

This is only for reference, the actual product does not support all combinations. For selecting the specific model, follow the Autonics website.

BS 5 - ① ② - ③

Groove-Depth 9 mm Photomicro Sensors



BS5 Series CATALOG

For your safety, read and follow the considerations written in the instruction manual, other manuals and Autonics website.

The specifications, dimensions, etc. are subject to change without notice for product improvement. Some models may be discontinued without notice.

Features

- Select appearance depending on the install location (K, T, V, L, Y, F, R, TA type)
- Minimize malfunction and improve visibility
 - Minimize sensing part, gap and flush of the body to reduce malfunctions caused by a foreign substance
 - Built-in U-shaped indicator can be checked in many directions
- Selectable models for the operation of indicator
 - Indicator turns ON under the light received condition
 - Indicator turns ON under the light interrupted condition
- Resistant structure for shock and vibration
 - Shock 15,000 m/s² (approx. 1,500 G), vibration 10 to 2,000 Hz (1.5 mm amplitude)
- Selectable operation modes (Light ON/Dark ON) via connector or control wire
- High-frequency response : 2 kHz

① Appearance+Connection

| | Cable type | | Connector type |
|-----|------------|-----|----------------|
| K1 | | K2 | |
| T1 | | T2 | |
| L1 | | L2 | |
| Y1 | | Y2 | |
| V1 | | V2 | |
| TA1 | | TA2 | |
| F1 | | F2 | |
| R1 | | R2 | |

② Indicator

M: Turns ON under the light received condition

R: Turns ON under the light interrupted condition

③ Control output

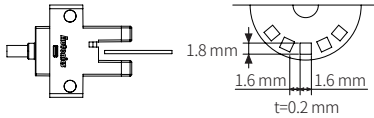
No mark: NPN open collector output

P: PNP open collector output

Specifications

| | |
|---------------------------------|--|
| Series | BS5 |
| Sensing type | Through-beam |
| Sensing distance | 5 mm |
| Sensing target | Opaque materials |
| Min. sensing target | ≥ 0.8 mm × 2 mm |
| Hysteresis | ≤ 0.05 mm |
| Response time | Received light: ≤ 20 μs, Interrupted light: ≤ 100 μs |
| Frequency response | 2 kHz ⁰¹⁾ |
| Light source | Infrared LED |
| Peak emission wavelength | 940 nm |
| Operation mode | Light ON-Dark ON selectable (control wire) |
| Indicator | Operation indicator (red) |
| Approval | CE |
| Unit weight | Cable type: ≈ 50 g, Connector type: ≈ 30 g |

01) Response frequency is the value getting from revolving the circle panel below.



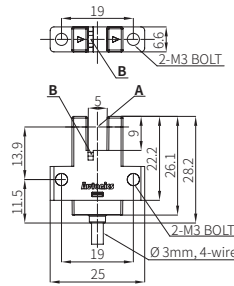
| | |
|--|--|
| Power supply | 5-24 VDC≐ ±10% (ripple P-P: ≤ 10%) |
| Current consumption | ≤ 30 mA |
| Control output | NPN open collector / PNP open collector output model |
| Load voltage | ≤ 30 VDC≐ |
| Load current | ≤ 100 mA |
| Residual voltage | NPN: ≤ 1.2 VDC≐, PNP: ≤ 1.2 VDC≐ |
| Protection circuit | Reverse power polarity protection circuit, output short overcurrent protection circuit |
| Insulation resistance | ≥ 20 MΩ (250 VDC≐ megger) |
| Noise immunity | The square wave noise (pulse width: 1 μs) by the noise simulator ± 240 VDC≐ |
| Dielectric strength | 1,000 VAC ~ 50/60 Hz for 1 minute |
| Vibration | 1.5 mm double amplitude (max. acceleration 196 m/s ²) at frequency of 10 to 2,000 Hz in each X, Y, Z direction for 2 hours |
| Shock | 15,000 m/s ² (approx. 1,500 G) in each X, Y, Z direction for 3 times |
| Ambient illumination (receiver) | Fluorescent lamp: ≤ 1,000 |
| Ambient temperature | -20 to 55 °C, storage: -25 to 85 °C (no freezing or condensation) |
| Ambient humidity | 35 to 85%RH, storage: 35 to 85%RH (no freezing or condensation) |
| Protection rating | IP50 (IEC standard) |
| Connection method | Cable / Connector type model |
| Cable spec. | Ø 3 mm, 4-wire, 1 m |
| Wire spec. | AWG28 (0.08 mm, 19-core), insulator outer diameter: Ø 0.88 mm |
| Material | Case: PBT, Sensing part: PC |

Dimensions

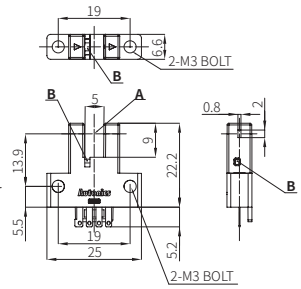
• Unit: mm, For the detailed drawings, follow the Autonics website.

| | |
|----------|---------------------------|
| A | Optical axis |
| B | Operation indicator (red) |

