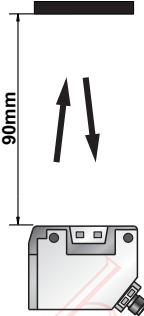



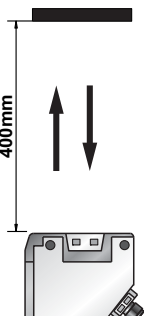





RP32 SERIES

Diffuse Mode

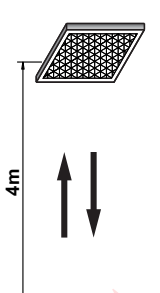



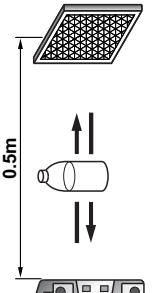



Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number
 <p>Diffuse Mode (Fixed-focus) Sensing Distance: 90mm</p>	2m Cable 	10-30V DC	NPN	
			PNP	
			—	—
	Quick Disconnect (Pico-style) 	10-30V DC	NPN	
			PNP	
			—	—
	6" Pig Tail (Pico-style) 	10-30V DC	NPN	
			PNP	
			—	—
 <p>Diffuse Mode Sensing Distance: 400mm</p>	2m Cable 	10-30V DC	NPN	<u>RP32-D0400N-CY6C4U2</u>
			PNP	<u>RP32-D0400P-CY6C4U2</u>
			—	—
	Quick Disconnect (Pico-style) 	10-30V DC	NPN	<u>RP32-D0400N-CY6Q4UP</u>
			PNP	<u>RP32-D0400P-CY6Q4UP</u>
			—	—
	6" Pig Tail (Pico-style) 	10-30V DC	NPN	<u>RP32-D0400N-CY6P4UP</u>
			PNP	<u>RP32-D0400P-CY6P4UP</u>
			—	—

Note:
 Coming Soon : Part numbers with underline
 In Preparation: Part numbers with a line through the middle
 — Ac-01 —

Ac: RP32 SERIES

RP32 SERIES

Retroreflective Mode

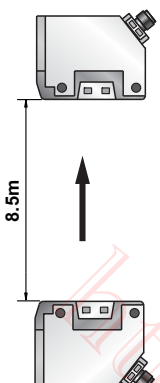

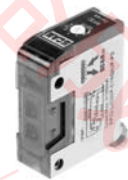
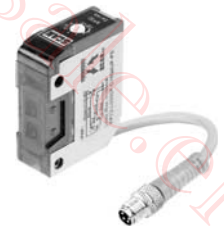
Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number
 <p>Retro-reflective Mode With Polarizing filter Sensing Distance:4m (Note)</p>	2m Cable 	10-30V DC	NPN	RP32-L4000N-CY6C4U2-PF
			PNP	RP32-L4000P-CY6C4U2-PF
			—	—
	Quick Disconnect (Pico-style) 	10-30V DC	NPN	RP32-L4000N-CY6Q4UP-PF
			PNP	RP32-L4000P-CY6Q4UP-PF
			—	—
	6" Pig Tail (Pico-style) 	10-30V DC	NPN	RP32-L4000N-CY6P4UP-PF
			PNP	RP32-L4000P-CY6P4UP-PF
			—	—
 <p>Retro-reflective Mode Clear Material Sensor Sensing Distance:0.5m (Note)</p>	2m Cable 	10-30V DC	NPN	RP32-L0500N-CY6C4U2-PD
			PNP	RP32-L0500P-CY6C4U2-PD
			—	—
	Quick Disconnect (Pico-style) 	10-30V DC	NPN	RP32-L0500N-CY6Q4UP-PD
			PNP	RP32-L0500P-CY6Q4UP-PD
			—	—
	6" Pig Tail (Pico-style) 	10-30V DC	NPN	RP32-L0500N-CY6P4UP-PD
			PNP	RP32-L0500P-CY6P4UP-PD
			—	—

Note: Used with RE-6152 (supplied with sensor) reflector.
 Coming Soon : Part numbers with underline
 In Preparation: Part numbers with a line through the middle
 — Ac-02 —

