

# Фотоэлектрические датчики PSE-PM12/PM8/PM2/PM10/PM3

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# Plastic square photoelectric sensor PSE series



## Features

- Laser light source, long distance
- Ultra-small light spot, accurate positioning
- Universal dimension
- IP67 protection grade, suitable for harsh environments



## Part number

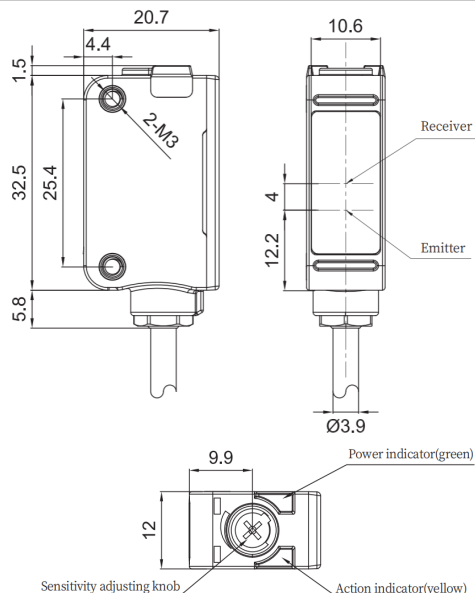
NPN NO+NC	PSE-PM12DNRL	PNP NO+NC	PSE-PM12DPRL
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## Technical specifications

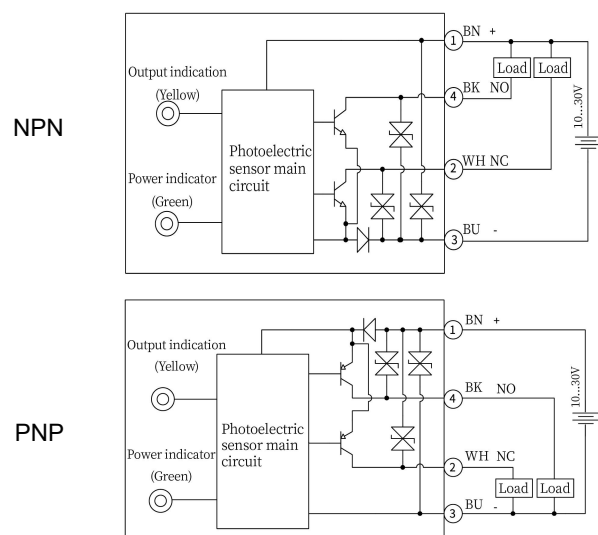
Detection method	Polarized reflection	Circuit protection	Short circuit protection, overload protection, reverse polarity protection, zener protection
Rated distance	2...12m	Indicator	Green light: power indicator Yellow light: output, overload or short circuit(flash)
Output type	NPN NO+NC Or PNP NO+NC	Anti ambient light	Anti-sunlight interference $\leq 10,000\text{lux}$ ; Incandescent light interference $\leq 3,000\text{lux}$
Distance adjustment	Knob adjustment	Operating temperature	$-10^{\circ}\text{C} \dots 50^{\circ}\text{C}$ (no frost or condensation on lens surfaces)
Light spot size	24mm@12m(Main Light spot)	Storage temperature	$-40^{\circ}\text{C} \dots 70^{\circ}\text{C}$
Output state	Black wire NO, white wire NC	Humidity range	35%~85% (no frost or condensation on lens surfaces)
Supply voltage	10...30 VDC, Ripple $<10\%$ Vp-p	Protection degree	IP67
Consumption current	$\leq 20\text{mA}$	Production standard	EN60947-5-2:2012, IEC60947-5-2:2012
Load current	$\leq 100\text{mA}$	Material	Housing: PC+ABS; Optical elements: Plastic PMMA
Voltage drop	$\leq 1.5\text{V}$	Weight	50g
Light source	Red laser(650nm) Class1	Connection	2m PVC cable
Response time	T-on: 0.5ms; T-off: 0.5ms		
Response frequency	$\leq 1000\text{Hz}$		
Blind zone	$< 20\text{cm}$		
Min target	3mm@0~2m, 6mm@2~10m		

\*Equipped with TD-09A reflector, the recommended installation distance is 2-12m.

