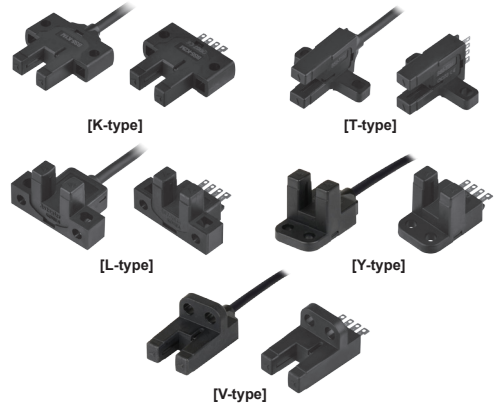


BS5 Series

Photomicro Sensor

■ Features

- Ultra compact, Built-in amplifier, NPN/PNP open collector output
- Various selection by installation position (appearance: K, T, L, Y, V type)
- Light ON / Dark ON selectable by control terminal/cable
- High speed response frequency: 2kHz
- Wide range of power source: 5-24VDC (easy to connect with various IC, relay, programmable controller etc)
- Dust resistance structure : Protecting by window of emitter/receiver
- Red LED status indication



⚠ Please read "Caution for your safety" in operation manual before using.



■ Ordering Information

BS 5 - K 2 M - P

Control output	No mark	NPN open collector output		
	P	PNP open collector output		
Size	M	Middle		
Connection type	1	Cable type		
	2	Connector type		
Appearance	K	K-Type	Y	Y-Type
	T	T-Type	V	V-Type
	L	L-Type		
Sensing distance	5	Unit: mm (fixed)		
Item	BS	Photo electronic sensor		

■ Specifications

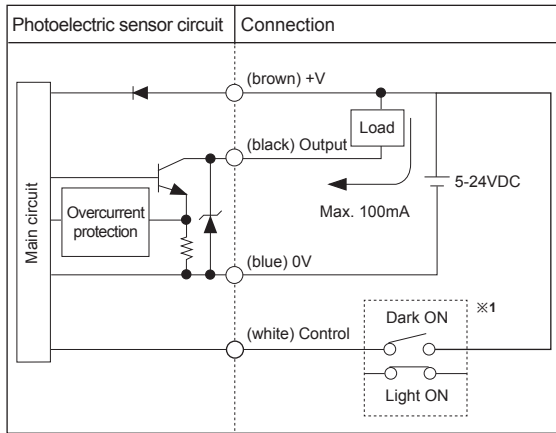
Model	NPN open collector output	BS5-K1M	BS5-T1M	BS5-L1M	BS5-Y1M	BS5-V1M	BS5-K2M	BS5-T2M	BS5-L2M	BS5-Y2M	BS5-V2M
	PNP open collector output	BS5-K1M-P	BS5-T1M-P	BS5-L1M-P	BS5-Y1M-P	BS5-V1M-P	BS5-K2M-P	BS5-T2M-P	BS5-L2M-P	BS5-Y2M-P	BS5-V2M-P
Sensing type	Through-beam (not modulated)										
Sensing distance	5mm fixed										
Sensing target	Ø0.8×2mm Opaque materials										
Hysteresis	0.05mm										
Response time	Light ON : Max. 20µs, Dark ON : Max. 100µs										
Response frequency ^{※1}	2kHz										
Power supply	5-24VDC ±10% (ripple P-P : max. 10%)										
Current consumption	Max. 30mA (at 26.4VDC)										
Light source	Infrared LED (940nm)										
Operation mode	Light ON / Dark ON selectable by control cable						Light ON / Dark ON selectable by control terminal				
Control output	NPN or PNP open collector output ●Load voltage : Max. 30VDC ●Load current : Max. 100mA ●Residual voltage : Max. 1.2V										
Protection circuit	Reverse polarity protection circuit, output overcurrent (short-circuit) protection circuit										
Indicator	Operation Indicator: red LED										
Connection	Cable type						Connector type				
Insulation resistance	Over 20MΩ (at 250VDC megger)										
Noise immunity	±240V the square wave noise (pulse width:1µs) by the noise simulator										
Dielectric strength	1,000VAC 50/60Hz for 1minute										
Vibration	1.5mm amplitude at frequency of 10 to 55Hz in each X, Y, Z direction for 2 hours										
Shock	500m/s ² (approx. 50G) in each X, Y, Z direction for 3 times										
Environment	Ambient illumination	Fluorescent lamp : Max. 1000lx (receiver illumination)									
	Ambient temperature	-20 to 55°C, storage : -25 to 85°C									
	Ambient humidity	35 to 85%RH, storage : 35 to 85%RH									
Protection structure	IP50 (IEC standard)										
Material	Polybutylene terephthalate										
Cable	Ø3mm, 4-wire, 1m (AWG28, core diameter: 0.08mm, number of cores: 19, insulator out diameter: Ø0.88mm)						—				
Approval	CE										
Weight ^{※2}	Approx. 50g (approx. 30g)										

