nm )	...
Load current	...	<100mA	...	<100mA
Voltage drop	...	<2.5V	...	<2.5V
Consumption current	<25mA	<25mA	<25mA	<25mA
Hysteresis	...	...	...	...
Repeat accuracy	<5%	<5%	<5%	<5%
Response time	...	<1ms	...	<1ms
Output indicator	Green LED	Yellow LED	Green LED	Yellow LED
Polarity protection	yes	yes	yes	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	...	yes	...	yes
Ambient temperature	-15...+55°C	-15...+55°C	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP67	IP67	IP67	IP67
Housing material	PC/ABS	PC/ABS	PC/ABS	PC/ABS
Connection	M8 Connector	M8 Connector	M8 Connector	M8 Connector
Certification	CE	CE	CE	CE



Item Code	PTE		PTE	
Sensing mode	Through beam(Emitter)	Through beam(Receiver)	Through beam(Emitter)	Through beam(Receiver)
Sensing distance	60m ( 可调 )	60m ( 不可调 )	60m ( 可调 )	60m ( 不可调 )

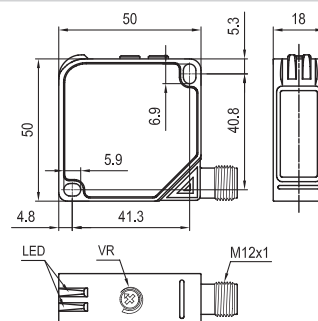
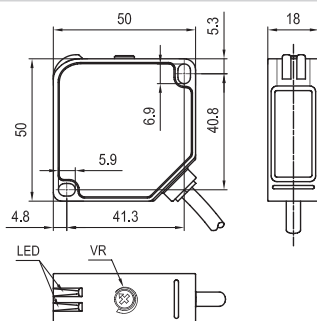


Output				
	NPN+PNP NO/NC	PTE-TM60D	PTE-TM60DFB	PTE-TM60D-E2

### Technical Parameter

Supply voltage	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC
Light source	Infrared LED ( 850nm )	Infrared LED ( 850nm )	Infrared LED ( 850nm )	Infrared LED ( 850nm )
Load current	...	<200mA	...	<200mA
Voltage drop	...	<2.5V	...	<2.5V
Consumption current	<40mA	<40mA	<40mA	<40mA
Hysteresis	...	...	...	...
Repeat accuracy	<5%	<5%	<5%	<5%
Response time	...	< 2ms	...	< 2ms
Output indicator	Green LED	Yellow LED	Green LED	Yellow LED
Polarity protection	yes	yes	yes	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	...	yes	...	yes
Ambient temperature	-25...+55°C	-25...+55°C	-25...+55°C	-25...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP67	IP67	IP67	IP67
Housing material	PC/ABS	PC/ABS	PC/ABS	PC/ABS
Connection	2m PVC Cable	2m PVC Cable	M12 Connector	M12 Connector
Certification	CE	CE	CE	CE

\* Cable material and length can be customized



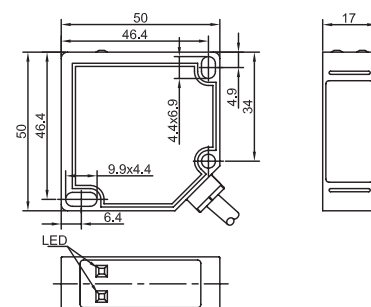
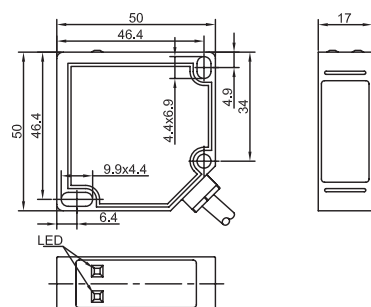
Item Code	PTF		PTF	
Sensing mode	Through beam(Emitter)	Through beam(Receiver)	Through beam(Emitter)	Through beam(Receiver)
Sensing distance	10m ( Non-adjustable )	10m ( Non-adjustable )	20m ( Non-adjustable )	20m ( Non-adjustable )



Output	NPN NO	PTF-TM10D	PTF-TM10DNO	PTF-TM20D	PTF-TM20DNO
	NPN NC	PTF-TM10D	PTF-TM10DNC	PTF-TM20D	PTF-TM20DNC
	NPN NO+NC	PTF-TM10D	PTF-TM10DNR	PTF-TM20D	PTF-TM20DNR
Output	PNP NO	PTF-TM10D	PTF-TM10DPO	PTF-TM20D	PTF-TM20DPO
	PNP NC	PTF-TM10D	PTF-TM10DPC	PTF-TM20D	PTF-TM20DPC
	PNP NO+NC	PTF-TM10D	PTF-TM10DPR	PTF-TM20D	PTF-TM20DPR

Technical Parameter				
Supply voltage	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC
Light source	Infrared LED ( 880nm )	...	Infrared LED ( 880nm )	...
Load current	...	<200mA	...	<200mA
Voltage drop	...	<2.5V	...	<2.5V
Consumption current	<25mA	<25mA	<25mA	<25mA
Hysteresis	...	...	...	...
Repeat accuracy	<5%	<5%	<5%	<5%
Response time	...	<8.2ms	...	<8.2ms
Output indicator	Green LED	Yellow LED	Green LED	Yellow LED
Polarity protection	yes	yes	yes	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	...	yes	...	yes
Ambient temperature	-15...+55°C	-15...+55°C	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP64	IP64	IP64	IP64
Housing material	PC/ABS	PC/ABS	PC/ABS	PC/ABS
Connection	2m PVC Cable	2m PVC Cable	2m PVC Cable	2m PVC Cable
Certification	CE	CE	CE	CE

