

BMS SERIES

Photoelectric sensor with high response.

■ Features

- Built-in protection circuit against reverse power polarity and over current.
- High response : 1mS Max.
- Selectable Light ON/ Dark ON by wire.
- Built-in the adjuster in all models.



■ Ordering information

Type	Detecting distance		Model	Operating voltage	Operating mode	Output
Through	↑ ↓	5m	BMS5M-TDT	DC	Selectable Light ON or Dark ON by control wire	NPN open collector
			BMS5M-TDT-P			PNP open collector
Retro reflective	↑ ↓	0.1 to 2m	BMS2M-MDT			NPN open collector
			BMS2M-MDT-P			PNP open collector
Diffuse reflective	↑ ↓	300mm	BMS300-DDT			NPN open collector
			BMS300-DDT-P			PNP open collector
		200mm	BMS200-DDTN	NPN open collector		
			BMS200-DDTN-P	PNP open collector		

■ Specification

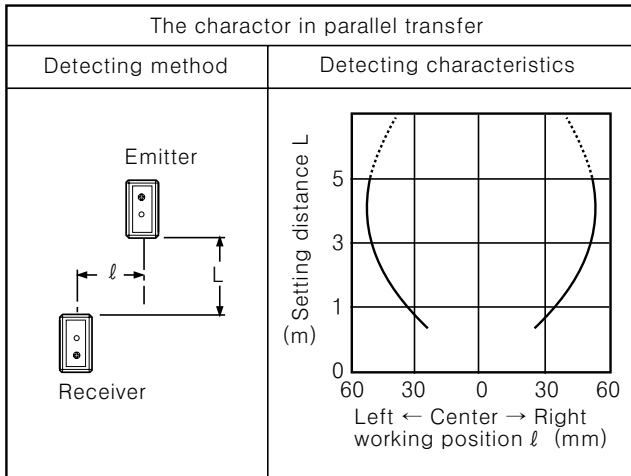
Type	Through	Retroreflective	Diffuse reflective	
			Diffuse reflective	Narrow reflective
Model	BMS5M-TDT	BMS2M-MDT	BMS300-DDT	BMS200-DDTN
	BMS5M-TDT-P	BMS2M-MDT-P	BMS300-DDT-P	BMS200-DDTN-P
Detecting distance	5m	0.1 to 2m	300mm (100×100mm white tissue)	200mm (50×50mm white tissue)
Detecting target	Opaque materials of Min. φ10mm	Opaque materials of Min. φ60mm	Transparent, Translucent Opaque materials	
Hysteresis	Max. 20% at rated setting distance			
Response time	Max. 1mS			
Power supply	12 to 24VDC ±10% (ripple P-P: Max. 10%)			
Power consumption	Max. 50mA	Max. 45mA		
Source of light	Infrared LED			
Sensitivity	Adjustable			
Operating mode	Selectable Light ON or Dark ON by control wire			
Control output	● NPN open collector output ⚡ load voltage Max. 30VDC, load current Max. 200mA, residual voltage Max. 1V ● PNP open collector output ⚡ output voltage Min. power supply-2.5V, load current Max. 200mA			
Protection circuit	Short-circuit protection, Reverse polarity protection			
Indicator	Operating indicator : red LED, Voltage indicator : red LED			
Connection	Cable connection			
Insulation resistance	Min. 20MΩ (500VDC)			
Noise strength	Power line ±240V at pulse band 1μs of noise simulation			
Dielectric strength	1,000VAC 50/60Hz for 1minute			
Vibration	1.5mm amplitude at frequency of 10 to 55Hz in each of X,Y,Z directions for 2 hours			
Shock	500m/s ² (50G) in X,Y,Z directions for 3 times			
Ambient operating illumination	Sunlight: 11,000 Lux. Max., Incandescent lamp: 3,000 Lux. Max.			
Ambient temperature	Operating: -10 to 60°C (non-freezing condition), Storage: -25 to 70°C			
Humidity	35 to 85% RH, Storage: 35 to 85% RH			
Protection	Case: ABS, Lens: Acryl			
Cable	4P, φ5mm, length: 2m			
Weight	About 180g	About 110g	About 100g	
Accessories	Individual	Mirror (MS-2)		
	Common	Mounting Bracket, Cable holder, Ring, Rubber, Bolts/Nuts		

※The weight of above chart is net weight.