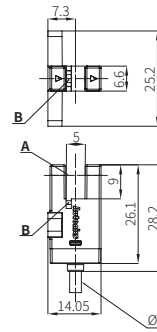
BS5-K1



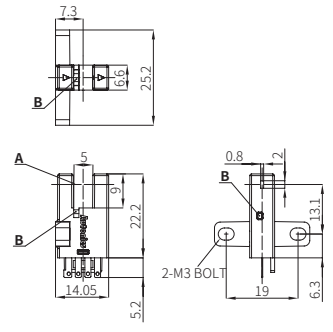
BS5-K2



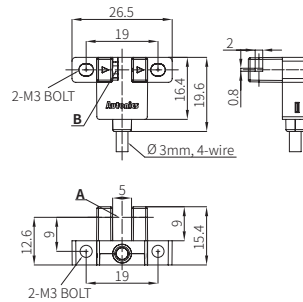
BS5-T1



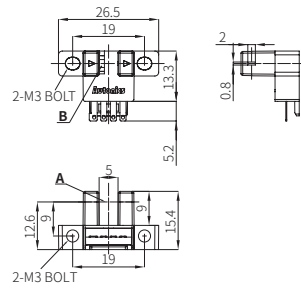
BS5-T2



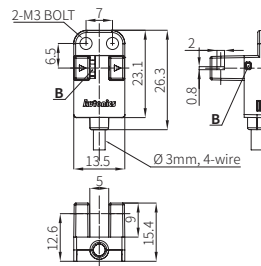
BS5-L1



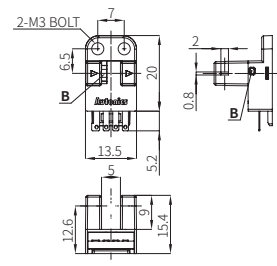
BS5-L2



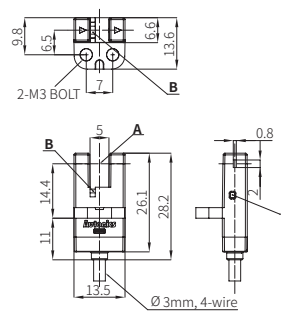
BS5-Y1



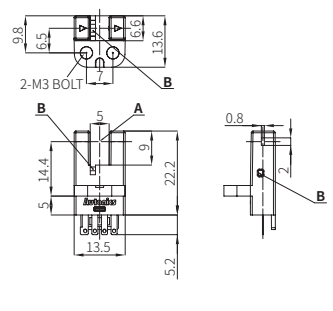
BS5-Y2



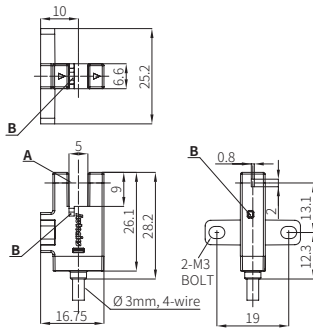
BS5-V1



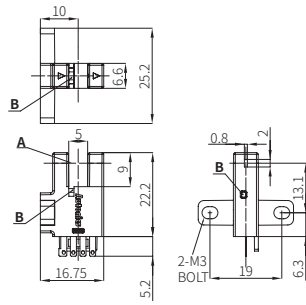
BS5-V2



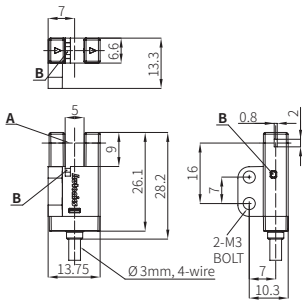
■ BS5-TA1



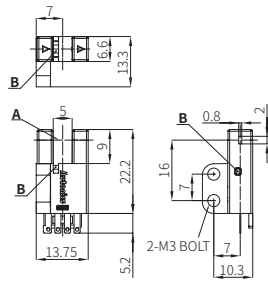
■ BS5-TA2



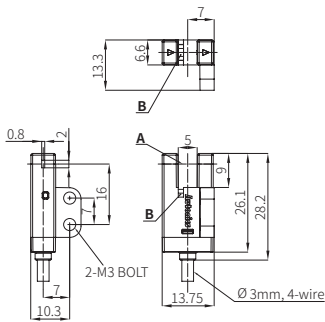
■ BS5-F1



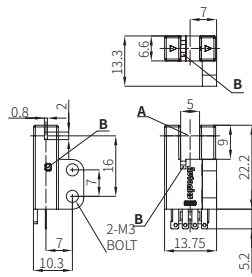
■ BS5-F2



■ BS5-R1



■ BS5-R2



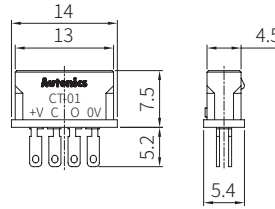
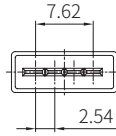
Sold Separately

- Connector: CT-01 (connector type), CT-02 (cable type, length: 1 m)

Sold Separately: Connector

- Unit: mm, for detailed dimensions, visit our website.

■ CT-01 (connector type)



- PCB mounting hole

■ CT-02 (cable type)

