

# Цилиндрические фотоэлектрические датчики PSS

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## Small size photoelectric sensors PSS series



### Features

- 18mm threaded cylindrical mounting, easy to install
- Short case for small installation space
- Big knob design for easy adjustment;
- IP67 protection, suitable for harsh environments;
- Small detection blind zone, applicable to detection of objects in bright background;



### Model

NPN NO/NC	PSS-BC10DNB-E2	PNP NO/NC	PSS-BC10DPB-E2
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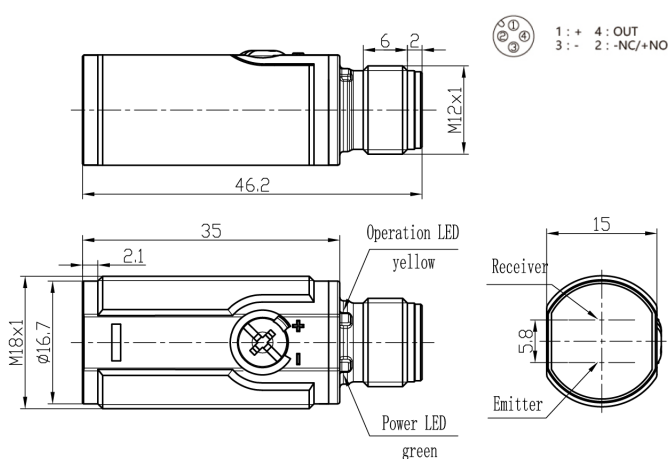
### Specifications

Detection type	Diffuse reflection	Distance adjustment	Single-turn potentiometer
Rated distance	10cm	Hysteresis	3...20%
Light source	Infrared (940nm)	Indicator	Green LED: power, stable
Output	NPN NO/NC or PNP NO/NC		Yellow LED: output, short circuit or overload
Response time	≤0.5ms	Anti-ambient light	Anti-sunlight interference ≤ 10,000lux;
Supply voltage	10...30 VDC		Incandescent light interference ≤ 3,000lux
Consumption current	≤20mA	Operating temperature	-25...55 °C
Load current	≤200mA	Storage temperature	-35...70 °C
Voltage drop	≤1V	Protection degree	IP67
Circuit protection	Short-circuit, overload, reverse polarity protection	Material	Housing: PC+ABS; Filter: PMMA
Connection	M12 4-core connector	Annex	M18 nut (2PCS), instruction manual
NO/NC adjustment	Feet 2 is connected to the positive pole or hang up, NO mode; Feet 2 is connected to the negative pole, NC mode		

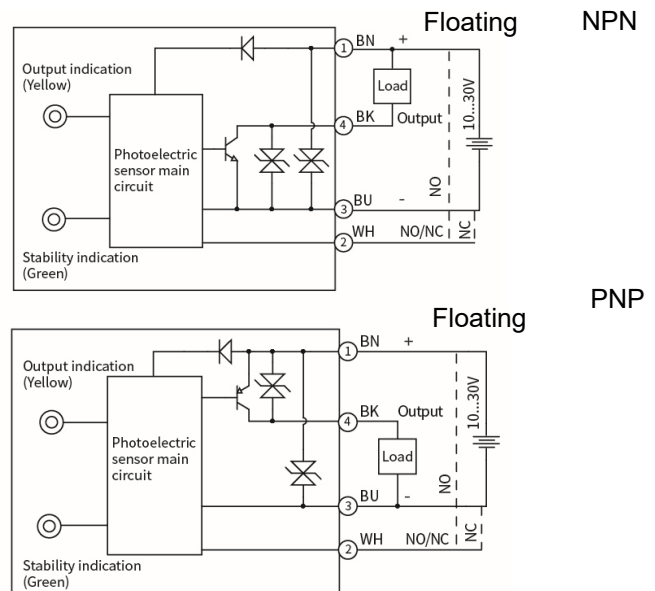
Remarks:①Detection object is 90% white card with size 20cm \* 20cm;

②The green LED becomes weaker, which means that the signal is weaker and the sensor is unstable; The yellow LED flashes, which means that the sensor is shorted or overloaded;

### Dimensions



### Circuit Diagrams



# Small size photoelectric sensors PSS series



## Features

- 18mm threaded cylindrical mounting, easy to install
- Short case for small installation space
- Big knob design for easy adjustment;
- IP67 protection, suitable for harsh environments;
- Small detection blind zone, applicable to detection of objects in bright background;



## Model

NPN NO/NC	PSS-BC10DNB	PNP NO/NC	PSS-BC10DPB
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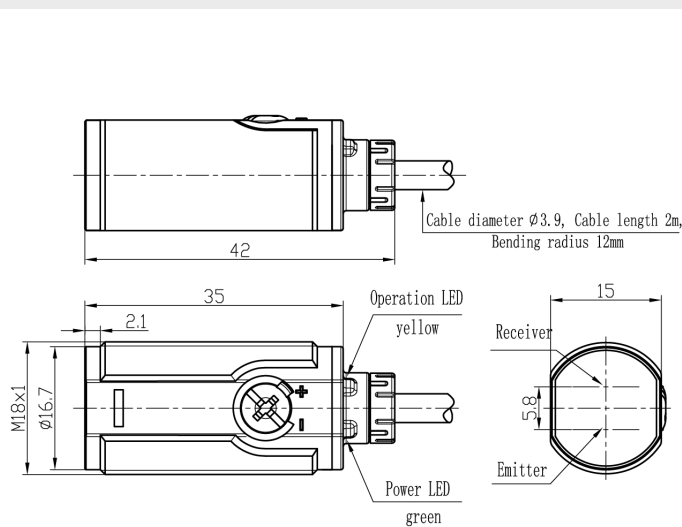
## Specifications

Detection type	Diffuse reflection	Distance adjustment	Single-turn potentiometer
Rated distance	10cm	Hysteresis	3...20%
Light source	Infrared (940nm)	Indicator	Green LED: power, stable Yellow LED: output, short circuit or overload
Output	NPN NO/NC or PNP NO/NC	Anti-ambient light	Anti-sunlight interference ≤ 10,000lux; Incandescent light interference ≤ 3,000lux
Response time	≤0.5ms	Operating temperature	-25...55 °C
Supply voltage	10...30 VDC	Storage temperature	-35...70 °C
Consumption current	≤20mA	Protection degree	IP67
Load current	≤200mA	Circuit protection	Short-circuit, overload, reverse polarity protection
Voltage drop	≤1V	Material	Housing: PC+ABS; Filter: PMMA
Connection	2m PVC cable	Annex	M18 nut (2PCS), instruction manual
NO/NC adjustment	White wire is connected to the positive pole or hang up, NO mode; White wire is connected to the negative pole, NC mode		

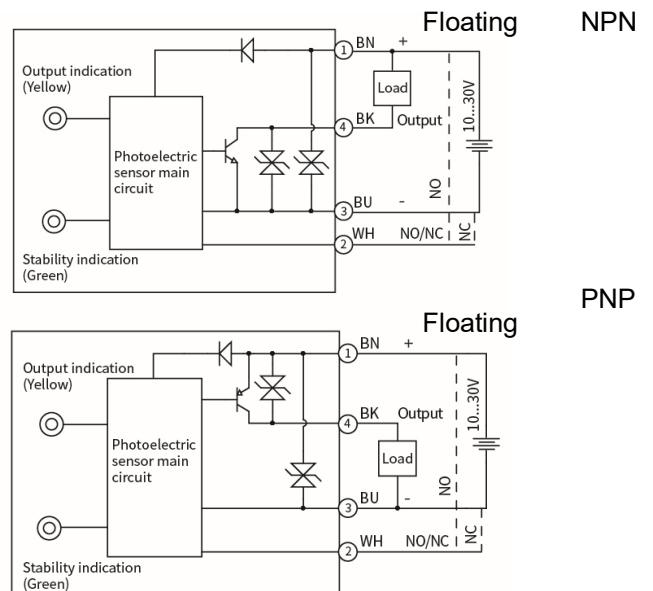
Remarks:①Detection object is 90% white card with size 20cm \* 20cm;

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## Dimensions



## Circuit Diagrams



## Small size photoelectric sensors PSS series



### Features

- 18mm threaded cylindrical mounting, easy to install
- Short case for small installation space
- Big knob design for easy adjustment
- IP67 protection, suitable for harsh environments
- Visible red spot for easy installation and debugging



### Model

NPN NO/NC	PSS-BC40DNBR	PNP NO/NC	PSS-BC40DPBR
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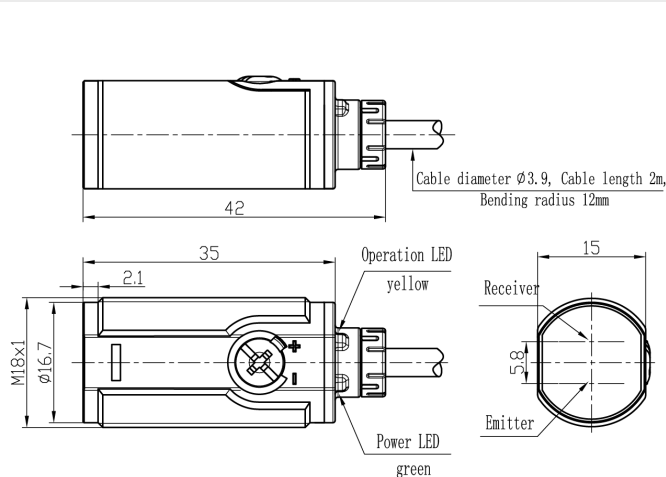
### Specifications

Detection type	Diffuse reflection	Distance adjustment	Single-turn potentiometer
Rated distance	40cm	Hysteresis	3...20%
Light source	Red light (640nm)	Indicator	Green LED: power, stable
Spot size	15*15mm@40cm		Yellow LED: output, short circuit or overload
Output	NPN NO/NC or PNP NO/NC	Anti-ambient light	Anti-sunlight interference ≤ 10,000lux
Response time	≤0.5ms		Incandescent light interference ≤ 3,000lux
Supply voltage	10...30 VDC	Operating temperature	-25...55 °C
Consumption current	≤20mA	Storage temperature	-35...70 °C
Load current	≤200mA	Protection degree	IP67
Voltage drop	≤1V	Material	Housing: PC+ABS; Filter: PMMA
Circuit protection	Short-circuit, overload, reverse polarity protection	Annex	M18 nut (2PCS), instruction manual
Connection	2m PVC cable		
NO/NC adjustment	White wire is connected to the positive pole or hang up, NO mode; White wire is connected to the negative pole, NC mode		

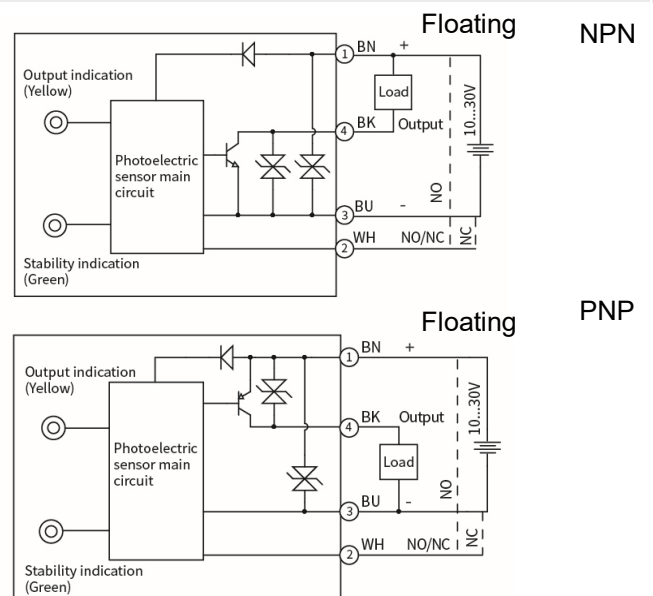
Remarks:①Detection object is 90% white card with size 20cm \* 20cm;

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### Dimensions



### Circuit Diagrams



## Small size photoelectric sensors PSS series



### Features

- 18mm threaded cylindrical mounting, easy to install
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- Visible red spot for easy installation and debugging



### Model

NPN NO/NC	PSS-BC40DNBR-E2	PNP NO/NC	PSS-BC40DPBR-E2
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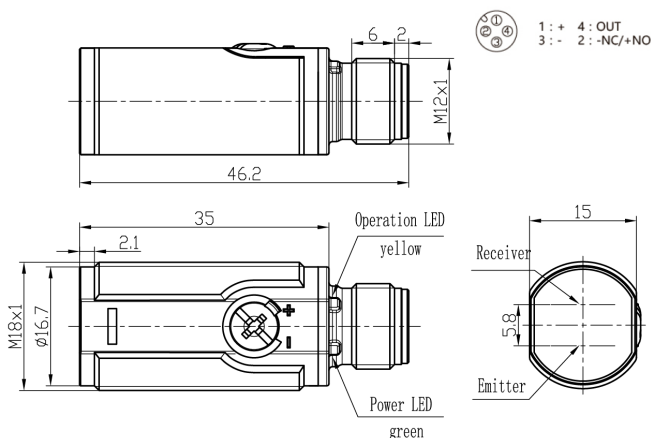
### Specifications