※1: The value from revolving the circle panel which duty ratio is 1:1. ※2: The weight includes packaging. The weight in parenthesis in for unit only.

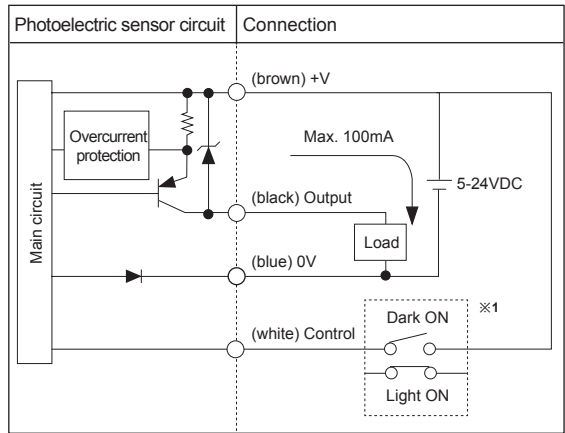
※The temperature or humidity mentioned in Environment indicates a non freezing or condensation environment.

Control Output Diagram

• NPN open collector output

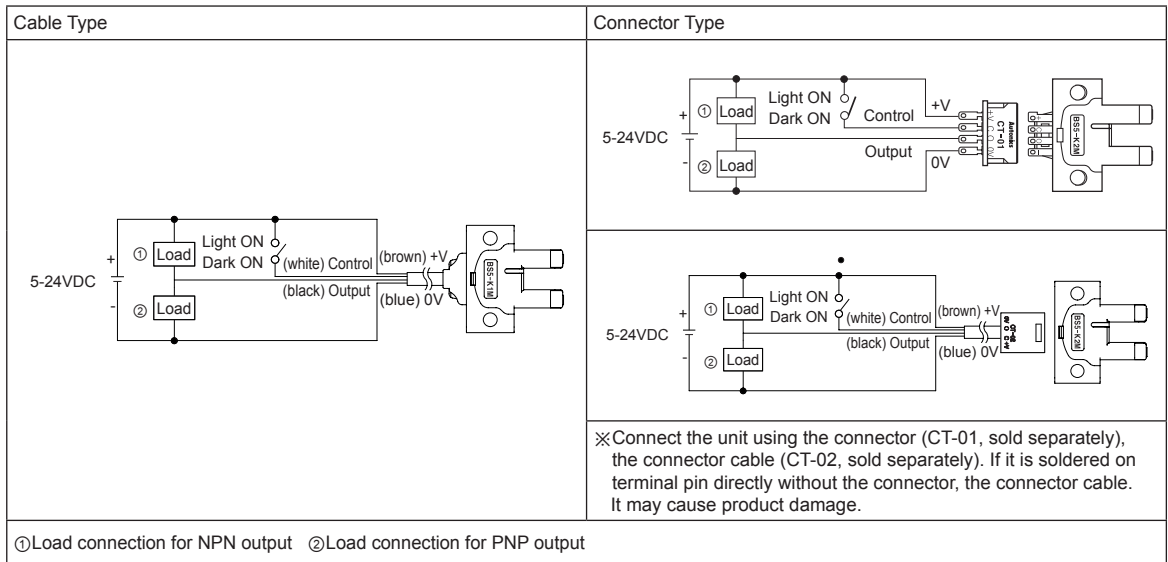


• PNP open collector output

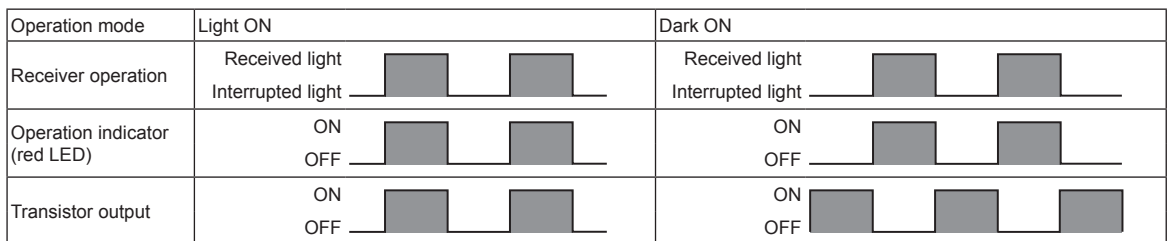


※1: Operation mode selection : Connect (white) Control (terminal) into terminal (brown) +V to operate Light ON mode. Dark ON mode is available with disconnection status.

Connections



Operation Mode



※If the control output terminal is short-circuited or overcurrent condition exists, the control output turns OFF due to protection circuit.

