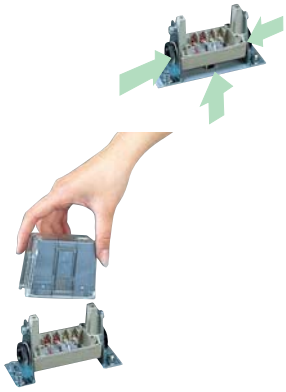
- Quick replacement feature
- 3 openings for cables

- Metal and mirror-like objects are detected
- Flat body integrating many functions
- Offers much larger wiring space



Type

Type	Detecting distance	Model	Timer feature	Operation mode	Output mode
Through-beam type	10m	**JT10R**	Not provided	Light-ON/ Dark-ON selectable (with switch on bottom of sensor unit)	Relay output 1a
		JT10R-SR			Triac output
Polarization reflector type	0.03-3m	**JRM3R**			Relay output 1a
		JRM3R-SR			Triac output
Diffuse-reflector type	700mm	**JR07**			Relay output 1a
		JR07-SR			Triac output
Through-beam type	10m	**JT10RF**	Provided	Light-ON/ Dark-ON and timer range selectable (switching between Light-ON and Dark-ON and between timer functions with FUNCTION switch on bottom of sensor unit)	Relay output 1a
		JT10RF-SR			Triac output
Polarization reflector type	0.03-3m	**JRM3RF**			Relay output 1a
		JRM3RF-SR			Triac output
Diffuse-reflector type	700mm	**JR07F**			Relay output 1a
		JR07F-SR			Triac output

Optional Parts

Type	Model	Applicable model	Description	
Pinhole sticker	**JP37**	**JT10R** **JT10R-SR** **JT10RF** **JT10RF-SR**	Detecting distance with stickers attached to both transmitter and receiver ϕ3mm……2.5m ϕ5mm……6m	(One sticker contains ϕ3 and ϕ 5 holes. Two stickers are required for attaching to both transmitter and receiver.)
Bushing rubber	**JV7**	All models	Compatible cable diameter: 6-8 mm	

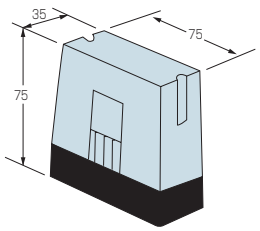
- Mounting brackets are accessories.