Detection type	Diffuse reflection	Distance adjustment	Single-turn potentiometer
Detection distance	40cm	Hysteresis	3...20%
Light source	Red light (640nm)	Indicator	Green LED: power, stable
Spot size	15*15mm@40cm		Yellow LED: output, short circuit or overload
Output	NPN NO/NC or PNP NO/NC	Anti-ambient light	Anti-sunlight interference ≤ 10,000lux;
Response time	≤0.5ms		Incandescent light interference ≤ 3,000lux
Supply voltage	10...30 VDC	Operating temperature	-25...55 °C
Consumption current	≤20mA	Storage temperature	-35...70 °C
Load current	≤200mA	Protection degree	IP67
Voltage drop	≤1V	Material	Housing: PC+ABS; Filter: PMMA
Circuit protection	Short-circuit, overload, reverse polarity protection	Annex	M18 nut (2PCS), instruction manual, ReflectorTD-09
Connection	M12 4-core connector		
NO/NC adjustment	Feet 2 is connected to the positive pole or hang up, NO mode; Feet 2 is connected to the negative pole, NC mode		

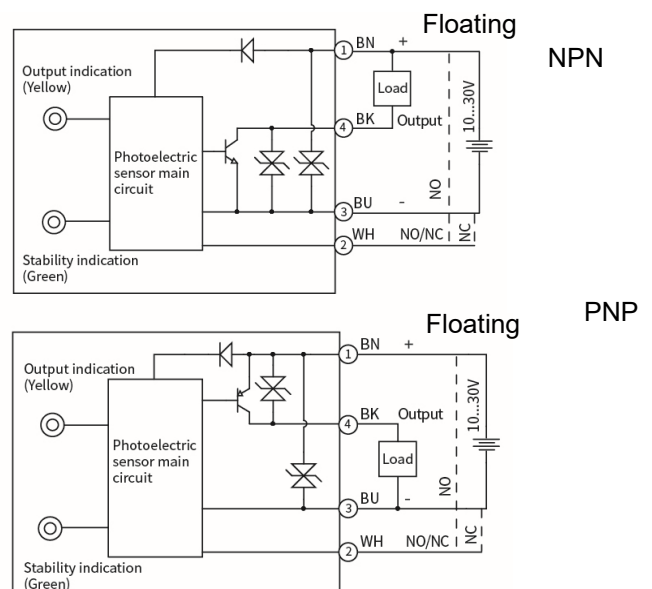
Remarks: ①Detection object is 90% white card with size 20cm \* 20cm;

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### Dimensions



### Circuit Diagrams



## Small size photoelectric sensors PSS 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

NPN NO/NC	PSS-BC40DNB	PNP NO/NC	PSS-BC40DPB
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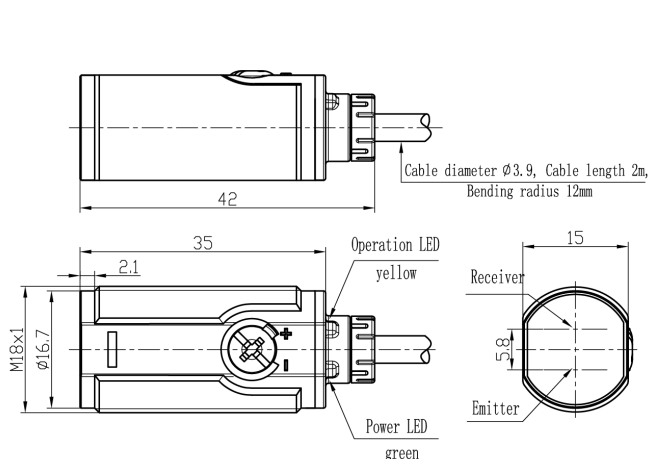
### Specifications

Detection type	Diffuse reflection	Connection	2m PVC cable
Rated distance	40cm	Hysteresis	3...20%
Light source	Infrared (940nm)	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	≤0.5ms	Anti-ambient light	Anti-sunlight interference ≤ 10,000lux;
Supply voltage	10...30 VDC		Incandescent light interference ≤ 3,000lux
Consumption current	≤20mA	Operating temperature	-25...55 °C
Load current	≤200mA	Storage temperature	-35...70 °C
Voltage drop	≤1V	Protection degree	IP67
Distance adjustment	Single-turn potentiometer	Material	Housing: PC+ABS; Filter: PMMA
Circuit protection	Short-circuit, overload, reverse polarity protection	Annex	M18 nut (2PCS), instruction manual
NO/NC adjustment	White wire is connected to the positive pole or hang up, NO mode; White wire is connected to the negative pole, NC mode		

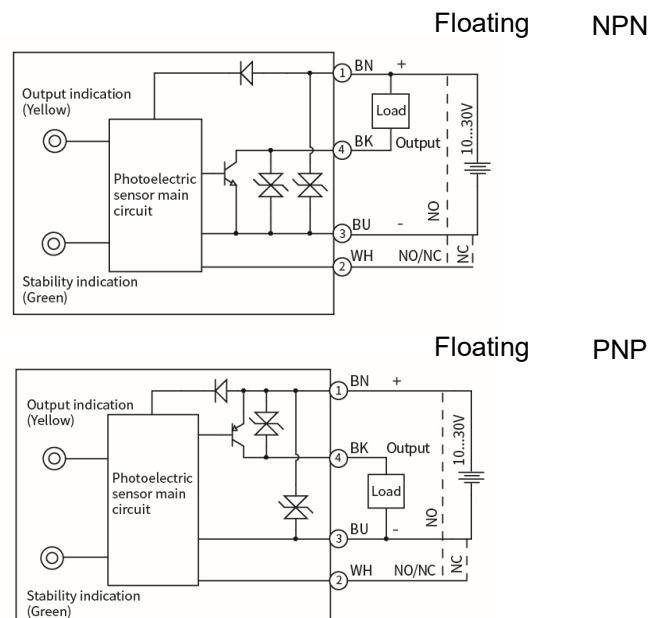
Remarks: ①Detection object is 90% white card with size 20cm \* 20cm;

②The green LED becomes weaker, which means that the signal is weaker and the sensor is unstable; The yellow LED flashes, which means that the sensor is shorted or overloaded;

### Dimensions



### Circuit Diagrams



## Small size photoelectric sensors PSS 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

NPN NO/NC	PSS-BC40DNB-E2	PNP NO/NC	PSS-BC40DPB-E2
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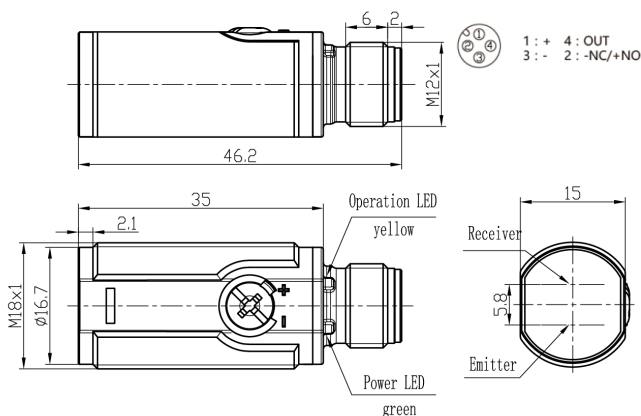
### Specifications

Detection type	Diffuse reflection	Connection	M12 4-core connector
Rated distance	40cm	Hysteresis	3...20%
Light source	Infrared (940nm)	Indicator	Green LED: power, stable
Output	NPN NO/NC or PNP NO/NC		Yellow LED: output, short circuit or overload
Response time	≤0.5ms	Anti-ambient light	Anti-sunlight interference ≤ 10,000lux;
Supply voltage	10...30 VDC		Incandescent light interference ≤ 3,000lux
Consumption current	≤20mA	Operating temperature	-25...55 °C
Load current	≤200mA	Storage temperature	-35...70 °C
Voltage drop	≤1V	Protection degree	IP67
Distance adjustment	Single-turn potentiometer	Material	Housing: PC+ABS; Filter: PMMA
Circuit protection	Short-circuit, overload, reverse polarity protection	Annex	M18 nut (2PCS), instruction manual
NO/NC adjustment	Feet 2 is connected to the positive pole or hang up, NO mode; Feet 2 is connected to the negative pole, NC mode		

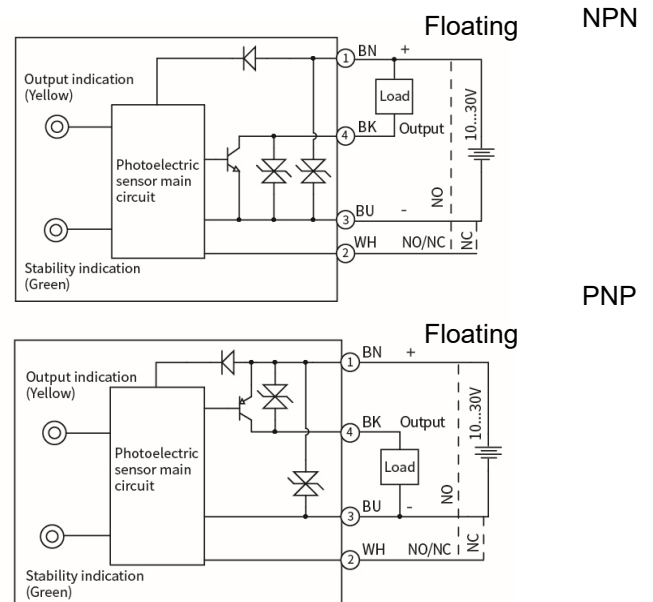
Remarks: ①Detection object is 90% white card with size 20cm \* 20cm;

②The green LED becomes weaker, which means that the signal is weaker and the sensor is unstable; The yellow LED flashes, which means that the sensor is shorted or overloaded;

### Dimensions



### Circuit Diagrams



## Small size photoelectric sensors PSS series



### Features

- 18mm threaded cylindrical mounting, easy to install
- Short case for small installation space
- Big knob design for easy adjustment
- IP67 protection, suitable for harsh environments
- With 360° visible bright LED status indicator



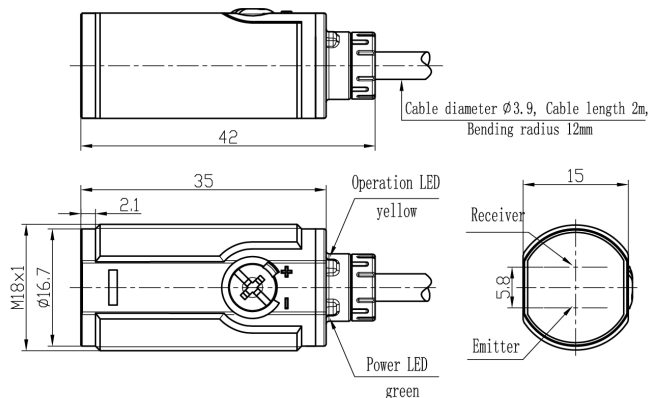
### Model

NPN NO/NC	PSS-BC100DNB	PNP NO/NC	PSS-BC100DPB
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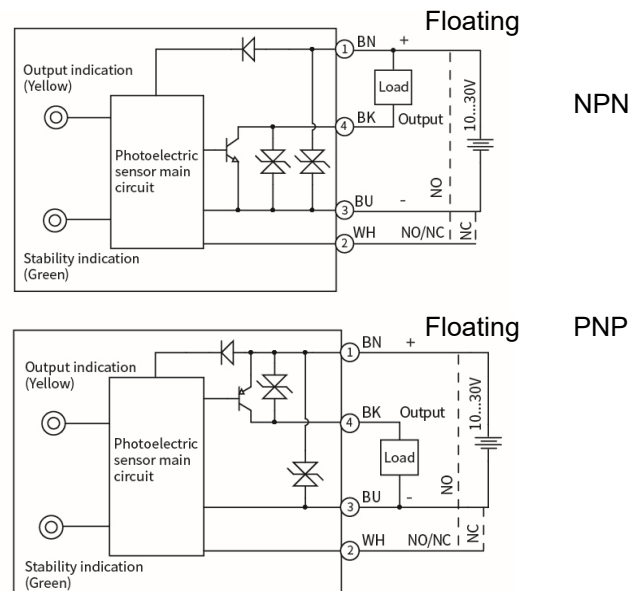
### Specifications

Detection type	Diffuse reflection	Connection	2m PVC cable
Detection distance	100cm	Hysteresis	3...20%
Light source	Infrared light (940nm)	Indicator	Green LED: power, stable
Output	NPN NO/NC or PNP NO/NC		Yellow LED: output, short circuit or overload
Response time	≤0.5ms	Anti-ambient light	Anti-sunlight interference ≤ 10,000lux;
Supply voltage	10...30 VDC		Incandescent light interference ≤ 3,000lux
Consumption current	≤20mA	Operating temperature	-25...55 °C
Load current	≤200mA	Storage temperature	-35...70 °C
Voltage drop	≤1V	Protection degree	IP67
Distance adjustment	Single-turn potentiometer	Material	Housing: PC+ABS; Filter: PMMA
Circuit protection	Short-circuit, overload, reverse polarity protection	Annex	M18 nut (2PCS), instruction manual
NO/NC adjustment	White wire is connected to the positive pole or hang up, NO mode; White wire is connected to the negative pole, NC mode		

