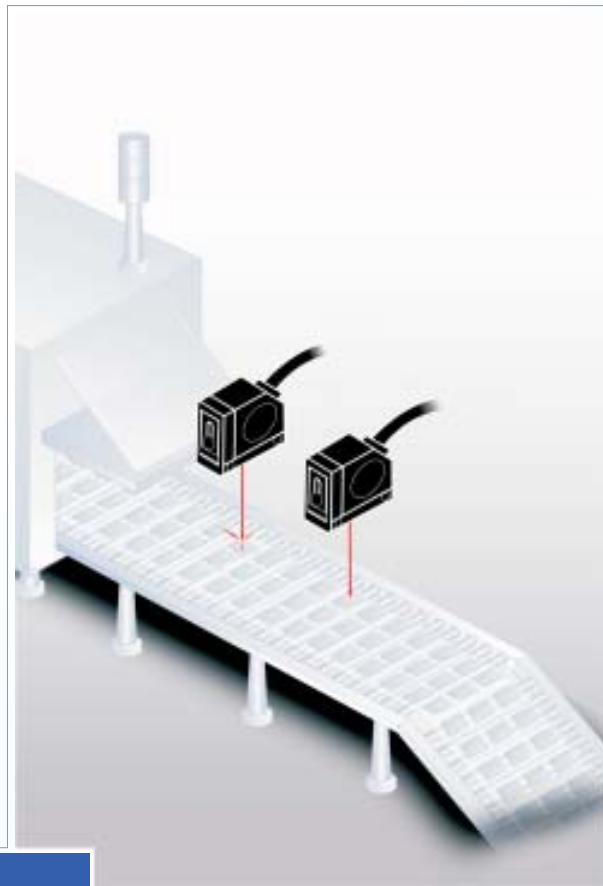


RP34 SERIES



● Selection Guide.....B-01	● Sensing Characteristics(Typical).....B-06...B-07
● Sensors Type.....B-02	● Precautions For Proper Use.....B-07
● OptionalB-03	● Options Dimensions.....B-08...B-10
● Specifications.....B-04	
● I/O Circuit And Wiring Diagrams.....B-05	



Waterproof

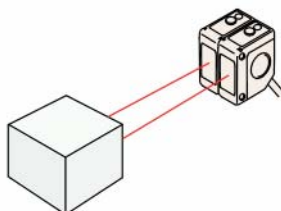
The environmental reliability has been significantly increased. Besides having Ip67 waterproof construction, it is strong against vibration as its inside is fully filled with resin.



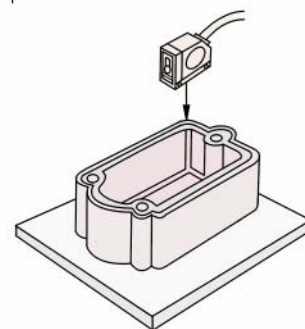
Note: However, take care that if it is exposed to water splashes during operation, it may detect a water droop itself.

Two Sensors Mountable Together

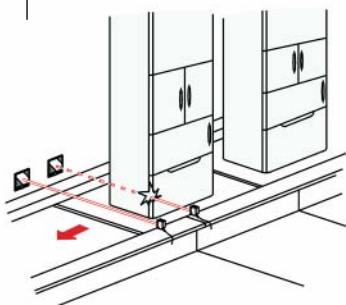
With its automatic interference prevention function, close mounting of two sensors is possible.



Checking gasket position

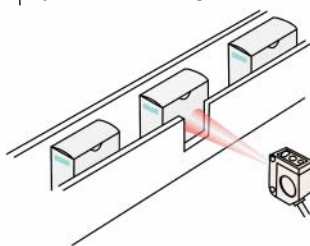


Detecting large home appliances

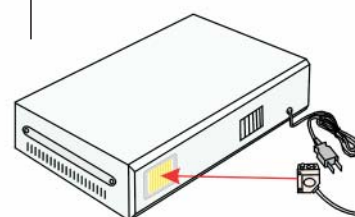






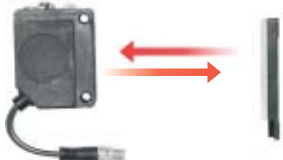




Reliably Detecting Objects at Target Point

RP34-N0300N□ is a narrow-view type sensor which can sense reliably without being affected by the surroundings.



