LANBAO

# Photoelectric sensor PSE-G series

# Operation manual

CE

## Precautions

- The maximum allowable voltage of the sensor is 10% of the rated voltage, Please confirm that the supply voltage is less than the maximum allowable value before powering on
- The time from powering-on to normal detection of the sensor is 100ms, please ensure that the sensor is used after 100ms of powering-on
- When using different power sources for the sensor and load, be sure to turn on the power of the sensor first
- When the sensor is not used, it is recommended to cut off the power of the load first and then turn off the power of the sensor
- When installing the sensor, do not subject the sensor to severe external force (such as hammering, etc.), which may damage the sensor performance
- Avoid using thinner, alcohol or other organic solvents when cleaning

## Safety Warning

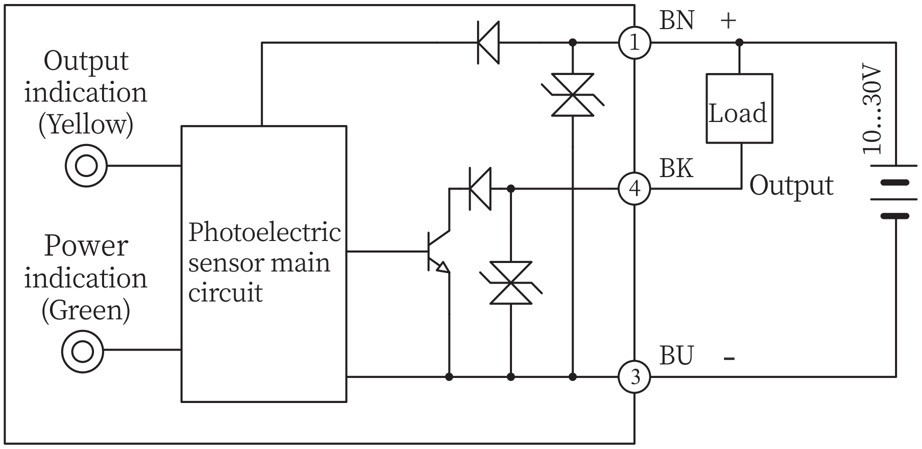
- Do not use in an environment with flammable, explosive or corrosive gases
- Do not use in oil or chemical environments
- Do not use in a high humidity environment
- Do not use in direct sunlight
- Do not use in other environmental conditions that exceed the rated value
- Do not disassemble, repair or modify this product without authorization

## Scrap Treatment

- When the product is scrapped, please dispose of it as industrial waste

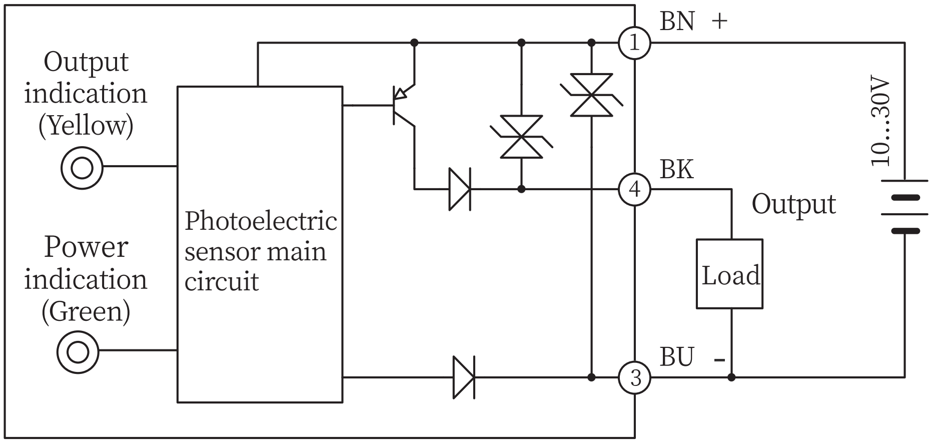
## Terminal Wiring Diagram

NPN Output



Output indication (Yellow)
Power indication (Green)
Photoelectric sensor main circuit
1
BN +
Load
10...30V
4
BK
Output
3
BU -