Rating/Performance/Specification

	Type		Basic type			Multifunctional type		
Rating/performance	Model	Relay output	**JT10R**	**JRM3R**	**JR07**	**JT10RF**	**JRM3RF**	**JR07F**
		Triac output	**JT10R-SR**	**JRM3R-SR**	**JR07-SR**	**JT10RF-SR**	**JRM3RF-SR**	**JR07F-SR**
	Detection method		Through-beam type	Polarization reflector type	Diffuse-reflector type	Through-beam type	Polarization reflector type	Diffuse-reflector type
	Detecting distance		10m max.	0.03-3m max(*1)	700mm max (*2)	10m max.	0.03-3m max(*1)	700mm max (*2)
	Detection object		Opaque object of ϕ16 min	Mirror-like objects, opaque objects	Translucent objects opaque objects,	Opaque object of ϕ16 min	Mirror-like objects, opaque objects	Translucent objects opaque objects,
	Power supply		24-240V AC/DC ±10% 50/60Hz					
	Power consumption		2 W max. (transmitter/receiver)	2 W max.		2 W max. (transmitter/receiver)	2 W max.	
	Output mode		Relay output 1a / Rating: 2 A (250 VAC max. resistance load Triac output / Rating: 3.5 mA min., 100 mA max. (250 VAC)					
	Operation mode		Light-ON/Dark-ON selectable. (with switch)			●Light-ON/Dark-ON selectable ●Timer function selectable Selectable between on-delay, off-delay, one-shot and timer disabled (with switch) Delay time: 0.1-1 s, 1-10 s		
	Response time		Relay output: 5ms max. *3 Triac output: 12ms max.					
	Hysteresis		———		10% max.	———		10% max.
	Operating angle		5% (at receiver)	30° (at reflector)	———	5% (at receiver)	30° (at reflector)	———
Specification	Light source (wavelength)		Red LED		Infrared LED	Red LED		Infrared LED
	Indicator		Transmitter P.L: power indicator (red LED) Receiver OP.L: operation indicator (red LED) STB: stability indicator (green LED)		OP.L: operation indicator (red LED) STB: stability indicator (green LED)	Transmitter P.L: power indicator (red LED) Receiver OP.L: operation indicator (red LED) STB: stability indicator (green LED)		OP.L: operation indicator (red LED) STB: stability indicator (green LED)
	Volume (VR)		———		Sensitivity adjustment	Delay time adjustment		Sensitivity adjustment Delay time adjustment
	Switch (SW)		Light-ON/Dark-ON selector switch (integrated on bottom of sensor unit)			FUNCTION.SW provided (selects between functions) OND.: on-delay △: Light-ON ▲: Dark-ON OFD.: off-delay △: Light-ON ▲: Dark-ON OST.: one-shot △: Light-ON ▲: Dark-ON NORM: timer disabled △: Light-ON ▲: Dark-ON (With rotary switch: integrated on bottom of sensor unit) Delay time range selector switch provided 0.1-1 s: variable between 0.1 and 1 second with TIME VR 1-10 s: variable between 1 and 10 seconds with TIME VR (Sliding switch integrated on bottom of sensor unit)		
	Case material		Acrylic resin					
	Connection		Terminal block (with M3.5 screws)					
	Mass		About 250 g max. (transmitter/reflector)	250g max.		About 250 g max. (transmitter/reflector)	250g max.	
	Notes		(*1) When used with K-7 reflector provided (*2) With 200-mm square white drawing paper			(*3) While the response time is fast, use at a switching frequency of 30/min max. is recommended in view of the life of the relay.		

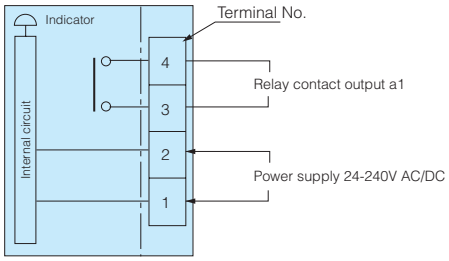
Environmental Specification

Environment	Ambient light	10,000 lx max.
	Ambient temperature	–25 ~ +55 °C (non-freezing)
	Ambient humidity	35-85%RH (non-condensing)
	Protective structure	IP66
	Vibration	10-55 Hz / 1.5 mm amplitude / 2 hours each in 3 directions
	Dielectric withstanding	1,500 VAC for 1 minute
	Insulation resistance	500 VDC, 100 MΩ or higher

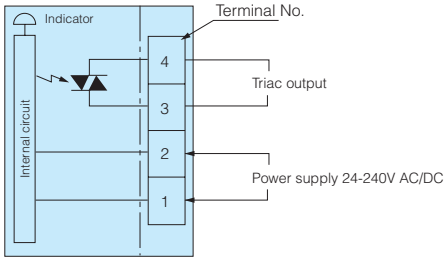


Input/Output Circuit and Connection

Relay output type

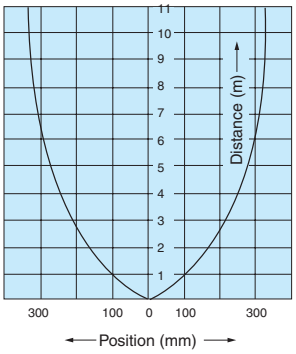


Triac output type

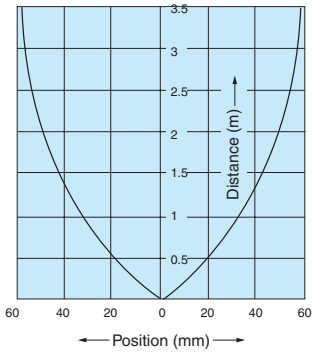


Directional Characteristics (Typical Example)