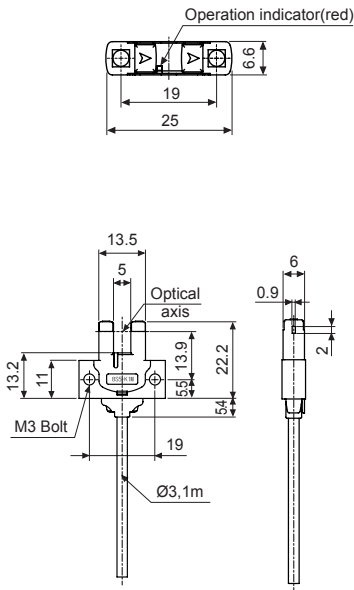
- (A) Photoelectric Sensors
- (B) Fiber Optic Sensors
- (C) Door/Area Sensors
- (D) Proximity Sensors
- (E) Pressure Sensors
- (F) Rotary Encoders
- (G) Connectors/ Connector Cables/ Sensor Distribution Boxes/ Sockets
- (H) Temperature Controllers
- (I) SSRs / Power Controllers
- (J) Counters
- (K) Timers
- (L) Panel Meters
- (M) Tacho / Speed / Pulse Meters
- (N) Display Units
- (O) Sensor Controllers
- (P) Switching Mode Power Supplies
- (Q) Stepper Motors & Drivers & Controllers
- (R) Graphic/ Logic Panels
- (S) Field Network Devices
- (T) Software

BS5 Series

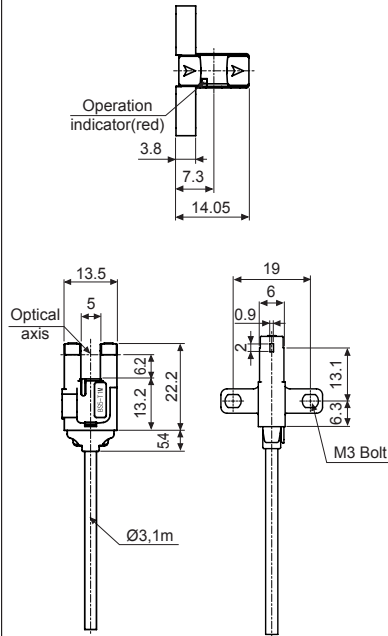
■ Dimensions

(unit: mm)

