

# Фотоэлектрические датчики PSE-TM30/TM20/TM10/TM5

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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



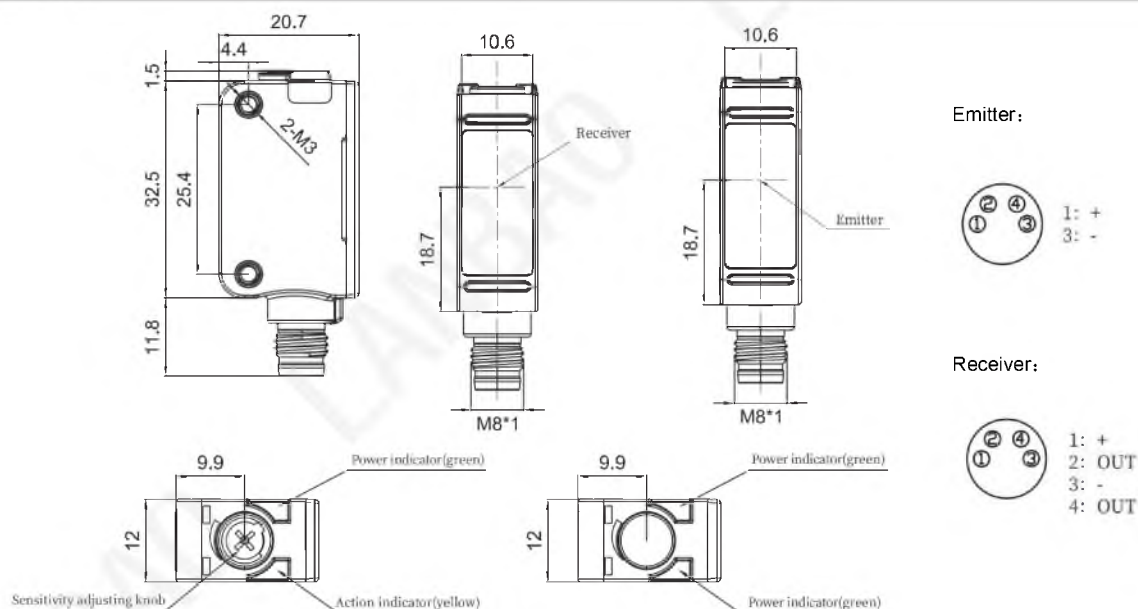
## Part number

		Emitter	Receiver			Emitter	Receiver
NPN	NO+NC	PSE-TM30DL-E3	PSE-TM30DNRL-E3	PNP	NO/NC	PSE-TM30DL-E3	PSE-TM30DPRL-E3

## Technical specifications

Detection method	Through beam	Response time	T-on: ≤0.5ms; T-off: ≤0.5ms
Rated distance	30m	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	36mm@30m (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	Emitter: ≤20mA; Receiver: ≤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
Min target	≥Φ3mm@0~2m, ≥Φ15mm@2~30m		
Circuit protection	Short circuit protection, overload protection, reverse polarity protection, zener protection		

## Dimensions



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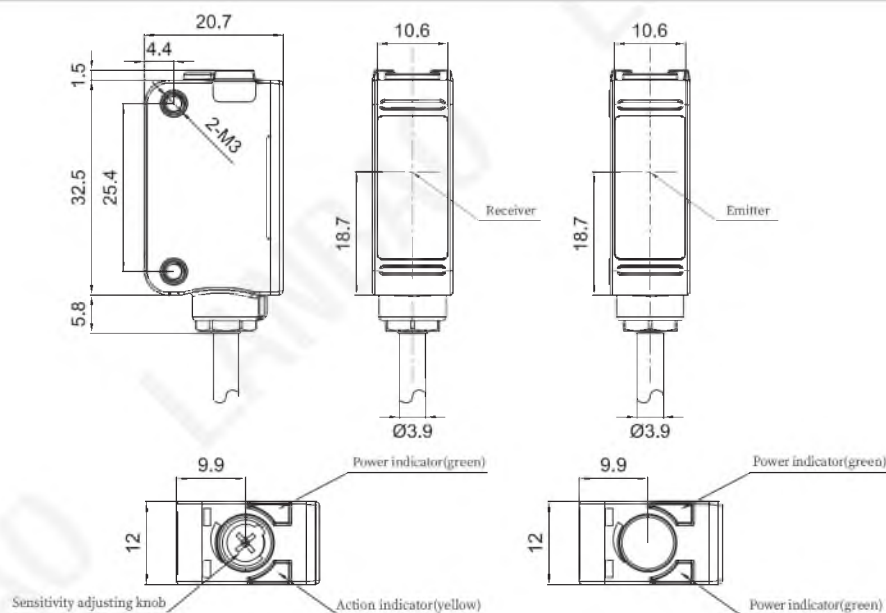
## Part number