PNP Output



Output indication (Yellow)
Power indication (Green)
Photoelectric sensor main circuit
1
BN +
10...30V
4
BK
Output
Load
3
BU -

## Technical specifications

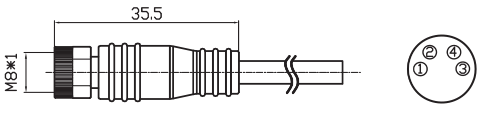
| Type | | Transparent bottle detection | | | |
|---|---|---|---|---|---|
| Model | NPN | PSE-GM2DNBB | PSE-GM2DNBB-E3 | PSE-GC50DNBB | PSE-GC50DNBB-E3 |
| | PNP | PSE-GM2DPBB | PSE-GM2DPBB-E3 | PSE-GC50DPBB | PSE-GC50DPBB-E3 |
| Detection distance | | 2m① | | 50cm② | |
| Light spot size | | ⩽60mm@2m | | ⩽14mm@0.5m | |
| Supply voltage | | 10...30VDC(Ripple P-P ＜10% ) | | | |
| Consumption current | | ＜25mA | | | |
| Load current | | 200mA | | | |
| Voltage drop | | ⩽1.5V | | | |
| Light source | | Blue light(460nm) | | | |
| Protection circuit | | Short circuit protection、Polarity protection、Overload protection | | | |
| Indicator | | Green:Power indicator;Yellow:Output indication、Overload indication | | | |
| Response time | | ＜0.5ms | | | |
| Distance adjustment | | The product is facing the reflector,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 at 8Hz, setting fails and the product distance goes to the maximum. | | | |
| NO/NC adjustment | | Press the button for 5...8s, when the yellow and green light flash synchronously at 2Hz, finish the state switching. | | | |
| Anti ambient light | | Sunshine ⩽10,000Lux;Incandescent⩽3,000Lux | | | |
| Operating temperature | | - 25...55 °C(No condensation, no icing) | | | |
| Storage temperature | | - 30...70 °C | | | |
| Vibration resistance | | 10...55Hz,Double amplitude 0.5mm(2.5hrs each for X、Y、Z direction) | | | |
| Impulse withsand | | 500m/s$^2$,3 times each for X、Y、Z direction | | | |
| High pressure resistant | | 1000V/AC 50/60Hz 60s | | | |
| Protection degree | | IP67 | | | |
| Certification | | CE | | | |
| Housing material | | PC+ABS | | | |
| Lens | | PMMA | | | |
| Weight | | Connector:About 10g;Cable:About 50g | | | |
| Accessories | | Mounting Bracket:ZJP-8、Operation manual、<br>TD-09A Reflector① 、TD-08 Reflector② | | | |

Note: ①PSE-GM detection distance of 2m corresponds to TD-09A reflector;
②PSE-GC detection distance of 50cm corresponds to TD-08 reflector.

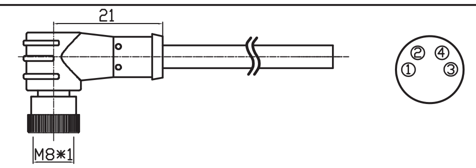
## Accessories Dimensions

The following accessories need to be ordered separately except for the ZJP-8 mounting bracket and TD-09A (for PSE-GM series) and TD-08 (for PSE-GC series) reflectors.

