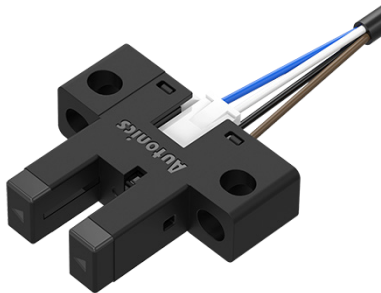


Groove-Depth 9 mm Photomicro Sensors with Built-In Connector



BS4 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

- Minimize the external size with the assembled connector insertion part
 - Dedicated sold separately and universal connector cables available
 - Various shapes available for installation flexibility (K, L, R, T, TA, F, Y types)
- Minimize malfunction and improved visibility
 - Minimize sensing part and body level to reduce malfunctions caused by foreign substances
 - Built-in operation indicators viewable from multiple 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 (≈ 1,500 G), vibration 10 to 2,000 Hz (1.5 mm double amplitude)
- Selectable operation modes (Light ON/Dark ON)
- High-frequency response : 2 kHz

Ordering Information

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

BS 4 - ① 2 ② - ③

① Appearance

| | | | |
|---|---|----|--|
| K | | Y | |
| T | Distance from the center of sensing to mounting surface: 7 mm | TA | Distance from the center of sensing to mounting surface: 10 mm |
| L | | F | |
| | | R | |

② Indicator

- M: Turns ON under the light received condition
- R: Turns ON under the light interrupted condition

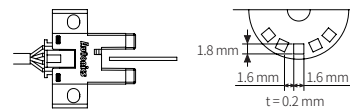
③ Control output

- No mark: NPN open collector output
- P: PNP open collector output

Specifications

| | |
|--------------------------|---|
| Series | BS4 |
| Sensing type | Through-beam |
| Sensing distance | 5 mm |
| Sensing target | Opaque materials |
| Min. sensing target | ≥ 0.8 mm × 1.8 mm |
| Hysteresis | ≤ 0.05 mm |
| Response time | Received light: ≤ 20 μs, Interrupted light: ≤ 80 μs |
| Response frequency | 2 kHz ⁰¹⁾ |
| Light source | Infrared LED |
| Peak emission wavelength | 940 nm |
| Operation mode | Built-in Light ON / Dark ON |
| Indicator | Operation indicator (Red) |
| Approval | CE, RoHS |
| Unit weight | ≈ 2.4 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 | ≤ 15 mA |
| Control output | NPN open collector output / PNP open collector output Model |
| Load voltage | ≤ 24 VDC |
| Load current | ≤ 50 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 | ± 240 VDC = square wave noise (pulse width 1 μs) by the noise simulator |
| Dielectric strength | 1,000 VAC ~ 50/60 Hz for 1 min |
| 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 (≈ 1,500 G) in each X, Y, Z direction for 3 times |
| Ambient illuminance (receiver) | Fluorescent lamp: ≤ 1,000 lx |
| Ambient temperature | -20 to 55°C, Storage: -25 to 85°C (no freezing or condensation environment) |
| Ambient humidity | 35 to 85%RH, Storage: 35 to 85%RH (no freezing or condensation environment) |
| Protection rating | IP50 (IEC standard) |
| Connection method | Connector type |
| Material | Case: PBT, sensing part: PC |

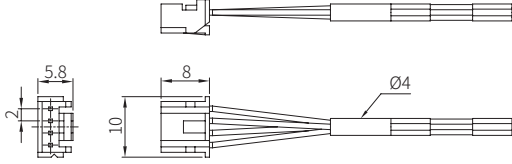
Sold Separately

- Connector: CT-03□, CT-04□

| Model | Cable | | | Connector |
|--------|--------|----------------|----------------|--|
| | Length | Feature | Spec. | |
| CT-03 | 1 m | Standard cable | Ø 4 mm, 4-wire | • Manufacturer: J.S.T. Mfg. Co., Ltd. • Housing: PAP-04V-S • Contact: SPHD-001T-P0.5 |
| CT-04 | 3 m | | | |
| CT-03F | 1 m | Flexible cable | | |
| CT-04F | 3 m | | | |

Sold Separately: Connector

- Unit: mm, For the detailed drawings, follow the Autonics website.
- The cable length differs from each model.



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