		Emitter		Receiver	
NPN	NO+NC	PSE-TM30DL	PSE-TM30DNRL	PNP	NO+NC
				PSE-TM30DL	PSE-TM30DPRL

## Technical specifications

Detection method	Through beam	Response time	T-on: ≤0.5ms; T-off: ≤0.5ms
Rated distance	30m	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	36mm@30m(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	Emitter: ≤20mA; Receiver: ≤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
Min target	≥Φ3mm@0~2m, ≥Φ15mm@2~30m		
Circuit protection	Short circuit protection, overload protection, reverse polarity protection, zener protection		

## Dimensions



Plastic square shape photoelectric sensors PSE series



**Features**

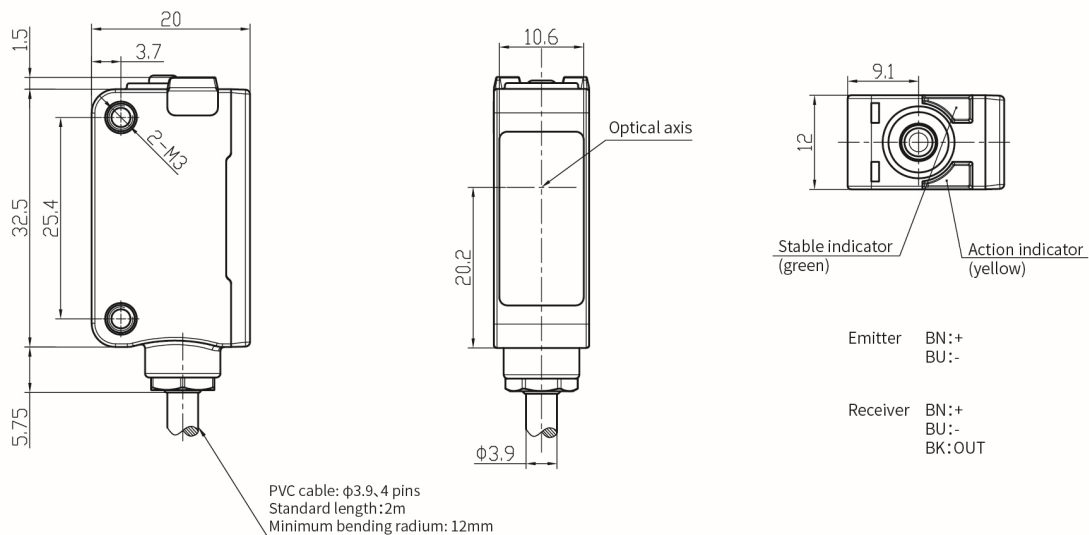
- Universal housing, an ideal replacement for a wide range of sensor types;
- IP67, suitable for harsh environments;
- Fast and stable setting;
- NO and NC are switchable;



Model					
	Emitter		Receiver		
NPN NO/NC	PSE-TM20D	PSE-TM20DNB	PNP NO/NC	PSE-TM20D	PSE-TM20DPB

Specifications			
Detection type	Through beam	Indicator	Green light: power, stable signal (unstable signal flash)
Rated distance	20m		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
Sensing object	≥ Φ10mm opaque object (within Sn range)	Operating temperature	-25°C...55°C
Direction angle	> 2°	Storage temperature	-25°C...70°C
Supply voltage	10...30 VDC	Protection degree	IP67
Consumption current	Emitter: ≤20mA; Receiver: ≤20mA	Production standard	EN60947-5-2:2012、IEC60947-5-2:2012
Load current	≤200mA	Material	Housing: PC+ABS; Filter: PMMA
Voltage drop	≤1V	Weight	50g
Light source	Infrared (850nm)	Connection	2m PVC cable
Circuit protection	Short-circuit, overload, reverse polarity and zener protection		
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.		