## Dimensions



## Wiring diagram



# Plastic square photoelectric sensor PSE series



## Features

- Laser light source, long distance
- Ultra-small light spot, accurate positioning
- Universal dimension
- IP67 protection grade, suitable for harsh environments



## Part number

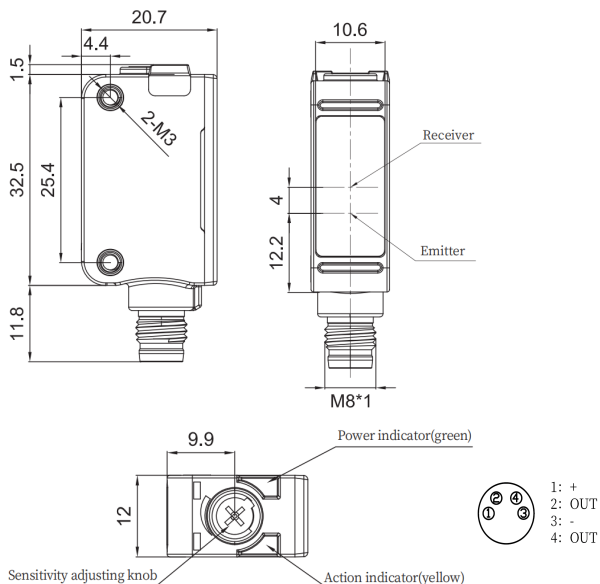
NPN NO+NC	PSE-PM12DNRL-E3	PNP NO+NC	PSE-PM12DPRL-E3
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## Technical specifications

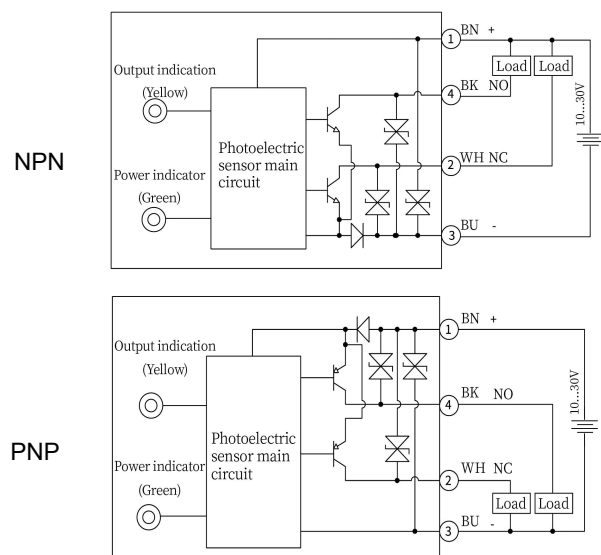
Detection method	Polarized reflection	Circuit protection	Short circuit protection, overload protection, reverse polarity protection, zener protection
Rated distance	2...12m	Indicator	Green light: power indicator Yellow light: output, overload or short circuit(flash)
Output type	NPN NO+NC Or PNP NO+NC	Anti ambient light	Anti-sunlight interference ≤10,000lux; Incandescent light interference ≤3,000lux
Distance adjustment	Knob adjustment	Operating temperature	-10°C ...50°C (no frost or condensation on lens surfaces)
Light spot size	24mm@12m(Main Light spot)	Storage temperature	-40°C ...70°C
Output state	Black wire NO, white wire NC	Humidity range	35%~85% (no frost or condensation on lens surfaces)
Supply voltage	10...30 VDC, Ripple<10%Vp-p	Protection degree	IP67
Consumption current	≤20mA	Production standard	EN60947-5-2:2012、IEC60947-5-2:2012
Load current	≤100mA	Material	Housing: PC+ABS; Optical elements: Plastic PMMA
Voltage drop	≤1.5V	Weight	10g
Light source	Red laser(650nm) Class1	Connection	M8 4-pin connector
Response time	T-on: 0.5ms; T-off: 0.5ms		
Response frequency	≤1000Hz		
Blind zone	<20cm		
Min target	3mm@0~2m, 6mm@2~10m		

\*Equipped with TD-09A reflector, the recommended installation distance is 2-12m.

## Dimensions



## Wiring diagram



# Plastic square photoelectric sensor PSE series



## Features

- Laser light source, long distance
- Ultra-small light spot, accurate positioning
- Universal dimension
- IP67 protection grade, suitable for harsh environments



## Part number

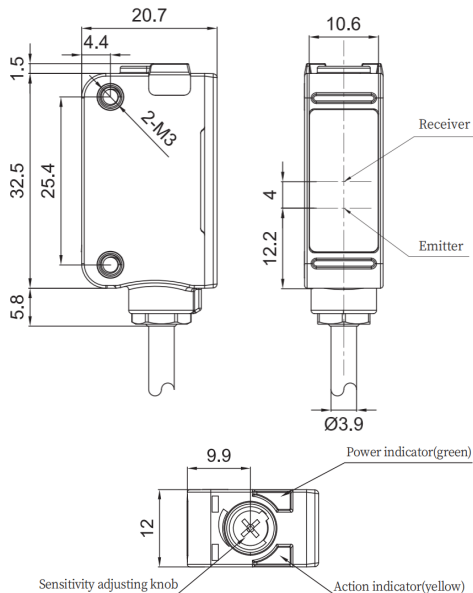
NPN NO+NC	PSE-PM8DNRL	PNP NO+NC	PSE-PM8DPRL
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## Technical specifications