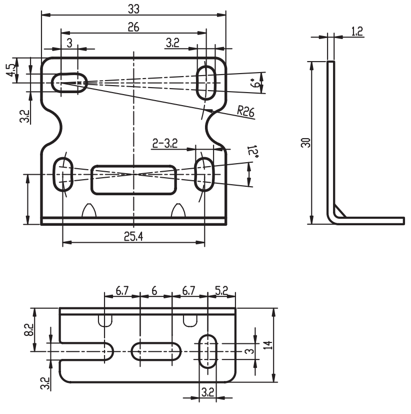
M8 Connector:QE8-N4F2


35.5
M8*1
②
④
①
③

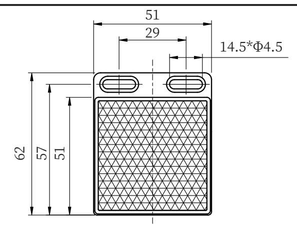
M8 Connector:QE8-N4G2



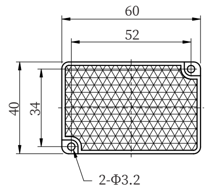
Mounting Bracket:ZJP-8


33
26
3
3.2
4.5
6°
R26
3.2
2-3.2
12°
25.4
30
1.2
6.7
6
6.7
5.2
8.2
3
14
3.2
3.2

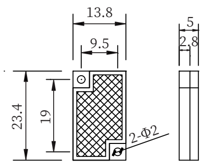
Reflector:TD-08


51
29
14.5*Φ4.5
62
57
51

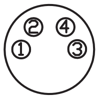
Reflector:TD-09A


60
52
40
34
2-Φ3.2

Reflector:TD-11


13.8
9.5
5
2.8
23.4
19
2-Φ2

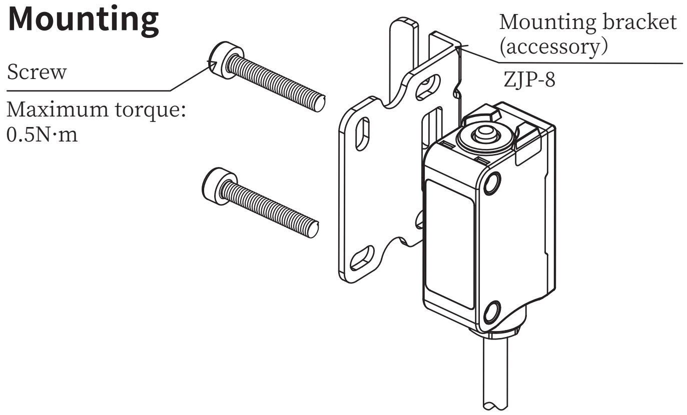
## Wiring diagram



1：+
3：-
4：OUT

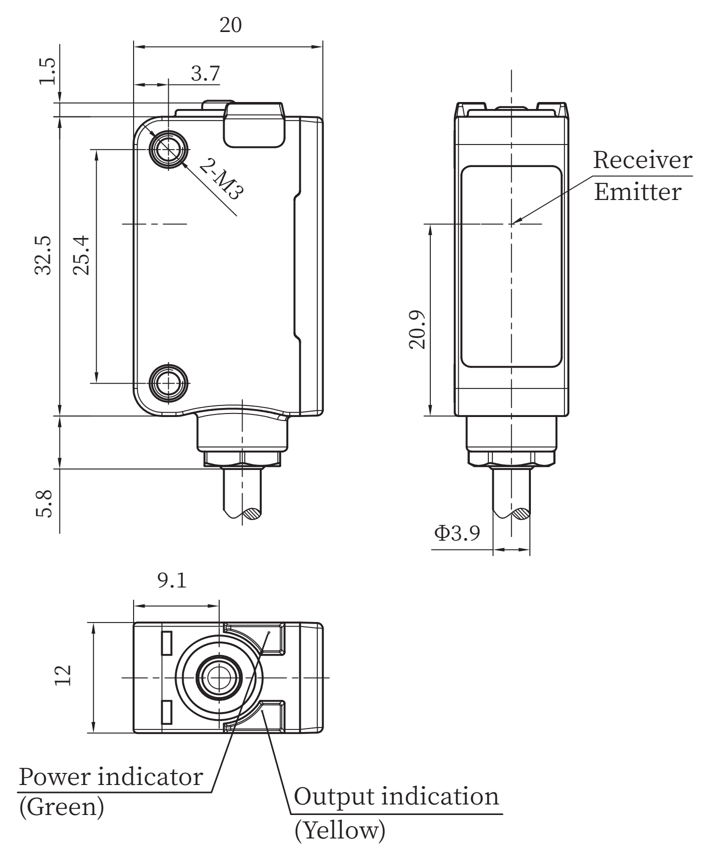
BN：+
BU：-
BK：OUT

## Mounting

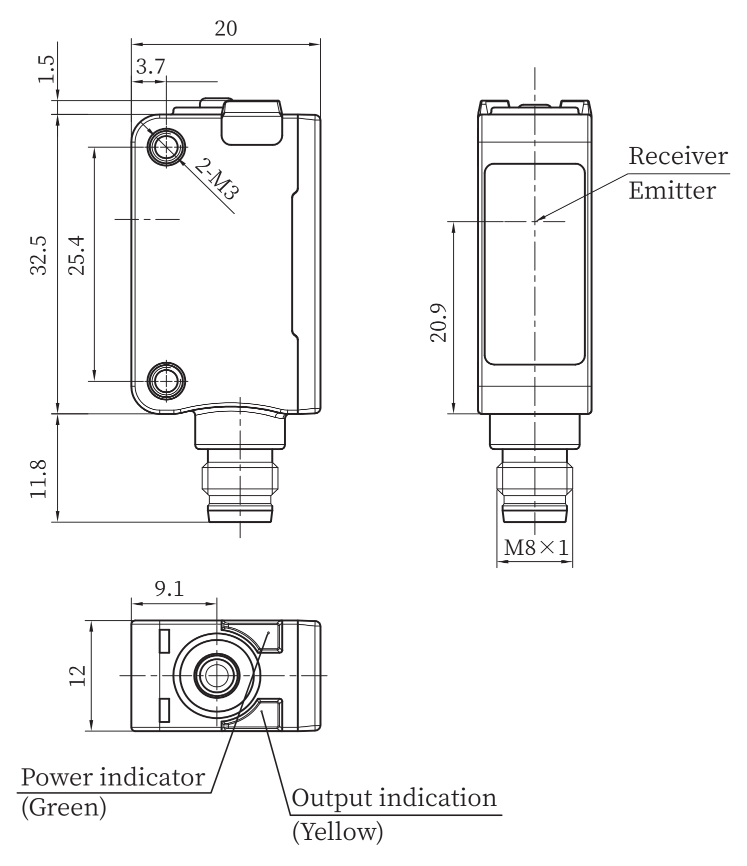

Screw
Maximum torque:
0.5N·m
Mounting bracket
(accessory)