**Dimensions**



## Plastic square shape photoelectric sensors PSE series



### Features

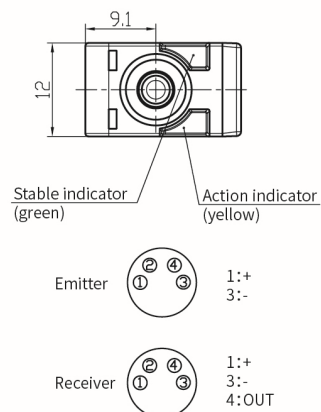
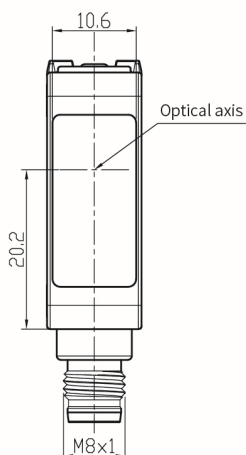
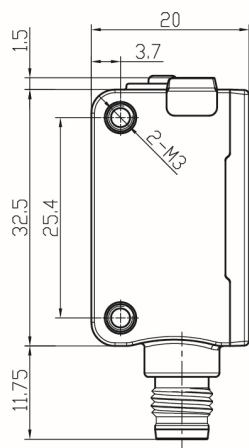
- Universal housing, an ideal replacement for a wide range of sensor types;
- IP67, suitable for harsh environments;
- Fast and stable setting;
- NO and NC are switchable;



Model					
	Emitter		Receiver		
NPN NO/NC	PSE-TM20D-E3	PSE-TM20DNB-E3	PNP NO/NC	PSE-TM20D-E3	PSE-TM20DPB-E3

Specifications			
Detection type	Through beam	Indicator	Green light: power, stable signal (unstable signal flash)
Rated distance	20m		Yellow light: output, overload or short circuit (flash)
Output	NPN NO/NC or PNP NO/NC	Anti-ambient light	Anti-sunlight interference $\leq 10,000\text{lux}$ ;
Response time	$\leq 1\text{ms}$		Incandescent light interference $\leq 3,000\text{lux}$
Sensing object	$\geq \Phi 10\text{mm}$ opaque object (within Sn range)	Operating temperature	$-25^{\circ}\text{C} \dots 55^{\circ}\text{C}$
Direction angle	$> 2^{\circ}$	Storage temperature	$-25^{\circ}\text{C} \dots 70^{\circ}\text{C}$
Supply voltage	10...30 VDC	Protection degree	IP67
Consumption current	Emitter: $\leq 20\text{mA}$ ; Receiver: $\leq 20\text{mA}$	Production standard	EN60947-5-2:2012, IEC60947-5-2:2012
Load current	$\leq 200\text{mA}$	Material	Housing: PC+ABS; Filter: PMMA
Voltage drop	$\leq 1\text{V}$	Weight	10g
Light source	Infrared (850nm)	Connection	M8 connector
Circuit protection	Short-circuit, overload, reverse polarity and zener protection		
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.		
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### Dimensions



