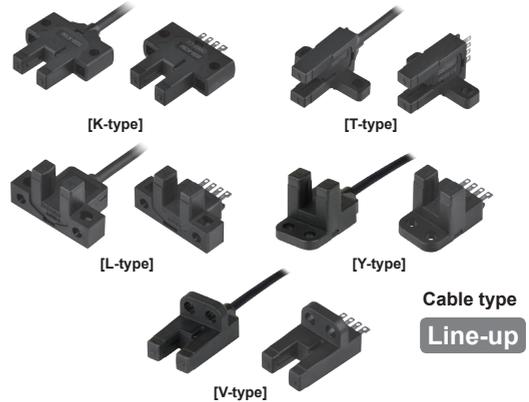


BS5 Series

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
- 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

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

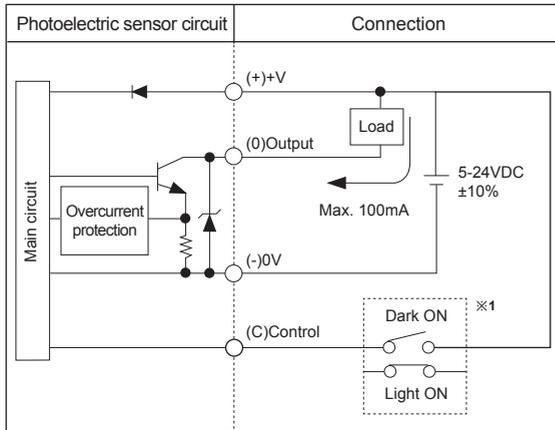
■ Specifications

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 (refer to the measuring range of response frequency)										
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 wire						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 power polarity protection, Overcurrent protection										
Indicator	Operation Indicator: red LED										
Connection	Cable type						Connector type				
Insulation resistance	Min. 20MΩ (at 250VDC megger)										
Noise resistance	±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	PBT										
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)										

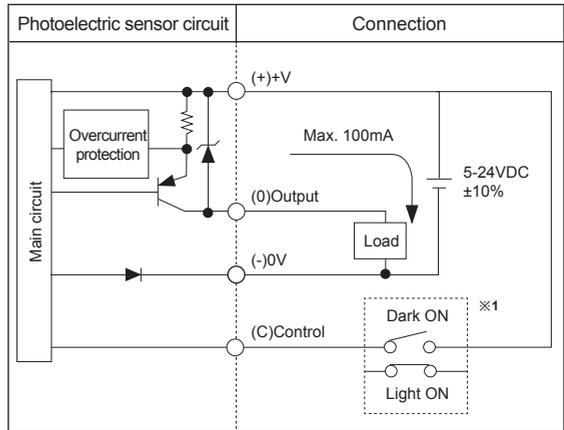
※1: The value from revolving the circle panel which duty ratio is 1:1. ※2: The weight includes packaging. The weight in parentheses is for unit only.
 ※The temperature or humidity mentioned in Environment indicates a non freezing or condensation environment.

Control Output Diagram

• NPN open collector output

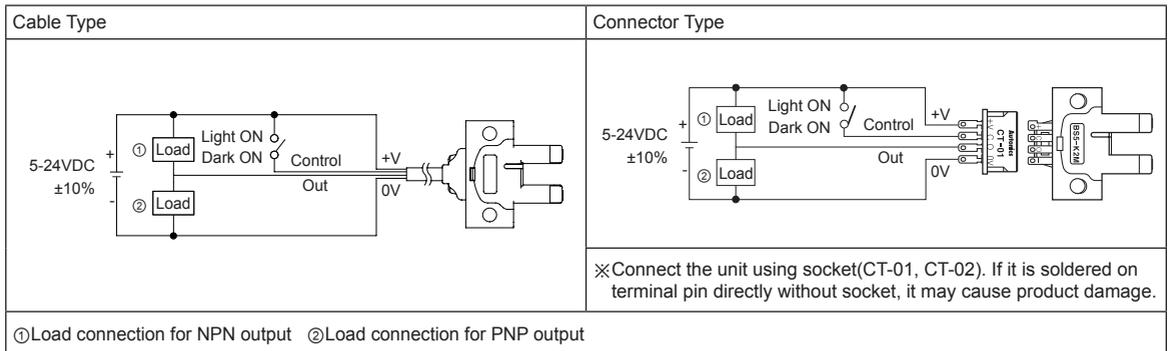


• PNP open collector output



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

Connections



Operation Mode

Operation mode	Light ON	Dark ON
Receiver operation	Received light Interrupted light	Received light Interrupted light
Operation indicator (red LED)	ON OFF	ON OFF
Transistor output	ON OFF	ON OFF

※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/ 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