\* Cable material and length can be customized

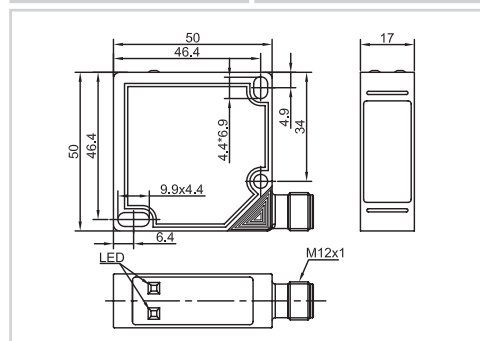
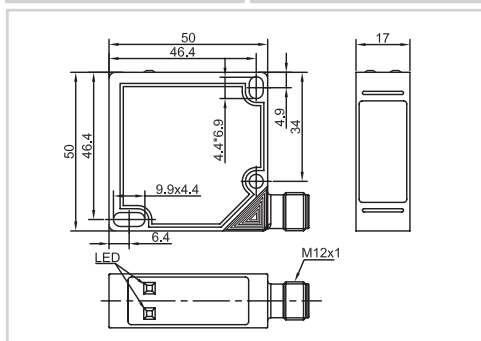


Item Code	PTF		PTF	
Sensing mode	Through beam(Emitter)	Through beam(Receiver)	Through beam(Emitter)	Through beam(Receiver)
Sensing distance	10m ( Non-adjustable )	10m ( Non-adjustable )	20m ( Non-adjustable )	20m ( Non-adjustable )



Output	NPN NO	PTF-TM10D-E2	PTF-TM10DNO-E2	PTF-TM20D-E2	PTF-TM20DNO-E2
	NPN NC	PTF-TM10D-E2	PTF-TM10DNC-E2	PTF-TM20D-E2	PTF-TM20DNC-E2
	NPN NO+NC	PTF-TM10D-E2	PTF-TM10DNR-E2	PTF-TM20D-E2	PTF-TM20DNR-E2
Output	PNP NO	PTF-TM10D-E2	PTF-TM10DPO-E2	PTF-TM20D-E2	PTF-TM20DPO-E2
	PNP NC	PTF-TM10D-E2	PTF-TM10DPC-E2	PTF-TM20D-E2	PTF-TM20DPC-E2
	PNP NO+NC	PTF-TM10D-E2	PTF-TM10DPR-E2	PTF-TM20D-E2	PTF-TM20DPR-E2

Technical Parameter				
Supply voltage	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC
Light source	Infrared LED ( 880nm )	...	Infrared LED ( 880nm )	...
Load current	...	<200mA	...	<200mA
Voltage drop	...	<2.5V	...	<2.5V
Consumption current	<25mA	<25mA	<25mA	<25mA
Hysteresis	...	...	...	...
Repeat accuracy	<5%	<5%	<5%	<5%
Response time	...	<8.2ms	...	<8.2ms
Output indicator	Green LED	Yellow LED	Green LED	Yellow LED
Polarity protection	yes	yes	yes	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	...	yes	...	yes
Ambient temperature	-15...+55°C	-15...+55°C	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP64	IP64	IP64	IP64
Housing material	PC/ABS	PC/ABS	PC/ABS	PC/ABS
Connection	M12 Connector	M12 Connector	M12 Connector	M12 Connector
Certification	CE	CE	CE	CE

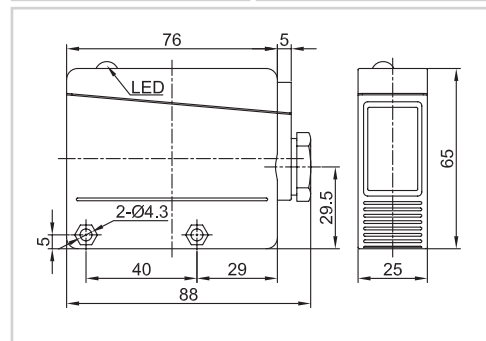
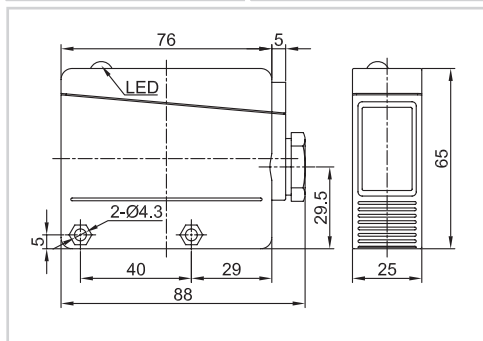


Item Code	PTL		PTL	
Sensing mode	Through beam(Emitter)	Through beam(Receiver)	Through beam(Emitter)	Through beam(Receiver)
Sensing distance	20m ( Non-adjustable )	20m ( Non-adjustable )	40m ( Non-adjustable )	40m ( Adjustable )



Output	NPN NO+NC	PTL-TM20D-D	PTL-TM20DNRT3-D	PTL-TM40D-D	PTL-TM40DNRT3-D
	PNP NO+NC	PTL-TM20D-D	PTL-TM20DPRT3-D	PTL-TM40D-D	PTL-TM40DPRT3-D

Technical Parameter				
Supply voltage	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC
Light source	Infrared LED ( 880nm )	...	Infrared LED ( 880nm )	...
Load current	...	<200mA	...	<200mA
Voltage drop	...	<2.5V	...	<2.5V
Consumption current	<25mA	<25mA	<25mA	<25mA
Hysteresis	...	...	...	...
Repeat accuracy	<5%	<5%	<5%	<5%
Response time	...	<8.2ms	...	<8.2ms
Output indicator	Green LED	Yellow LED	Green LED	Yellow LED
Polarity protection	yes	yes	yes	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	...	yes	...	yes
Ambient temperature	-15...+55°C	-15...+55°C	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP67	IP67	IP67	IP67
Housing material	PC/ABS	PC/ABS	PC/ABS	PC/ABS
Connection	Terminal Connect	Terminal Connect	Terminal Connect	Terminal Connect
Certification	CE	CE	CE	CE



Item Code	PTE		PTE	
Sensing mode	Through beam(Emitter)	Through beam(Receiver)	Through beam(Emitter)	Through beam(Receiver)
Sensing distance	60m ( Adjustable )	60m ( Non-adjustable )	60m ( Adjustable )	60m ( Non-adjustable )

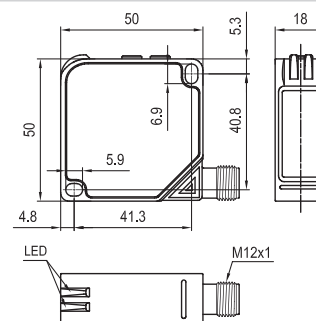
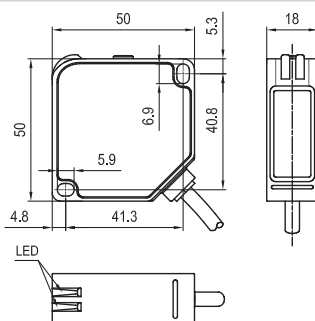


