


BRE Series Cylindrical Long Sensing Type By One-push Mounting

Easy Mounting (One-push), Small Sized And Long Sensing Distance Through Beam Type

■ Features


- Realizes long installation distance (10m)
- High ambient illumination environment (Max. 20,000lx)
- Easy to mount by One Push type
- Built-in reverse power polarity and short-circuit (overcurrent) protection circuit
- Sensitivity adjustment and TEST function by control cable
- Protection structure IP66 (IEC standard)



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

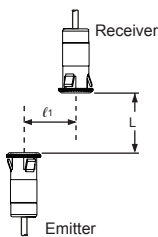
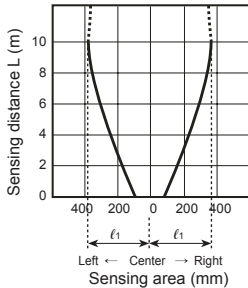
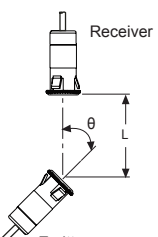
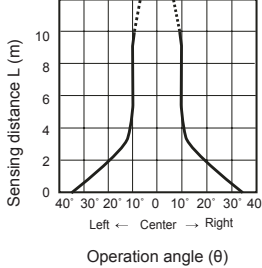


■ Specifications

Model	BRE5M-TDTL	BRE5M-TDTD	BRE10M-TDTL	BRE10M-TDTD
Sensing type	Through-beam			
Sensing distance	5m		10m	
Sensing target	Opaque materials of min. Ø10mm			
Response time	Max. 1ms			
Power supply	12-24VDC ±10% (Ripple P-P: Max. 10%)			
Current consumption	Emitter: Max. 20mA, Receiver: Max. 16mA			
Light source	Infrared LED (850nm)			
Sensitivity adjustment	Sensitivity adjustment by connecting external resistance on control cable (3kΩ to 10kΩ variable)			
TEST function	Connecting output pin of control output cable to GND to enter into TEST mode.[Power indicator (green) of emitter flashes]			
Operation mode	Light ON	Dark ON	Light ON	Dark ON
Control output	NPN open collector output ●Load voltage: Max. 24VDC ●Load current: Max. 100mA ●Residual voltage: Max. 1.6V			
Protection circuit	Reverse polarity protection circuit, Output short-circuit protection circuit			
Indicator	Operation indicator: red LED, Power indicator: green LED			
Insulation resistance	Min. 20MΩ (at 500VDC megger)			
Noise resistance	±240V the square wave noise (pulse width: 1μs) by the noise simulator			
Dielectric strength	1000VAC 50/60Hz for 1 minute			
Vibration	0.5mm amplitude at frequency of 10 to 150Hz (for 1 min.) 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	Sunlight: Max. 20,000lx (Receiver illumination)		
	Ambient temperature	-25 to 50°C, storage: -25 to 80°C		
	Ambient humidity	35 to 85%RH, storage: 35 to 85%RH		
Protection structure	IP66 (IEC standard)			
Material	●Case: PC (Black) ●Sensing part: Acrylic			
Cable	Ø3mm, 3-wire, Length: 5m (AWG 22, Core diameter: 0.08mm, Number of cores: 40, Insulator out diameter: Ø1.0mm)			
Approval				
Unit weight	Approx. 130g			

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

■ Feature Data

Parallel shifting characteristic		Angle characteristic	
Measuring method	Data	Measuring method	Data
			

(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

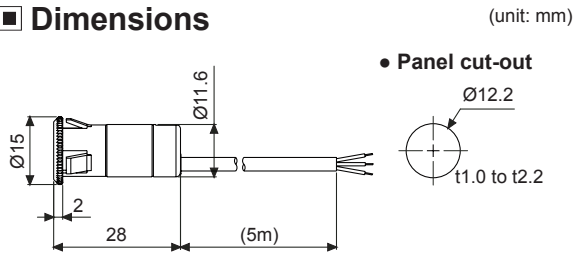
(R) Graphic/ Logic Panels

(S) Field Network Devices

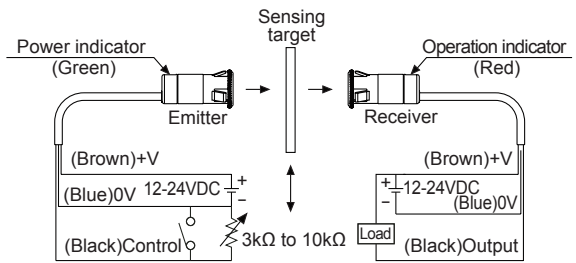
(T) Software

BRE Series

■ Dimensions



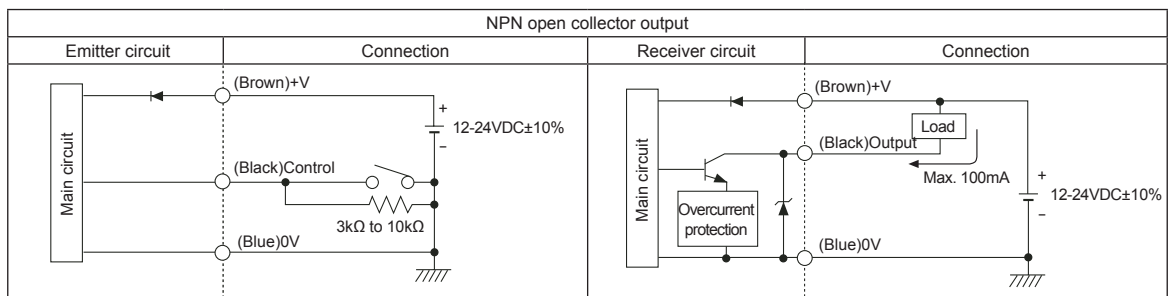
■ Connections



■ Operation Mode

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

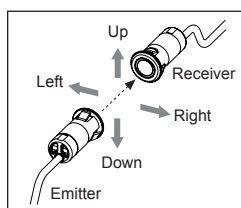
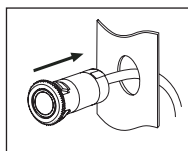
■ Control Output Diagram



■ Mounting And Sensitivity Adjustment

◎ For mounting

1. Push the unit into the mounting hole according to the panel cut-out dimension. Install this unit not to make any space between the panel and the sensor. If the sensor is tilted, the optical axis may not coincide.
2. Supply the power to the photoelectric sensor, after setting the emitter and the receiver facing each other.
3. Set the receiver in center of position in the middle of the operation range of indicator by adjusting the receiver or the emitter right and left, up and down.



4. After the adjustment, check the stability of operation by putting the object at the optical axis.
 ※If the sensing target is translucent body or smaller than $\text{Ø}10\text{mm}$, it can be missed by sensor because light penetrate it.

◎ Sensitivity adjustment

Connect resistance between emitter's control cable (black) and GND to adjust sensitivity. [3k Ω (10%) to 103k Ω (100%)]

◎ TEST function

When the emitter's control cable (black) input is 0V, emitting is stop and the power indicator (green) of the emitter flashes. TEST function is to check whether the sensor operates normally while control input of the emitter is 0V. (When emitting stops, if the mode is Light ON, the receiver's output is OFF, or if it is Dark ON, the receiver's output is ON)