

BS5 Series

Photo micro sensor

■ Features

- Built-in miniature amplifier, NPN open collector output
- Various selection by installation position
(Appearance: K, T, L, Y, V Type)
- Light ON / Dark ON selectable
- 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.

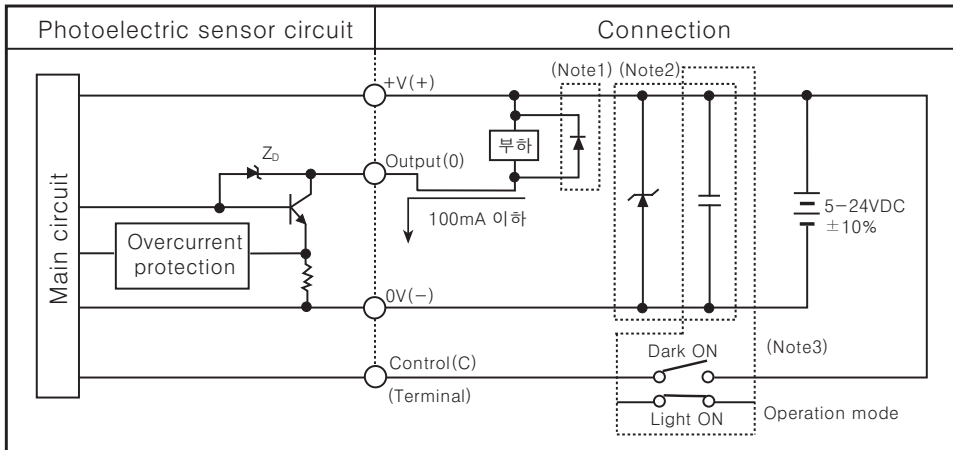


■ Specifications

Type	Photo micro sensor				
Model	BS5-K2M	BS5-T2M	BS5-L2M	BS5-Y2M	BS5-V2M
Sensing distance	5mm fixed				
Sensing type	Transmitted beam (Not modulated)				
Sensing target	Min. 0.8×1.8mm opaque materials				
Hysteresis	0.05mm				
Power supply	5-24VDC ±10% (Ripple P-P : Max. 10%)				
Current consumption	Max. 30mA (at 26.4VDC)				
Control output	NPN open collector output \Rightarrow Load voltage : Max. 30VDC, Load current : Max. 100mA Residual voltage : Max. 1.2V				
Operation mode	Light ON / Dark ON mode selectable via control terminal				
Operation indicator	Red LED				
Response time	Received light : Max. 20 μ s, Interrupted light : Max. 100 μ s				
Response frequency	2kHz (Please see the measuring range of frequency response)				
Connection	Connector type				
Light emitting element	RED				
Light receiving element	Photo TR				
Vibration	1.5mm amplitude at frequency of 10 ~ 55Hz in each of X, Y, Z directions for 2 hours				
Shock	500m/s ² (50G) in X, Y, Z directions for 3 times				
Noise strength	±240V the square wave noise (pulse width:1 μ s) by the noise simulator				
Dielectric strength	1,000VAC 50/60Hz for 1minute				
Insulation resistance	Min. 20M Ω (at 250VDC mega)				
Ambient illumination	Fluorescent lamp : Max. 1000lx				
Ambient temperature	-20 ~ + 55 $^{\circ}$ C (at non-freezing status), Storage : -25 ~ + 85 $^{\circ}$ C				
Ambient humidity	35 ~ 85%RH (at non-freezing status)				
Protection	IP50 (IEC standard)				
Material	PA-6				
Approval	CE				
Unit weight	Approx. 30g				