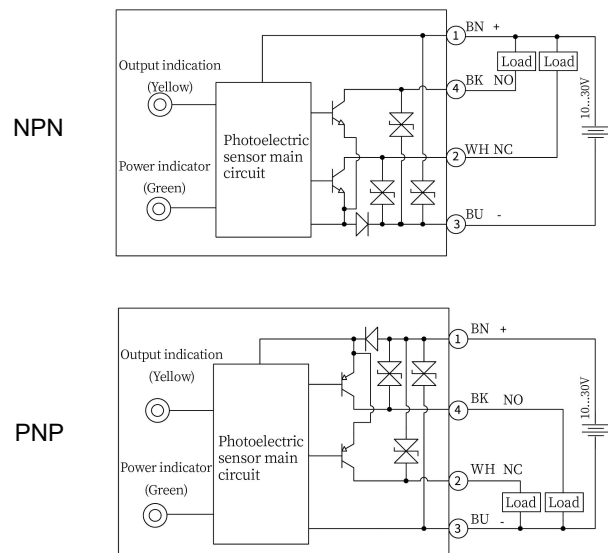
Detection method	Polarized reflection	Circuit protection	Short circuit protection, overload protection, reverse polarity protection, zener protection
Rated distance	2...8m	Indicator	Green light: power indicator Yellow light: output, overload or short circuit(flash)
Output type	NPN NO+NC Or PNP NO+NC	Anti ambient light	Anti-sunlight interference ≤10,000lux; Incandescent light interference ≤3,000lux
Distance adjustment	Knob adjustment	Operating temperature	-10°C ...50°C (no frost or condensation on lens surfaces)
Light spot size	16mm@8m(Main Light spot)	Storage temperature	-40°C ...70°C
Output state	Black wire NO, white wire NC	Humidity range	35%~85% (no frost or condensation on lens surfaces)
Supply voltage	10...30 VDC, Ripple<10%Vp-p	Protection degree	IP67
Consumption current	≤20mA	Production standard	EN60947-5-2:2012、IEC60947-5-2:2012
Load current	≤100mA	Material	Housing: PC+ABS; Optical elements: Plastic PMMA
Voltage drop	≤1.5V	Weight	50g
Light source	Red laser(650nm) Class1	Connection	2m PVC cable
Response time	T-on: 0.5ms; T-off: 0.5ms		
Response frequency	≤1000Hz		
Blind zone	<20cm		
Min target	3mm@0~2m, 6mm@2~10m		

\*Equipped with TD-09 reflector, the recommended installation distance is 2-8m.

## Dimensions



## Wiring diagram





# Plastic square photoelectric sensor PSE series



## Features

- Laser light source, long distance
- Ultra-small light spot, accurate positioning
- Universal dimension
- IP67 protection grade, suitable for harsh environments



## Part number

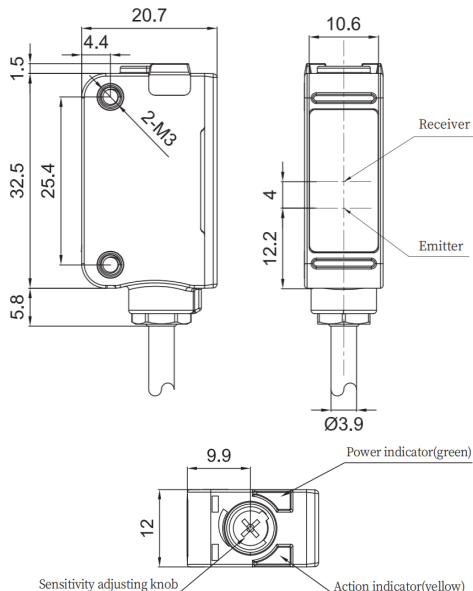
NPN NO+NC	PSE-PM2DNRL	PNP NO+NC	PSE-PM2DPRL
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## Technical specifications