## Plastic square shape photoelectric sensors PSE series



### Features

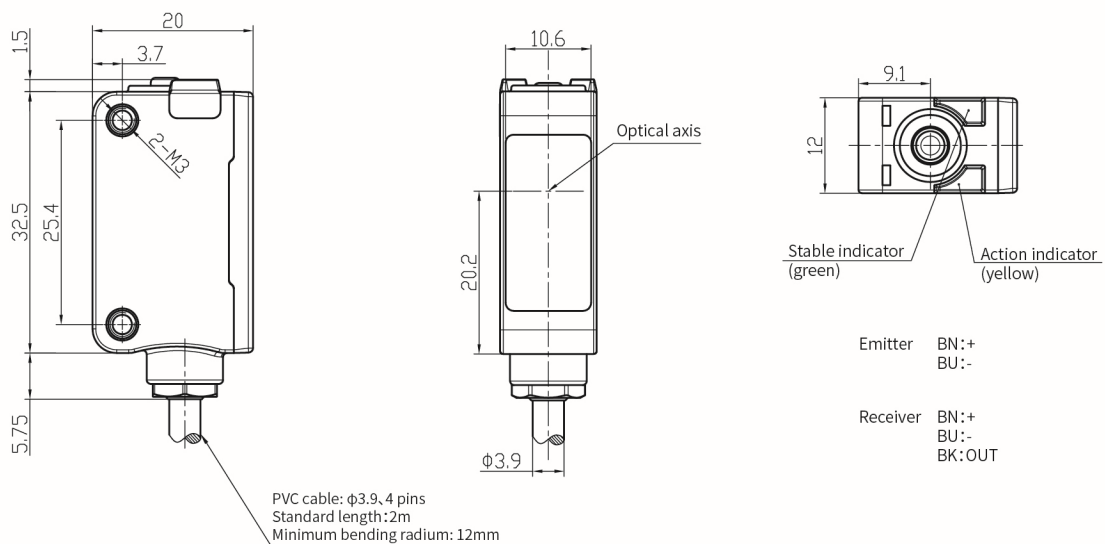
- Universal housing, an ideal replacement for a wide range of sensor types;
- IP67, suitable for harsh environments;
- Fast and stable setting;
- NO and NC are switchable;
- Visible light spots for easy installation and commissioning.



Model					
	Emitter		Receiver		
NPN NO/NC	PSE-TM10DR	PSE-TM10DNBR	PNP NO/NC	PSE-TM10DR	PSE-TM10DPBR

Specifications			
Detection type	Through beam	Indicator	Green light: power, stable signal (unstable signal flash)
Rated distance	10m		Yellow light: output, overload or short circuit (flash)
Output	NPN NO/NC or PNP NO/NC	Anti-ambient light	Anti-sunlight interference $\leq 10,000\text{lux}$ ;
Response time	$\leq 1\text{ms}$		Incandescent light interference $\leq 3,000\text{lux}$
Sensing object	$\geq \Phi 10\text{mm}$ opaque object (within Sn range)	Operating temperature	$-25^{\circ}\text{C} \dots 55^{\circ}\text{C}$
Direction angle	$> 2^{\circ}$	Storage temperature	$-25^{\circ}\text{C} \dots 70^{\circ}\text{C}$
Supply voltage	10...30 VDC	Protection degree	IP67
Consumption current	Emitter: $\leq 20\text{mA}$ ; Receiver: $\leq 20\text{mA}$	Production standard	EN60947-5-2:2012, IEC60947-5-2:2012
Load current	$\leq 200\text{mA}$	Material	Housing: PC+ABS; Filter: PMMA
Voltage drop	$\leq 1\text{V}$	Weight	50g
Light source	Red light (630nm)	Connection	2m PVC cable
Circuit protection	Short-circuit, overload, reverse polarity and zener protection		
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.		
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### Dimensions



Plastic square shape photoelectric sensors PSE series



**Features**

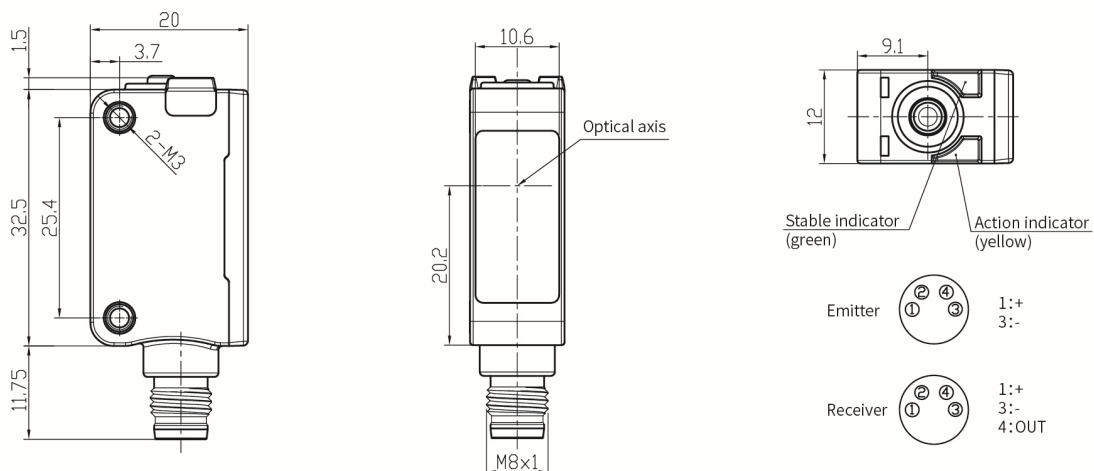
- Universal housing, an ideal replacement for a wide range of sensor types;
- IP67, suitable for harsh environments;
- Fast and stable setting;
- NO and NC are switchable;
- Visible light spots for easy installation and commissioning.