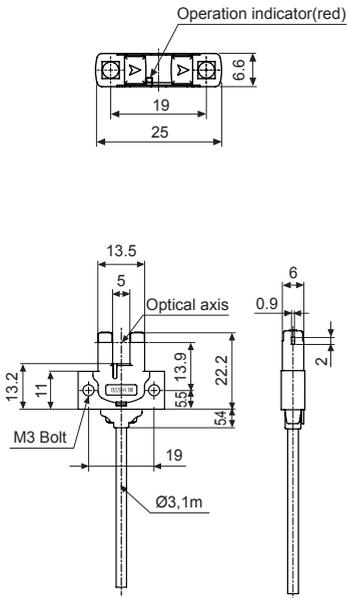
(T) Software

BS5 Series

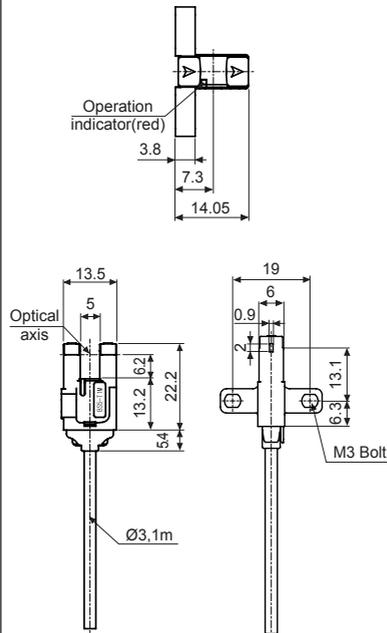
■ Dimensions

(unit: mm)