Photo Micro Sensor

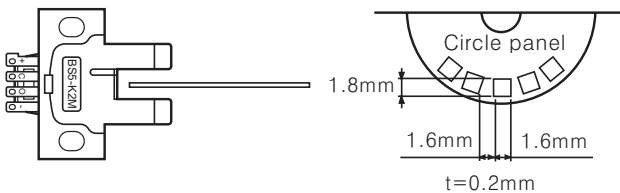
Control output diagram



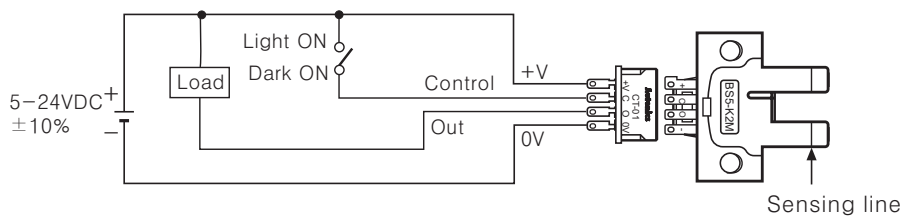
- ※ (Note1) There is Z_D (Zener Diode) absorbing the surge in output circuit, connect diode absorbing the surge at both terminals of load to protect the unit when connecting large inductive load.
- ※ (Note2) If there are surge in power line, connect ZD (30 to 35V) or Condenser (0.1 to $1\mu\text{F}$ /400 to 600V) to remove the surge.
- ※ (Note3) Operation mode selection : Connect Control (C) terminal into terminal +V (+) to operate Light ON mode. Dark ON mode is available with disconnection status. Please connect a condenser (Over 0.1~ $1\mu\text{F}$ /50V) between terminal +V (+) and 0V for stable status in case of Light ON mode.

How to measure response frequency

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

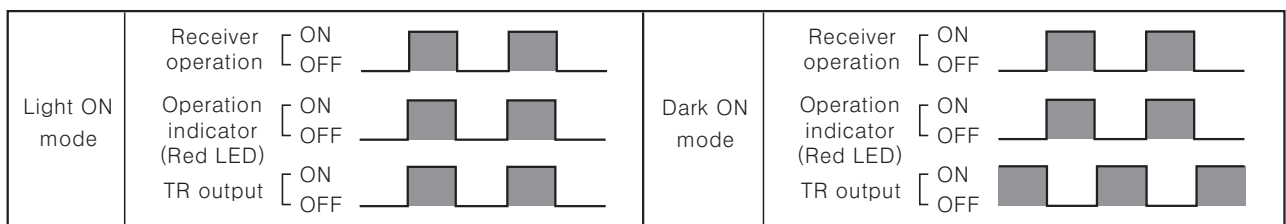


Connections



- ※ Connect the unit using socket.
- If it is soldered on terminal pin, product damage may result.

Operation mode



- ※ If the control output terminal is short-circuited or overcurrent condition is existed, the control output will turn off due to protection circuit.

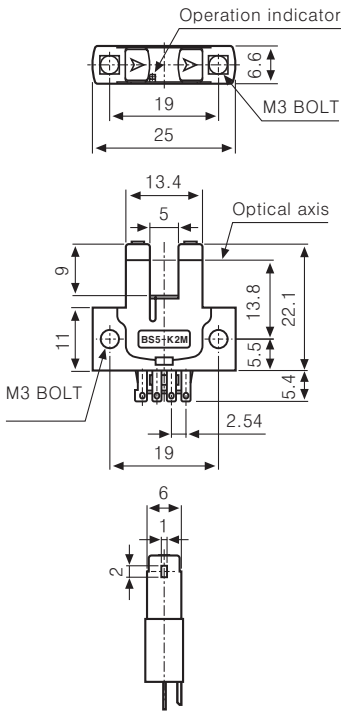
- (A) Counter
- (B) Timer
- (C) Temp. controller
- (D) Power controller
- (E) Panel meter
- (F) Tacho/Speed/Pulse meter
- (G) Display unit
- (H) Sensor controller
- (I) Switching power supply
- (J) Proximity sensor
- (K) Photo electric sensor
- (L) Pressure sensor
- (M) Rotary encoder
- (N) Stepping motor & Driver & Controller
- (O) Graphic panel
- (P) Production stoppage models & replacement