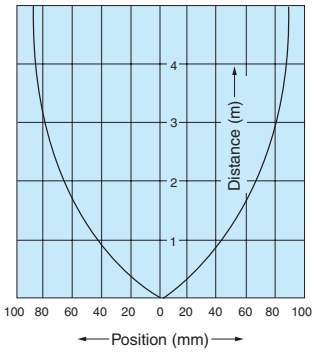
JT10R/JT10R-SR
JT10RF/JT10RF-SR



JRM3R/JRM3R-SR
JRM3RF/JRM3RF-SR

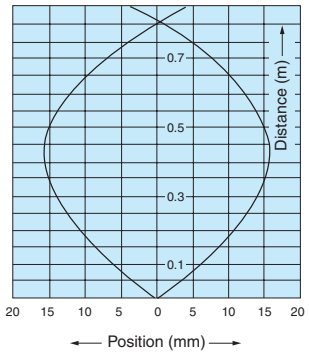


With 2 reflectors (K-7) for JRM3R/JRM3R-SR/JRM3RF/JRM3RF-SR



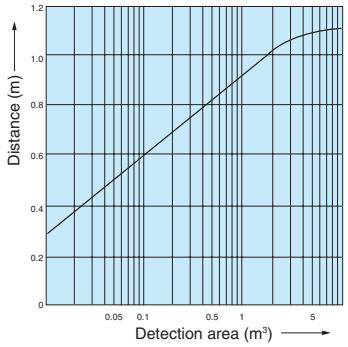
Activation Area Characteristics

JR07/JR07-SR
JR07F/JR07F-SR



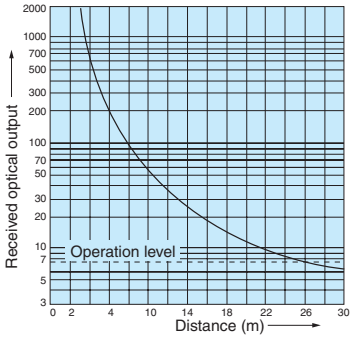
Distance-Area Characteristics (Typical Example)

JR07/JR07-SR
JR07F/JR07F-SR

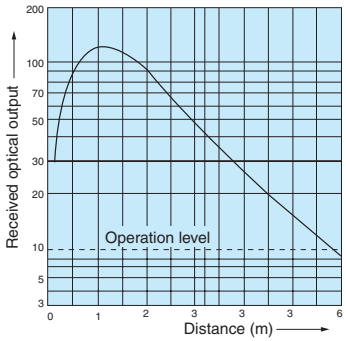


Distance-output Characteristics (Typical Example)

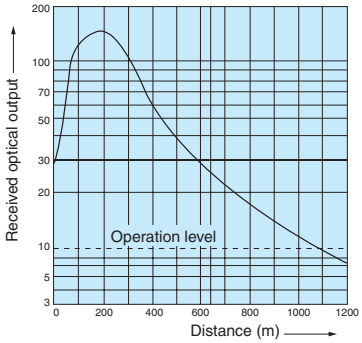
JT10R/JT10R-SR
JT10RF/JT10RF-SR



JRM3R/JRM3R-SR
JRM3RF/JRM3RF-SR

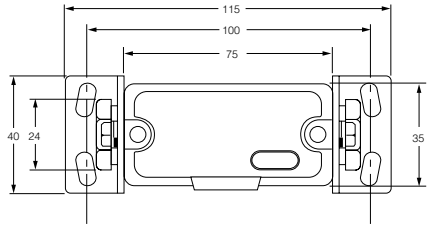


JR07/JR07-SR
JR07F/JR07F-SR

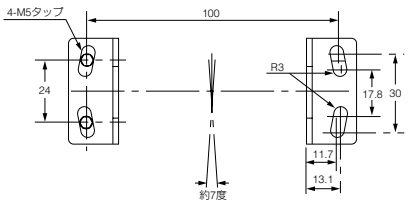


Dimensions (in mm)