### Dimensions



### Circuit Diagrams



## Small size photoelectric sensors PSS series



### Features

- 18mm threaded cylindrical mounting, easy to install
- Short case for small installation space
- Big knob design for easy adjustment
- IP67 protection, suitable for harsh environments
- With 360° visible bright LED status indicator



### Model

NPN NO/NC	PSS-BC100DNB-E2	PNP NO/NC	PSS-BC100DPB-E2
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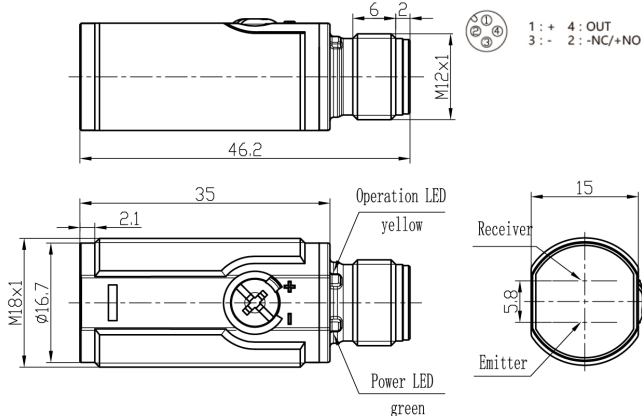
### Specifications

Detection type	Diffuse reflection	Connection	M12 4-core connector
Detection distance	100cm	Hysteresis	3...20%
Light source	Infrared light (940nm)	Indicator	Green LED: power, stable
Output	NPN NO/NC or PNP NO/NC		Yellow LED: output, short circuit or overload
Response time	≤0.5ms	Anti-ambient light	Anti-sunlight interference ≤ 10,000lux;
Supply voltage	10...30 VDC		Incandescent light interference ≤ 3,000lux
Consumption current	≤20mA	Operating temperature	-25...55 °C
Load current	≤200mA	Storage temperature	-35...70 °C
Voltage drop	≤1V	Protection degree	IP67
Distance adjustment	Single-turn potentiometer	Material	Housing: PC+ABS; Filter: PMMA
Circuit protection	Short-circuit, overload, reverse polarity protection	Annex	M18 nut (2PCS), instruction manual
NO/NC adjustment	Feet 2 is connected to the positive pole or hang up, NO mode; Feet 2 is connected to the negative pole, NC mode		

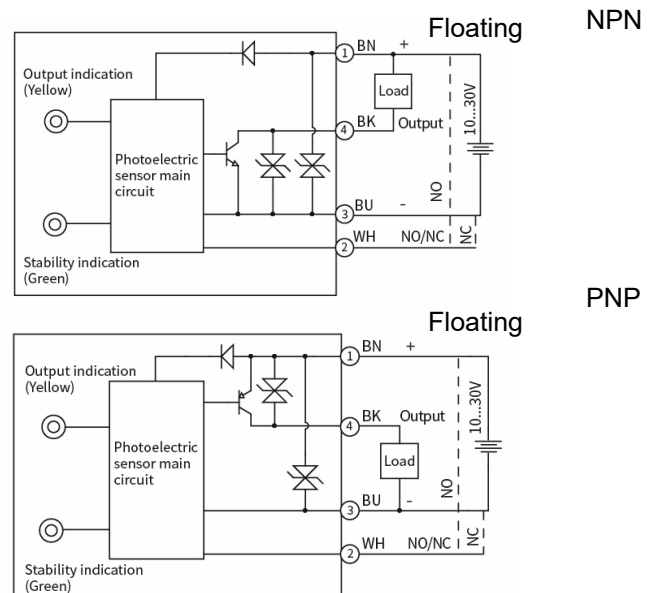
Remarks: ①Detection object is 90% white card with size 20cm \* 20cm;

②The green LED becomes weaker, which means that the signal is weaker and the sensor is unstable; The yellow LED flashes, which means that the sensor is shorted or overloaded;

### Dimensions



### Circuit Diagrams



## Small size photoelectric sensors PSS series



### Features

- 18mm threaded cylindrical mounting, easy to install
- Short case for small installation space
- Big knob design for easy adjustment
- IP67 protection, suitable for harsh environments
- With 360° visible bright LED status indicator
- Applicable to detect bright and partial transparent objects



### Model

NPN NO/NC	PSS-PM3DNBR	PNP NO/NC	PSS-PM3DPBR
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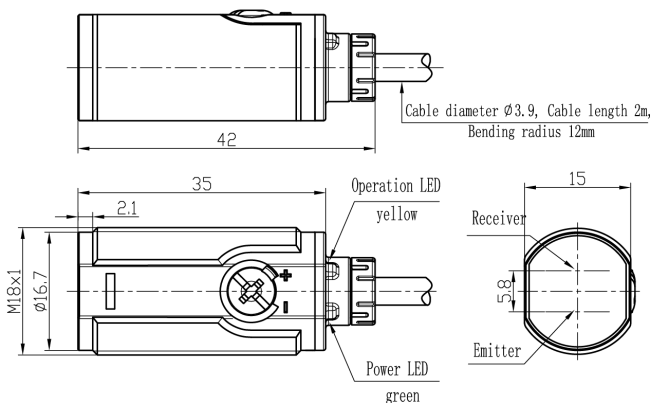
### Specifications

Detection type	Polarized reflection	Circuit protection	Short-circuit, overload, reverse polarity protection
Detection distance	3m*	Indicator	Green LED: power, stable Yellow LED: output, short circuit or overload
Light source	Red light (640nm)	Anti-ambient light	Anti-sunlight interference ≤ 10,000lux Incandescent light interference ≤ 3,000lux
Spot size	45°45mm@100cm	Operating temperature	-25...55 °C
Output	NPN NO/NC or PNP NO/NC	Storage temperature	-35...70 °C
Response time	≤0.5ms	Protection degree	IP67
Supply voltage	10...30V DC	Material	Housing: PC+ABS; Filter: PMMA
Consumption current	≤20mA	Connection	2m PVC cable
Load current	≤200mA	Annex	M18 nut (2PCS), instruction manual, ReflectorTD-09
Voltage drop	≤1V		
Distance adjustment	Single-turn potentiometer		
NO/NC adjustment	White wire is connected to the positive pole or hangon, NO mode; White wire is connected to the negative pole, NC mode		

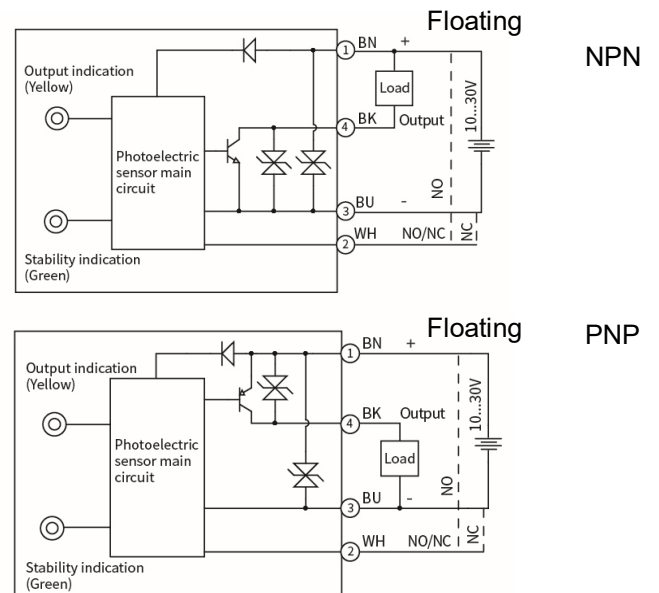
\*This data is the result of the TD-09 test of the reflector of the Lanbao PSS polarized sensor.

\*\*The green LED becomes weaker, which means that the signal is weaker and the sensor is unstable; The yellow LED flashes, which means that the sensor is shorted or overloaded;

### Dimensions



### Circuit Diagrams



# Small size photoelectric sensors PSS series



### Features

- 18mm threaded cylindrical mounting, easy to install
- Short case for small installation space
- Big knob design for easy adjustment
- IP67 protection, suitable for harsh environments
- With 360° visible bright LED status indicator
- Applicable to detect bright and partial transparent objects



### Model

NPN NO/NC	PSS-PM3DNBR-E2	PNP NO/NC	PSS-PM3DPBR-E2
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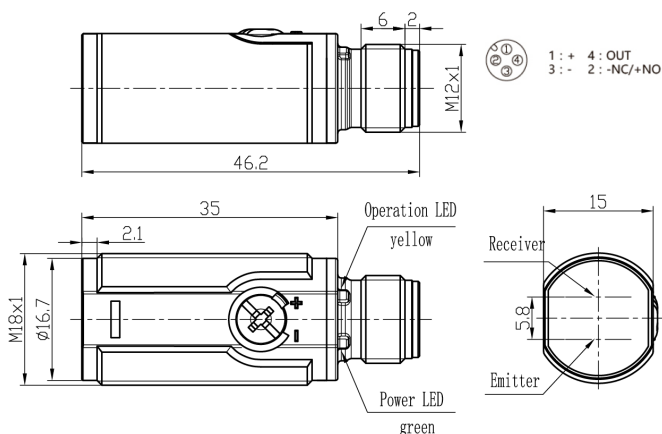
### Specifications

Detection type	Polarized reflection	Circuit protection	Short-circuit, overload, reverse polarity protection
Detection distance	3m*	Indicator	Green LED: power, stable Yellow LED: output, short circuit or overload
Light source	Red light (640nm)	Anti-ambient light	Anti-sunlight interference ≤ 10,000lux Incandescent light interference ≤ 3,000lux
Spot size	45*45mm@100cm	Operating temperature	-25...55 °C
Output	NPN NO/NC or PNP NO/NC	Storage temperature	-35...70 °C
Response time	≤0.5ms	Protection degree	IP67
Supply voltage	10...30V DC	Material	Housing: PC+ABS; Filter: PMMA
Consumption current	≤20mA	Connection	M12 4-core connector
Load current	≤200mA	Annex	M18 nut (2PCS), instruction manual, ReflectorTD-09
Voltage drop	≤1V		
Distance adjustment	Single-turn potentiometer		
NO/NC adjustment	Feet 2 is connected to the positive pole or hang up, NO mode; Feet 2 is connected to the negative pole, NC mode		

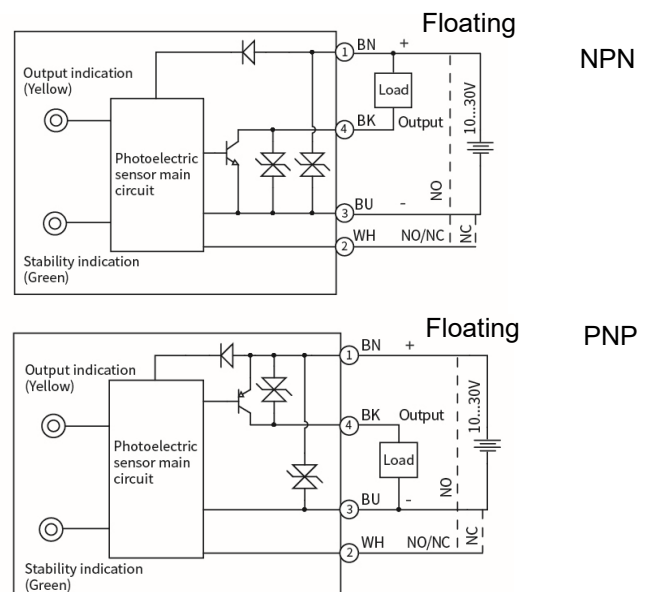
\*This data is the result of the TD-09 test of the reflector of the Lanbao PSS polarized sensor.