Output				
	Contact output	PTE-TM60S	PTE-TM60SK	PTE-TM60S-E2
Output				

### Technical Parameter

Supply voltage	24...240 VAC/DC	24...240 VAC/DC	24...240 VAC/DC	24...240 VAC/DC
Light source	Infrared LED ( 850nm )	Infrared LED ( 850nm )	Infrared LED ( 850nm )	Infrared LED ( 850nm )
Load current	...	<3A	...	<3A
Voltage drop	...	...	...	...
Consumption current	...	...	...	...
Hysteresis	...	...	...	...
Repeat accuracy	<5%	<5%	<5%	<5%
Response time	<10ms	<10ms	<10ms	<10ms
Output indicator	Green LED	Yellow LED	Green LED	Yellow LED
Polarity protection	...	...	...	...
Impulse voltage withstand	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s
Short-circuit protection	...	...	...	...
Ambient temperature	-25...+55°C	-25...+55°C	-25...+55°C	-25...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP67	IP67	IP67	IP67
Housing material	PC/ABS	PC/ABS	PC/ABS	PC/ABS
Connection	2m PVC Cable	2m PVC Cable	M12 Connector	M12 Connector
Certification	CE	CE	CE	CE

\* Cable material and length can be customized



24-240VAC/12-240VDC 5 Wires

Item Code	PTF		PTF	
Sensing mode	Through beam(Emitter)	Through beam(Receiver)	Through beam(Emitter)	Through beam(Receiver)
Sensing distance	10m ( Non-adjustable )	10m ( Non-adjustable )	20m ( Non-adjustable )	20m ( Non-adjustable )

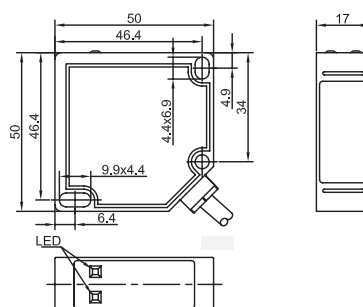
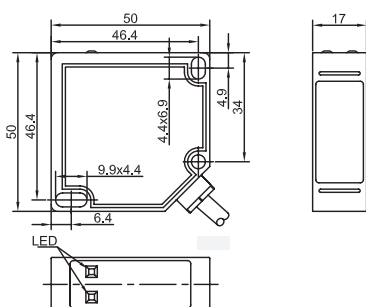


Output				
	Relay output	PTF-TM10S	PTF-TM10SK	PTF-TM20S

### Technical Parameter

Supply voltage	24...240 VAC/12...240 VDC		24...240 VAC/12...240 VDC	
Light source	Infrared LED ( 880nm )		Infrared LED ( 880nm )	
Load current	...	<3A	...	<3A
Voltage drop	...		...	
Leakage current	...		...	
Hysteresis	...		...	
Repeat accuracy	<5%		<5%	
Response time	< 30ms		< 30ms	
Output indicator	Green LED	Yellow LED	Green LED	Yellow LED
Polarity protection	...	...	...	...
Impulse voltage withstand	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s
Short-circuit protection	...	...	...	...
Ambient temperature	-15...+55°C	-15...+55°C	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP64	IP64	IP64	IP64
Housing material	PC/ABS	PC/ABS	PC/ABS	PC/ABS
Connection	2m PVC Cable	2m PVC Cable	2m PVC Cable	2m PVC Cable
Certification	CE	CE	CE	CE

\* Cable material and length can be customized



24-240VAC/12-240VDC 5 Wires

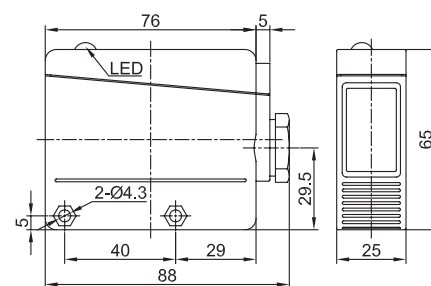
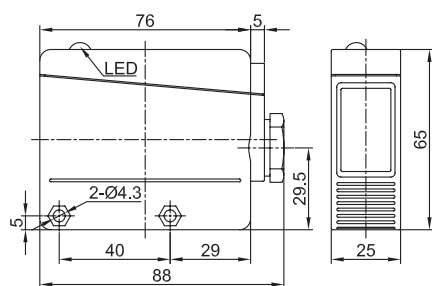
Item Code	PTL		PTL	
Sensing mode	Through beam(Emitter)	Through beam(Receiver)	Through beam(Emitter)	Through beam(Receiver)
Sensing distance	20m ( Non-adjustable )	20m ( Adjustable )	30m ( Non-adjustable )	30m ( Adjustable )



Output				
	Relay output	PTL-TM20S-D	PTL-TM20SKT3-D	PTL-TM30S-D
Output				

### Technical Parameter

Supply voltage	24...240 VAC/12...240 VDC		24...240 VAC/12...240 VDC	
Light source	Infrared LED ( 880nm )		Infrared LED ( 880nm )	
Load current	...	<3A	...	<3A
Voltage drop	...		...	
Leakage current	...		...	
Hysteresis	...		...	
Repeat accuracy	<5%		<5%	
Response time	< 30ms		< 30ms	
Output indicator	Green LED	Yellow LED	Green LED	Yellow LED
Polarity protection	...	...	...	...
Impulse voltage withstand	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s
Short-circuit protection	...	...	...	...
Ambient temperature	-15...+55°C	-15...+55°C	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP67	IP67	IP67	IP67
Housing material	PC/ABS	PC/ABS	PC/ABS	PC/ABS
Connection	Terminal Connect	Terminal Connect	Terminal Connect	Terminal Connect
Certification	CE	CE	CE	CE





Item Code	PU07	PU15
Sensing mode	Through beam	Through beam
Sensing distance	7mm (Adjustable)	15mm (Adjustable)