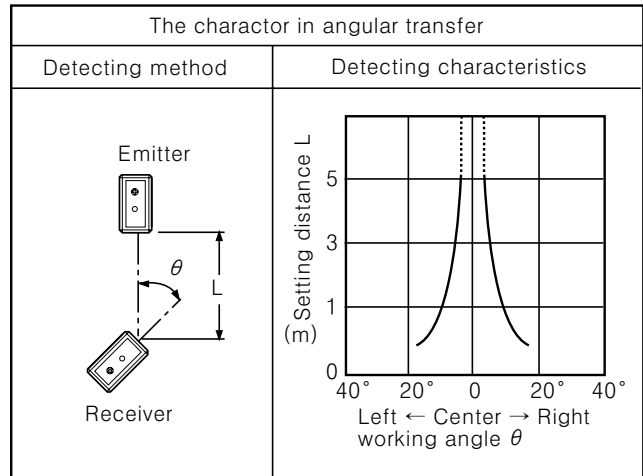
■ Detecting characteristics

○ Through type

- BMS5M-TDT
- BMS5M-TDT-P

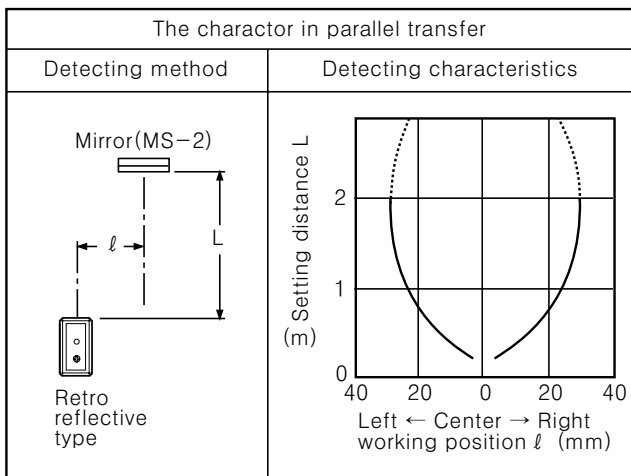


- BMS5M-TDT
- BMS5M-TDT-P

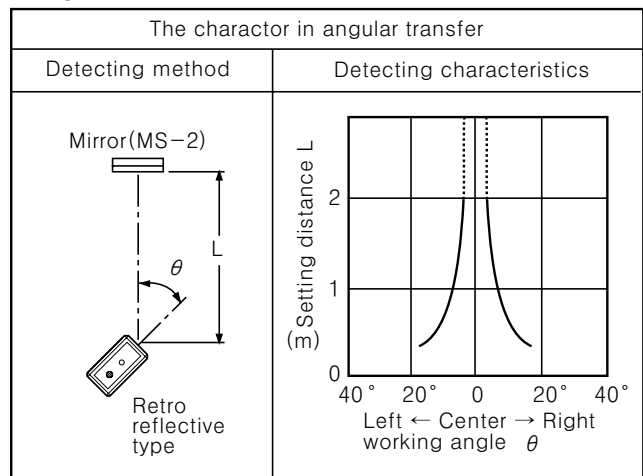


○ Retroreflective type

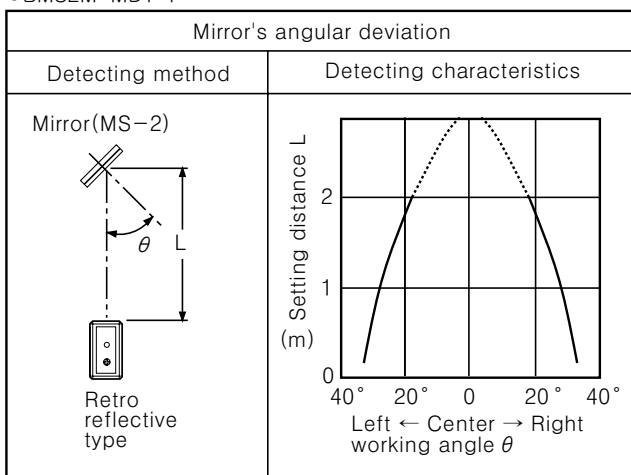
- BMS2M-MDT
- BMS2M-MDT-P



- BMS2M-MDT