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### Dimensions



### Circuit Diagrams



## Small size photoelectric sensors PSS series



### Features

- 18mm threaded cylindrical mounting for easy installation;
- Short case for small installation space;
- Big angle, long distance, easy to install and debug;
- With 360° visible bright LED status indicator;
- Excellent anti-light interference, high stability;



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

Specifications					
Detection type	Through beam	Circuit protection	Short-circuit, overload, reverse polarity protection		
Rated distance	20m	Connection	2m PVC cable		
Light source	Infrared (850nm)	Indicator	Green LED: power, stable		
Standard target	> $\phi 15$ mm opaque object		Yellow LED: output, short circuit or overload		
Output	NPN NO/NC or PNP NO/NC	Anti-ambient light	Anti-sunlight interference $\leq 10,000$ lux;		
Response time	$\leq 1$ ms		Incandescent light interference $\leq 30,000$ lux		
Direction angle	> 4°	Operating temperature	-25...55 °C		
Supply voltage	10...30 VDC	Storage temperature	-25...70 °C		
Consumption current	Emitter: $\leq 20$ mA ; Receiver: $\leq 20$ mA	Protection degree	IP67		
Load current	$\leq 200$ mA	Material	Housing: PC+ABS; Filter: PMMA		
Voltage drop	$\leq 1$ V	Annex	M18 nut (4PCS), instruction manual		
Distance adjustment	Single-turn potentiometer				
NO/NC adjustment	White wire is connected to the positive pole or hang up, NO mode; White wire is connected to the negative pole, NC mode				

Remarks: ①The green LED becomes weaker, which means that the signal is weaker and the sensor is unstable; The yellow LED flashes, which means that the sensor is shorted or overloaded;

Dimensions	Circuit Diagrams

## Small size photoelectric sensors PSS series



### Features

- 18mm threaded cylindrical mounting for easy installation;
- Short case for small installation space;
- Big angle, long distance, easy to install and debug;
- With 360° visible bright LED status indicator;
- Excellent anti-light interference, high stability;



Model					
	Emitter		Receiver		
NPN NO/NC	PSS-TM20D-E2	PSS-TM20DNB-E2	PNP NO/NC	PSS-TM20D-E2	PSS-TM20DPB-E2

Specifications					
Detection type	Through beam	Circuit protection	Short-circuit, overload, reverse polarity protection		
Rated distance	20m	Connection	M12 4-core connector		
Light source	Infrared (850nm)	Indicator	Green LED: power, stable		
Standard target	> φ15mm opaque object		Yellow LED: output, short circuit or overload		
Output	NPN NO/NC or PNP NO/NC	Anti-ambient light	Anti-sunlight interference ≤ 10,000lux;		
Response time	≤1ms		Incandescent light interference ≤ 3,000lux		
Direction angle	> 4°	Operating temperature	-25...55 °C		
Supply voltage	10...30 VDC	Storage temperature	-35...70 °C		
Consumption current	Emitter: ≤20mA ; Receiver: ≤20mA	Protection degree	IP67		
Load current	≤200mA	Material	Housing: PC+ABS ; Filter: PMMA		
Voltage drop	≤1V	Annex	M18 nut (4CS), instruction manual		
Distance adjustment	Single-turn potentiometer				
NO/NC adjustment	Feet 2 is connected to the positive pole or hang up, NO mode; Feet 2 is connected to the negative pole, NC mode				

Remarks: ①The green LED becomes weaker, which means that the signal is weaker and the sensor is unstable; The yellow LED flashes, which means that the sensor is shorted or overloaded;

Dimensions	Circuit Diagrams

## Small size photoelectric sensors PSS series



### Features

- 18mm threaded cylindrical mounting, easy to install
- Short case for small installation space
- IP67 protection, suitable for harsh environments
- With 360° visible bright LED status indicator;
- Background suppression type, stable detection for both white and black targets;



### Model

NPN NO/NC	PSS-YC10DNBR	PNP NO/NC	PSS-YC10DPBR
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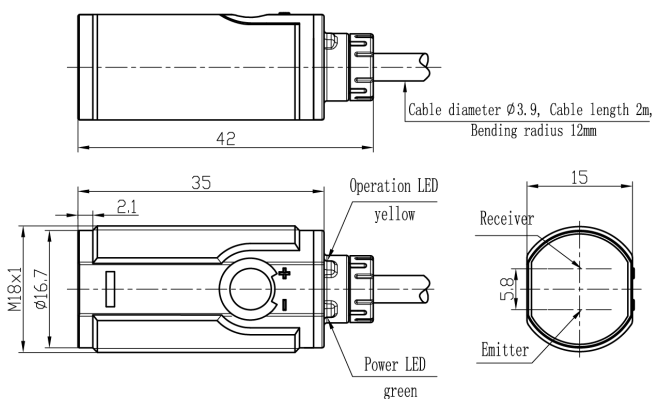
### Specifications

Detection type	Background suppression	Circuit protection	Short-circuit, overload, reverse polarity protection
Detection distance	10cm (unadjustable)	Indicator	Green LED: power, stable Yellow LED: output, short circuit or overload
Light source	Red light (660nm)	Anti-ambient light	Anti-sunlight interference ≤ 10,000lux; Incandescent light interference ≤ 3,000lux
Spot size	8*8mm@10cm	Operating temperature	-20...55 °C
Output	NPN NO/NC or PNP NO/NC	Storage temperature	-35...70 °C
Hysteresis	≤5%	Protection degree	IP67
Response time	≤0.5ms	Material	Housing: PC+ABS; Filter: PMMA
Supply voltage	10...30 VDC	Connection	2m PVC cable
Consumption current	≤20mA	Annex	M18 nut (2PCS), instruction manual
Load current	≤100mA	NO/NC adjustment	White wire is connected to the positive pole or hang up, NO mode; White wire is connected to the negative pole, NC mode
Voltage drop	≤1.8V		

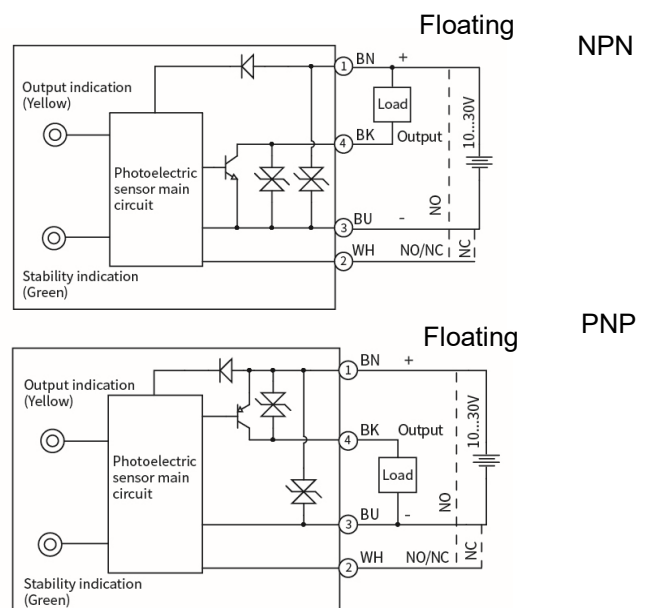
Remarks:①Detection object: is 90% white card with size 20cm \* 20cm;

②The green LED becomes weaker, which means that the signal is weaker and the sensor is unstable; The yellow LED flashes, which means that the sensor is shorted or overloaded;

### Dimensions



### Circuit Diagrams



# Small size photoelectric sensors PSS series



### Features

- 18mm threaded cylindrical mounting, easy to install
- Short case for small installation space
- IP67 protection, suitable for harsh environments
- With 360° visible bright LED status indicator;
- Background suppression type, stable detection for both white and black targets;



### Model

NPN NO/NC	PSS-YC10DNBR-E2	PNP NO/NC	PSS-YC10DPBR-E2
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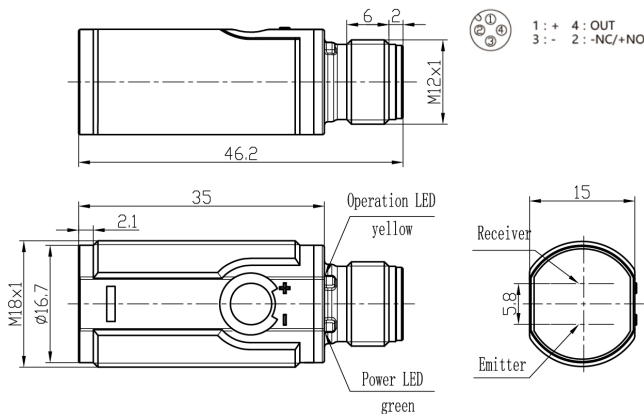
### Specifications

Detection type	Background suppression	Circuit protection	Short-circuit, overload, reverse polarity protection
Detection distance	10cm (unadjustable)	Indicator	Green LED: power, stable Yellow LED: output, short circuit or overload
Light source	Red light (660nm)	Anti-ambient light	Anti-sunlight interference ≤ 10,000lux; Incandescent light interference ≤ 3,000lux
Spot size	8*8mm@10cm	Operating temperature	-20...55 °C
Output	NPN NO/NC or PNP NO/NC	Storage temperature	-25...70 °C
Hysteresis	≤5%	Protection degree	IP67
Response time	≤0.5 ms	Material	Housing: PC+ABS; Filter: PMMA
Supply voltage	10...30 VDC	Connection	M12 4-core connector
Consumption current	≤20mA	Annex	M18 nut (2PCS), instruction manual
Load current	≤100mA		
Voltage drop	≤1.8V		
NO/NC adjustment	Feet 2 is connected to the positive pole or hang up, NO mode; Feet 2 is connected to the negative pole, NC mode		

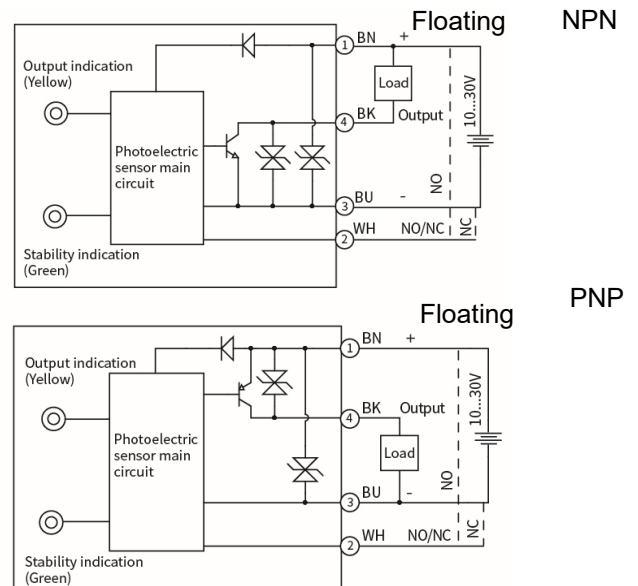
Remarks:①Detection object is 90% white card with size 20cm \* 20cm;

②The green LED becomes weaker, which means that the signal is weaker and the sensor is unstable; The yellow LED flashes, which means that the sensor is shorted or overloaded;

### Dimensions



### Circuit Diagrams



## Small size photoelectric sensors PSM series



### Features

- 18mm threaded cylindrical mounting, easy to install
- Short case for small installation space
- IP67 protection, suitable for harsh environments
- With 360° visible bright LED status indicator;
- Background suppression type, stable detection for both white and black targets;



### Model

NPN NO/NC	PSM-YC10DNBR	PNP NO/NC	PSM-YC10DPBR
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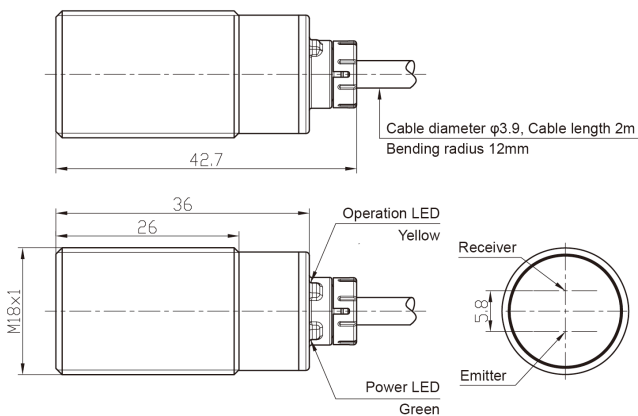
### Specifications

Detection type	Background suppression	Indicator	Green LED: power, stable
Detection distance	10cm (unadjustable)		Yellow LED: output, short circuit or overload
Light source	Red light (660nm)	Anti-ambient light	Anti-sunlight interference ≤ 10,000lux;
Spot size	8*8mm@10cm		Incandescent light interference ≤ 3,000lux
Output	NPN NO/NC or PNP NO/NC	Operating temperature	-20...55 °C
Hysteresis	≤5%	Storage temperature	-35...70 °C
Response time	≤0.5ms	Protection degree	IP67
Supply voltage	10...30 VDC	Certification	CE
Consumption current	≤20mA	Material	Housing: Nickel copper alloy; Filter: PMMA
Load current	≤100mA	Connection	2m PVC cable
Voltage drop	≤1.8V	Annex	M18 nut (2PCS), instruction manual
Circuit protection	Short-circuit, overload, reverse polarity protection		
NO/NC adjustment	White wire is connected to the positive pole or hang up, NO mode; White wire is connected to the negative pole, NC mode		

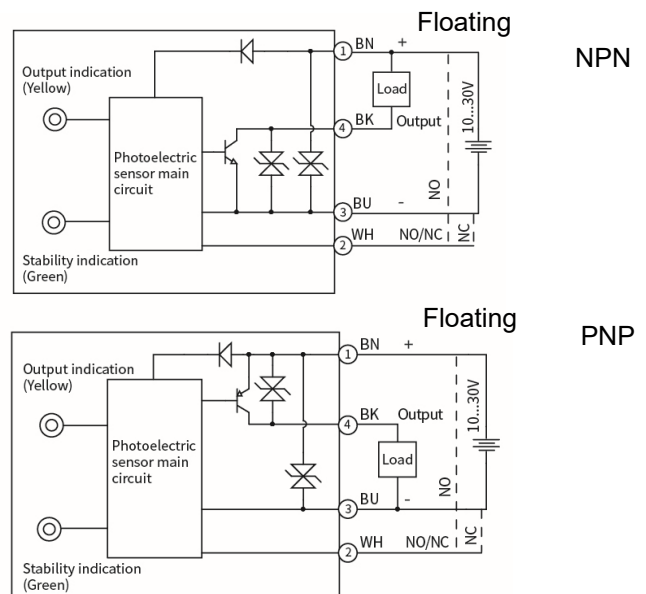
Remarks:①Detection object is 90% white card with size 20cm \* 20cm;