Detecting label



Type	Appearance	Sensing range	Emitting element	Output type	Part Number
CABLE TYPE	Narrow-view diffuse reflective	 70 to 300mm	Red LED	NPN open-collector transistor	RS34-L0300N-CY6C4U2
				PNP open-collector transistor	RS34-L0300P-CY6C4U2
	Retro reflective	 0.1 to 5m	Infrared LED	NPN open-collector transistor	RS34-L0500N-CY9C4U2
				PNP open-collector transistor	RS34-D0500P-CY9C4U2
	Diffuse reflective	 100mm		NPN open-collector transistor	RS34-D0100N-CY9C4U2
				PNP open-collector transistor	RS34-D0100P-CY9C4U2
PIG TAIL TYPE	Narrow-view diffuse reflective	 70 to 300mm	Red LED	NPN open-collector transistor	RS34-L0300N-CY6P4UP
				PNP open-collector transistor	RS34-L0300P-CY6P4UP
	Retro reflective	 0.1 to 5m	Infrared LED	NPN open-collector transistor	RS34-L0500N-CY9P4UP
				PNP open-collector transistor	RS34-D0500P-CY9P4UP
	Diffuse reflective	 100mm		NPN open-collector transistor	RS34-D0100N-CY9P4UP
				PNP open-collector transistor	RS34-D0100P-CY9P4UP
CONNECTOR TYPE	Narrow-view diffuse reflective	 70 to 300mm	Red LED	NPN open-collector transistor	RS34-L0300N-CY6Q4UP
				PNP open-collector transistor	RS34-L0300P-CY6Q4UP
	Retro reflective	 0.1 to 5m	Infrared LED	NPN open-collector transistor	RS34-L0500N-CY9Q4UP
				PNP open-collector transistor	RS34-D0500P-CY9Q4UP
	Diffuse reflective	 100mm		NPN open-collector transistor	RS34-D0100N-CY9Q4UP
				PNP open-collector transistor	RS34-D0100P-CY9Q4UP

NOTE: The sensing range is the possible setting range for the reflector.
The sensor can detect an object less than 0.1m away.

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OPTIONS - Sensors Reflector
- Protective tube
- Mounting bracket

RP34 SERIES

RE-6152

Description Sensing range : 3m[RP31-L3000]

RE-6041

Description Sensing range : 2.8m[RP31-L3000]

RE-D63

Description Sensing range : 2.3m[RP31-L3000]

RE-D31

Description Sensing range : 0.7m[RP31-L3000]

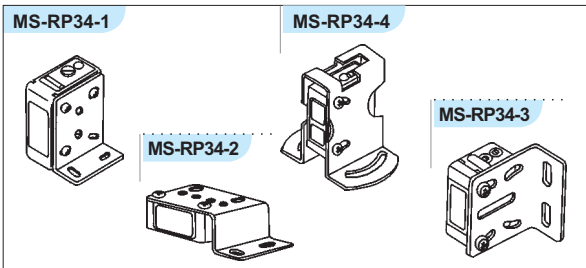
RE-822

Description Sensing range : 1m[RP31-L3000]

RE-Q52

Description Sensing range : 2.5m[RP31-L3000]

Sensor mounting bracket



MS-RP34-1

Description Foot angled mounting bracket
It can also be used for mounting .
(The thru-beam type sensor needs two brackets.)

MS-RP34-2

Description Foot biangled mounting bracket
Flat mounting saves height .
It can also be used for mounting .

MS-RP34-3

Description Back angled mounting bracket.