- BMS2M-MDT-P

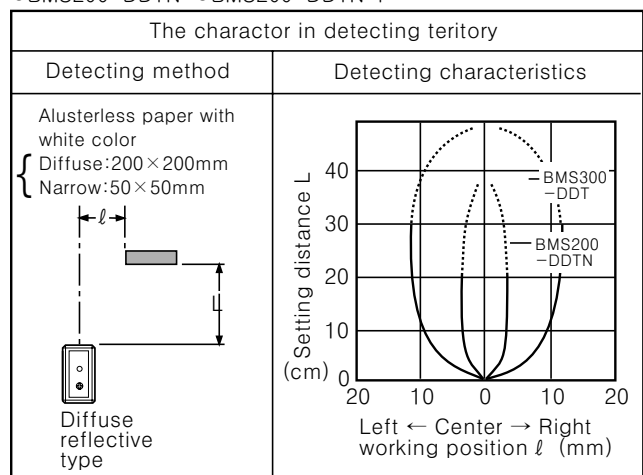


- BMS2M-MDT
- BMS2M-MDT-P



○ Diffuse reflective type

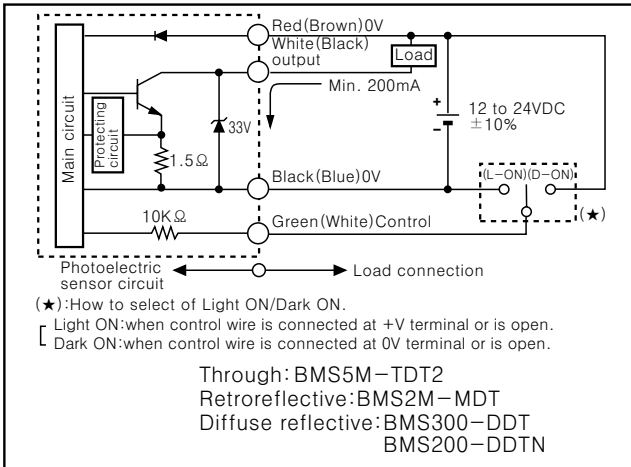
- BMS300-DDT
- BMS300-DDT-P
- BMS200-DDTN
- BMS200-DDTN-P



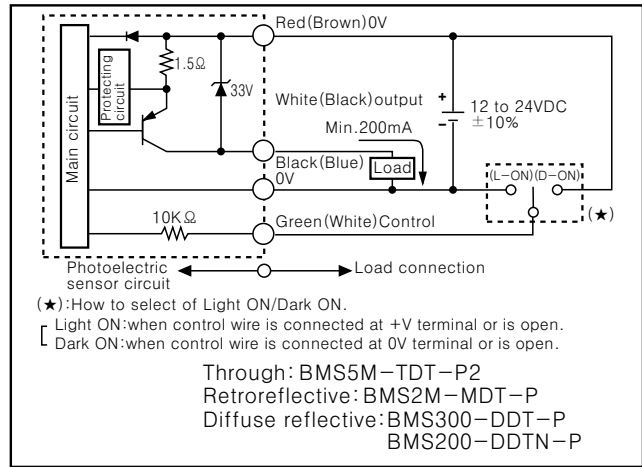
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Control output circuit

