

General Photoelectric Sensors



BM 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

- Easy to mount at a narrow space with small size and light weight
- Built-in external sensitivity adjuster (Diffuse reflective type only)
- Easy to mount by screw type in mounting hole
- Built-in reverse power protection circuit and output short overcurrent protection circuit

Ordering Information

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

BM ① - ② **D T**

① Sensing distance

Number: Sensing distance (unit: mm)
Number+M: Sensing distance (unit: m)

② Sensing type

T: Through-beam
M: Retroreflective
D: Diffuse reflective

Product Components

Sensing type	Through-beam	Retroreflective	Diffuse reflective
Product components	Product, instruction manual		
Reflector	-	MS-2	-
Adjustment screwdriver	-	-	× 1
Bracket	× 2	× 1	× 1
M4 bolt / nut	× 4	× 2	× 2

Specifications

Model	BM3M-TDT	BM1M-MDT	BM200-DDT
Sensing type	Through-beam	Retroreflective	Diffuse reflective
Sensing distance	3 m	1 m ⁽⁰¹⁾	200 mm ⁽⁰²⁾
Sensing target	Opaque materials	Opaque materials	Opaque materials, translucent materials
Min. sensing target	≥ 8 mm	≥ Ø 60 mm	-
Hysteresis	-	-	≤ 10 % of sensing distance
Response time	≤ 3 ms		
Light source	Infrared		
Peak emission wavelength	940 nm		
Sensitivity adjustment	-	-	YES (Adjuster)
Operation mode	Dark ON mode	Dark ON mode	Light ON mode (option: Dark ON mode)
Indicator	Operation indicator (red)		
Approval	CE EAC	CE EAC	CE EAC
Unit weight (packaged)	≈ 170 g (≈ 240 g)	≈ 105 g (≈ 188 g)	≈ 88 g (≈ 156 g)

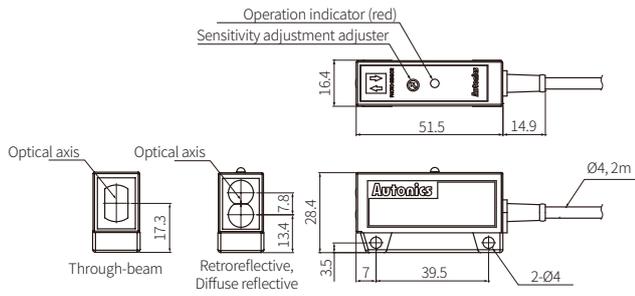
01) Reflector (MS-2)

02) Non-glossy white paper 200 × 200 mm

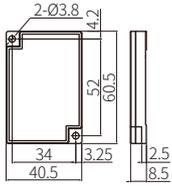
Power supply	12-24 VDC= ± 10 % (ripple P-P: ≤ 10 %)
Current consumption	It depends on the sensing type
Through-beam	Emitter: ≤ 45 mA, receiver: ≤ 45 mA
Reflective	≤ 40 mA
Control output	NPN open collector output
Load voltage	≤ 30 VDC=
Load current	≤ 100 mA
Residual voltage	≤ 1.5 VDC=
Protection circuit	Reverse power protection circuit, output short overcurrent protection circuit
Insulation resistance	≥ 20 MΩ (500 VDC= megger)
Noise immunity	± 240 VDC= the 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 at frequency of 10 to 55 Hz (for 1 min) in each X, Y, Z direction for 2 hours
Shock	500 m/s ² (≈ 50 G) in each X, Y, Z direction for 3 times
Ambient illuminance (receiver)	Sunlight: ≤ 11,000 lx, incandescent lamp: ≤ 3,000 lx
Ambient temperature	-10 to 60 °C, storage: -25 to 70 °C (no freezing or condensation)
Ambient humidity	35 to 85 %RH, storage: 35 to 85 %RH (no freezing or condensation)
Protection rating	-
Connection	Cable type
Cable spec.	Ø 4 mm, 3-wire, 2 m (Emitter: Ø 3 mm, 2-wire, 2 m)
Wire spec.	AWG22 (0.08 mm, 60-core), insulator outer diameter: Ø 1.25 mm
Material	Case: ABS, sensing part: PC (through-beam type) or Acrylic (retroreflective, diffuse reflective type), bracket: SPCC, bolt: SCM, nut: SCM

Dimensions

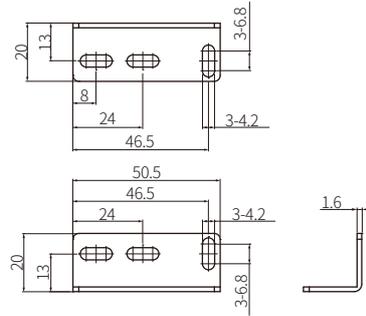
- Unit: mm, For the detailed drawings, follow the Autonics website.



■ Reflector (MS-2)



■ Bracket



Sold Separately

- Reflector: MS Series
- Retroreflective tape: MST Series