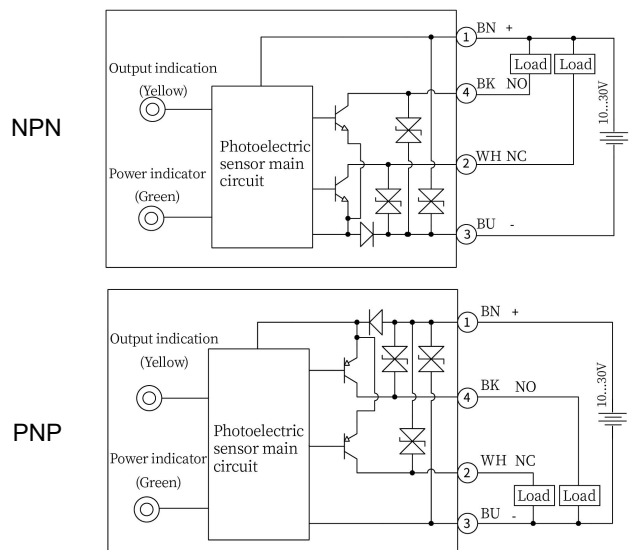
Detection method	Polarized reflection	Circuit protection	Short circuit protection, overload protection, reverse polarity protection, zener protection
Rated distance	0.2...2m	Indicator	Green light: power indicator Yellow light: output, overload or short circuit(flash)
Output type	NPN NO+NC Or PNP NO+NC	Anti ambient light	Anti-sunlight interference ≤10,000lux; Incandescent light interference ≤3,000lux
Distance adjustment	Knob adjustment	Operating temperature	-10°C ...50°C (no frost or condensation on lens surfaces)
Light spot size	4mm@2m(Main Light spot)	Storage temperature	-40°C ...70°C
Output state	Black wire NO, white wire NC	Humidity range	35%~85% (no frost or condensation on lens surfaces)
Supply voltage	10...30 VDC, Ripple<10%Vp-p	Protection degree	IP67
Consumption current	≤20mA	Production standard	EN60947-5-2:2012, IEC60947-5-2:2012
Load current	≤100mA	Material	Housing: PC+ABS; Optical elements: Plastic PMMA
Voltage drop	≤1.5V	Weight	50g
Light source	Red laser(650nm) Class1	Connection	2m PVC cable
Response time	T-on: 0.5ms; T-off: 0.5ms		
Response frequency	≤1000Hz		
Blind zone	<20cm		
Min target	3mm@0~2m, 6mm@2~10m		

\*Equipped with TD-24 reflector, the recommended installation distance is 0.2-2m.

## Dimensions



## Wiring diagram



# Plastic square photoelectric sensor PSE series



## Features

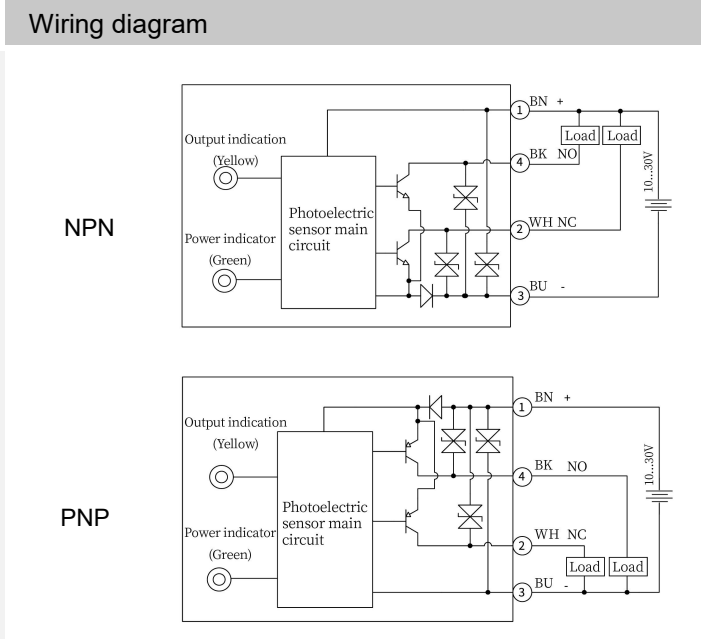
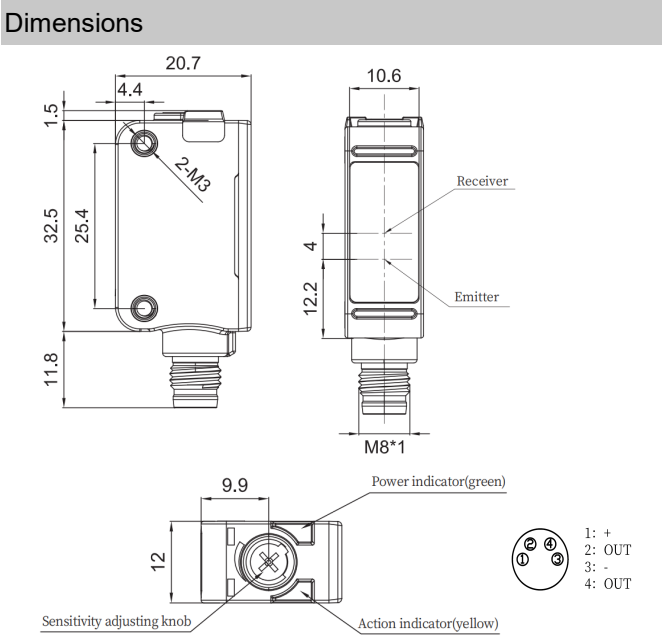
- Laser light source, long distance
- Ultra-small light spot, accurate positioning
- Universal dimension
- IP67 protection grade, suitable for harsh environments