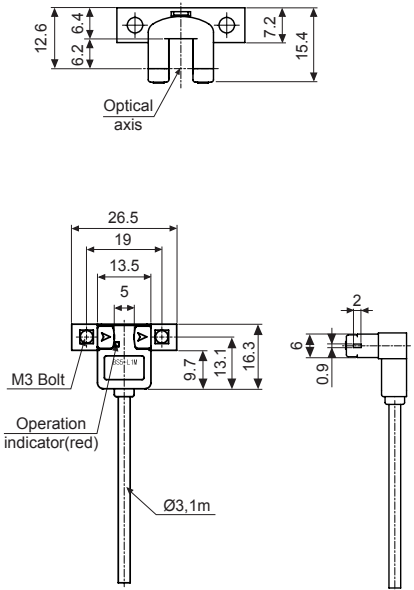
• BS5-K1M / BS5-K1M-P



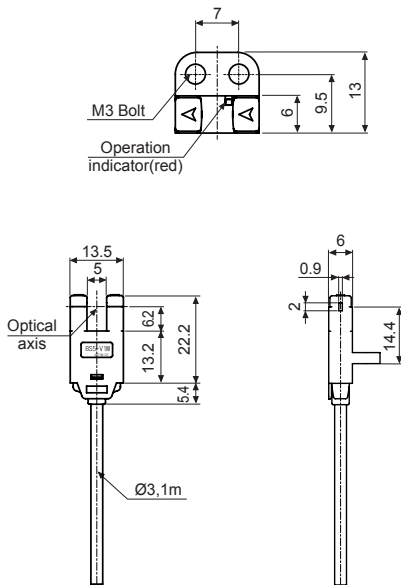
• BS5-T1M / BS5-T1M-P



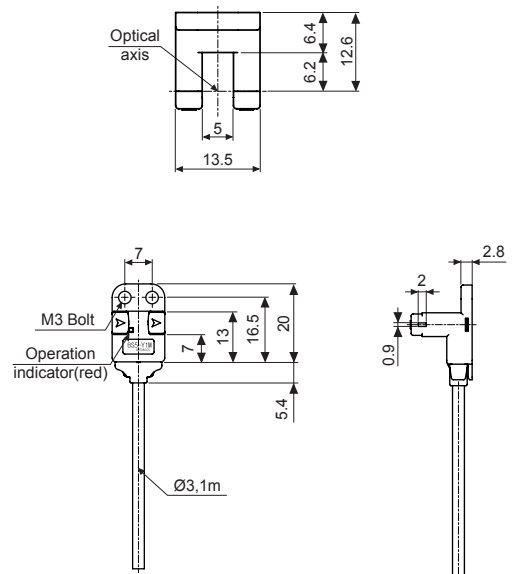
• BS5-L1M / BS5-L1M-P



• BS5-V1M / BS5-V1M-P



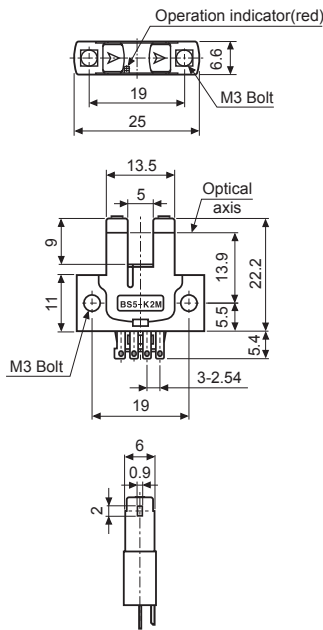
• BS5-Y1M / BS5-Y1M-P



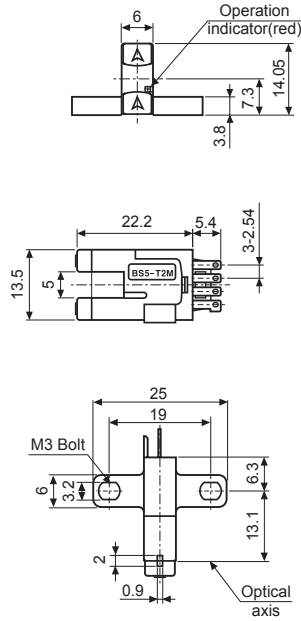
■ Dimensions

(unit: mm)