ZJP-8

## ■ Dimensions

PSE-Cable


20
1.5
3.7
2-M3
32.5
25.4
5.8
Receiver
Emitter
20.9
Φ3.9
9.1
12
Power indicator
(Green)
Output indication
(Yellow)

PSE-Connector


20
1.5
3.7
2-M3
32.5
25.4
11.8
Receiver
Emitter
20.9
M8×1
9.1
12
Power indicator
(Green)
Output indication
(Yellow)

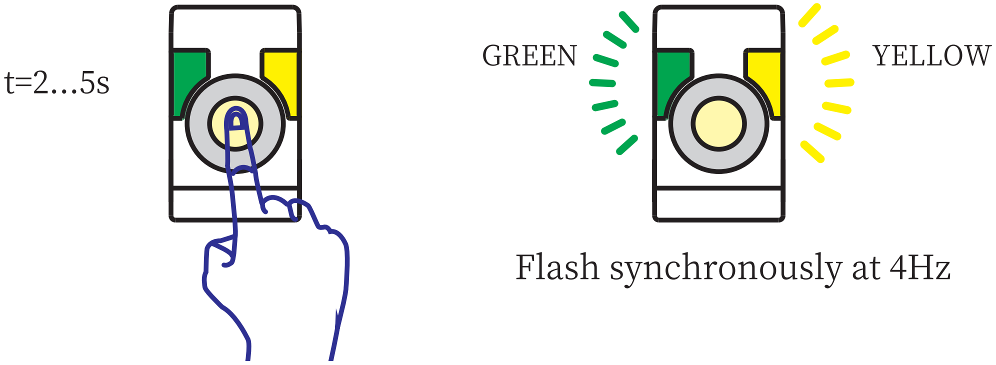
PSE-G 2021LB V2.1

This specification doesn't relate to patent responsibility.Moreover, our company is always devoting to improving product quality, and reserves the right to improve products by changing pattern or size without prior notice.We have considered all the notes when compiling this specification, but for the wrong or clipped parts, and any loss caused by using this manual information, we bear no responsibility.