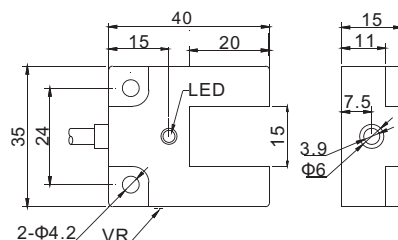
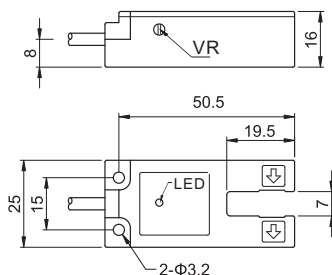


Output	NPN NO	PU07-TDNO	PU15-TDNO
	NPN NC	PU07-TDNC	PU15-TDNC
Output	PNP NO	PU07-TDPO	PU15-TDPO
	PNP NC	PU07-TDPC	PU15-TDPC

### Technical Parameter

Supply voltage	10...30VDC	10...30VDC
Light source	Infrared LED (Modulated)	Infrared LED (Modulated)
Sensing object	Opaque Objects with $\Phi > 1\text{mm}$	Opaque Objects with $\Phi > 1\text{mm}$
Response time	Max, 1ms	Max, 1ms
Load current	$\leq 200\text{mA}$	$\leq 200\text{mA}$
Residual voltage	$\leq 2.5\text{VDC}$	$\leq 2.5\text{VDC}$
Consumption current	$\leq 15\text{mA}$	$\leq 15\text{mA}$
Protection	Polarity protection / Surge protection	Polarity protection / Surge protection
Output indicator	Yellow LED	Yellow LED
Ambient temperature	-15...55°C	-15...55°C
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Insulation	$\geq 50\text{M}\Omega(500\text{VDC})$	$\geq 50\text{M}\Omega(500\text{VDC})$
Anti-vibration	15mm amplitude at 10 to 50Hz in each of xy and z direction for two hours	15mm amplitude at 10 to 50Hz in each of xy and z direction for two hours
Anti-shocking	500m/S(50G) for 3 Times, in each of xy and z direction	500m/S(50G) for 3 Times, in each of xy and z direction
Protection degree	IP64	IP64
Housing material	PBT	PBT
Connection	2m PVC Cable	2m PVC Cable
Certification	CE	CE

\* Cable material and length can be customized



Item Code	PU30	PU30
Sensing mode	Through beam	Through beam
Sensing distance	30mm (Adjustable)	30mm (Non-adjustable)

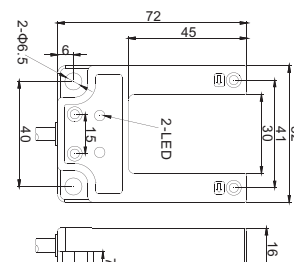
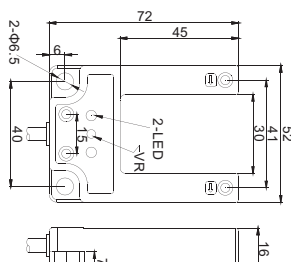


Output	NPN NO/NC	PU30-TDNB	PU30-TDNB 3001
	PNP NO/NC	PU30-TDPB	PU30-TDPB 3001

### Technical Parameter

Supply voltage	10...30VDC	10...30VDC
Light source	Infrared LED(Modulated)	Infrared LED(Modulated)
Sensing object	Opaque Objects with $\Phi > 2\text{mm}$	Opaque Objects with $\Phi > 2\text{mm}$
Response time	Max,1ms	Max,1ms
Load current	$\leq 200\text{mA}$	$\leq 200\text{mA}$
Residual voltage	$\leq 2.5\text{VDC}$	$\leq 2.5\text{VDC}$
Consumption current	$\leq 15\text{mA}$	$\leq 15\text{mA}$
Protection	Polarity protection / Surge protection / Short-circuit protection	Polarity protection / Surge protection / Short-circuit protection
Output indicator	Yellow LED	Yellow LED
Ambient temperature	-15...55°C	-15...55°C
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Insulation	$\geq 50\text{M}\Omega(500\text{VDC})$	$\geq 50\text{M}\Omega(500\text{VDC})$
Anti-vibration	15mm amplitude at 10 to 50Hz in each of xy and z direction for two hours	15mm amplitude at 10 to 50Hz in each of xy and z direction for two hours
Anti-shocking	500m/S(50G) for 3 Times, in each of xy and z direction	500m/S(50G) for 3 Times, in each of xy and z direction
Protection degree	IP60	IP67
Housing material	Aluminum alloy	Aluminum alloy
Connection	2m PVC Cable	2m PVC Cable
Certification	CE	CE

\* Cable material and length can be customized



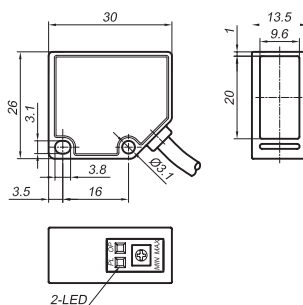
Item Code	PSD		
Sensing mode	Polarized reflection		
Sensing distance	2m ( Non-adjustable )		



Output				
	NPN NO+NC	PSD-PM2DNR		
Output				
	PNP NO+NC	PSD-PM2DPR		

Technical Parameter	
Supply voltage	10...30VDC
Light source	Red light LED ( 660nm )
Load current	<200mA
Voltage drop	<2.5V
Consumption current	<25mA
Reflector	TD-09
Repeat accuracy	<5%
Response time	<8.2ms
Output indicator	Yellow LED
Polarity protection	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s
Short-circuit protection	yes
Ambient temperature	-15...+55°C
Ambient moisture	35...95%
Protection degree	IP54
Housing material	PC/ABS
Connection	2m PVC Cable
Certification	CE

\* Cable material and length can be customized



Item Code	PSC		PSC	
Sensing mode	Polarized reflection		Polarized reflection	
Sensing distance	4m ( Adjustable )		4m ( Adjustable )	

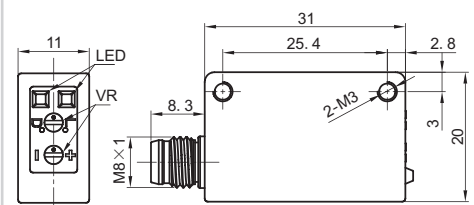
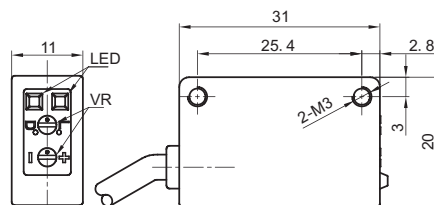