MS-RP34-4

Description Protective mounting bracket.
It protects the sensor from damage and maintains alignment.

PT-RP500

Description Length: 500mm Cable is protected from external forces.
It does not rust as it is made of stainless steel.

PT-RP1000

Description Length: 1000mm Cable is protected from external forces.
It does not rust as it is made of stainless steel.

Reflector For retroreflective sensor only

RE-6152



RE-6041



RE-D63



RE-D31



RE-822

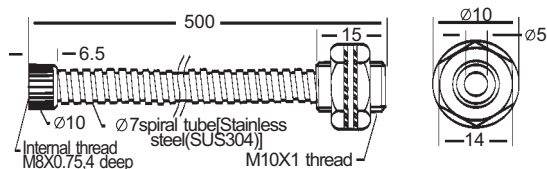


RE-Q52

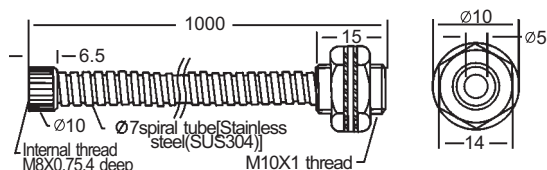


Protective tube

PT-RP500



PT-RP1000

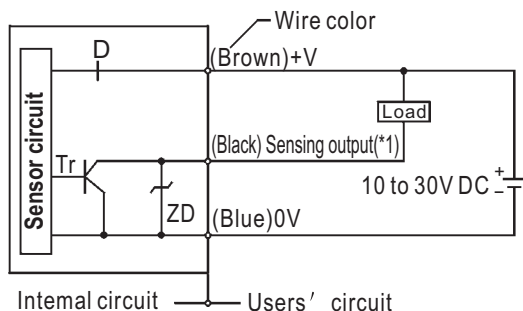


Type		Retroreflective		Diffuse reflective		Narrow-view reflective	
		NPN output type	PNP output type	NPN output type	PNP output type	NPN output type	PNP output type
Item	Model No.	RP34-L500N*	RP34-L500P*	RP34-D100N*	RP34-D100P*	RP34-N0300N*	RP34-N0300P*
Sensing range		0.1 to 5m		100mm		70 to 300mm	
Sensing object		50mm or more opaque or translucent object .		Opaque,translucent or transparent object		Opaque,translucent or transparent object(Min. Sensing object: Φ0.5mm copper wire)	
Hysteresis		_____		15% or less of operation distance			
Repeatability (Perpendicular to sensing axis)		0.5mm or less					
Supply voltage		10 to 30V DC Ripple P-P 10% or less					
Current consumption		40mA or less	50mA or less	40mA or less	50mA or less	40mA or less	50mA or less
Sensing output		NPN open-collector transistor • Maximum sink current:100mA • Applied voltage:30V DC or less (between sensing output and 0V) • Residual voltage:1.5V or less (at 100 mA sink current)			PNP open-collector transistor • Maximum sink current:100mA • Applied voltage:30V DC or less (between sensing output and +V) • Residual voltage:1.5V or less (at 100 mA sink current)		
Utilization category		DC-12 or DC-13					
Output operation		Switchable either Light-ON or Dark-ON					
Short-circuit protection		Incorporated					
Response time		1ms or less					
Operation indicator		Red LED(light up when the sensing output is ON)					
Stability indicator		Green LED(lights up under stable light received condition or stable dark condition)					
Sensitivity adjuster		2-turn adjuster with indicator					
Automatic interference prevention function		Incorporated(Two units can be mounted closely.)					
Environmental resistance	Pollution degree	3(Industrial environment)					
	Protection	IP67(IEC)					
	Ambient temperature	-25 to +60° C(No dew condensation or icing allowed)(Note 4),Storage:-30 to +70°C					
	Ambient humidity	35 to 85% RH, Storage:35 to 85% RH					
	Environmental resistance Ambient illuminance	Sunlight:11,000 lx at the light-receiving face Incandescent light:3,500 lx at the light-receiving face					
	EMC	IEC 60947-5-2, Parts 7.2.6.1.2.3 or RFI>3V/m(in 30-1000MHZ), EFT>1KV, ESD>4KV(contact)					
	Voltage withstandability	1,000V AC for one min.between all supply terminals connected together and enclosure					
	Insulation resistance	20M Ω ,or more,with 250V DC megger between all supply terminals connected together and enclosure					
	Vibration resistance	IEC 60947-5-2, Part 7.4.2 or 10-55HZ, 1.0mm amplitude In X, Y and Z directions for 30 min					
Shock resistance	IEC 60947-5-2, Part 7.4.1 or 30g,11ms in X,Y and Z directions for six times each						
Emitting element		Infrared LED (modulated)				Red LED (modulated)	
Material		Enclosure:Heat-resistant ABS,Len:Acrylic,Indicator cover:Polyallylate					
Cable		0.15mm 4-core oil,heat and cold resistant cabtyre cable,2m long					
Cable extension		Extension up to total 100m is possible with 0.3mm ² , or more,cable.					
Weight		50g approx.					
Accessories		MS-RP-1(Sensor mounting bracket):1 set RE-6152(Reflector):1No., Adjusting screwdriver:1No.				MS-RP-1(Sensor mounting bracket):1 set,Adjusting screwdriver:1No.	