Shanghai Lanbao Sensing Technology Co.,Ltd.
Address:No 228,Jinbi Road,Jinhui Industrial Park,Fengxian Area,Shanghai,China
Zip code:201404
TEL:021-57486188 57486181
FAX:021-57486199
Email:market@shlanbao.cn
Hotline:800-820-8259

## ■ Button instruction

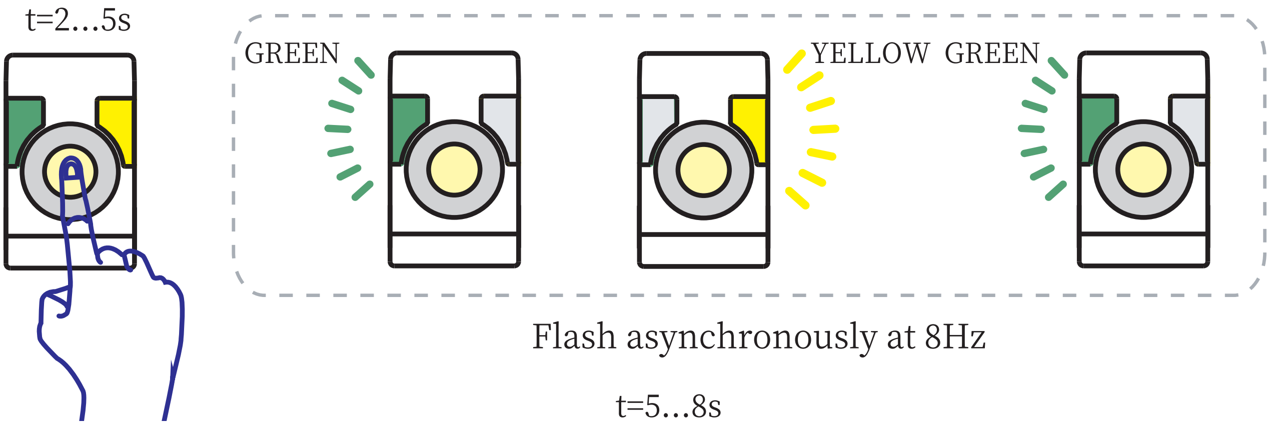
1. Press the button for the duration time "t", if t<2s or t⩾8s, the setting is invalid, NO/NC maintains in the original state, and the product distance maintains the original;
2. Put the product in face to the reflector, and press the button for the duration "t", if 2s ⩽ t < 5s, the yellow and green lights flash synchronously at 4 Hz, when the button is released to finish distance setting.as shown in the following figure:



Flash synchronously at 4Hz

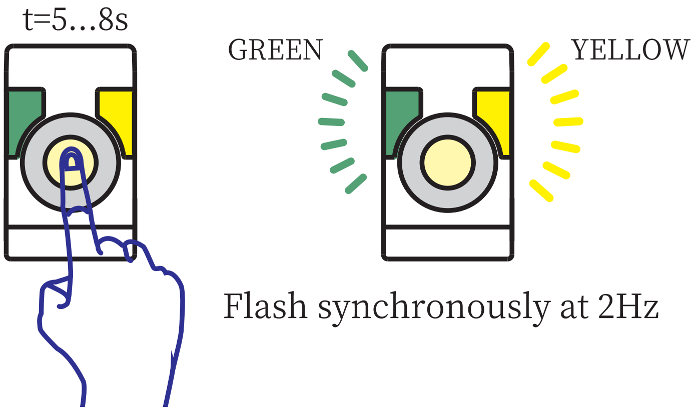
Note: For distancing setting, if the distance between the sensing object and the sensor exceeds the detection ability of the product, in duration 2s ⩽ t < 5s, the yellow and green lights flash synchronously at 4Hz, when the button is released to finish the distance setting but not successfully.

If the yellow and green lights flash asynchronously at 8 Hz, meaning that the product distance setting fails, and the product distance is automatically set to the maximum value, as shown in the following figure:



Flash asynchronously at 8Hz

3. Press the button for the duration "t", if 5s⩽t<8s, the yellow and green lights flash synchronously at 2 Hz, when the button is released to finish NO/NC state switchover .



Flash synchronously at 2Hz