BS5 Series

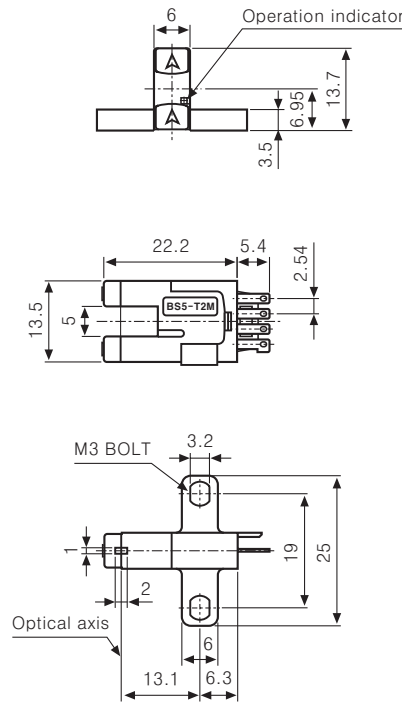
Dimensions

(Unit:mm)

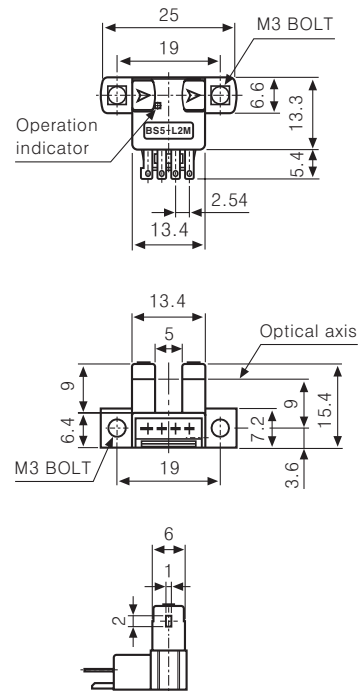
●BS5-K2M



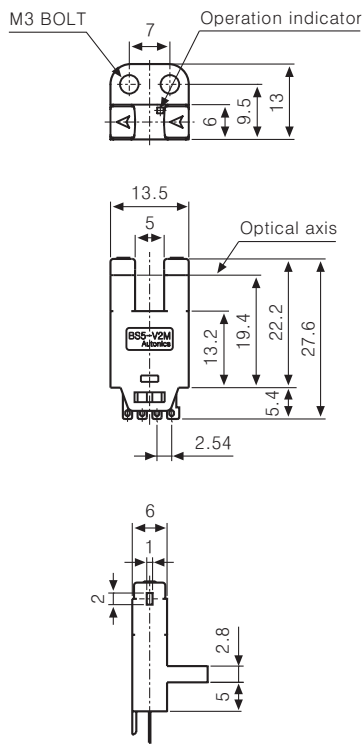
●BS5-T2M



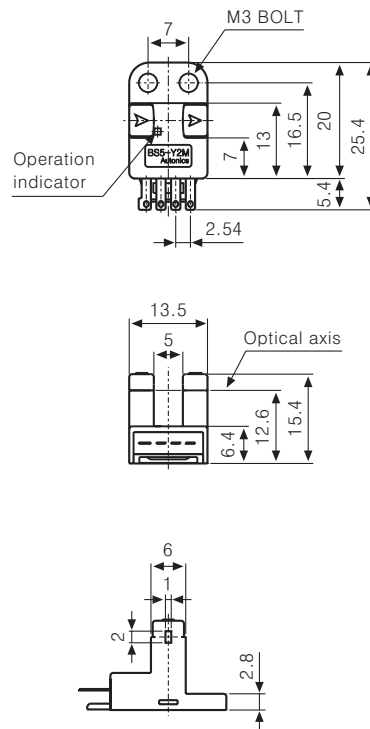
●BS5-L2M



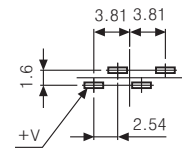
●BS5-V2M



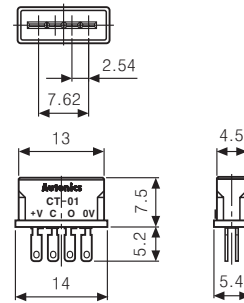
●BS5-Y2M



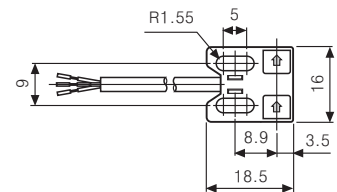
●PCB mounting hole



●Socket : CT-01 (Separately)



●Socket : CT-02 (Separately)



※ Cable : 4P, ϕ 4, 1m
 ※ Cable length is customizable.