Ac: RP32 SERIES

RP32 SERIES

Thru-beam Mode

Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number
 <p>8.5m</p> <p>↑</p> <p>Thru-beam Mode</p> <p>Sensing Distance: 8.5m</p>	2m Cable 	10-30V DC	Emitter	RP32-T8500D-EY6C3L2
			NPN	RP32-T8500N-CY6C4U2
			PNP	RP32-T8500P-CY6C4U2
	Quick Disconnect (Pico-style) 	10-30V DC	Emitter	RP32-T8500D-EY6Q4LP
			NPN	RP32-T8500N-CY6Q4UP
			PNP	RP32-T8500P-CY6Q4UP
	6" Pig Tail (Pico-style) 	10-30V DC	Emitter	RP32-T8500D-EY6P4LP
			NPN	RP32-T8500N-CY6P4UP
			PNP	RP32-T8500P-CY6P4UP

Ac: RP32 SERIES

Note:
 Coming Soon : Part numbers with underline
 In Preparation: Part numbers with a line through the middle

RP32 SERIES

Specifications

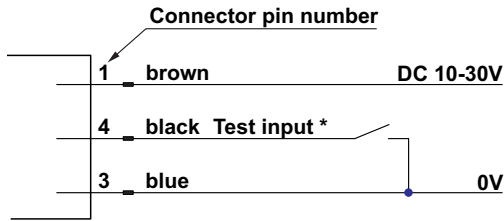
Sensing Mode	Diffuse Mode	Fixed-focus Diffuse Mode	Retro-reflective (with polarizing filter)	Clear Material Type Sensor	Thru-beam Mode
Sensing Range, Adjustable	400 mm	90 mm	4m (Note)	0.5m (Note)	8.5m
Angle of Divergence	approx. 5°	—	approx. 4.5°	—	approx. 3.5°
Light spot size	approx. 40mm @ 400mm	approx. 3.5mm @ 40mm	approx. 200mm @ 2.5m	approx. 30mm @ 0.5m	approx. 440mm @ 7m
Focal Distance	—	40 mm	—	—	—
Response Time/Frequency	<0.7 ms / 700 Hz				<1 ms / 500 Hz
Threshold	from 20% light attenuation, variable. (Only for clear material sensor)				
Light Source	LED Red				
Supply Voltage	10...30V DC (limit values)				
Current Consumption (no load)	≤30 mA				
Ripple (within Vs tolerance)	10%				
Output Type	PNP, NPN				
Output Voltage High	PNP: Vs - (≤1.5V); NPN: approx. Vs.				
Output Voltage Low	PNP: approx. 0V; NPN: ≤1.5V.				
Output Current Max.	100 mA				
Operation Mode	Light or dark switching selectable via control wire				
Connections	Cable type: PVC 2m, 4x24 AWG (Emitter of thru-beam mode: 3x24 AWG) Connector type: M8(pico-style) connector, Pigtail type: 6" cable+M8(pico-style) connector(other type on request)				
Housing Material	Stainless steel/ABS				
Enclosure Rating	IP 67 / NEMA 6				
Circuit Protection	Outputs short circuit and over current protected, Vs reverse polarity protected				
Test Input	0V: light source off; Vs or no connection: light source on (only for emitter of thru-beam mode)				
Ambient Operating Temperature	-25°C...55°C				
Storage Temperature	-40°C...70°C				
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 With Stand Ability	IEC 60947-5-2, Part 8.3.3.4 or 500VDC for one min, between all supply terminals connected together and enclosure				
Insulation Resistance	>20M Ω, with 500V 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 time each				
Mounting Bracket	MB-3832 (optional)				
Weight	approx. 25g connector versions; 66g cable versions				
Pigtail type	See Pigtail Series or our Cables & Connectors catalogue.				

Note: Used with RE-6152 (supplied with sensor) reflector.

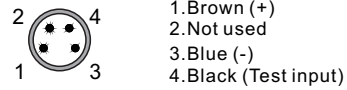
RP32 SERIES

Connection Diagrams

Emitter of Thru-beam Mode

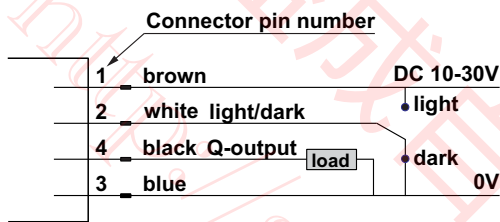


Connector face view
Pico-Style



*: Test input=0V Emitter off.