Model					
	Emitter		Receiver		
NPN NO/NC	PSE-TM10DR-E3	PSE-TM10DNBR-E3	PNP NO/NC	PSE-TM10DR-E3	PSE-TM10DPBR-E3

Specifications			
Detection type	Through beam	Indicator	Green light: power, stable signal (unstable signal flash)
Rated distance	10m		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
Sensing object	≥ Φ10mm opaque object (within Sn range)	Operating temperature	-25°C...55 °C
Direction angle	> 2°	Storage temperature	-25°C...70 °C
Supply voltage	10...30 VDC	Protection degree	IP67
Consumption current	Emitter: ≤20mA; Receiver: ≤20mA	Production standard	EN60947-5-2:2012、IEC60947-5-2:2012
Load current	≤200mA	Material	Housing: PC+ABS; Filter: PMMA
Voltage drop	≤1V	Weight	10g
Light source	Red light (630nm)	Connection	M8 connector
Circuit protection	Short-circuit, overload, reverse polarity and zener protection		
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.		
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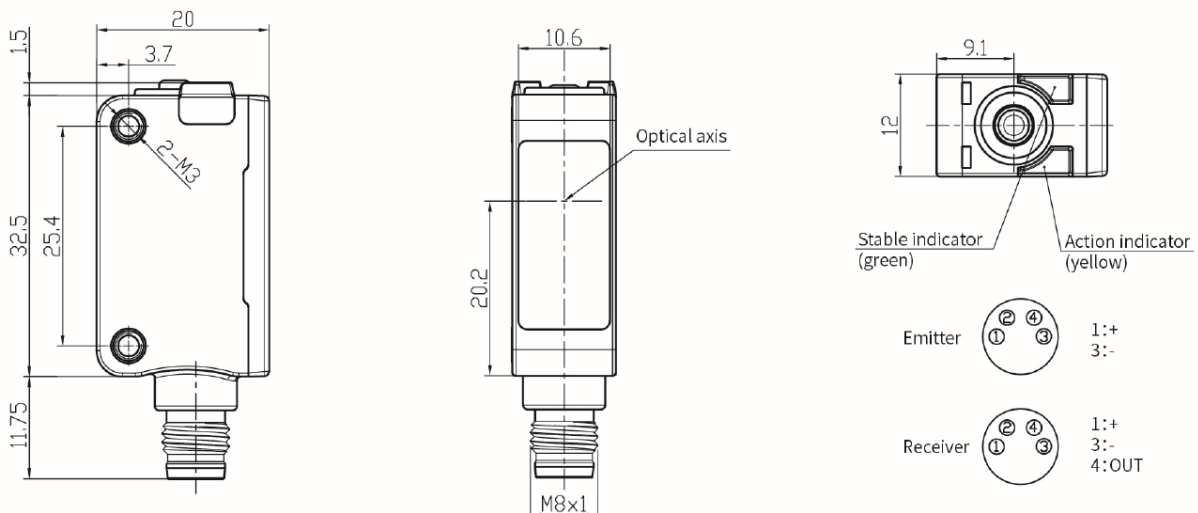
- Universal housing, an ideal replacement for a wide range of sensor types;
- IP67, suitable for harsh environments;
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- NO and NC are switchable;
- Visible light spots for easy installation and commissioning.