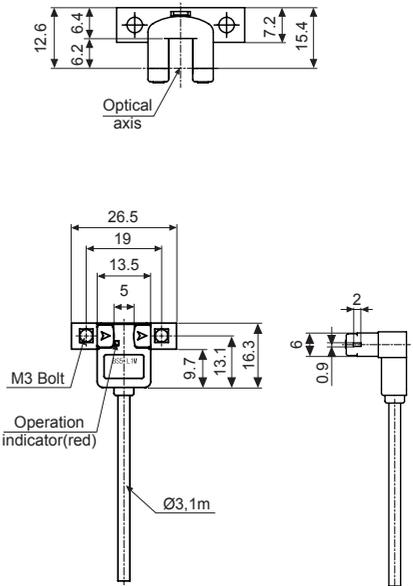
• BS5-K1M / BS5-K1M-P



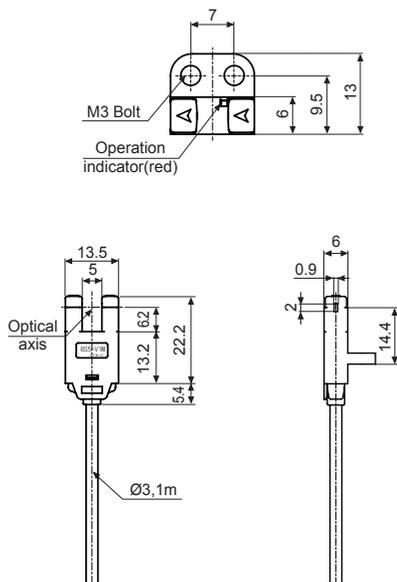
• BS5-T1M / BS5-T1M-P



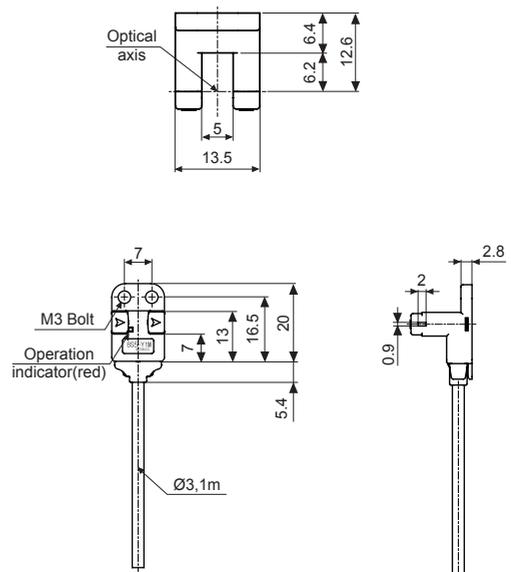
• BS5-L1M / BS5-L1M-P



• BS5-V1M / BS5-V1M-P



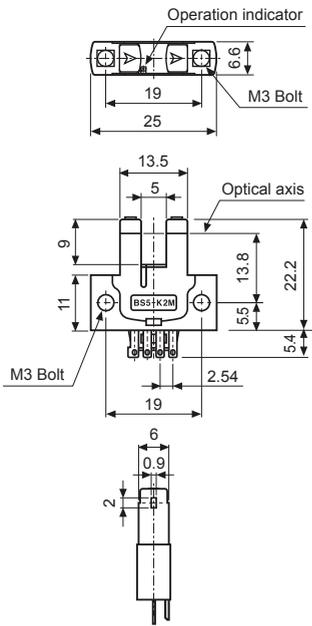
• BS5-Y1M / BS5-Y1M-P



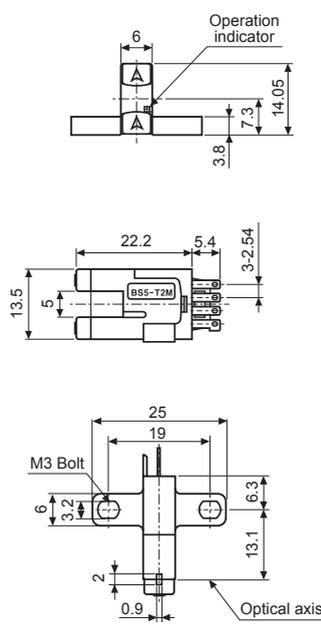
■ Dimensions

(unit: mm)

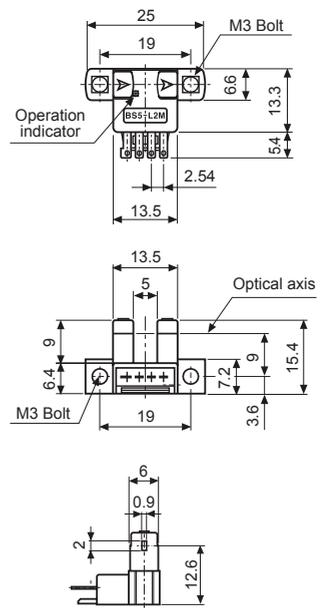
● BS5-K2M / BS5-K2M-P



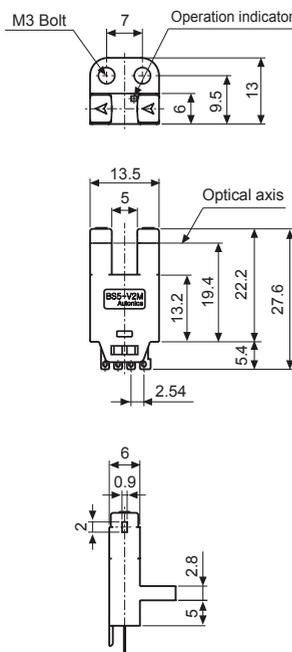
● BS5-T2M / BS5-T2M-P



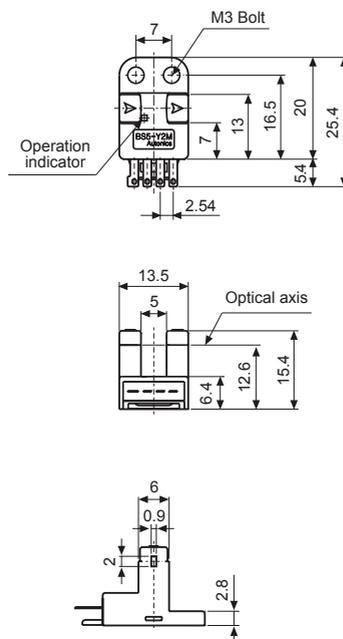
● BS5-L2M / BS5-L2M-P



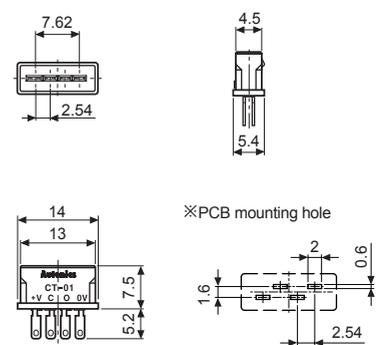
● BS5-V2M / BS5-V2M-P



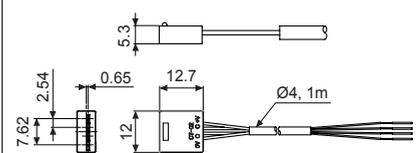
● BS5-Y2M / BS5-Y2M-P



● Socket: CT-01 (sold separately)



● Socket: CT-02 (sold separately)



※ Cable: $\varnothing 4$, 4-wire, Length: 1m
 (AWG22, Core wire diameter: 0.08mm,
 No. of core wire: 60, Insulator out diameter:
 $\varnothing 1.2$ mm)
 ※ Cable length is available to option.

(A)	Photoelectric Sensors
(B)	Fiber Optic Sensors
(C)	Door/Area Sensors
(D)	Proximity Sensors
(E)	Pressure Sensors
(F)	Rotary Encoders
(G)	Connectors/ Sockets
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