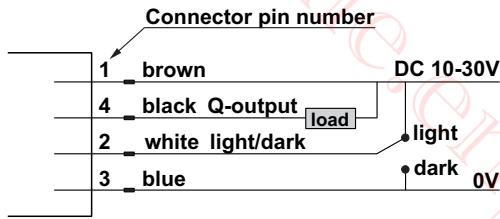
PNP output type



Connector face view
Pico-Style



NPN output type



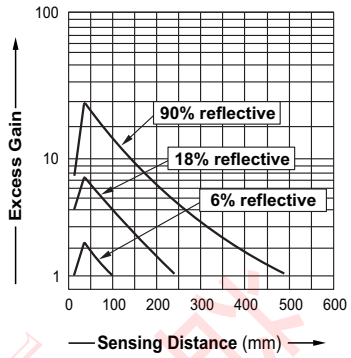
Connector face view
Pico-Style



RP32 SERIES

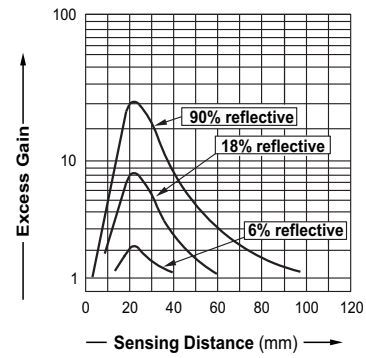
Sensing Characteristics (Typical)

Diffuse Mode (Sn=400mm)



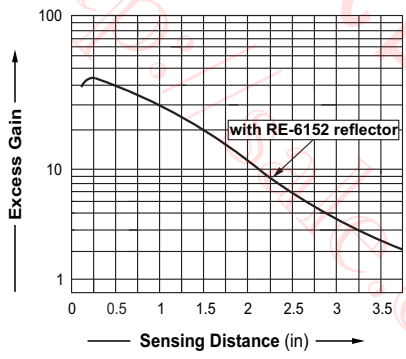
Excess gain curve

Fixed-focus Diffuse Mode (Sn=90mm)



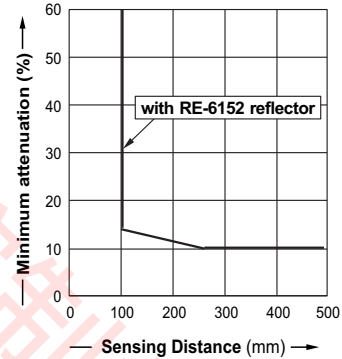
Excess gain curve

Polarized Retroreflective Mode (Sn=4m)



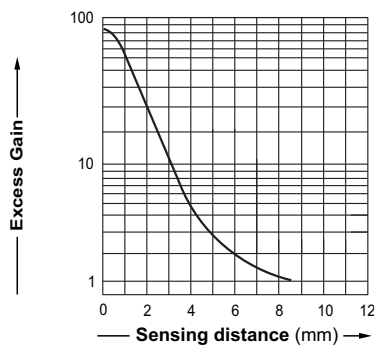
Excess gain curve

Clear Material Sensor (Sn=0.5m)



Attenuation curve

Thru-beam Mode (Sn=8.5 m)



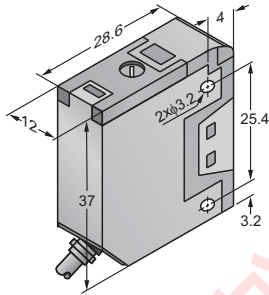
Excess gain curve

RP32 SERIES

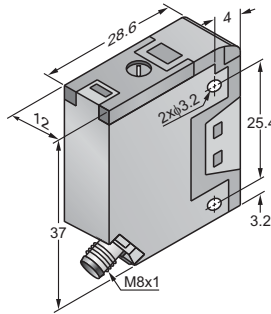
Dimensions (Unit: mm)

Sensor Type

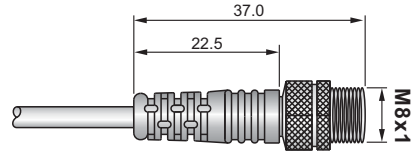
Cable Type



Connector Type (Pico-style)