Output	NPN NO/NC	PSC-PM4TNBR	PSC-PM4TNBR-E1
	PNP NO/NC	PSC-PM4TPBR	PSC-PM4TPBR-E1

### Technical Parameter

Supply voltage	12...24 VDC	12...24 VDC
Light source	Red light LED ( 650nm )	Red light LED ( 650nm )
Load current	<100mA	<100mA
Voltage drop	<2.5V	<2.5V
Consumption current	<15mA	<15mA
Reflector	TD-09	TD-09
Repeat accuracy	<5%	<5%
Response time	<2ms	<2ms
Output indicator	Yellow LED	Yellow LED
Polarity protection	yes	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	yes	yes
Ambient temperature	-25...+55°C	-25...+55°C
Ambient moisture	35...95%	35...95%
Protection degree	IP67	IP67
Housing material	PC/ABS	PC/ABS
Connection	2m PVC Cable	M8 Connector
Certification	CE	CE

\* Cable material and length can be customized



Item Code	PSF	PSF
Sensing mode	Polarized reflection	Polarized reflection
Sensing distance	2m ( Non-adjustable )	2m ( Non-adjustable )

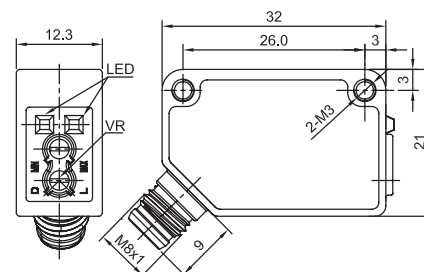
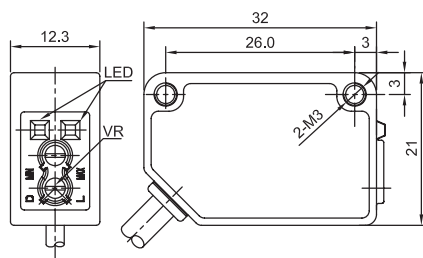


Output	NPN NO/NC	PSF-PM2DNB	PSF-PM2DNB-E1
	PNP NO/NC	PSF-PM2DPB	PSF-PM2DPB-E1

### Technical Parameter

Supply voltage	12...24 VDC	12...24 VDC
Light source	Red light LED ( 660nm )	Red light LED ( 660nm )
Load current	100mA	100mA
Voltage drop	<2.5V	<2.5V
Consumption current	<25mA	<25mA
Reflector	TD-09	TD-09
Repeat accuracy	<5%	<5%
Response time	<1mS	<1mS
Output indicator	Green LED	Green LED
Polarity protection	yes	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	yes	yes
Ambient temperature	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%
Protection degree	IP67	IP67
Housing material	PC/ABS	PC/ABS
Connection	2m PVC Cable	M8 Connector
Certification	CE	CE

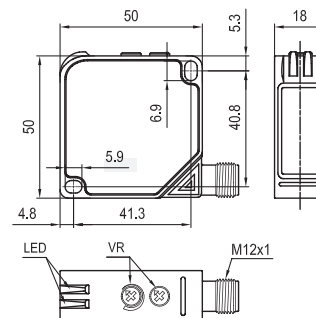
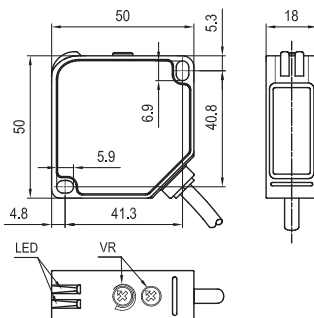
\* Cable material and length can be customized



Item Code	PTE		PTE	
Sensing mode	Polarized reflection		Polarized reflection	
Sensing distance	5m ( Adjustable )		5m ( Adjustable )	
				
Output				
	NPN+PNP NO/NC	PTE-PM5DFB	PTE-PM5DFB-E2	
Output				

Technical Parameter				
Supply voltage	10...30 VDC		10...30 VDC	
Light source	Red light LED ( 650nm )		Red light LED ( 650nm )	
Load current	<200mA		<200mA	
Voltage drop	<2.5V		<2.5V	
Consumption current	<40mA		<40mA	
Reflector	TD-09		TD-09	
Repeat accuracy	<5%		<5%	
Response time	< 2ms		< 2ms	
Output indicator	Yellow LED		Yellow LED	
Polarity protection	yes		yes	
Impulse voltage withstand	1000V/AC 50/60Hz 60s		1000V/AC 50/60Hz 60s	
Short-circuit protection	yes		yes	
Ambient temperature	-25...+55°C		-25...+55°C	
Ambient moisture	35...95%		35...95%	
Protection degree	IP67		IP67	
Housing material	PC/ABS		PC/ABS	
Connection	2m PVC Cable		M12 Connector	
Certification	CE		CE	

\* Cable material and length can be customized



Item Code	PTF	PTF
Sensing mode	Polarized reflection	Polarized reflection
Sensing distance	5m ( Non-adjustable )	5m ( Non-adjustable )

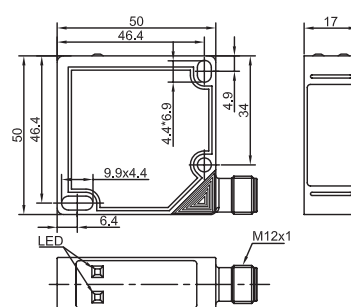
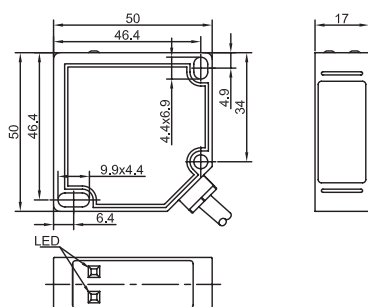