Model					
	Emitter		Receiver		
NPN NO/NC	PSE-TM5DR-E3	PSE-TM5DNBR-E3	PNP NO/NC	PSE-TM5DR-E3	PSE-TM5DPBR-E3

Specifications			
Detection type	Through beam	Indicator	Green light: power, stable signal (unstable signal flash)
Rated distance	5m		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
Sensing object	≥Φ10mm opaque object (within Sn range)	Operating temperature	-25°C...55 °C
Direction angle	< ±2°	Storage temperature	-25°C...70 °C
Supply voltage	10...30 VDC	Protection degree	IP67
Consumption current	Emitter: ≤20mA; Receiver: ≤20mA	Production standard	EN60947-5-2:2012, IEC60947-5-2:2012
Load current	≤200mA	Material	Housing: PC+ABS; Filter: PMMA
Voltage drop	≤1V	Weight	10g
Light source	Red light (640nm)	Connection	M8 connector
Circuit protection	Short-circuit, overload, reverse polarity and zener protection		
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.		
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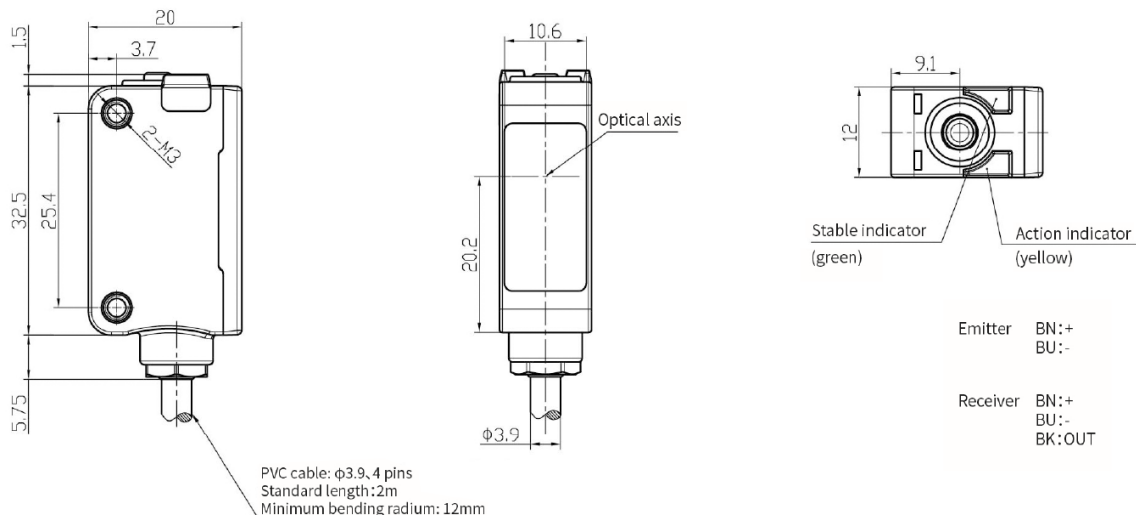
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Model					
	Emitter		Receiver		
NPN NO/NC	PSE-TM5DR	PSE-TM5DNBR	PNP NO/NC	PSE-TM5DR	PSE-TM5DPBR

Specifications			
Detection type	Through beam	Indicator	Green light: power, stable signal (unstable signal flash)
Rated distance	5m		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
Sensing object	≥Φ10mm opaque object (within Sn range)	Operating temperature	-25°C...55 °C
Direction angle	< ±2°	Storage temperature	-25°C...70 °C
Supply voltage	10...30 VDC	Protection degree	IP67
Consumption current	Emitter: ≤20mA; Receiver: ≤20mA	Production standard	EN60947-5-2:2012、IEC60947-5-2:2012
Load current	≤200mA	Material	Housing: PC+ABS; Filter: PMMA
Voltage drop	≤1V	Weight	50g
Light source	Red light (640nm)	Connection	2m PVC cable
Circuit protection	Short-circuit, overload, reverse polarity and zener protection		
NO/NC adjustment	Press the button for 5...8s, when the yellow and green light flash synchronously at 2Hz, and lift. Finish state switch.		
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