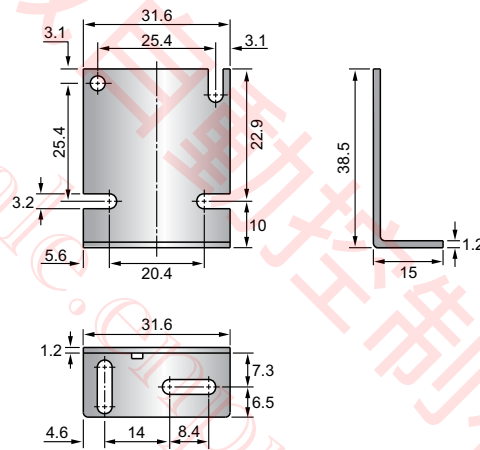


Pigtail* Type (Pico-style)

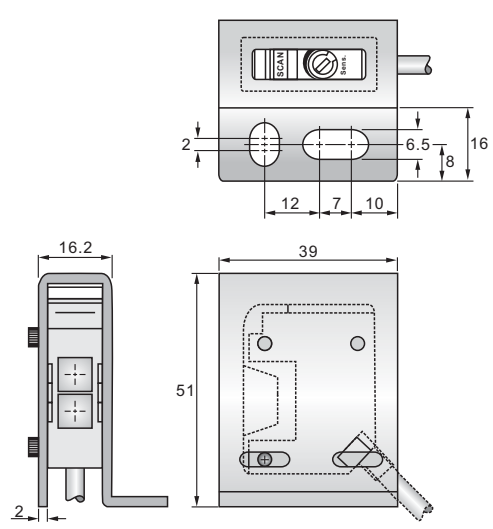


*: Please see **Pigtail Series** or our **Cables & Connectors** catalogue for more information.

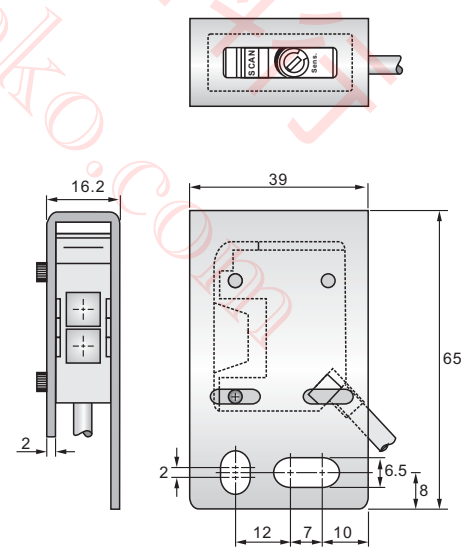
MB-3832 (Mounting bracket-optional)



PB-5139 (Protective bracket-optional)



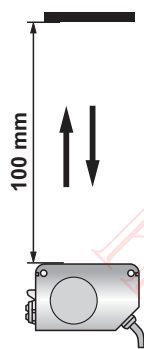



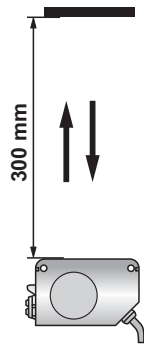



PB-6539 (Protective bracket-optional)