Output	NPN NO+NC	PTF-PM5DNR	PTF-PM5DNR-E2
	PNP NO+NC	PTF-PM5DPR	PTF-PM5DPR-E2

### Technical Parameter

Supply voltage	10...30 VDC	10...30 VDC
Light source	Infrared LED ( 660nm )	Infrared LED ( 660nm )
Load current	<200mA	<200mA
Voltage drop	<2.5V	<2.5V
Consumption current	<25mA	<25mA
Hysteresis	...	...
Repeat accuracy	<5%	<5%
Response time	< 8.2ms	< 8.2ms
Output indicator	Yellow LED	Yellow LED
Polarity protection	yes	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	yes	yes
Ambient temperature	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%
Protection degree	IP64	IP64
Housing material	PC/ABS	PC/ABS
Connection	2m PVC Cable	M12 Connector
Certification	CE	CE

\* Cable material and length can be customized



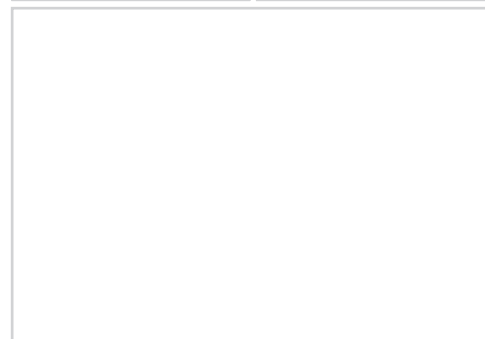
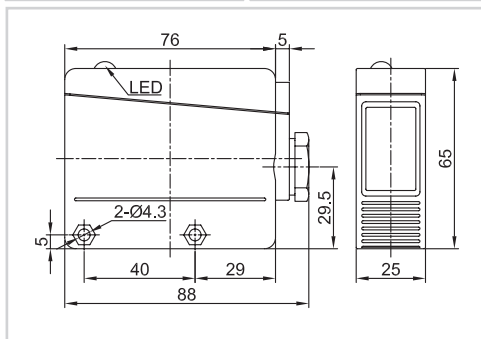
Item Code	PTL		
Sensing mode	Polarized reflection		
Sensing distance	12m ( Non-adjustable )		





Output				
	NPN NO+NC	PTL-PM12DNR-D		
Output				
	PNP NO+NC	PTL-PM12DPR-D		

### Technical Parameter

Supply voltage	10...30 VDC		
Light source	Red light LED ( 660nm )		
Load current	<200mA		
Voltage drop	<2.5V		
Consumption current	<25mA		
Hysteresis	...		
Repeat accuracy	<5%		
Response time	< 8.2ms		
Output indicator	Yellow LED		
Polarity protection	yes		
Impulse voltage withstand	1000V/AC 50/60Hz 60s		
Short-circuit protection	yes		
Ambient temperature	-15...+55°C		
Ambient moisture	35...95%		
Protection degree	IP67		
Housing material	PC/ABS		
Connection	Terminal Connect		
Certification	CE		

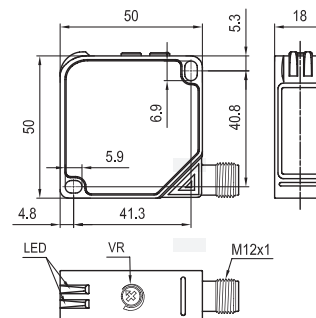
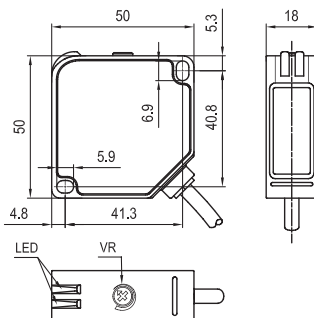






Item Code	PTE		PTE	
Sensing mode	Polarized reflection		Polarized reflection	
Sensing distance	5m ( Adjustable )		5m ( Adjustable )	
				
Output				
Relay output	PTE-PM5SK		PTE-PM5SK-E5	
Output				

Technical Parameter				
Supply voltage	24...240 VAC/DC		24...240 VAC/DC	
Light source	Red light LED ( 650nm )		Red light LED ( 650nm )	
Load current	<3A		<3A	
Voltage drop	...		...	
Leakage current	...		...	
Hysteresis	TD-09		TD-09	
Repeat accuracy	<5%		<5%	
Response time	<10ms		<10ms	
Output indicator	Yellow LED		Yellow LED	
Polarity protection	...		...	
Impulse voltage withstand	2000V/AC 50/60Hz 60s		2000V/AC 50/60Hz 60s	
Short-circuit protection	...		...	
Ambient temperature	-25...+55°C		-25...+55°C	
Ambient moisture	35...95%		35...95%	
Protection degree	IP67		IP67	
Housing material	PC/ABS		PC/ABS	
Connection	2m PVC Cable		M12 Connector	
Certification	CE		CE	

\* Cable material and length can be customized



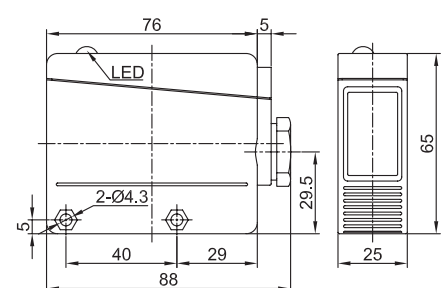
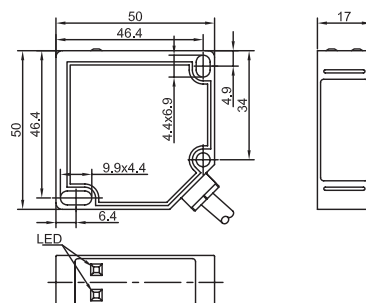
24-240VAC/12-240VDC 5 Wires

Item Code		PTF	PTL
Sensing mode		Polarized reflection	Polarized reflection
Sensing distance		5m ( Non-adjustable )	12m ( Non-adjustable )
			
Output			
	Relay output	PTF-PM5SK	PTL-PM12SK-D
Output			

### Technical Parameter

Supply voltage	24...240 VAC/12...240 VDC	24...240 VAC/12...240 VDC
Light source	Infrared LED ( 660nm )	Infrared LED ( 660nm )
Load current	<3A	<3A
Voltage drop	...	...
Leakage current	...	...
Hysteresis	3...20%	...
Repeat accuracy	<5%	<5%
Response time	< 30ms	< 30ms
Output indicator	Yellow LED	Yellow LED
Polarity protection	...	...
Impulse voltage withstand	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s
Short-circuit protection	...	...
Ambient temperature	-15...+55°C	-15...+55°C
Ambient moisture	35...95%	35...95%
Protection degree	IP64	IP67
Housing material	PC/ABS	PC/ABS
Connection	2m PVC Cable	Terminal Connect
Certification	CE	CE