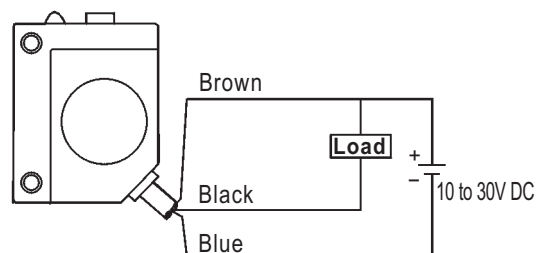
NPN output type



1. I/O circuit diagram

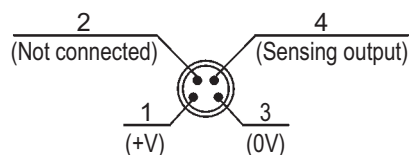


2. Wiring diagram



(*1): The sensing output is not equipped with the emitter of the thru-beam sensor.

3. Connector pin position (Plug-in connector type)

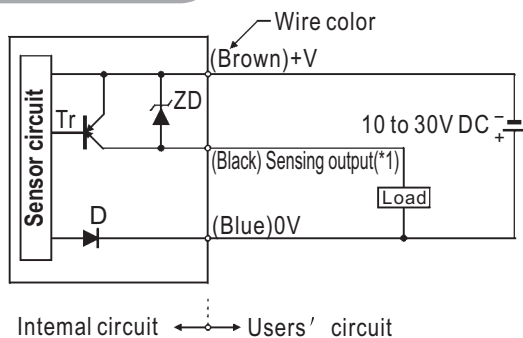


Symbol...D: Reverse polarity protection diode
ZD: Surge absorption zener diode
Tr: NPN output transistor

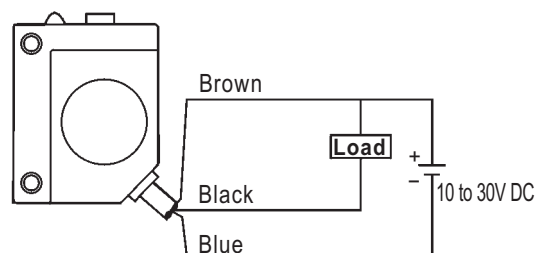
PNP output type



1. I/O circuit diagram

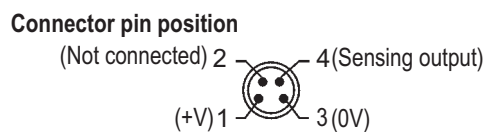


2. Wiring diagram



(*1): The sensing output is not equipped with the emitter of the thru-beam sensor.

