




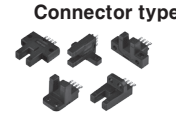








# Product Overview





Appearances	Sensing type	Sensing distance (Light source)	Model	Power supply	Response speed	Control output	Reference										
<b>BTF Series</b> 	Through-beam type	1m (Red LED)	<b>BTF1M-TDTL</b> <b>BTF1M-TDTD</b> <b>BTF1M-TDTL-P</b> <b>BTF1M-TDTD-P</b>	12-24VDC	Max. 1ms	NPN open collector output PNP open collector output NPN open collector output PNP open collector output NPN open collector output PNP open collector output	<b>A-9 to 12</b>										
		Diffuse reflective type	5 to 30mm (Red LED)					<b>BTF30-DDTL</b> <b>BTF30-DDTD</b> <b>BTF30-DDTL-P</b> <b>BTF30-DDTD-P</b>									
			BGS reflective type (Convergent reflective type)+ (Narrow spot type)					1 to 15mm (Red LED)	<b>BTF15-BDTL</b> <b>BTF15-BDTD</b> <b>BTF15-BDTL-P</b> <b>BTF15-BDTD-P</b>								
	Through-beam type							1m (Red LED)	<b>BTS1M-TDTL</b> <b>BTS1M-TDTD</b> <b>BTS1M-TDTL-P</b> <b>BTS1M-TDTD-P</b>								
	<b>BTS Series</b> 	Retroreflective type	10 to 200mm (Red LED)					<b>BTS200-MDTL</b> <b>BTS200-MDTD</b> <b>BTS200-MDTL-P</b> <b>BTS200-MDTD-P</b>	12-24VDC	Max. 1ms	NPN open collector output PNP open collector output NPN open collector output PNP open collector output NPN open collector output PNP open collector output NPN open collector output PNP open collector output	<b>A-13 to 18</b>					
			Convergent reflective type					5 to 15mm (Red LED)					<b>BTS15-LDTL</b> <b>BTS15-LDTD</b> <b>BTS15-LDTL-P</b> <b>BTS15-LDTD-P</b>				
								5 to 30mm (Red LED)					<b>BTS30-LDTL</b> <b>BTS30-LDTD</b> <b>BTS30-LDTL-P</b> <b>BTS30-LDTD-P</b>				
		<b>BJ Series</b> 	Through-beam type					15m (Infrared LED)					<b>BJ15M-TDT</b> <b>BJ15M-TDT-C</b> <b>BJ15M-TDT-P</b> <b>BJ15M-TDT-C-P</b>	12-24VDC	Max. 1ms	NPN open collector output PNP open collector output NPN open collector output PNP open collector output NPN open collector output PNP open collector output NPN open collector output PNP open collector output	<b>A-19 to 25</b>
								10m (Red LED)					<b>BJ10M-TDT</b> <b>BJ10M-TDT-C</b> <b>BJ10M-TDT-P</b> <b>BJ10M-TDT-C-P</b>				
7m (Red LED)				<b>BJ7M-TDT</b> <b>BJ7M-TDT-P</b>													
Retroreflective type				Polarizing filter built-in 0.1 to 3m (Red LED)	<b>BJ3M-PDT</b> <b>BJ3M-PDT-C</b> <b>BJ3M-PDT-P</b> <b>BJ3M-PDT-C-P</b>												
				Diffuse reflective type	1m (Infrared LED)	<b>BJ1M-DDT</b> <b>BJ1M-DDT-C</b> <b>BJ1M-DDT-P</b> <b>BJ1M-DDT-C-P</b>											
					300mm (Red LED)	<b>BJ300-DDT</b> <b>BJ300-DDT-C</b> <b>BJ300-DDT-P</b> <b>BJ300-DDT-C-P</b>											
100mm (Infrared LED)	<b>BJ100-DDT</b> <b>BJ100-DDT-C</b> <b>BJ100-DDT-P</b> <b>BJ100-DDT-C-P</b>																
BGS reflective type (Convergent reflective type)+ (Narrow spot type)	30mm (Infrared LED)		<b>BJG30-DDT</b>														
	10 to 30mm (Red LED)		<b>BJ30-BDT</b> <b>BJ30-BDT-P</b>														
		10 to 50mm (Red LED)	<b>BJ50-BDT</b> <b>BJ50-BDT-P</b>														
	10 to 100mm (Red LED)	<b>BJ100-BDT</b> <b>BJ100-BDT-P</b>															
		Narrow beam reflective type (Micro spot type)	30 to 70mm (Red LED)	<b>BJN50-NDT</b> <b>BJN50-NDT-P</b>													
	70 to 130mm (Red LED)		<b>BJN100-NDT</b> <b>BJN100-NDT-P</b>														