CAD

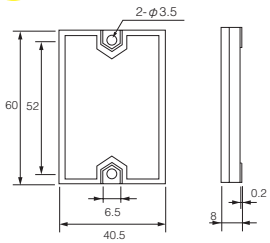


Mounting hole dimensions

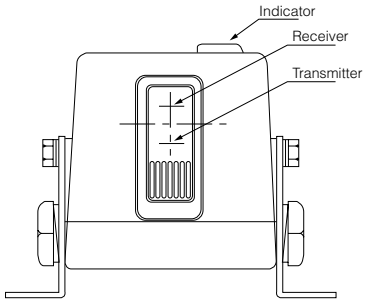


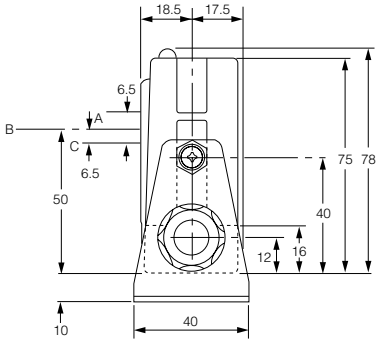
Reflector K-7
(provided for polarization reflector type)

CAD



Effective reflecting surface: 56 x 36 mm
Mounting: secured with M3 screws (alternatively adhesive may be used)
Protective structure: IP 67





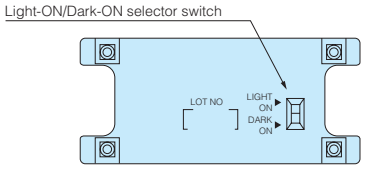
A: through-beam type light axis and reflective type light reception axis
B: reflective type light axis center
C: reflective type light emission axis

- JIS B 0202 PF1/2 screws used
- Compatible cable diameter: 9-11 mm
- When using cable diameters of 6-8 mm, use optional bushings <JV7>.

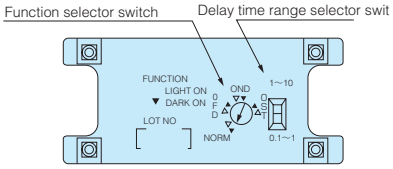
Operation Mode Setting and Switching

Switches for selecting the operation mode and timer function are on the bottom of the sensor unit.

- Basic type

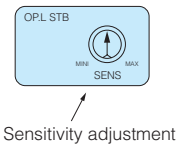


- Multifunctional type



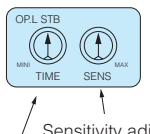
Description of Volumes

- Basic diffuse-reflective type **JR07•JR07-SR**



Sensitivity adjustment

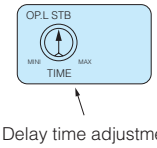
- Multifunctional diffuse-reflective type **JR07F•JR07F-SR**



Sensitivity adjustment

Delay time adjustment

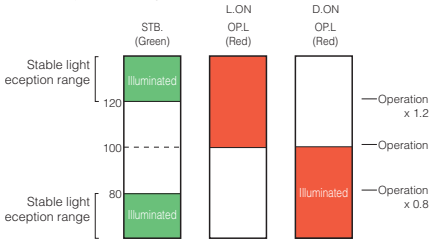
- Multifunctional type receiver **JTR10RF•JTR10RF-SR** Polarization reflector type **JRM3RF•JRM3RF-SR**



Delay time adjustment

Indicators

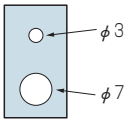
The STB stability indicator (green LED) and OP.L operation indicator (red LED) respectively show different received light intensity levels as described in the figure below.
After aligning the optical axis and adjusting the sensitivity, use a detection object to block and unblock the light beam several times to make sure that the sensitivity level is in a range that allows stable activation and deactivation.



Setting the sensitivity in a range allowing stable operation achieves higher reliability against changes in the operating environment generated after the sensitivity is set.

Pinhole (Optional)

Pinhole stickers as described below are optionally available for through-beam type models. Use of pinhole stickers reduces the smallest allowable detection object diameter and activation area.
Attach the sticker with either the top or bottom side up for aligning either of the holes with the light axis (see Dimensions). (The stickers are designed to allow automatic alignment of the light axis and a pinhole by the alignment of the sticker to the concave part of the sensor with either top or bottom side up. Do not cut the sticker in two pieces.)



Detecting distance with sticker attached to both transmitter and receiver

Pinhole	φ3	φ7
Detecting distance	2.5m	6m