\* Cable material and length can be customized



Item Code	PR18	PR18
Sensing mode	Background suppression	Background suppression
Sensing distance	10cm ( Adjustable )	10cm ( Adjustable )

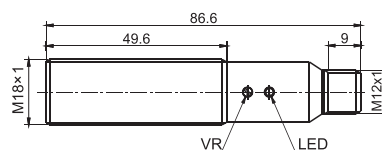
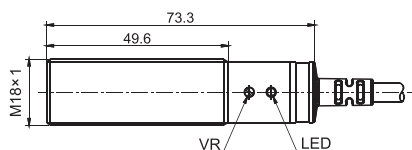


Output	NPN NO+NC	PR18-YC10DNR	PR18-YC10DNR-E2
	PNP NO+NC	PR18-YC10DPR	PR18-YC10DPR-E2

### Technical Parameter

Supply voltage	10...30 VDC	10...30 VDC
Light source	Infrared LED ( 680nm )	Infrared LED ( 680nm )
Standard target	Reflecting rate: white card (90%), black card (10%)	Reflecting rate: white card (90%), black card (10%)
Black/white aberration	≤10%	≤10%
Load current	<200mA	<200mA
Voltage drop	<2.5V	<2.5V
Consumption current	<35mA	<35mA
Hysteresis range	<5%	<5%
Repeat accuracy	<3%	<3%
Response time	< 2ms	< 2ms
Output indicator	Yellow LED	Yellow LED
Polarity protection	yes	yes
Impulse voltage withstand	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	yes	yes
Ambient temperature	-15...+55°C	-15...+55°C
Protection degree	IP67	P67
Housing material	Nickel-copper Alloy	Nickel-copper Alloy
Connection	2m PVC Cable	M12 Connector
Certification	CE	CE

\* Cable material and length can be customized



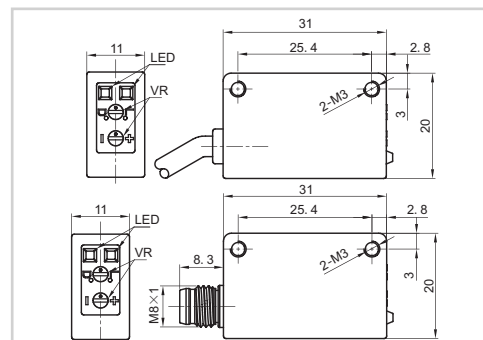
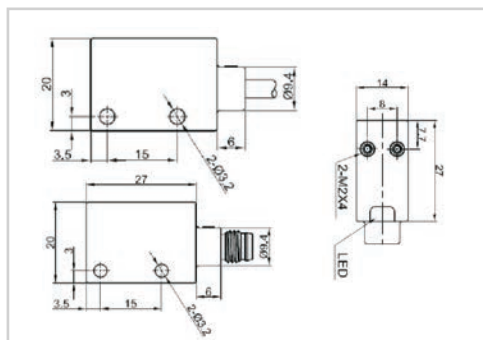
## 12-24VDC 3/4 Wires



Item Code		PSE		PSC	
Sensing mode		Background suppression		Background suppression	
Sensing distance		80mm (Adjustable)	80mm (Adjustable)	35cm (Adjustable)	35cm (Adjustable)
					
Output					
	NPN NO/NC	PSE-YC08DNB	PSE-YC08DNB-E3	PSC-YC35TNBR	PSC-YC35TNBR-E1
Output					
	PNP NO/NC	PSE-YC08DPB	PSE-YC08DPB-E3	PSC-YC35TPBR	PSC-YC35TPBR-E1

### Technical Parameter

Supply voltage	10...30VDC	10...30VDC	12...24 VDC	12...24 VDC
Light source	Red lightLED ( 630nm )	Red light LED ( 630nm )	Red light LED ( 650nm )	Red light LED ( 650nm )
Standard target	Reflecting rate: white card (90%), black card (10%)		Reflecting rate: white card (90%), black card (10%)	
Black/white aberration	≤10%	≤10%	≤10%	≤10%
Load current	≤100 mA	≤100 mA	<100mA	<100mA
Voltage drop	<2.5V	<2.5V	<2.5V	<2.5V
Consumption current	≤20 mA	≤20 mA	<15mA	<15mA
Hysteresis range	≤10%	≤10%	<20%	<20%
Repeat accuracy	≤10%	≤10%	<3%	<3%
Response time	1ms	1ms	< 2ms	< 2ms
Output indicator	Yellow LED	Yellow LED	Yellow LED	Yellow LED
Polarity protection	yes	yes	yes	yes
Impulse voltage withstand	600V/AC 50/60HZ	600V/AC 50/60HZ	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	yes	yes	yes	yes
Ambient temperature	-15°C...+55°C	-15°C...+55°C	-25...+55°C	-25...+55°C
Protection degree	IP67	IP67	IP67	IP67
Housing material	ABS	ABS	PC/ABS	PC/ABS
Connection	2m PVC Cable	M8 Connector	2m PVC Cable	M8 Connector
Certification	CE	CE	CE	CE

\* Cable material and length can be customized

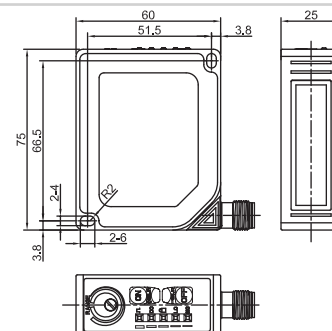
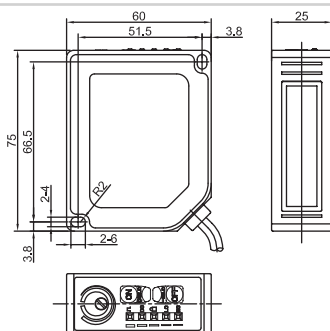


Item Code	PTB	PTB
Sensing mode	Background suppression	Background suppression
Sensing distance	2m ( Adjustable )	2m ( Adjustable )
		