Ac: RP32 SERIES

RP34 SERIES

Standard Diffuse Mode / Narrow-view Diffuse Mode

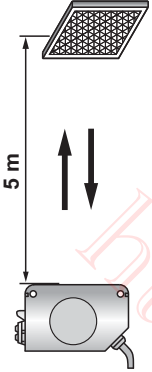



Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number
 <p>100 mm</p> <p>Diffuse Mode (Standard)</p> <p>Sensing distance 100mm</p> <p>Infrared LED</p>	2m Cable	10-30V DC	NPN	<u>RP34-D0100N-CY9C3U2</u>
			PNP	<u>RP34-D0100P-CY9C3U2</u>
	Quick Disconnect (Pico-Style)	10-30V DC	NPN	<u>RP34-D0100N-CY9Q4UP</u>
			PNP	<u>RP34-D0100P-CY9Q4UP</u>
	6" Pigtail (Pico-Style)	10-30V DC	NPN	<u>RP34-D0100N-CY9P4UP</u>
			PNP	<u>RP34-D0100P-CY9P4UP</u>
 <p>300 mm</p> <p>Diffuse Mode (Narrow-view)</p> <p>Sensing Distance 70 to 300mm</p> <p>Red LED</p>	2m Cable	10-30V DC	NPN	<u>RP34-D0300N-CY6C3U2-N</u>
			PNP	<u>RP34-D0300P-CY6C3U2-N</u>
	Quick Disconnect (Pico-Style)	10-30V DC	NPN	<u>RP34-D0300N-CY6Q4UP-N</u>
			PNP	<u>RP34-D0300P-CY6Q4UP-N</u>
	6" Pigtail (Pico-Style)	10-30V DC	NPN	<u>RP34-D0300N-CY6P4UP-N</u>
			PNP	<u>RP34-D0300P-CY6P4UP-N</u>

Aq: RP34 SERIES

Note:
 Coming Soon : Part numbers with underline
 In Preparation: Part numbers with a line through the middle

RP34 SERIES

Retroreflective Mode

Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number
 <p>5 m</p> <p>Retroreflective Mode</p> <p>Sensing Distance 0.1 to 5m (Note)</p> <p>Infrared LED</p>	2m Cable 	10-30V DC	NPN	<u>RP34-L5000N-CY9C3U2</u>
			PNP	<u>RP34-L5000P-CY9C3U2</u>
	Quick Disconnect (Pico-Style) 	10-30V DC	NPN	<u>RP34-L5000N-CY9Q4UP</u>
			PNP	<u>RP34-L5000P-CY9Q4UP</u>
	6" Pigtail (Pico-Style) 	10-30V DC	NPN	<u>RP34-L5000N-CY9P4UP</u>
			PNP	<u>RP34-L5000P-CY9P4UP</u>

Aq: RP34 SERIES

Note: Used with RE-6152 (supplied with sensor) reflector
 Coming Soon : Part numbers with underline
 In Preparation: Part numbers with a line through the middle

RP34 SERIES

Specifications

Item	Type	Standard Diffuse		Narrow-view Diffuse		Retroreflective	
	Model NO.	NPN output type	PNP output type	NPN output type	PNP output type	NPN output type	PNP output type
		RP34-D0100N.....	RP34-D0100P.....	RP34-D0300N.....	RP34-D0300P.....	RP34-L5000N.....	RP34-L5000P.....
Sensing range		100 mm		70 to 300mm		0.1 to 5m (Note)	
Sensing object		Opaque, translucent or transparent object		Opaque, translucent or transparent object (Min. sensing object: ϕ 50mm copper wire)		ϕ 50 mm or more opaque or translucent object.	
Hysteresis		15% or less of operation distance				—————	
Repeatability		0.5mm or less					
Supply voltage		10 to 30V DC 10%		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 output and 0V) Residual voltage: 1.5V or less (at 100mA sink current)				PNP open-collector transistor Maximum source current: 100mA Applied voltage: 30V DC or less (between output and +V) Residual voltage: 1.5V or less (at 100mA source current)	
	Utilization category	DC-12 or DC-13					
	Output operation	Switchable either Light-ON or Dark-ON					
	Short-circuit protection	Incorporated					
Response time		1 ms or less					
Operation indicator		Red LED (lights 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 of sensors can be mounted closely)					
Environmental resistance	Pollution degree	3 (Industrial environment)					
	Protection	IP 67 (IEC)					
	Ambient temperature	-25 to +60°C (No dew condensation or icing allowed), storage: -30 to +70°C					
	Ambient humidity	35 to 85 % RH, storage: 35 to 85% RH					
	Ambient illuminance	Sunlight: 11000 lx at the light receiving face, Incandescent light: 3500 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	1000 V 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)		Infrared LED (modulated)	
Material		Enclosure: Heat-resistant ABS, Lens: Acrylic, Indicator cover : Polyallylate					
Cable		0.15mm ² 3-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					
Pigtail type		Pico style (M8) 4pin+6" cable					
Connector type		Pico style (M8) 4pin					
Weight		50g approx.					
Accessories		MS-RP34-1 (Sensor mounting bracket): 1 set Adjusting screwdriver: 1 pc.				MS-RP34-1(Sensor mounting bracket):1set RE-6152 (Reflector): 1pc. Adjusting screwdriver: 1pc.	

