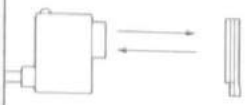
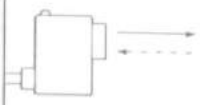
ORDER GUIDE

	Appearance	Sensing range	Model No.	Connecting method
Thru-beam		5m	SX-51	Cable type
			SX-51-J	Terminal type
Retroreflective		5m	SX-52M	Cable type
			SX-52M-J	Terminal type
Diffuse reflective		700mm	SX-52	Cable type
			SX-52-J	Terminal type

Long sensing range type

	Sensing range	Cable type	Terminal type
		Model No.	Model No.
Thru-beam	10m	SX-51-1	SX-51-J-1
	30m	SX-51-3	SX-51-J-3
Retroreflective	7m	SX-52M-7	SX-52M-J-7
Diffuse reflective	1m	SX-52-1	SX-52-J-1
	2m	SX-52-2	SX-52-J-2

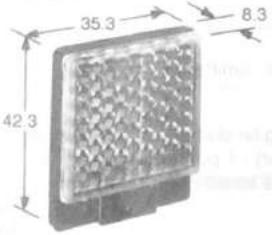
(*1) The appearances are same as the standard models

OPTIONAL

Component	Model No.	Description
Reflector (For retroreflective sensor only)	RF-220	Sensing range : 4m Min. sensing object : ϕ35mm [SX-52M and SX-52M-J]
Reflector mounting bracket	MS-RF22	For RF-220
	MS-RF23	For RF-230

Reflector

• RF-220



Reflector mounting bracket

• MS-RF23

2 pieces of M4 × 10mm cross-recessed bolts are supplied.

• MS-RF22

2 pieces of M3 × 8mm cross-recessed bolts are supplied.

SX-50

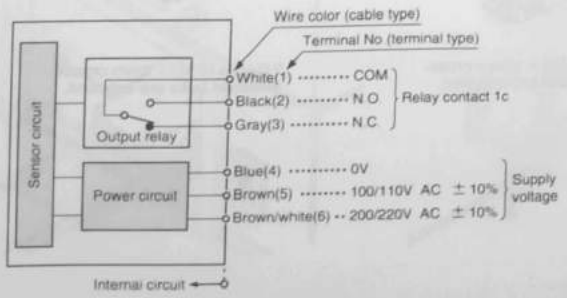
SPECIFICATIONS

Type	Thru-beam		Retroreflective		Diffuse reflective	
	Cable type	Terminal type	Cable type	Terminal type	Cable type	Terminal type
Data / Model No.	**SX-51**	**SX-51-J**	**SX-52M**	**SX-52M-J**	**SX-52**	**SX-52-J**
Sensing range	5m		5m (*1)		700mm (*2)	
Sensing object	Opaque object of min. ϕ20mm		Opaque & translucent objects of min. ϕ50mm (*1)		Opaque, translucent & transparent objects	
Hysteresis	—				Max. 15% of an operation range	
Supply voltage	100/110 · 200/220V AC ± 10%					
Consumption	Emitter : Max. 3VA, Receiver : Max. 3VA		Max. 3VA			
Output	Relay contact 1c Switching capacity : 240V AC 2A (resistive load) 100V AC 5A (resistive load) 24V DC 5A (resistive load) Rated load life : Min. 100,000 operations					
Output operation	Dark-ON				Light-ON	
Response time	Approx. 30ms					
Light-receiving indicator	Red LED (turns on at the light-receiving condition) Equipped with the power indicator for the emitter					
Sensitivity adjuster	—				Equipped with a continuously variable adjuster	
Environmental resistance: Protection	IP66 (IEC 144)					
Environmental resistance: Ambient temperature	− 10 to + 60°C (with no dew nor ice condensation), Storage : − 10 to + 60°C					
Environmental resistance: Ambient humidity	35 to 85%RH, Storage : 35 to 85%RH					
Environmental resistance: Ambient light	Sun light : 11,000 ℓx at the light-receiving face, Incandescent : 3,500 ℓx at the light-receiving face					
Environmental resistance: Noise	Power line : 1,000Vp with 1 μs pulse duration (by a noise simulator)					
Environmental resistance: Dielectric	AC 1,500V applied between the live parts and enclosure for 1 min.					
Environmental resistance: Insulation	Min 50MΩ applied between the live parts and enclosure at 500V DC					
Environmental resistance: Vibration	1.5mm amplitude at the frequency of 10 to 55Hz in each of X, Y and Z directions for 2 hours each in the power OFF state					
Environmental resistance: Shock	300m/s^2 (approx. 30G) impulse in each of X, Y and Z directions for 3 times each in the power OFF state					
Emitting element	Infrared LED (modulated)					
Material	Enclosure : Aluminum die casting, Lens: Acrylic					
Cable	Cable type : 0.5mm^2 × 6 cores with 1m of cabtyre cable (3 cores for the emitter only) Terminal type : Using round cable of ϕ10 to ϕ12mm					
Cable extension	Extensible up to 300m by using a min. 0.5mm^2 cable (Thru-beam sensor : each of an emitter and a receiver)					
Weight	Approx. 880g (both emitter and receiver)		Approx. 460g		Approx. 460g	
Accessories	Cable type **MS-S50** (mounting bracket) : 1 set (2 sets for the thru-beam sensor) **RF-230** (reflector) : 1 pc. (for the retroreflective sensor only) Screwdriver for the sensitivity adjustment : 1 pc. (for the diffuse reflective sensor only) Terminal type **MS-S50** (mounting bracket) : 1 set (2 sets for the thru-beam sensor) **RF-230** (reflector) : 1 pc. (for the retroreflective sensor only) Screwdriver for the sensitivity adjustment : 1 pc. (for the diffuse reflective sensor only) Gland, gland washer and gland packing : 1 pc. each (2 pcs. each for the thru-beam sensor)					