②The green LED becomes weaker, which means that the signal is weaker and the sensor is unstable; The yellow LED flashes, which means that the sensor is shorted or overloaded;

### Dimensions



### Circuit Diagrams



## Small size photoelectric sensors PSM series



### Features

- 18mm threaded cylindrical mounting for easy installation;
- Short case for small installation space;
- Big angle, long distance, easy to install and debug;
- With 360° visible bright LED status indicator;
- Excellent anti-light interference, high stability;



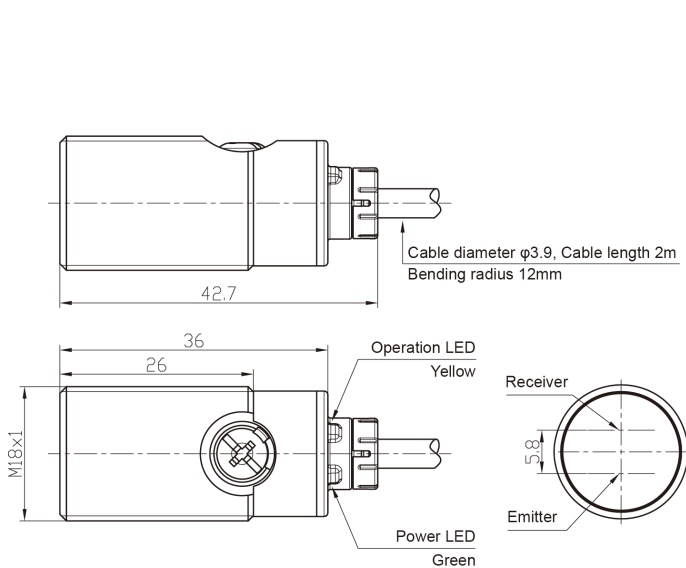
Model					
	Emitter		Receiver		
NPN NO/NC	PSM-TM20D	PSM-TM20DNB	PNP NO/NC	PSM-TM20D	PSM-TM20DPB

Specifications			
Detection type	Through beam	Circuit protection	Short-circuit, overload, reverse polarity protection
Rated distance	20m	Connection	2m PVC cable
Light source	Infrared (850nm)	Indicator	Green LED: power, stable
Standard target	> $\phi$ 15mm opaque object		Yellow LED: output, short circuit or overload
Output	NPN NO/NC or PNP NO/NC	Anti-ambient light	Anti-sunlight interference $\leq$ 10,000lux;
Response time	$\leq$ 1ms		Incandescent light interference $\leq$ 30,000lux
Direction angle	> 4°	Operating temperature	-25...55 °C
Supply voltage	10...30 VDC	Storage temperature	-35...70 °C
Consumption current	Emitter: $\leq$ 20mA ; Receiver: $\leq$ 20mA	Protection degree	IP67
Load current	$\leq$ 200mA	Certification	CE
Voltage drop	$\leq$ 1V	Material	Housing: Nickel copper alloy; Filter: PMMA
Distance adjustment	Single-turn potentiometer	Annex	M18 nut (4PCS), instruction manual
NO/NC adjustment	White wire is connected to the positive pole or hang up, NO mode; White wire is connected to the negative pole, NC mode		

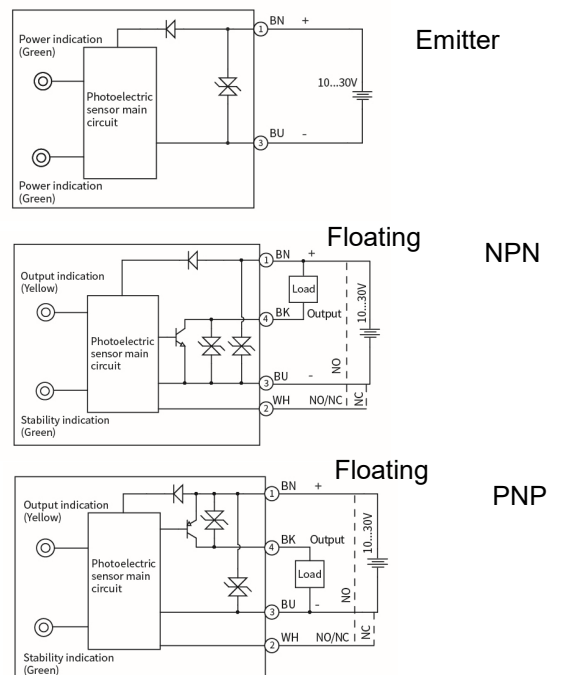
Remarks: ①Detection object is 90% white card with size 20cm \* 20cm;

②The green LED becomes weaker, which means that the signal is weaker and the sensor is unstable; The yellow LED flashes, which means that the sensor is shorted or overloaded;

### Dimensions



### Circuit Diagrams



# Small size photoelectric sensors PSM series



### Features

- 18mm threaded cylindrical mounting for easy installation;
- Short case for small installation space;
- Big angle, long distance, easy to install and debug;
- With 360° visible bright LED status indicator;
- Excellent anti-light interference, high stability;



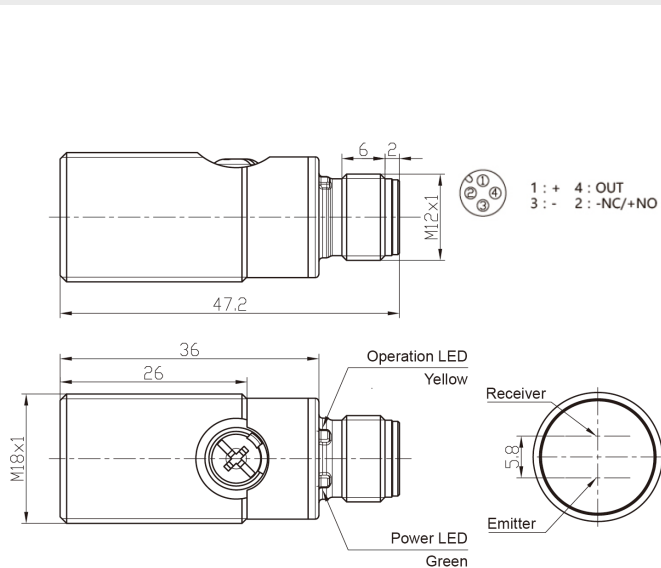
Model	Emitter	Receiver	Model	Emitter	Receiver
NPN NO/NC	PSM-TM20D-E2	PSM-TM20DNB-E2	PNP NO/NC	PSM-TM20D-E2	PSM-TM20DPB-E2

Specifications			
Detection type	Through beam	Circuit protection	Short-circuit, overload, reverse polarity protection
Rated distance	20m	Connection	M12 4-core connector
Light source	Infrared (850nm)	Indicator	Green LED: power, stable
Standard target	> φ15mm opaque object		Yellow LED: output, short circuit or overload
Output	NPN NO/NC or PNP NO/NC	Anti-ambient light	Anti-sunlight interference ≤ 10,000lux;
Response time	≤1ms		Incandescent light interference ≤ 3,000lux
Direction angle	> 4°	Operating temperature	-25...55 °C
Supply voltage	10...30 VDC	Storage temperature	-35...70 °C
Consumption current	Emitter: ≤20mA ; Receiver: ≤20mA	Protection degree	IP67
Load current	≤200mA	Certification	CE
Voltage drop	≤1V	Material	Housing: Nickel copper alloy; Filter: PMMA
Distance adjustment	Single-turn potentiometer	Annex	M18 nut (4PCS), instruction manual
NO/NC adjustment	Feet 2 is connected to the positive pole or hang up, NO mode; Feet 2 is connected to the negative pole, NC mode		

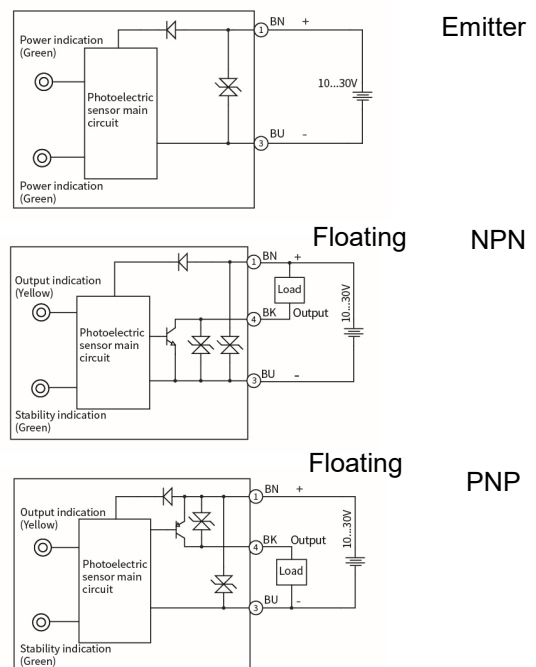
Remarks:①Detection object is 90% white card with size 20cm \* 20cm;

②The green LED becomes weaker, which means that the signal is weaker and the sensor is unstable; The yellow LED flashes, which means that the sensor is shorted or overloaded;

### Dimensions



### Circuit Diagrams



# Small size photoelectric sensors PSM series



### Features

- 18mm threaded cylindrical mounting, easy to install
- Short case for small installation space
- IP67 protection, suitable for harsh environments
- With 360° visible bright LED status indicator;
- Background suppression type, stable detection for both white and black targets;



### Model

NPN NO/NC	PSM-YC10DNBR-E2	PNP NO/NC	PSM-YC10DPBR-E2
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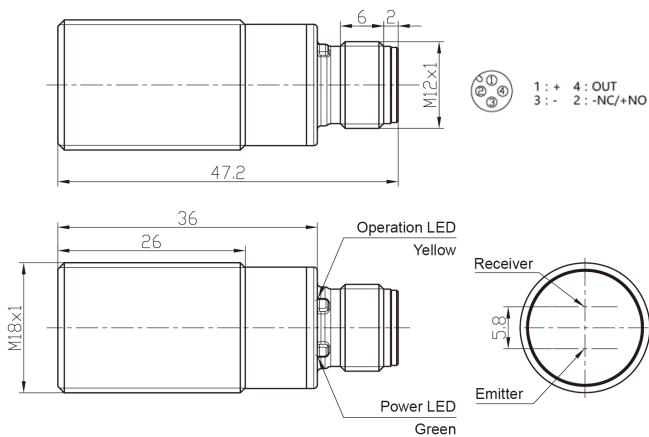
### Specifications

Detection type	Background suppression	Indicator	Green LED: power, stable
Detection distance	10cm (unadjustable)		Yellow LED: output, short circuit or overload
Light source	Red light (660nm)	Anti-ambient light	Anti-sunlight interference ≤ 10,000lux;
Spot size	8*8mm@10cm		Incandescent light interference ≤ 3,000lux
Output	NPN NO/NC or PNP NO/NC	Operating temperature	-20...55 °C
Hysteresis	≤5%	Storage temperature	-35...70 °C
Response time	≤0.5 ms	Protection degree	IP67
Supply voltage	10...30 VDC	Certification	CE
Consumption current	≤20mA	Material	Housing: Nickel copper alloy; Filter: PMMA
Load current	≤100mA	Connection	M12 4-core connector
Voltage drop	≤1.8V	Annex	M18 nut (2PCS), instruction manual
Circuit protection	Short-circuit, overload, reverse polarity protection		
NO/NC adjustment	Feet 2 is connected to the positive pole or hang up, NO mode; Feet 2 is connected to the negative pole, NC mode		

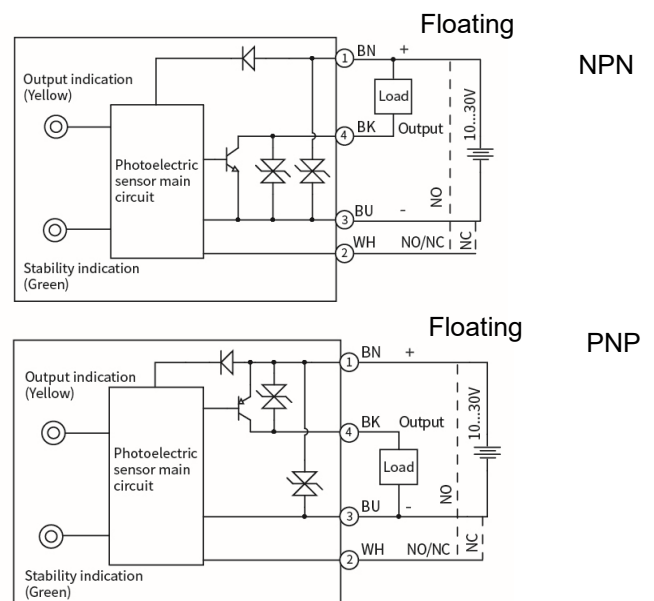
Remarks: ①Detection object is 90% white card with size 20cm \* 20cm;

②The green LED becomes weaker, which means that the signal is weaker and the sensor is unstable; The yellow LED flashes, which means that the sensor is shorted or overloaded;

### Dimensions



### Circuit Diagrams



## Small size photoelectric sensors **PSM** series



### Features

- 18mm threaded cylindrical mounting, easy to install
- Short case for small installation space
- Big knob design for easy adjustment
- IP67 protection, suitable for harsh environments
- With 360° visible bright LED status indicator
- Applicable to detect bright and partial transparent objects



