

Side Sensing Photoelectric Sensors



BMS 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

- Built-in reverse polarity protection circuit and output short overcurrent protection circuit
- Response time: Max. 1 ms
- Light ON/Dark ON mode selectable by control wire
- Sensitivity adjuster (except for through-beam type)

Ordering Information

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

BMS ① - ② **D T** - ③

① Sensing distance

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

③ Control output

No mark: NPN open collector output
P: PNP open collector output

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	× 1
Bracket	× 2	× 1	× 1
M4 bolt / nut	× 4	× 2	× 2

Specifications

Model	BMS5M-TDT-□	BMS2M-MDT-□	BMS300-DDT-□
Sensing type	Through-beam	Retroreflective	Diffuse reflective
Sensing distance	5 m	0.1 to 2 m ⁰¹⁾	300 mm ⁰²⁾
Sensing target	Opaque materials	Opaque materials	Opaque materials, translucent materials
Min. sensing target	≥ Ø 10 mm	≥ Ø 60 mm	-
Hysteresis	-	-	≤ 20 % of sensing distance
Response time	≤ 1 ms		
Light source	Infrared		
Peak emission wavelength	940 nm		
Sensitivity adjustment	-	YES (Adjuster)	YES (Adjuster)
Operation mode	Light ON mode - Dark ON mode selectable (control wire)		
Indicator	Operation indicator (red), power indicator (red) ⁰³⁾		
Approval	CE ENEC	CE ENEC	CE ENEC
Unit weight	≈ 180 g	≈ 110 g	≈ 100 g

01) Reflector (MS-2)

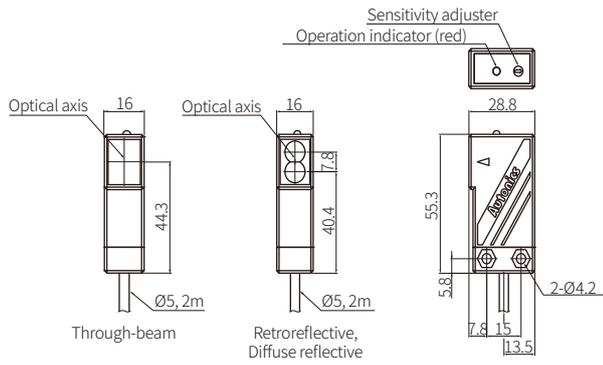
02) Non-glossy white paper 100 × 100 mm

03) Only for the emitter

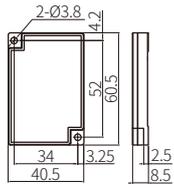
Power supply	12-24 VDC± ± 10 % (ripple P-P: ≤ 10%)
Current consumption	It depends on the sensing type
Through-beam	Emitter: ≤ 50 mA, receiver: ≤ 50 mA
Reflective	≤ 45 mA
Control output	NPN open collector output / PNP open collector output model
Load voltage	≤ 30 VDC±
Load current	≤ 200 mA
Residual voltage	NPN: ≤ 1 VDC±, PNP: ≤ 2.5 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 5 mm, 4-wire (Emitter: 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

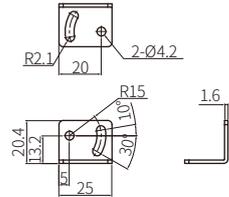
- Unit: mm, For the detailed drawings, follow the Autonics website.



■ Reflector (MS-2)



■ Bracket



Sold Separately

- Reflector: MS Series
- Retroreflective tape: MST Series