# Product Overview

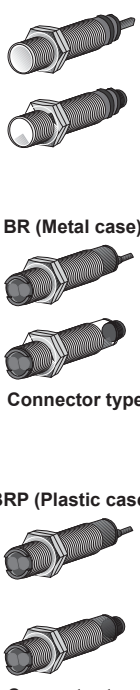


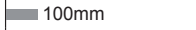




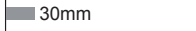
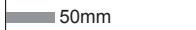

Appearances	Sensing type	Sensing distance (Light source)	Model	Power supply	Response speed	Control output	Reference
<b>BS5 Series</b>  <b>Cable type</b>  <b>Connector type</b> 	Through-beam type (not modulated)	5mm (Red LED)	<b>BS5-L1M</b> <b>BS5-K1M</b> <b>BS5-T1M</b> <b>BS5-Y1M</b> <b>BS5-V1M</b>	5-24VDC	Received light : Max. 20μs Interrupted light : Max. 100μs	NPN open collector output	<b>A-26 to 29</b>
			<b>BS5-L1M-P</b> <b>BS5-K1M-P</b> <b>BS5-T1M-P</b> <b>BS5-Y1M-P</b> <b>BS5-V1M-P</b> <b>BS5-L2M</b> <b>BS5-K2M</b> <b>BS5-T2M</b> <b>BS5-Y2M</b> <b>BS5-V2M</b>			NPN open collector output	
<b>BA Series</b> 	Diffuse reflective type	2m (Infrared LED)	<b>BA2M-DDT</b> <b>BA2M-DDTD</b>	12-24VDC	Max. 1ms	NPN open collector output	<b>A-30 to 32</b>
			<b>BA2M-DDT-P</b> <b>BA2M-DDTD-P</b>			PNP open collector output	
<b>BY Series Standard</b>  <b>Side sensing type</b>	Through-beam type	500mm (Infrared LED)	<b>BY500-TDT</b>	12-24VDC	Max. 1ms	NPN open collector output	<b>A-33 to 35</b>
			<b>BYS500-TDT</b>				
<b>BYD Series</b>  <b>Operation indicator</b>  <b>BYD30-DDT-U</b> <b>BYD50-DDT-U</b>	Through-beam type	3m (Infrared LED)	<b>BYD3M-TDT</b> <b>BYD3M-TDT-P</b>	12-24VDC	Max. 1ms	NPN open collector output	<b>A-36 to 41</b>
			Convergent reflective type			10 to 30mm (Infrared LED)	
	10 to 50mm (Infrared LED)	<b>BYD50-DDT</b> <b>BYD50-DDT-U</b>					
		<b>BYD50-DDT-T</b>					
	Diffuse reflective type	100mm (Infrared LED)	<b>BYD100-DDT</b>				
<b>BPS Series</b> 	Through-beam type	3m (Infrared LED)	<b>BPS3M-TDT</b> <b>BPS3M-TDTL</b> <b>BPS3M-TDT-P</b> <b>BPS3M-TDTL-P</b>	12-24VDC	Max. 1ms	NPN open collector output	<b>A-42 to 43</b>
			PNP open collector output				
<b>BM Series</b> 	Through-beam type	3m (Infrared LED)	<b>BM3M-TDT</b>	12-24VDC	Max. 3ms	NPN open collector output	<b>A-44 to 48</b>
	Retroreflective type	0.1 to 1m (Infrared LED)	<b>BM1M-MDT</b>				
	Diffuse reflective type	200mm (Infrared LED)	<b>BM200-DDT</b>				