Part number			
NPN NO+NC	PSE-PM2DNRL-E3	PNP NO+NC	PSE-PM2DPRL-E3

Technical specifications			
Detection method	Polarized reflection	Circuit protection	Short circuit protection, overload protection, reverse polarity protection, zener protection
Rated distance	0.2...2m	Indicator	Green light: power indicator Yellow light: output, overload or short circuit(flash)
Output type	NPN NO+NC Or PNP NO+NC	Anti ambient light	Anti-sunlight interference ≤10,000lux; Incandescent light interference ≤3,000lux
Distance adjustment	Knob adjustment	Operating temperature	-10°C ...50°C (no frost or condensation on lens surfaces)
Light spot size	4mm@2m(Main Light spot)	Storage temperature	-40°C ...70°C
Output state	Black wire NO, white wire NC	Humidity range	35%~85% (no frost or condensation on lens surfaces)
Supply voltage	10...30 VDC, Ripple<10%Vp-p	Protection degree	IP67
Consumption current	≤20mA	Production standard	EN60947-5-2:2012, IEC60947-5-2:2012
Load current	≤100mA	Material	Housing: PC+ABS; Optical elements: Plastic PMMA
Voltage drop	≤1.5V	Weight	10g
Light source	Red laser(650nm) Class1	Connection	M8 4-pin connector
Response time	T-on: 0.5ms; T-off: 0.5ms		
Response frequency	≤1000Hz		
Blind zone	<20cm		
Min target	3mm@0~2m, 6mm@2~10m		

\*Equipped with TD-24 reflector, the recommended installation distance is 0.2-2m.



# Plastic square photoelectric sensor PSE series



## Features

- Laser light source, long distance
- Ultra-small light spot, accurate positioning
- Universal dimension
- IP67 protection grade, suitable for harsh environments



## Part number

NPN NO+NC	PSE-PM10DNRL-E3	PNP NO+NC	PSE-PM10DPRL-E3
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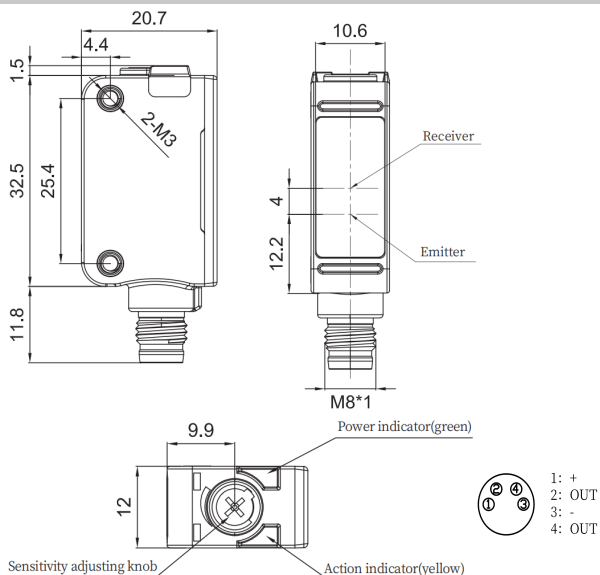
## Technical specifications