(1) : The sensing range and sensing object of the retroreflective sensor is the figure using a **RF-230** reflector.
(2) : The sensing range of the diffuse reflective sensor is the figure using an object of non-glossy white paper (200 × 200mm).

TYPICAL WIRING DIAGRAM

Wire color has been changed in accordance with the IEC standard.



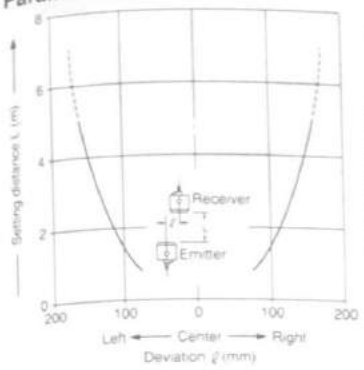
The emitter has terminals or wires for the power supply only.

SENSING FIELDS

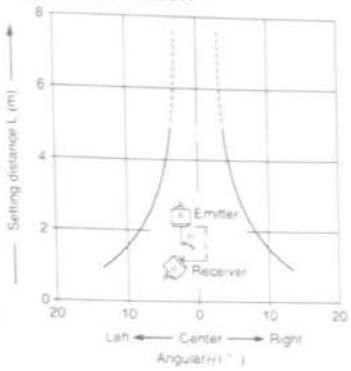
These are typical sensing fields, and are subject to slight changes from model to model.

SX-51 SX-51-J Thru-beam

Parallel deviation

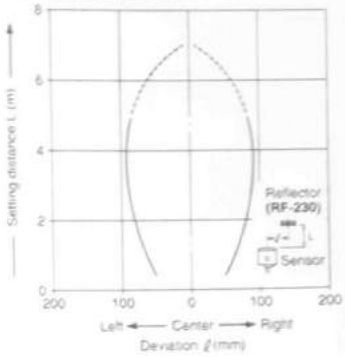


Angular deviation

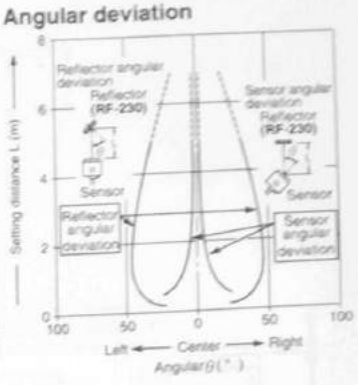


SX-52M SX-52M-J Retroreflective

Parallel deviation

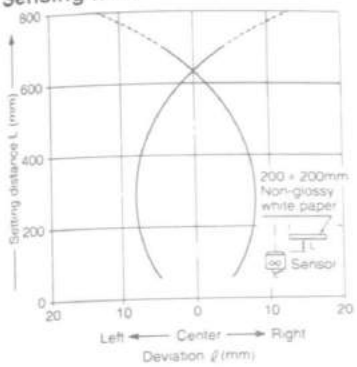


Angular deviation



SX-52 SX-52-J Diffuse reflective

Sensing field

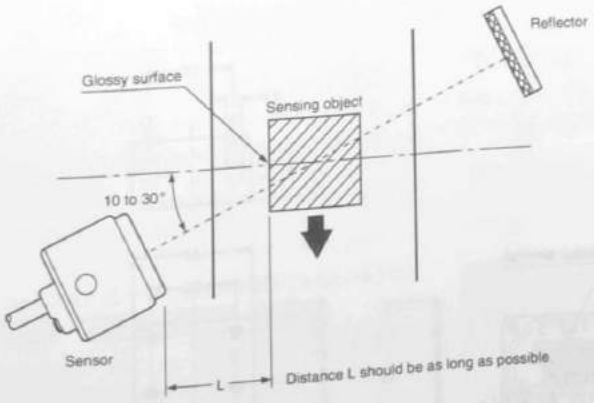


PRECAUTIONS FOR PROPER USE

Refer to P.467 for general cautions

Setting of retroreflective sensor

When detecting a glossy object, mount the sensor at an angle of 10° to 30° against the surface of the object.



Others

Do not use the sensor output signal for 200ms immediately after the power is supplied to the sensor.