### Model

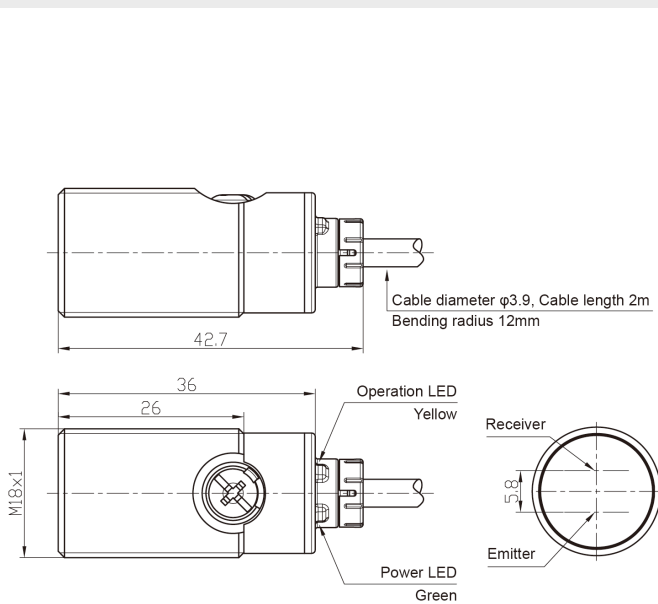
NPN NO/NC	PSM-PM3DNBR	PNP NO/NC	PSM-PM3DPBR
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### Specifications

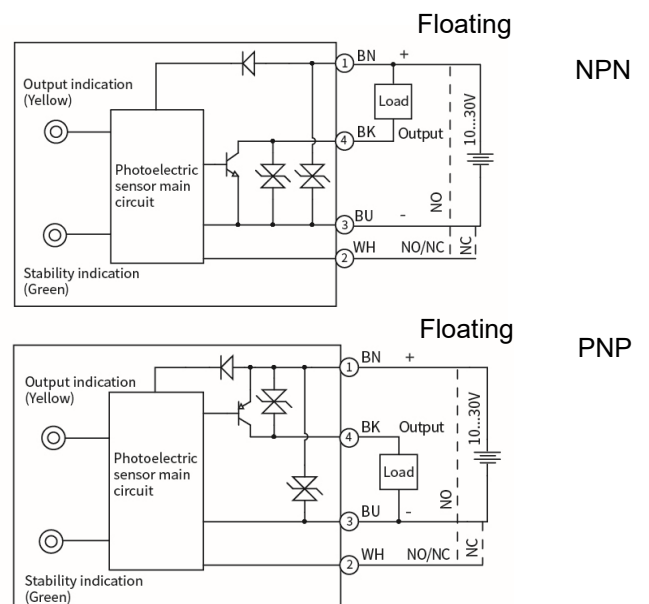
Detection type	Polarized reflection	Indicator	Green LED: power, stable
Detection distance	3m*		Yellow LED: output, short circuit or overload
Light source	Red light (640nm)	Anti-ambient light	Anti-sunlight interference ≤ 10,000lux
Spot size	45°45mm@100cm		Incandescent light interference ≤ 3,000lux
Output	NPN NO/NC or PNP NO/NC	Operating temperature	-25...55 °C
Response time	≤0.5ms	Storage temperature	-35...70 °C
Supply voltage	10...30V DC	Protection degree	IP67
Consumption current	≤20mA	Certification	CE
Load current	≤200mA	Material	Housing: Nickel copper alloy; Filter: PMMA
Voltage drop	≤1V	Connection	2m PVC cable
Distance adjustment	Single-turn potentiometer	Annex	M18 nut (2PCS), instruction manual, ReflectorTD-09
Circuit protection	Short-circuit, overload, reverse polarity protection		
NO/NC adjustment	White wire is connected to the positive pole or hang on, NO mode; White wire is connected to the negative pole, NC mode		

\*This data is the result of the TD-09 test of the reflector of the Lanbao PSM polarized sensor.

### Dimensions



### Circuit Diagrams



## Small size photoelectric sensors **PSM** series



### Features

- 18mm threaded cylindrical mounting, easy to install
- Short case for small installation space
- Big knob design for easy adjustment
- IP67 protection, suitable for harsh environments
- With 360° visible bright LED status indicator



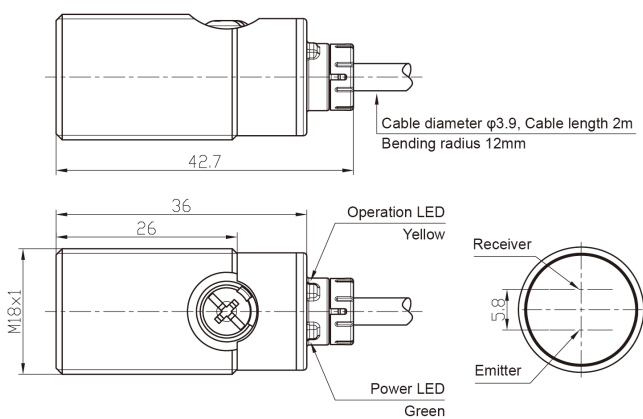
### Model

NPN NO/NC	PSM-BC100DNB	PNP NO/NC	PSM-BC100DPB
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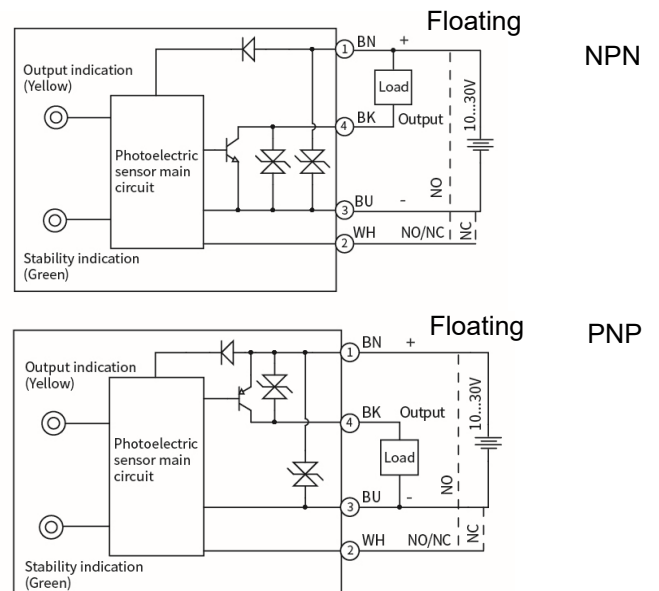
### Specifications

Detection type	Diffuse reflection	Hysteresis	3...20%
Detection distance	100cm	Indicator	Green LED: power, stable
Light source	Infrared light (940nm)		Yellow LED: output, short circuit or overload
Output	NPN NO/NC or PNP NO/NC	Anti-ambient light	Anti-sunlight interference $\leq 10,000\text{lux}$ ; Incandescent light interference $\leq 3,000\text{lux}$
Response time	$\leq 0.5\text{ms}$	Operating temperature	-25...55 °C
Supply voltage	10...30 VDC	Storage temperature	-35...70 °C
Consumption current	$\leq 20\text{mA}$	Protection degree	IP67
Load current	$\leq 200\text{mA}$	Certification	CE
Voltage drop	$\leq 1\text{V}$	Material	Housing: Nickel copper alloy; Filter: PMMA
Distance adjustment	Single-turn potentiometer	Annex	M18 nut (2PCS), instruction manual
Circuit protection	Short-circuit, overload, reverse polarity protection		
Connection	2m PVC cable		
NO/NC adjustment	White wire is connected to the positive pole or hang up, NO mode; White wire is connected to the negative pole, NC mode		

### Dimensions



### Circuit Diagrams



# Small size photoelectric sensors PSS series



### Features

- 18mm threaded cylindrical mounting, easy to install
- Short case for small installation space
- Big knob design for easy adjustment
- IP67 protection, suitable for harsh environments
- With 360° visible bright LED status indicator



### Model

NPN NO/NC	PSM-BC100DNB-E2	PNP NO/NC	PSM-BC100DPB-E2
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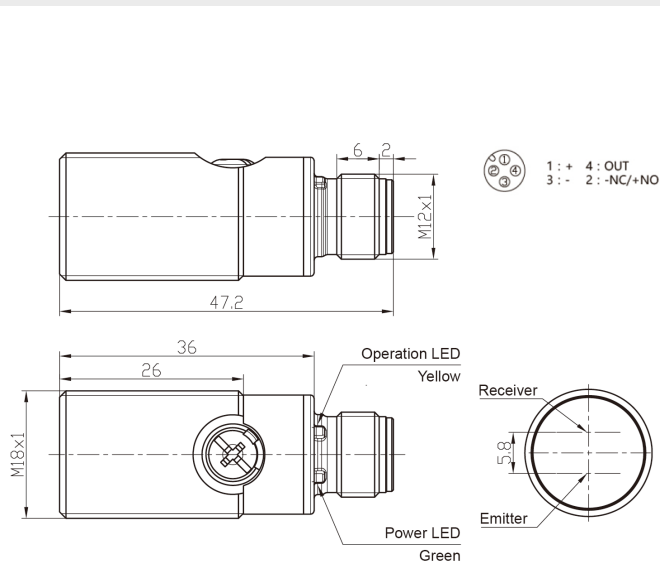
### Specifications

Detection type	Diffuse reflection	Hysteresis	3...20%
Detection distance	100cm	Indicator	Green LED: power, stable Yellow LED: output, short circuit or overload
Light source	Infrared light (940nm)	Anti-ambient light	Anti-sunlight interference ≤ 10,000lux; Incandescent light interference ≤ 3,000lux
Output	NPN NO/NC or PNP NO/NC	Operating temperature	-25...55 °C
Response time	≤0.5ms	Storage temperature	-35...70 °C
Supply voltage	10...30 VDC	Protection degree	IP67
Consumption current	≤20mA	Certification	CE
Load current	≤200mA	Material	Housing: Nickel copper alloy; Filter: PMMA
Voltage drop	≤1V	Annex	M18 nut (2PCS), instruction manual
Distance adjustment	Single-turn potentiometer		
Circuit protection	Short-circuit, overload, reverse polarity protection		
Connection	M12 4-core connector		
NO/NC adjustment	Feet 2 is connected to the positive pole or hang up, NO mode; Feet 2 is connected to the negative pole, NC mode		

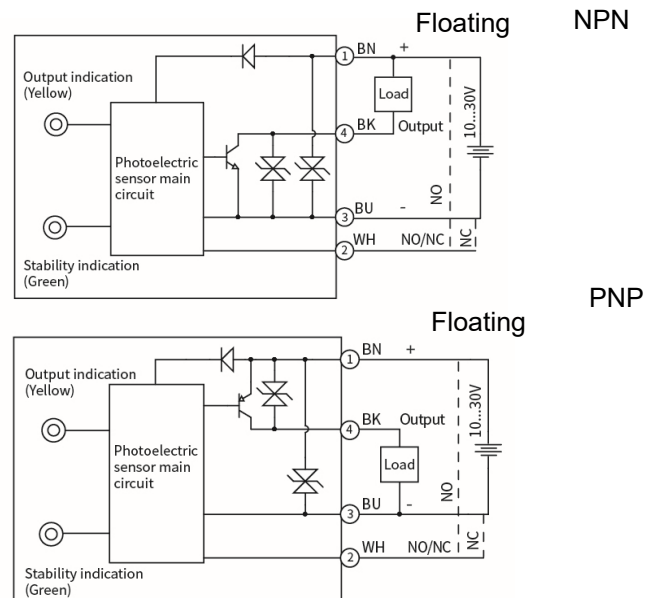
Remarks:①Detection object is 90% white card with size 20cm \* 20cm;

②The green LED becomes weaker, which means that the signal is weaker and the sensor is unstable; The yellow LED flashes, which means that the sensor is shorted or overloaded;

### Dimensions



### Circuit Diagrams



## Small size photoelectric sensors PSM series



### Features

- 18mm threaded cylindrical mounting, easy to install
- Short case for small installation space
- Big knob design for easy adjustment
- IP67 protection, suitable for harsh environments
- With 360° visible bright LED status indicator
- Applicable to detect bright and partial transparent objects



### Model

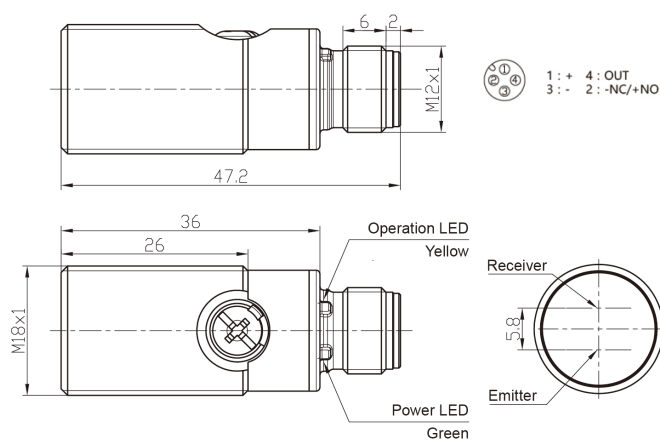
NPN NO/NC	PSM-PM3DNBR-E2	PNP NO/NC	PSM-PM3DPBR-E2
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### Specifications