Output		
	NPN+PNP NO/NC	
	PTB-YC200DFBT3	PTB-YC200DFBT3-E5
Output		

### Technical Parameter

Supply voltage	10...30 VDC	10...30 VDC
Light source	Infrared LED ( 870nm )	Infrared LED ( 870nm )
Standard target	Reflecting rate: white card (90%), black card (10%)	Reflecting rate: white card (90%), black card (10%)
Black/white aberration	≤10%	≤10%
Load current	<150mA	<150mA
Voltage drop	<2.5V	<2.5V
Consumption current	<50mA	<50mA
Hysteresis range	<5%	<5%
Repeat accuracy	<3%	<3%
Response time	<2ms	<2ms
Output indicator	Yellow LED	Yellow LED
Polarity protection	yes	yes
Impulse voltage withstand	2000V/AC 50/60Hz 60s	2000V/AC 50/60Hz 60s
Short-circuit protection	yes	yes
Ambient temperature	-15...+55°C	-15...+55°C
Protection degree	IP67	IP67
Housing material	ABS	ABS
Connection	2m PVC Cable	M12 Connector
Certification	CE	CE

\* Cable material and length can be customized

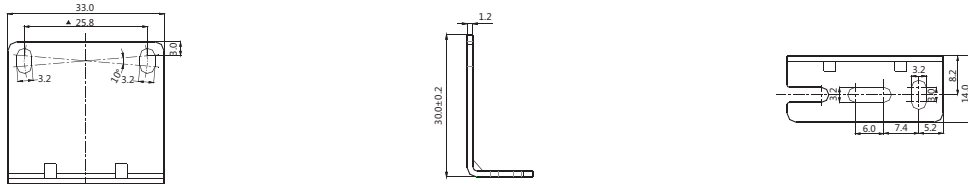


## Reflector

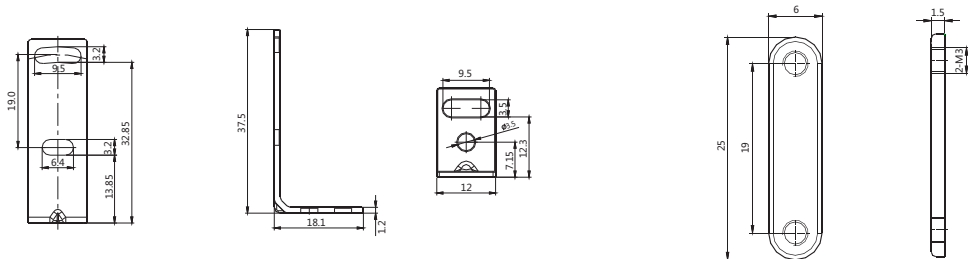
Item Code	STD-06	TD-04	TD-05
Dimensions			
Item Code	TD-09	TD-02	TD-08
Dimensions			
Item Code	TD-01	TD-03	TD-01-3
Dimensions			
Item Code	TD-09A	TD-10	
Dimensions			

## Mounting rack

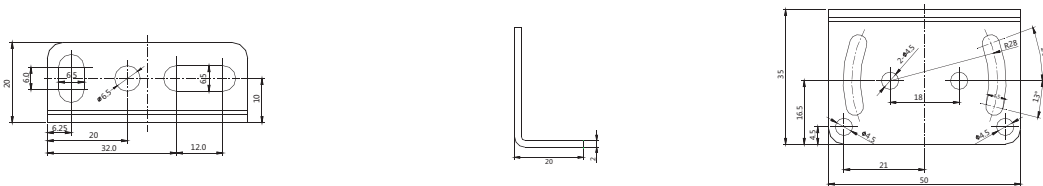
ZJP-1 ( PSF/PSC Mounting rack )



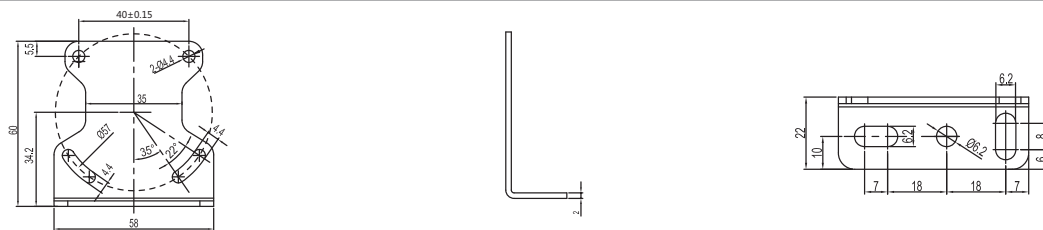
ZJP-2 ( PSL Mounting rack )



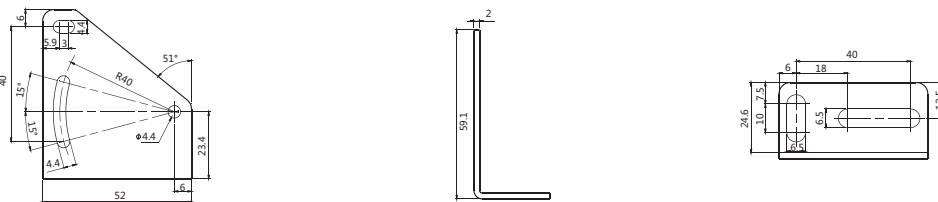
ZJP-4 ( PTF Mounting rack )



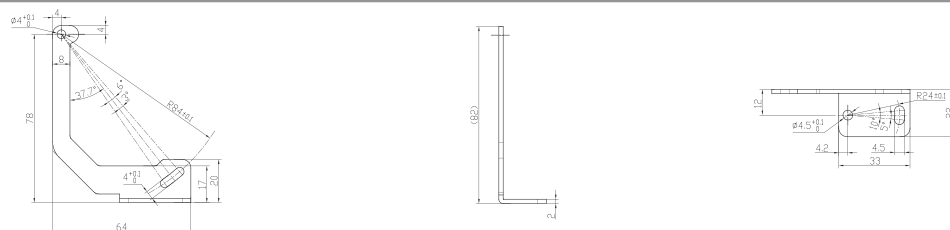
ZJP-5 ( PTF/PTA/PTE Mounting rack )



ZJP-6 ( PTL Mounting rack )



ZJP-7 ( PTB Mounting rack )





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