Detection method	Polarized reflection	Circuit protection	Short circuit protection, overload protection, reverse polarity protection, zener protection
Rated distance	10m	Indicator	Green light: power indicator Yellow light: output, overload or short circuit(flash)
Output type	NPN NO+NC Or PNP NO+NC	Anti ambient light	Anti-sunlight interference $\leq 10,000\text{lux}$ ; Incandescent light interference $\leq 3,000\text{lux}$
Distance adjustment	Knob adjustment	Operating temperature	$-10^{\circ}\text{C} \dots 50^{\circ}\text{C}$ (no frost or condensation on lens surfaces)
Light spot size	20mm@10m(Main Light spot)	Storage temperature	$-40^{\circ}\text{C} \dots 70^{\circ}\text{C}$
Output state	Black wire NO, white wire NC	Humidity range	35%~85%(no frost or condensation on lens surfaces)
Supply voltage	10...30 VDC, Ripple<10%Vp-p	Protection degree	IP67
Consumption current	$\leq 20\text{mA}$	Production standard	EN60947-5-2:2012、IEC60947-5-2:2012
Load current	$\leq 100\text{mA}$	Material	Housing: PC+ABS; Optical elements: Plastic PMMA
Voltage drop	$\leq 1.5\text{V}$	Weight	10g
Light source	Red laser(650nm) Class1	Connection	M8 4-pin connector
Response time	T-on: 0.5ms; T-off: 0.5ms		
Response frequency	$\leq 1000\text{Hz}$		
Blind zone	<20cm		

Min target 3mm@0~2m, 6mm@2~10m

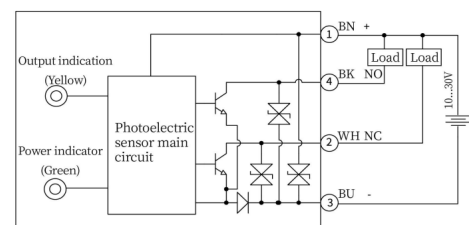
\*Reflectors are sold separately, and different reflectors of different specifications are configured for different distance application scenarios.  
 TD-09: applicable distance 4-8m, TD-09A: applicable distance 8-10m, TD-24: applicable distance 0.2-4m, if the detection distance needs to be greater than 10m, please contact sales staff.

## Dimensions

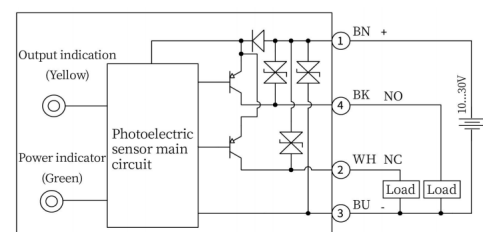


## Wiring diagram

NPN



PNP



# Plastic square photoelectric sensor PSE series



## Features

- Laser light source, long distance
- Ultra-small light spot, accurate positioning
- Universal dimension
- IP67 protection grade, suitable for harsh environments



## Part number

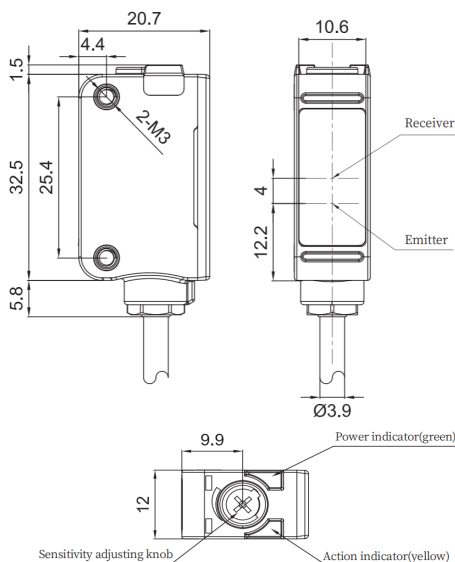
NPN NO+NC	PSE-PM10DNRL	PNP NO+NC	PSE-PM10DPRL
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## Technical specifications

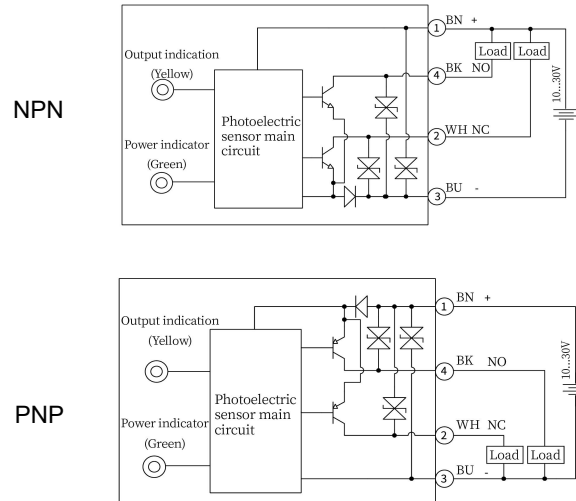
Detection method	Polarized reflection	Circuit protection	Short circuit protection, overload protection, reverse polarity protection, zener protection
Rated distance	10m	Indicator	Green light: power indicator Yellow light: output, overload or short circuit(flash)
Output type	NPN NO+NC Or PNP NO+NC	Anti ambient light	Anti-sunlight interference ≤10,000lux; Incandescent light interference ≤3,000lux
Distance adjustment	Knob adjustment	Operating temperature	-10°C ...50°C(no frost or condensation on lens surfaces)
Light spot size	20mm@10m(Main Light spot)	Storage temperature	-40°C ...70°C
Output state	Black wire NO, white wire NC	Humidity range	35%~85%(no frost or condensation on lens surfaces)
Supply voltage	10...30 VDC, Ripple<10%Vp-p	Protection degree	IP67
Consumption current	≤20mA	Production standard	EN60947-5-2:2012、IEC60947-5-2:2012
Load current	≤100mA	Material	Housing: PC+ABS; Optical elements: Plastic PMMA
Voltage drop	≤1.5V	Weight	50g
Light source	Red laser(650nm) Class1	Connection	2m PVC cable
Response time	T-on: 0.5ms; T-off: 0.5ms		
Response frequency	≤1000Hz		
Blind zone	<20cm		
Min target	3mm@0~2m, 6mm@2~10m		