- (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

# Product Overview

Appearances	Sensing type	Sensing distance (Light source)	Model	Power supply	Response speed	Control output	Reference			
<b>BMS Series</b> 	Through-beam type	5m (Infrared LED)	<b>BMS5M-TDT</b>	12-24VDC	Max. 1ms	NPN open collector output	<b>A-49 to 53</b>			
			<b>BMS5M-TDT-P</b>			PNP open collector output				
	Retroreflective type	0.1 to 2m (Infrared LED)	<b>BMS2M-MDT</b>			NPN open collector output				
			<b>BMS2M-MDT-P</b>			PNP open collector output				
	Diffuse reflective type	300mm (Infrared LED)	<b>BMS300-DDT</b>			NPN open collector output				
			<b>BMS300-DDT-P</b>			PNP open collector output				
<b>BEN Series</b> (DC only) 	Through-beam type	10m (Infrared LED)	<b>BEN10M-TFR</b>	24-240VAC/ 24-240VDC	Max. 20ms	Relay output	<b>A-54 to 60</b>			
			<b>BEN10M-TDT</b>	12-24VDC	Max. 1ms	NPN/PNP open collector output				
	Retro-reflective type (Standard type)	Standard type 0.1 to 5m (Infrared LED)	<b>BEN5M-MFR</b>	24-240VAC/ 24-240VDC	Max. 20ms	Relay output				
			<b>BEN5M-MDT</b>	12-24VDC	Max. 1ms	NPN/PNP open collector output				
	Retro-reflective type (Built-in polarizing filter)	Polarizing filter built-in 0.1 to 3m (Infrared LED)	<b>BEN3M-PFR</b>	24-240VAC/ 24-240VDC	Max. 20ms	Relay output				
			<b>BEN3M-PDT</b>	12-24VDC	Max. 1ms	NPN/PNP open collector output				
	Diffuse reflective type	300mm (Infrared LED)	<b>BEN300-DFR</b>	24-240VAC/ 24-240VDC	Max. 20ms	Relay output				
			<b>BEN300-DDT</b>	12-24VDC	Max. 1ms	NPN/PNP open collector output				
<b>BX Series</b> 	Through-beam type	15m (Infrared LED)	<b>BX15M-TFR</b>	24-240VAC/ 24-240VDC	Max. 20ms	Relay output	<b>A-61 to 68</b>			
			<b>BX15M-TFR-T</b>					12-24VDC	Max. 1ms	NPN/PNP open collector output
			<b>BX15M-TDT</b>							
			<b>BX15M-TDT-T</b>							
	Retro-reflective type (Standard type)	Standard type 0.1 to 5m (Infrared LED)	<b>BX5M-MFR</b>	24-240VAC/ 24-240VDC	Max. 20ms	Relay output				
			<b>BX5M-MFR-T</b>							
			<b>BX5M-MDT</b>							
			<b>BX5M-MDT-T</b>							
	Retro-reflective type (Built-in polarizing filter)	Polarizing filter built-in 0.1 to 3m (Red LED)	<b>BX3M-PFR</b>	24-240VAC/ 24-240VDC	Max. 20ms	Relay output				
			<b>BX3M-PFR-T</b>							
			<b>BX3M-PDT</b>							
			<b>BX3M-PDT-T</b>							
	Diffuse reflective type	700mm (Infrared LED)	<b>BX700-DFR</b>	24-240VAC/ 24-240VDC	Max. 20ms	Relay output				
			<b>BX700-DFR-T</b>							
<b>BX700-DDT</b>										
<b>BX700-DDT-T</b>										
<b>BR Series</b> <b>BR4M (Metal case)</b>  <b>Connector type</b>	Through-beam type	4m (Infrared LED)	<b>BR4M-TDTL</b>	12-24VDC	Max. 1ms	NPN open collector output	<b>A-69 to 74</b>			
			<b>BR4M-TDTL-C</b>							
			<b>BR4M-TDTD</b>			PNP open collector output				
			<b>BR4M-TDTD-C-P</b>							
			<b>BR4M-TDTL-P</b>							
			<b>BR4M-TDTL-C-P</b>							
<b>BR4M-TDTD-P</b>										
<b>BR4M-TDTD-C-P</b>										