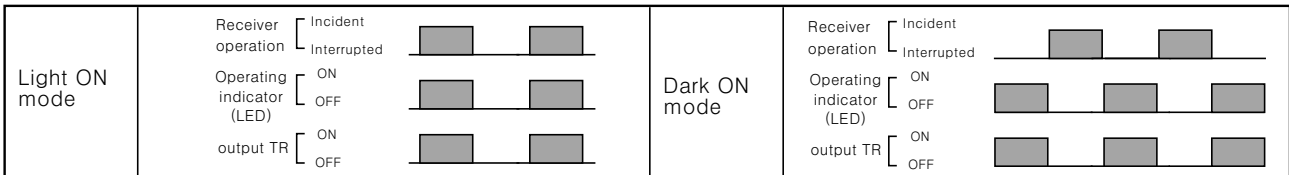
●NPN open collector output



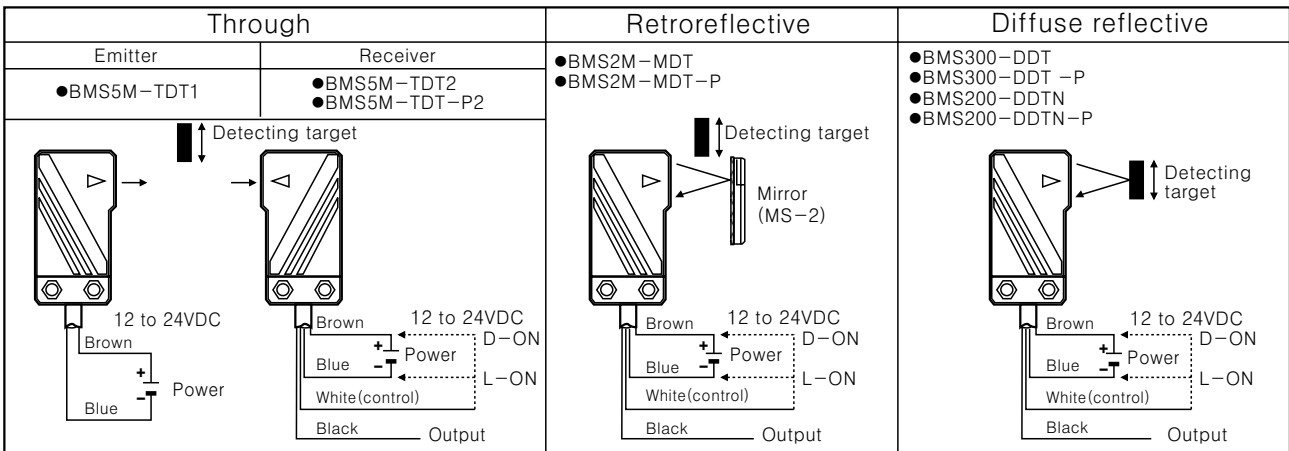
●PNP open collector output



Operating mode and time chart

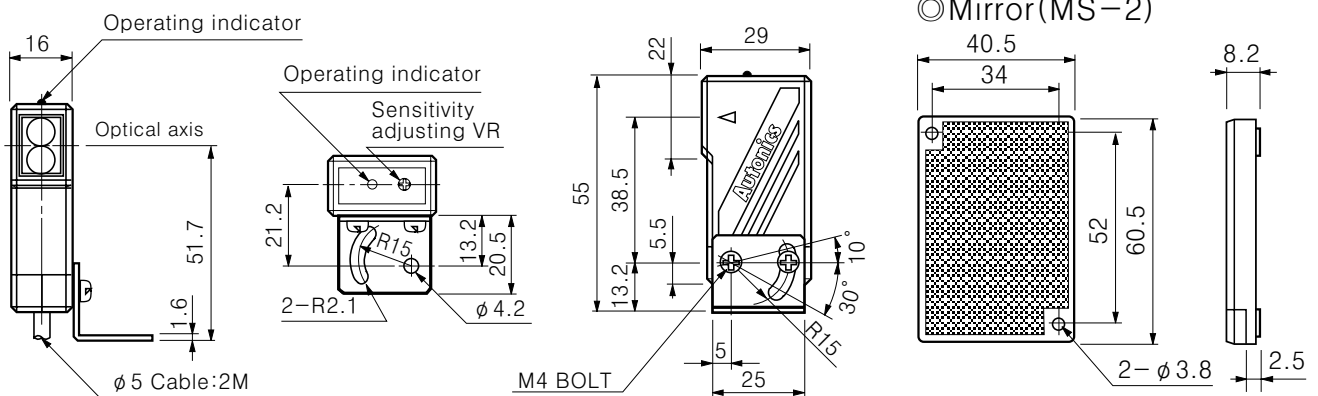


Connection



*Non-using wires must be insulated.

Dimension



Unit:mm