\*Reflectors are sold separately, and different reflectors of different specifications are configured for different distance application scenarios.  
 TD-09: applicable distance 4-8m, TD-09A: applicable distance 8-10m, TD-24: applicable distance 0.2-4m, if the detection distance needs to be greater than 10m, please contact sales staff.

## Dimensions



## Wiring diagram



## Plastic square shape photoelectric sensors PSE series



### Features

- Universal housing, an ideal replacement for a wide range of sensor types;
- IP67, suitable for harsh environments;
- One-click distance setting, accurate and fast;
- Suitable for the detection of high light objects and some transparent objects;
- NO and NC are switchable.

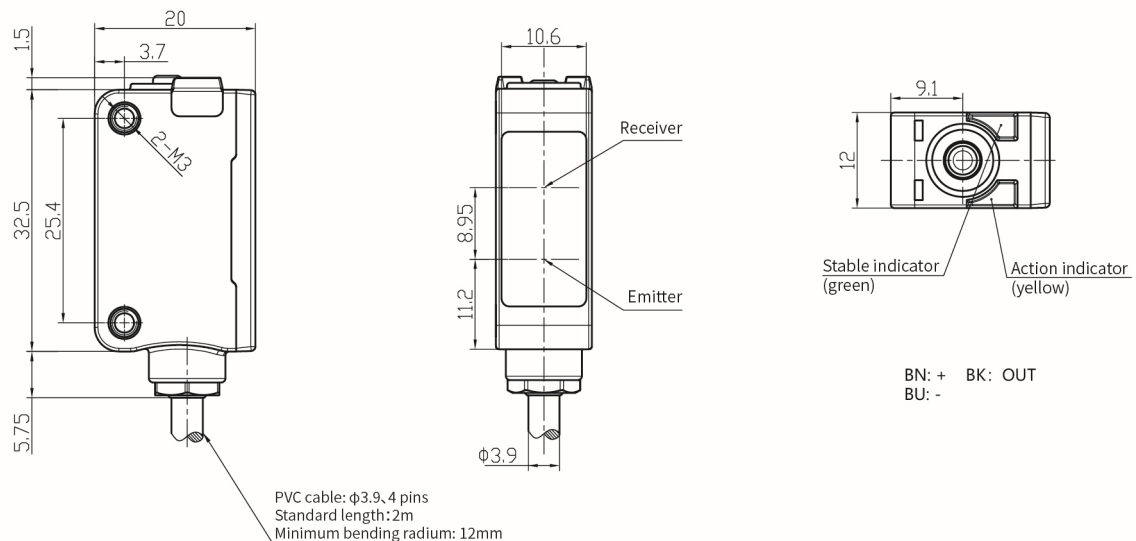


Model			
NPN NO/NC	PSE-PM3DNBR	PNP NO/NC	PSE-PM3DPBR

Specifications			
Detection type	Polarized reflection	Indicator	Green light: power, stable signal (unstable signal flash)
Rated distance	3m*		Yellow light: output, overload or short circuit (flash)
Output	NPN NO/NC or PNP NO/NC	Anti-ambient light	Anti-sunlight interference ≤ 10,000lux;
Response time	≤1ms		Incandescent light interference ≤ 3,000lux
Supply voltage	10...30 VDC	Operating temperature	-25°C...55 °C
Consumption current	≤25mA	Storage temperature	-25°C...70 °C
Load current	≤200mA	Protection degree	IP67
Voltage drop	≤1V	Material	Housing: PC+ABS; Filter: PMMA
Light source	Red light(640nm)	Production standard	EN60947-5-2:2012、IEC60947-5-2:2012
Circuit protection	Short-circuit, overload, reverse polarity and	Weight	50g
	zener protection	Connection	2m PVC cable
NO/NC adjustment	Press the button for 5...8s, when the yellow and green light flash synchronously at 2Hz, and lift. Finish state switch.		
Distance adjustment	Press the button for 2...5s, when the yellow and green light flash synchronously at 4Hz, and lift to finish the distance setting.		
	If the yellow and green light flash asynchronously @8Hz for 3s, setting fails and the product distance goes to the maximum.		