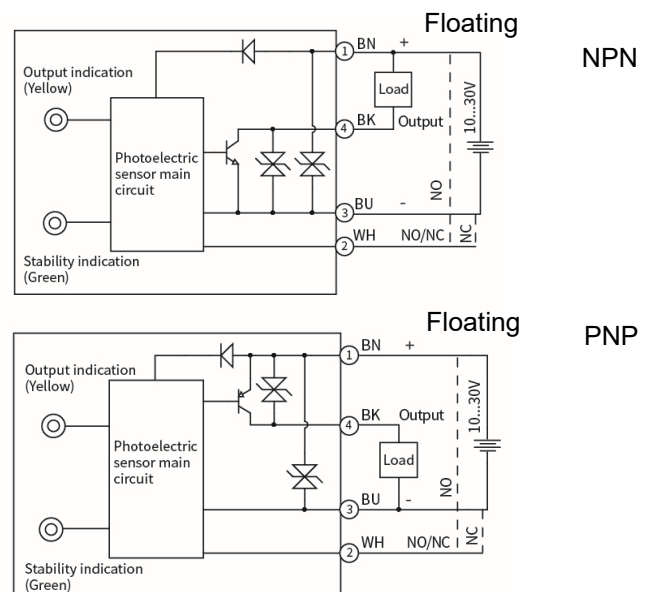
Detection type	Polarized reflection	Indicator	Green LED: power, stable
Detection distance	3m*		Yellow LED: output, short circuit or overload
Light source	Red light (640nm)	Anti-ambient light	Anti-sunlight interference ≤ 10,000lux
Spot size	45*45mm@100cm		Incandescent light interference ≤ 3,000lux
Output	NPN NO/NC or PNP NO/NC	Operating temperature	-25...55 °C
Response time	≤0.5ms	Storage temperature	-35...70 °C
Supply voltage	10...30V DC	Protection degree	IP67
Consumption current	≤20mA	Certification	CE
Load current	≤200mA	Material	Housing: Nickel copper alloy; Filter: PMMA
Voltage drop	≤1V	Connection	M12 4-core connector
Distance adjustment	Single-turn potentiometer	Annex	M18 nut (2PCS), instruction manual, ReflectorTD-09
Circuit protection	Short-circuit, overload, reverse polarity protection		
NO/NC adjustment	Feet 2 is connected to the positive pole or hang up, NO mode; Feet 2 is connected to the negative pole, NC mode		

\*This data is the result of the TD-09 test of the reflector of the Lanbao PSM polarized sensor.

### Dimensions



### Circuit Diagrams



## Small size photoelectric sensors PSM 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.



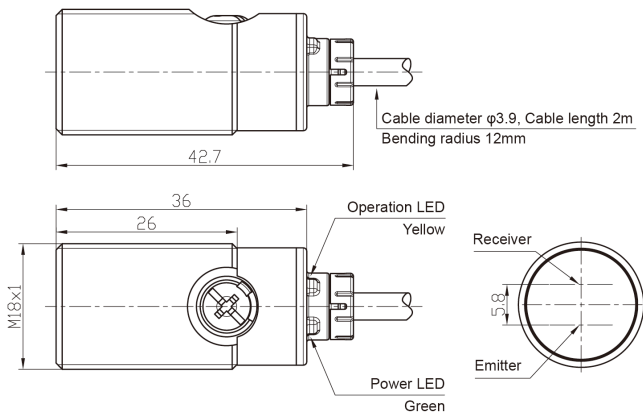
### Model

NPN NO/NC	PSM-BC40DNB	PNP NO/NC	PSM-BC40DPB
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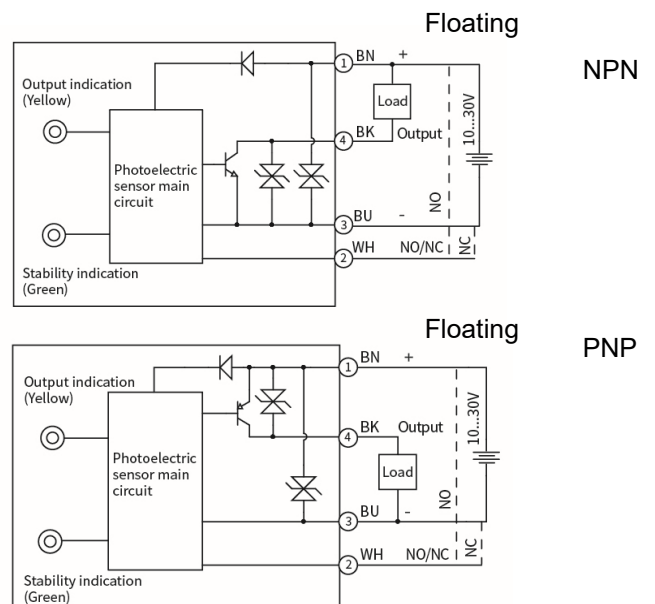
### Specifications

Detection type	Diffuse reflection	Hysteresis	3...20%
Rated distance	40cm	Indicator	Green light: power, stable signal (unstable signal flash)
Light source	Infrared (940nm)		Yellow light: output, overload or short circuit (flash)
Output	NPN NO/NC or PNP NO/NC	Anti-ambient light	Anti-sunlight interference $\leq 10,000\text{lux}$ ; Incandescent light interference $\leq 3,000\text{lux}$
Response time	$\leq 0.5\text{ms}$	Operating temperature	$-25...55\text{ }^\circ\text{C}$
Supply voltage	10...30 VDC	Storage temperature	$-35...70\text{ }^\circ\text{C}$
Consumption current	$\leq 20\text{mA}$	Protection degree	IP67
Load current	$\leq 200\text{mA}$	Certification	CE
Voltage drop	$\leq 1\text{V}$	Material	Housing: Nickel copper alloy; Filter: PMMA
Distance adjustment	Single-turn potentiometer	Annex	M18 nut (2PCS), instruction manual
Circuit protection	Short-circuit, overload, reverse polarity protection		
Connection	2m PVC cable		
NO/NC adjustment	White wire is connected to the positive pole, NO mode; White wire is connected to the negative pole, NC mode		

### Dimensions



### Circuit Diagrams



## Small size photoelectric sensors PSM series



### Features

- 18mm threaded cylindrical mounting, easy to install
- Short case for small installation space
- Big knob design for easy adjustment
- IP67 protection, suitable for harsh environments
- Visible red spot for easy installation and debugging



### Model

NPN NO/NC	PSM-BC40DNBR-E2	PNP NO/NC	PSM-BC40DPBR-E2
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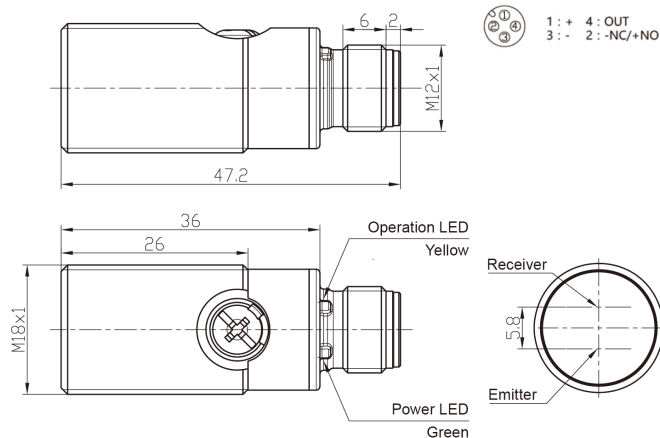
### Specifications

Detection type	Diffuse reflection	Hysteresis	3...20%
Detection distance	40cm	Indicator	Green LED: power, stable Yellow LED: output, short circuit or overload
Light source	Red light (640nm)	Anti-ambient light	Anti-sunlight interference ≤ 10,000lux; Incandescent light interference ≤ 3,000lux
Spot size	15*15mm@40cm	Operating temperature	-25...55 °C
Output	NPN NO/NC or PNP NO/NC	Storage temperature	-35...70 °C
Response time	≤0.5ms	Protection degree	IP67
Supply voltage	10...30 VDC	Certification	CE
Consumption current	≤20mA	Material	Housing: Nickel copper alloy; Filter: PMMA
Load current	≤200mA	Annex	M18 nut (2PCS), instruction manual
Voltage drop	≤1V		
Circuit protection	Short-circuit, overload, reverse polarity protection		
Connection	M12 4-core connector		
Distance adjustment	Single-turn potentiometer		
NO/NC adjustment	Feet 2 is connected to the positive pole or hang up, NO mode; Feet 2 is connected to the negative pole, NC mode		

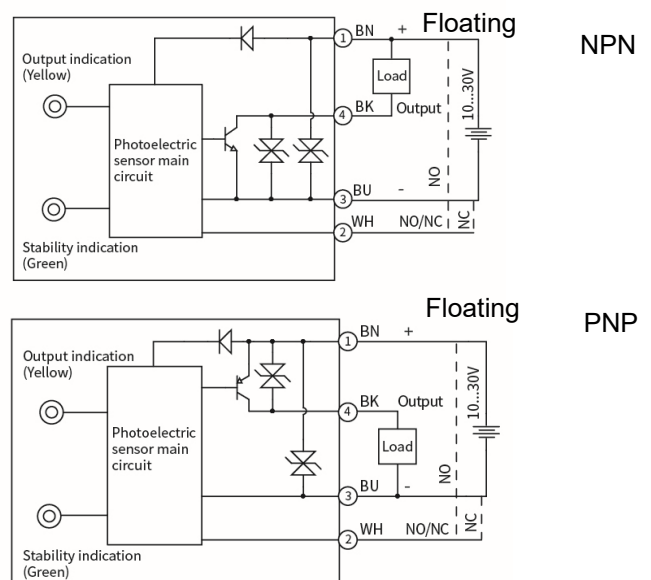
Remarks:①Detection object is 90% white card with size 20cm \* 20cm;

②The green LED becomes weaker, which means that the signal is weaker and the sensor is unstable; The yellow LED flashes, which means that the sensor is shorted or overloaded;

### Dimensions



### Circuit Diagrams



## Small size photoelectric sensors PSM series



### Features

- 18mm threaded cylindrical mounting, easy to install
- Short case for small installation space
- Big knob design for easy adjustment
- IP67 protection, suitable for harsh environments
- Visible red spot for easy installation and debugging



### Model

NPN NO/NC	PSM-BC40DNBR	PNP NO/NC	PSM-BC40DPBR
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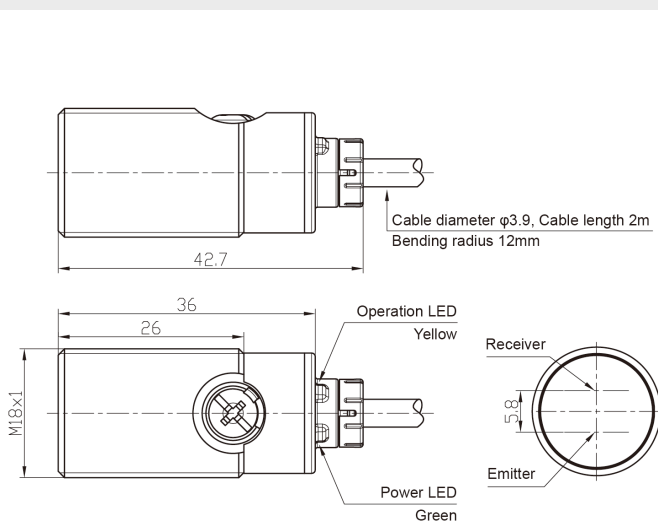
### Specifications

Detection type	Diffuse reflection	Hysteresis	3...20%
Rated distance	40cm	Indicator	Green LED: power, stable Yellow LED: output, short circuit or overload
Light source	Red light (640nm)	Anti-ambient light	Anti-sunlight interference ≤ 10,000lux Incandescent light interference ≤ 3,000lux
Spot size	15*15mm@40cm	Operating temperature	-25...55 °C
Output	NPN NO/NC or PNP NO/NC	Storage temperature	-35...70 °C
Response time	≤0.5ms	Protection degree	IP67
Supply voltage	10...30 VDC	Certification	CE
Consumption current	≤20mA	Material	Housing: Nickel copper alloy; Filter: PMMA
Load current	≤200mA	Annex	M18 nut (2PCS), instruction manual
Voltage drop	≤1V		
Circuit protection	Short-circuit, overload, reverse polarity protection		
Connection	2m PVC cable		
Distance adjustment	Single-turn potentiometer		
NO/NC adjustment	White wire is connected to the positive pole, NO mode; White wire is connected to the negative pole, NC mode		