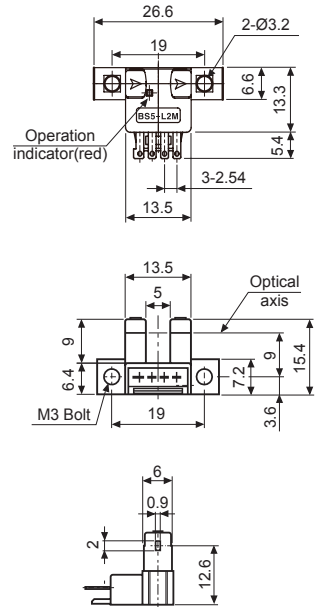
● BS5-K2M / BS5-K2M-P



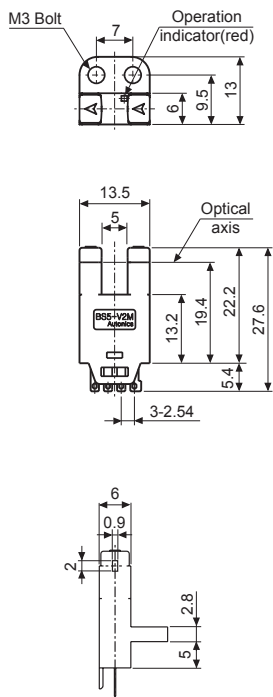
● BS5-T2M / BS5-T2M-P



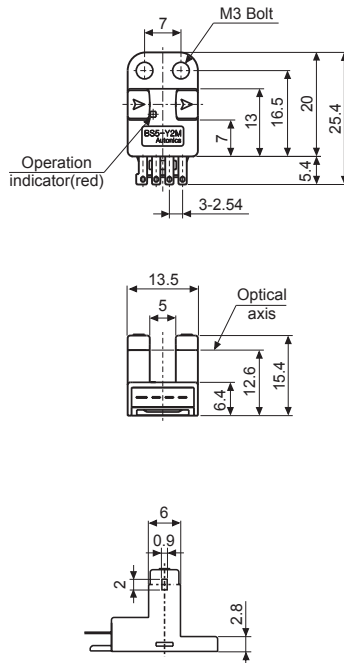
● BS5-L2M / BS5-L2M-P



● BS5-V2M / BS5-V2M-P

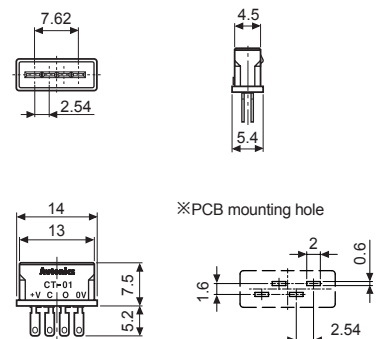


● BS5-Y2M / BS5-Y2M-P

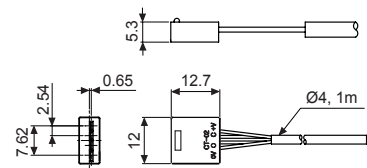


● Connector type (sold separately)

● Connector (CT-01)



● Connector (CT-02)



※ Cable: Ø4mm, 4-wire, 1m
(AWG22, Core wire diameter: 0.08mm,
No. of core wire: 60, Insulator out diameter:
Ø1.2mm)
※ Cable length is available to option.

(A)	Photoelectric Sensors
(B)	Fiber Optic Sensors
(C)	Door/Area Sensors
(D)	Proximity Sensors
(E)	Pressure Sensors
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(G)	Connectors/ Connector Cables/ Sensor Distribution Boxes/ Sockets
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