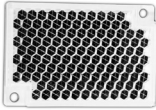
# Product Overview

Appearances	Sensing type	Sensing distance (Light source)	Model	Power supply	Response speed	Control output	Reference				
<b>BR Series</b> 	Through-beam type	 20m (Infrared LED)	BR20M-TDTL BR20M-TDTL-C	12-24VDC	Max. 1ms	NPN open collector output	A-69 to 74				
			BR20M-TDTD BR20M-TDTD-C			PNP open collector output					
			BR20M-TDTL-P BR20M-TDTL-C-P			NPN open collector output					
			BR20M-TDTD-P BR20M-TDTD-C-P			PNP open collector output					
			Retro-reflective type			 0.1 to 3m (Infrared LED)		BR3M-MDT BR3M-MDT-C	NPN open collector output		
								BR3M-MDT-P BR3M-MDT-C-P	PNP open collector output		
								BRP3M-MDT BRP3M-MDT-C	NPN open collector output		
								BRP3M-MDT-P BRP3M-MDT-C-P	PNP open collector output		
	Diffuse reflective type	 100mm (Infrared LED)	BR100-DDT BR100-DDT-C			NPN open collector output					
			BR100-DDT-P BR100-DDT-C-P			PNP open collector output					
			BRP100-DDT BRP100-DDT-C			NPN open collector output					
			BRP100-DDT-P BRP100-DDT-C-P			PNP open collector output					
	Narrow beam reflective type	 400mm (Infrared LED)	BR400-DDT BR400-DDT-C			NPN open collector output					
			BR400-DDT-P BR400-DDT-C-P			PNP open collector output					
			BRP400-DDT BRP400-DDT-C			NPN open collector output					
			BRP400-DDT-P BRP400-DDT-C-P			PNP open collector output					
	BRE Series	Through-beam type	 5m (Infrared LED)			BRE5M-TDTL BRE5M-TDTD		12-24VDC	Max. 1ms	NPN open collector output	A-75 to 76
			 10m (Infrared LED)			BRE10M-TDTL BRE10M-TDTD					
	<b>BUP Series</b> 	Through-beam type	 30mm (Infrared LED)			BUP-30		12-24VDC	Max. 1ms	NPN open collector output	A-77 to 78
						BUP-30S <small>Adjuster built-in</small>				PNP open collector output	
BUP-30-P <small>Adjuster built-in</small>				NPN open collector output							
 50mm (Infrared LED)			BUP-50	NPN open collector output							
			BUP-50S <small>Adjuster built-in</small>	PNP open collector output							
			BUP-50-P <small>Adjuster built-in</small>	NPN open collector output							
<b>BL Series</b> 	Through-beam type	—	BL13-TDT	12-24VDC	Max. 2ms	NPN open collector output	A-79 to 82				
			BL13-TDT-P			PNP open collector output					

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# Product Overview

## ◎ Reflector



(MS-2)

Retroreflective photo sensor is sold with a basic reflector. You can select other reflectors for the proper install environment.

※Select proper reflector size for the install space.

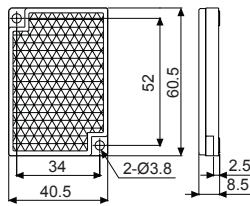
※Basically the bigger reflector size has the longer sensing distance.

※Reflectors with high reflectivity (MS-2S, MS-3S) tend to have longer sensing distance than a basic reflector's sensing distance.

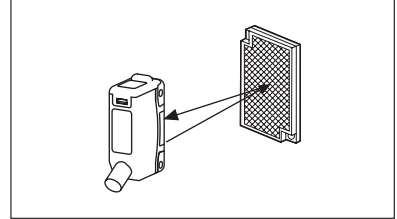
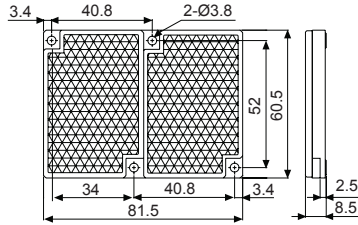
(unit: mm)

### ● MS-2, MS-2S

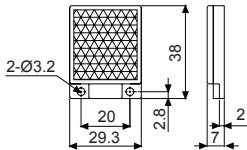
(Reflectors with high reflectivity)



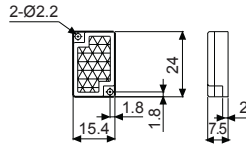
### ● MS-3, MS-3S (Reflectors with high reflectivity)



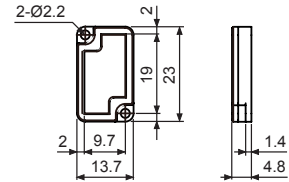
### ● MS-4



### ● MS-5



### ● MS-6

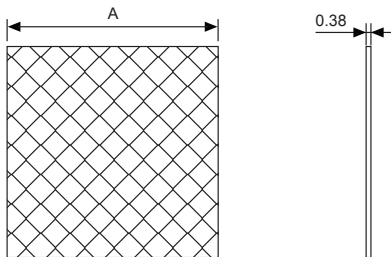


## ◎ Retroreflective tape

※Use the retroreflective tape at the place where is difficult to mount a reflector of the retroreflective photoelectric sensor.

※According to the environment, select the proper retroreflective tape. (Cut the tape before using.)

※Generally, the sensing distance and minimum sensing target size increase as tape size increases.



(unit: mm)

	A
MST-50-10	□50
MST-100-5	□100
MST-200-2	□200

※There may be a ±0.02mm error in thickness dimension.