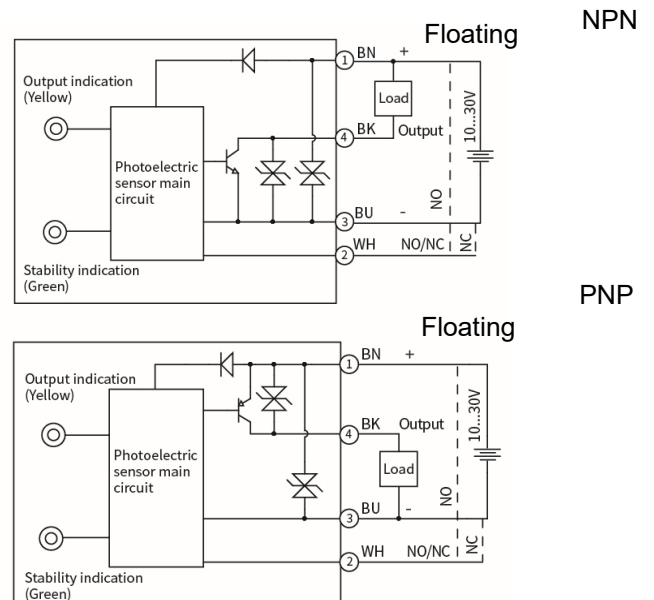
Remarks: ①Detection object is 90% white card with size 20cm \* 20cm;

②The green LED becomes weaker, which means that the signal is weaker and the sensor is unstable; The yellow LED flashes, which means that the sensor is shorted or overloaded;

### Dimensions



### Circuit Diagrams



## Small size photoelectric sensors PSM 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

NPN NO/NC	PSM-BC40DNB-E2	PNP NO/NC	PSM-BC40DPB-E2
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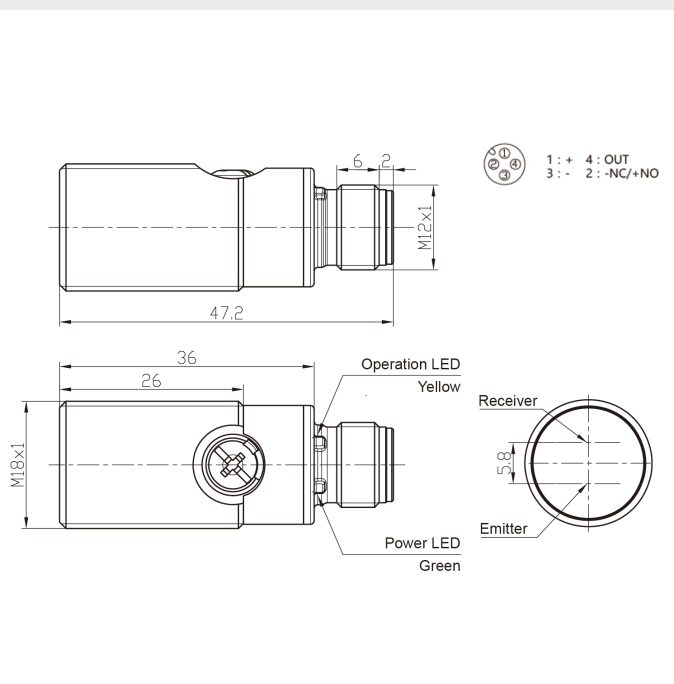
### Specifications

Detection type	Diffuse reflection	Hysteresis	3...20%
Rated distance	40cm	Indicator	Green LED: power, stable
Light source	Infrared (940nm)		Yellow LED: output, short circuit or overload
Output	NPN NO/NC or PNP NO/NC	Anti-ambient light	Anti-sunlight interference ≤ 10,000lux; Incandescent light interference ≤ 3,000lux
Response time	≤0.5ms	Operating temperature	-25...55 °C
Supply voltage	10...30 VDC	Storage temperature	-35...70 °C
Consumption current	≤20mA	Protection degree	IP67
Load current	≤200mA	Certification	CE
Voltage drop	≤1V	Material	Housing: Nickel copper alloy; Filter: PMMA
Distance adjustment	Single-turn potentiometer	Annex	M18 nut (2PCS), instruction manual
Circuit protection	Short-circuit, overload, reverse polarity protection		
Connection	M12 4-core connector		
NO/NC adjustment	Feet 2 is connected to the positive pole, NO mode; Feet 2 is connected to the negative pole, NC mode		

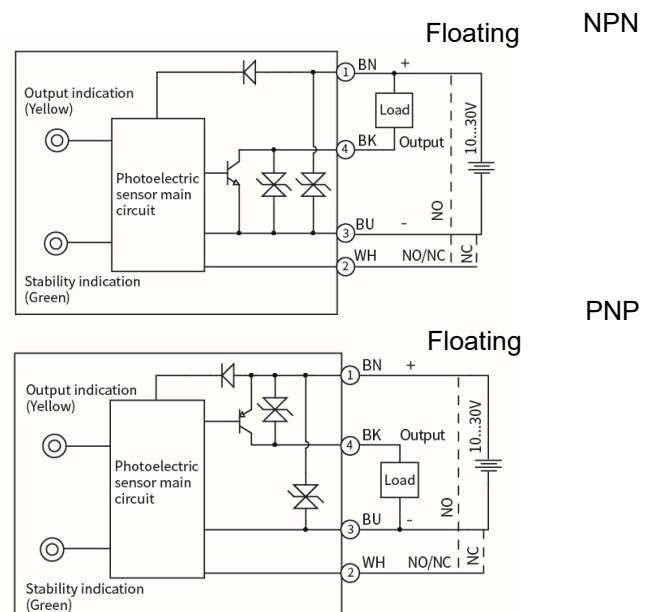
Remarks:①Detection object is 90% white card with size 20cm \* 20cm;

②The green LED becomes weaker, which means that the signal is weaker and the sensor is unstable; The yellow LED flashes, which means that the sensor is shorted or overloaded;

### Dimensions



### Circuit Diagrams



## Small size photoelectric sensors PSS series



### Features

- 18mm threaded cylindrical mounting, easy to install
- Short case for small installation space
- Big knob design for easy adjustment
- IP67 protection, suitable for harsh environments
- With 360° visible bright LED status indicator
- Suitable for inspection of smooth transparent bottles and transparent films



### Model

NPN NO/NC	PSS-GM2DNBR-E2	PNP NO/NC	PSS-GM2DPBR-E2
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### Specifications

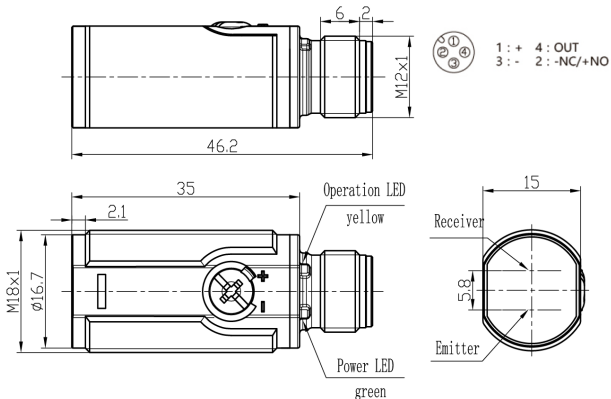
Detection type	Polarized reflection	Distance adjustment	Single-turn potentiometer
Detection distance	2m*	Indicator	Green LED: power, stable Yellow LED: output, short circuit or overload
Light source	Red light (640nm)	Anti-ambient light	Anti-sunlight interference ≤ 10,000lux Incandescent light interference ≤ 3,000lux
Spot size	45*45mm@100cm	Operating temperature	-25...55 °C
Standard target	> φ35mm object with transmittance more than 15%**	Storage temperature	-35...70 °C
Output	NPN NO/NC or PNP NO/NC	Protection degree	IP67
Response time	≤1ms	Material	Housing: PC+ABS; Filter: PMMA
Supply voltage	10...30 VDC	Connection	M12 4-core connector
Consumption current	≤20mA	Annex	M18 nut (2PCS), instruction manual, ReflectorTD-09
Load current	≤200mA		
Voltage drop	≤1V		
Circuit protection	Short-circuit, overload, reverse polarity protection		
NO/NC adjustment	Feet 2 is connected to the positive pole or hang up, NO mode; Feet 2 is connected to the negative pole, NC mode		

\*This data is the result of the TD-09 test of the reflector of the Lanbao PSS polarized sensor.

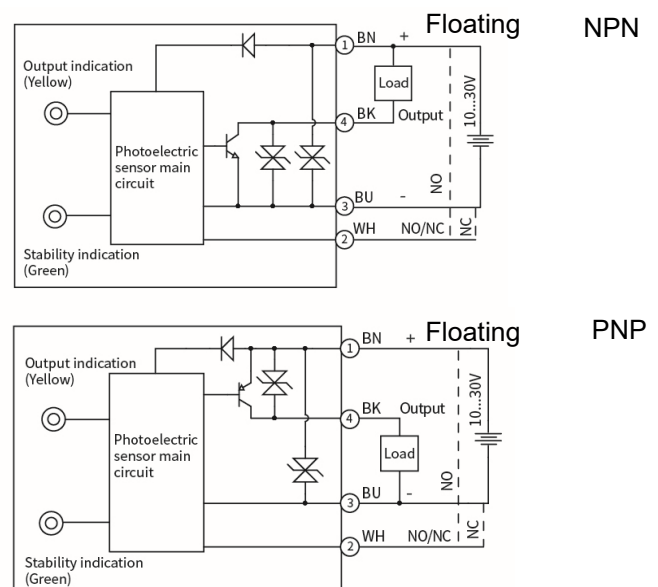
\*\*Smaller objects can be detected by adjustment.

\*\*\*The green LED becomes weaker, which means that the signal is weaker and the sensor is unstable; The yellow LED flashes, which means that the sensor is shorted or overloaded;

### Dimensions



### Circuit Diagrams



## Small size photoelectric sensors PSS series



### Features

- 18mm threaded cylindrical mounting, easy to install
- Short case for small installation space
- Big knob design for easy adjustment
- IP67 protection, suitable for harsh environments
- With 360° visible bright LED status indicator
- Suitable for inspection of smooth transparent bottles and transparent films



### Model

NPN NO/NC	PSS-GM2DNBR	PNP NO/NC	PSS-GM2DPBR
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### Specifications

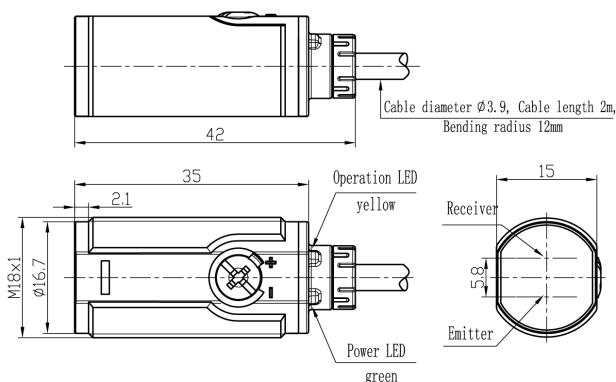
Detection type	Polarized reflection	Distance adjustment	Single-turn potentiometer
Detection distance	2m*	Indicator	Green LED: power, stable Yellow LED: output, short circuit or overload
Light source	Red light (640nm)	Anti-ambient light	Anti-sunlight interference ≤ 10,000lux Incandescent light interference ≤ 3,000lux
Spot size	45*45mm@100cm	Operating temperature	-25...55 °C
Standard target	> φ35mm object with transmittance more than 15%	Storage temperature	-35...70 °C
Output	NPN NO/NC or PNP NO/NC	Protection degree	IP67
Response time	≤ 1ms	Material	Housing: PC+ABS; Filter: PMMA
Supply voltage	10...30 VDC	Connection	2m PVC cable
Consumption current	≤ 20mA	Annex	M18 nut (2PCS), instruction manual, Reflector TD-09
Load current	≤ 200mA		
Voltage drop	≤ 1V		
Circuit protection	Short-circuit, overload, reverse polarity protection		
NO/NC adjustment	White wire is connected to the positive pole or hang up, NO mode; White wire is connected to the negative pole, NC mode		

\*This data is the result of the TD-09 test of the reflector of the Lanbao PSS polarized sensor.

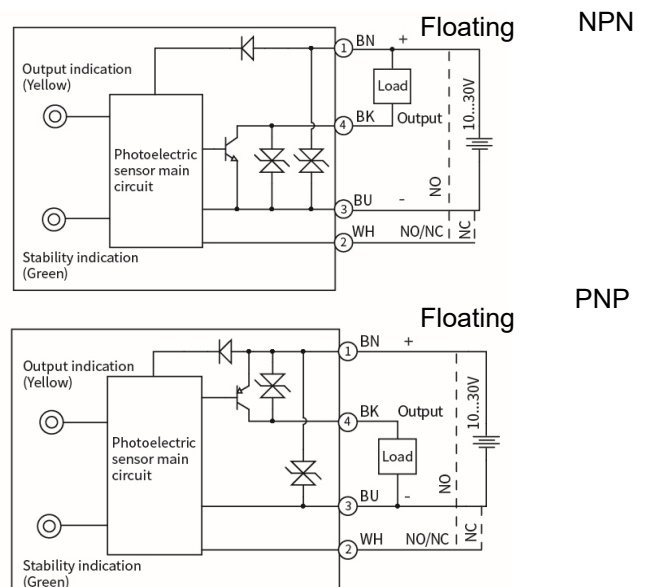
\*\*Smaller objects can be detected by adjustment.

\*\*\*The green LED becomes weaker, which means that the signal is weaker and the sensor is unstable; The yellow LED flashes, which means that the sensor is shorted or overloaded;

### Dimensions



### Circuit Diagrams



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