\*The data is the result for Lanbao PSE polarized reflection sensor with standard reflector TD-09.

### Dimensions



## Plastic square shape photoelectric sensors PSE series



### Features

- Universal housing, an ideal replacement for a wide range of sensor types;
- IP67, suitable for harsh environments;
- One-click distance setting, accurate and fast;
- Suitable for the detection of high light objects and some transparent objects;
- NO and NC are switchable.

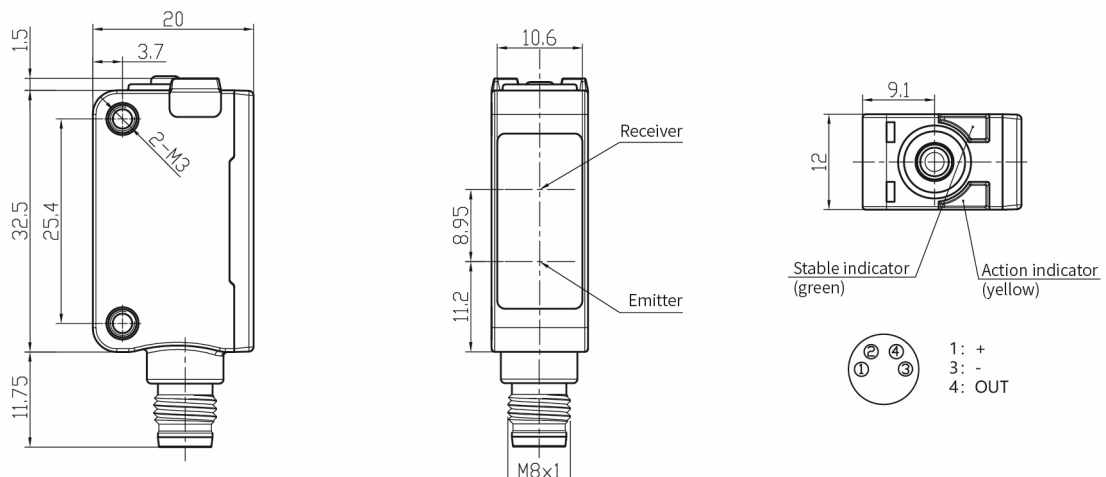


Model			
NPN NO/NC	PSE-PM3DNBR-E3	PNP NO/NC	PSE-PM3DPBR-E3

Specifications			
Detection type	Polarized reflection	Material	Housing: PC+ABS; Filter: PMMA
Rated distance	3m*	Indicator	Green light: power, stable signal (unstable signal flash)
Output	NPN NO/NC or PNP NO/NC		Yellow light: output, overload or short circuit (flash)
Response time	≤1ms	Anti-ambient light	Anti-sunlight interference ≤ 10,000lux;
Supply voltage	10...30 VDC		Incandescent light interference ≤ 3,000lux
Consumption current	≤25mA	Operating temperature	
Load current	≤200mA	Storage temperature	-25°C...70 °C
Voltage drop	≤1V	Protection degree	IP67
Light source	Red light(640nm)	Production standard	EN60947-5-2:2012、IEC60947-5-2:2012
Circuit protection	Short-circuit, overload, reverse polarity and	Weight	10g
	zener protection	Connection	M8 connector
NO/NC adjustment	Press the button for 5...8s, when the yellow and green light flash synchronously at 2Hz, and lift. Finish state switch.		
Distance adjustment	Press the button for 2...5s, when the yellow and green light flash synchronously at 4Hz, and lift to finish the distance setting.		
	If the yellow and green light flash asynchronously @8Hz for 3s, setting fails and the product distance goes to the maximum.		

\*The data is the result for Lanbao PSE polarized reflection sensor with standard reflector TD-09.

### Dimensions



## По вопросам продаж и поддержки обращайтесь:

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Астрахань (8512)99-46-04  
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Белгород (4722)40-23-64  
Благовещенск (4162)22-76-07  
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