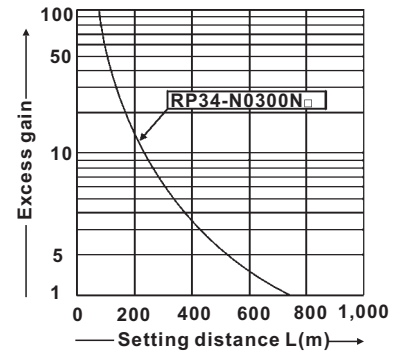
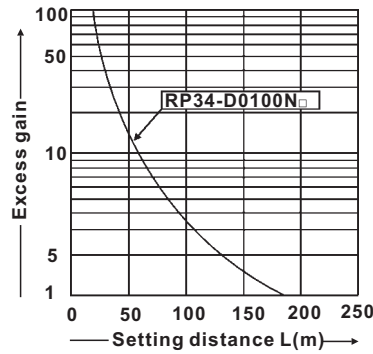
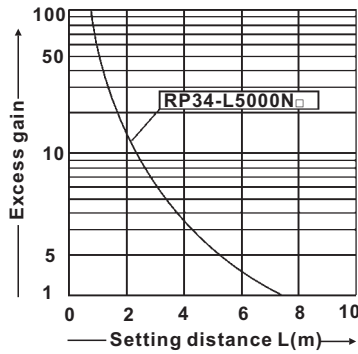
3. Connector pin position (Plug-in connector type)



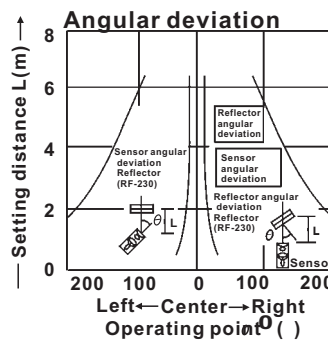
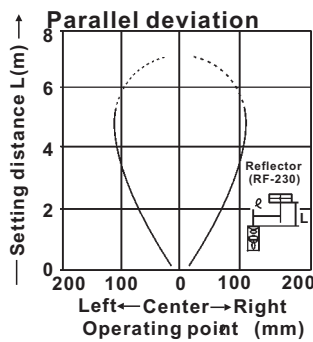
Symbol...D: Reverse polarity protection diode
ZD: Surge absorption zener diode
Tr: PNP output transistor

All models

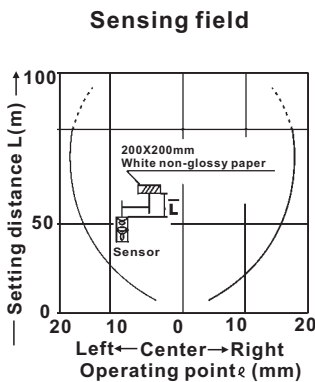
Correlation between setting distance and excess gain



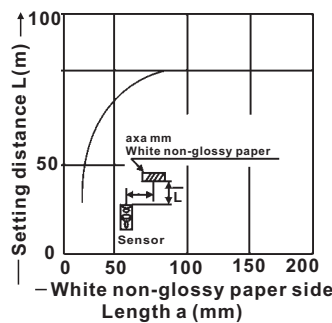
RP34-L5000N □ Retroreflective type



RP34-D0100N □ Diffuse reflective type



Correlation between sensing object size and sensing range



As the sensing object size becomes smaller than the standard size(white non-glossy paper 200x200mm), the sensing range shortens, as shown in the left graph.

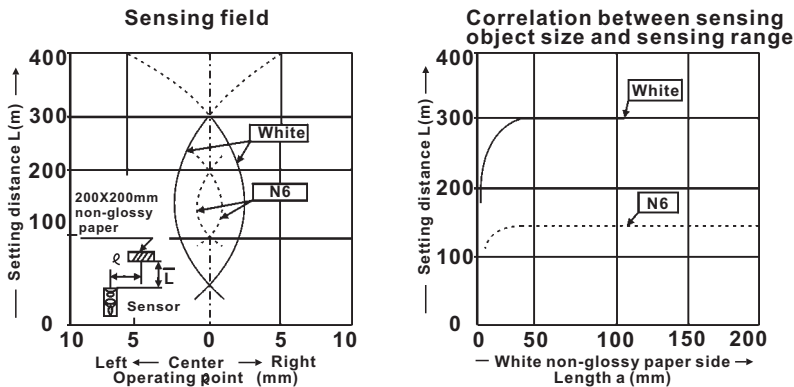
(For plotting the left graph, the sensitivity has been set such that a 200x200mm white non-glossy paper is just detectable at a distance of 800mm).

PHOTOELECTRIC

SENSING CHARACTERISTICS(typical) PRECAUTIONS FOR PROPER USE

RP34 SERIES

RP34-N0300N □ Narrow-view reflective type

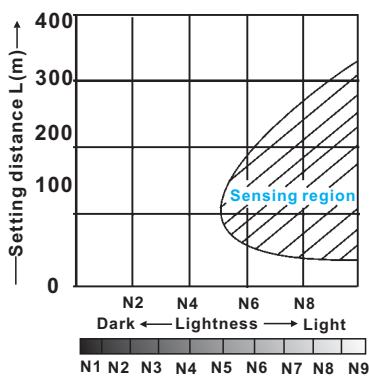


As the sensing object size becomes smaller than the standard size(white non-glossy paper 200X200mm), the sensing range shortens, as shown in the left graph.

(For plotting the left graph, the sensitivity has been set such that a 200 X 200mm white non-glossy paper is just detectable at a distance of 300mm.

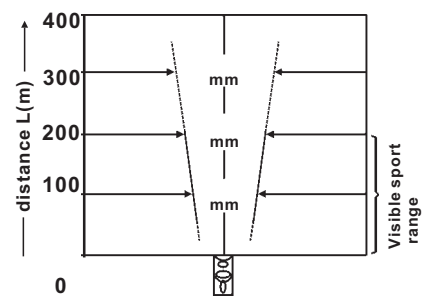
RP34-L5000N □ Retroreflective type

Correlation between lightness and sensing range



The sensing region is represented by oblique lines in the left figure. However, the sensitivity should be set with an enough margin because of slight variation in products.
(Lightness shown on the left may differ slightly from the actual object condition.)

Emitted beam



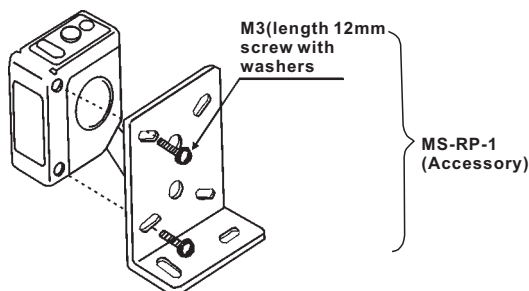
PRECAUTIONS FOR PROPER USE



This product is not a safety sensor. Its use is not intended or designed to protect life and prevent body injury or property damage from dangerous parts of machinery. It is a normal object detection sensor.

Mounting

- The tightening torque should be 0.49N·m or less.



Detectable combination of colors for RP34-D0300N(P)*

(Setting distance:100mm)

Mark	White	Yellow	Orange	Red	Green	Blue	Black
Background							
White		X	X	X	○	○	○
Yellow	X		X	X	○	○	○
Orange	X	X		X	○	○	○
Red	X	X	X		○	○	○
Green	○	○	○	○		X	X
Blue	○	○	○	○	X		X
Black	○	○	○	○	X	X	

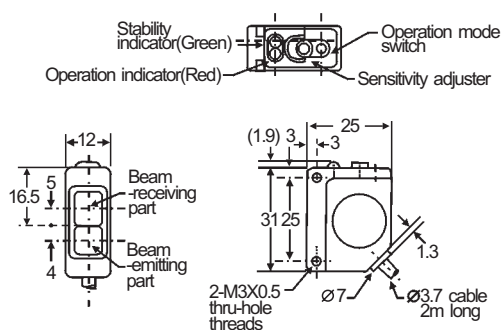
○: Detectable X: Not detectable

Sensor type

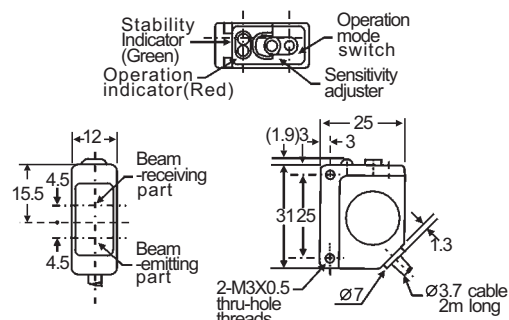


DIMENSIONS(Unit: mm)

1. RP34 L500N₅ RP34 N0300N₅



2. RP34 D0100N₅

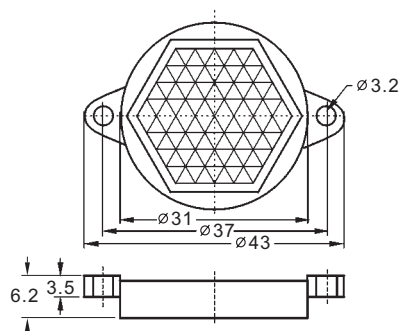


Reflector

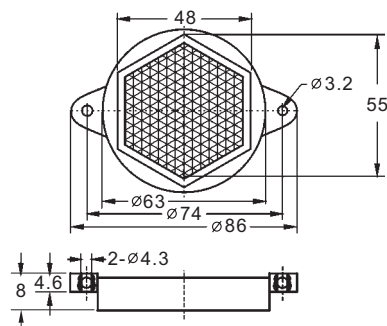


DIMENSIONS(Unit: mm)

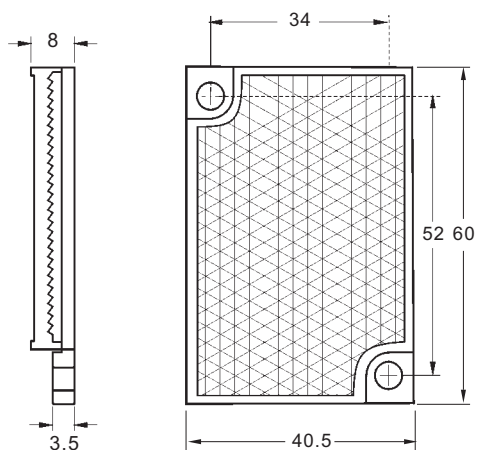
1. RE-D31



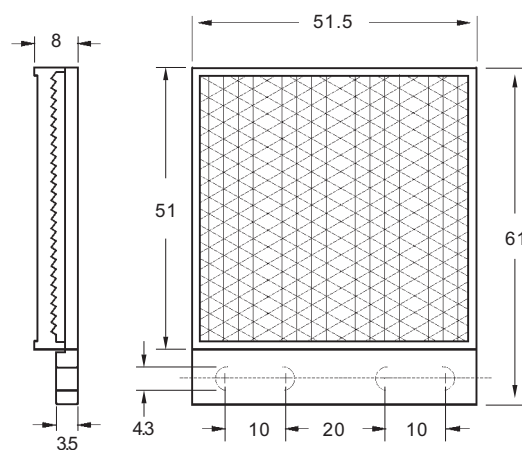
2. RE-D63



3. RE-6041



4. RE-6152



1.



1.



1.

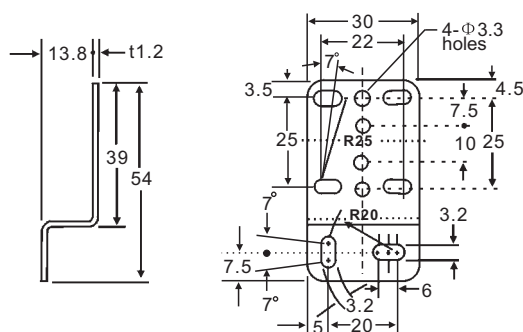


Technical drawings of the beam receiver and emitter. The top drawing is a side view of the beam receiver with dimensions: 25, 14, 14, 6, 20, 3.4, 5, 6, 14, 1. The bottom drawing is a front view of the beam emitter with dimensions: 30, 4, 25, 12.5, 41, 1.4, 1.2. Labels 'Beam-receiving part' and 'Beam-emitting part' are present.

MS-RP-2



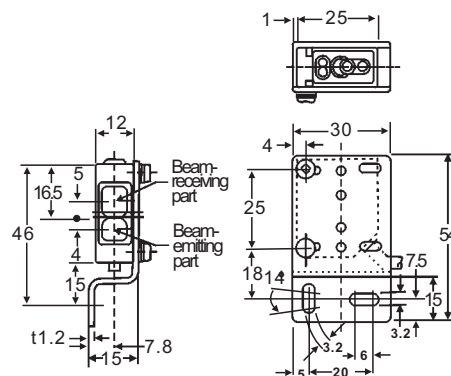
Assembly dimensions



Material:Stainless steel(SUS303).Two M3(length 12mm) screws with washers are attached.

2.

Assembly dimensions
Mounting drawing with RP34-N0300N□

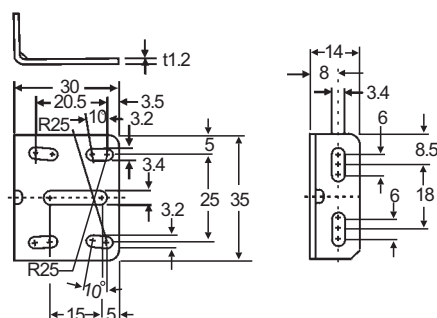


MS-RP-3



Assembly dimensions

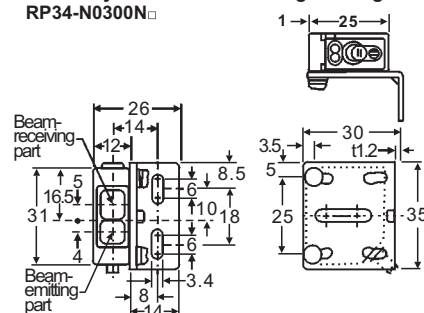
1.



Material:Stainless steel(SUS304).Two M3(length 12mm) screws with washers are attached.)

2.

Assembly dimensions
Mounting drawing with RP34-N0300N□



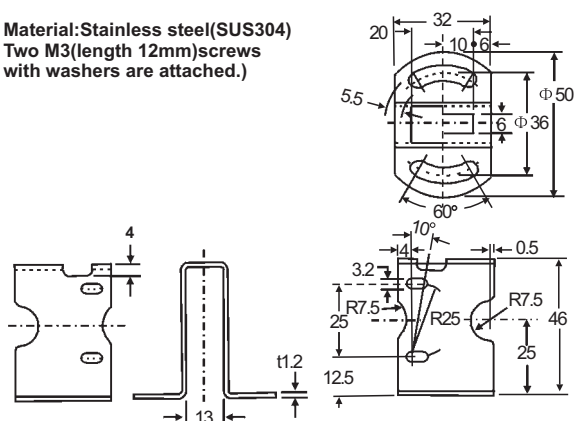
MS-RP-4



Assembly dimensions

1.

Material:Stainless steel(SUS304)
Two M3(length 12mm)screws
with washers are attached.)



2.

Assembly dimensions
Mounting drawing with RP34-N0300N□