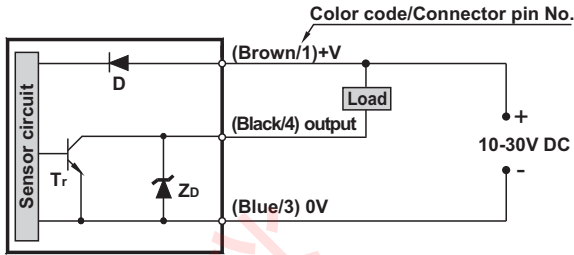
Note: Used with RE-6152 (supplied with sensor) reflector.

RP34 SERIES

Connection Diagrams

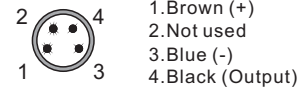
NPN output type

I/O circuit diagram



Connector pin position

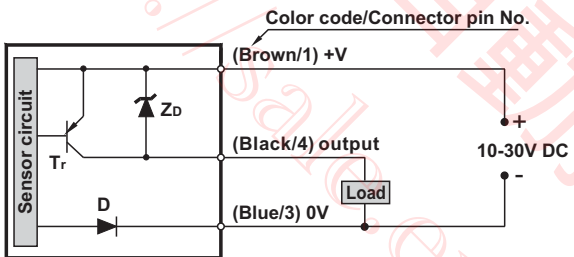
Pico-Style



Symbols...D :Reverse supply polarity protection diode
Z_D: Surge absorption zener diode
Tr: NPN output transistor.

PNP output type

I/O circuit diagram



Connector pin position

Pico-Style



Symbols...D :Reverse supply polarity protection diode
Z_D: Surge absorption zener diode
Tr: PNP output transistor.

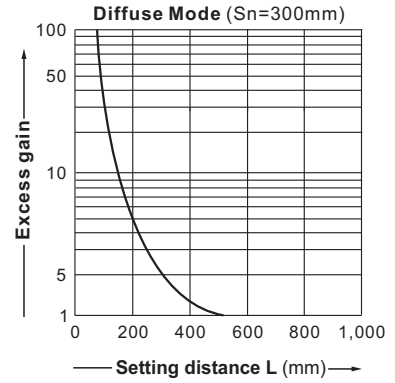
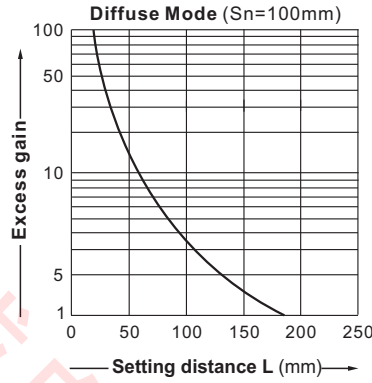
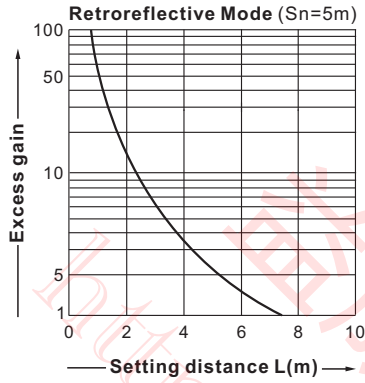
Aq: RP34 SERIES

RP34 SERIES

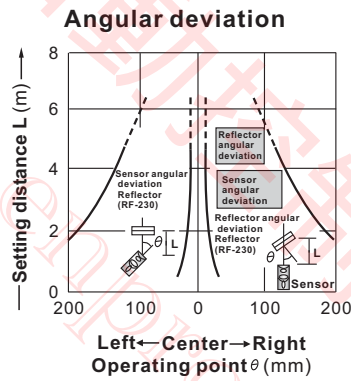
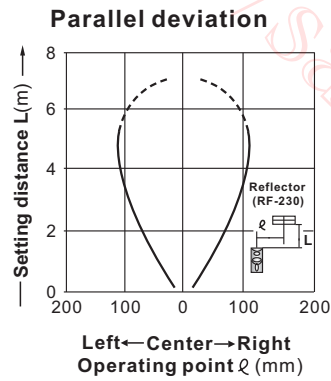
Sensing Characteristics (Typical)

All Models

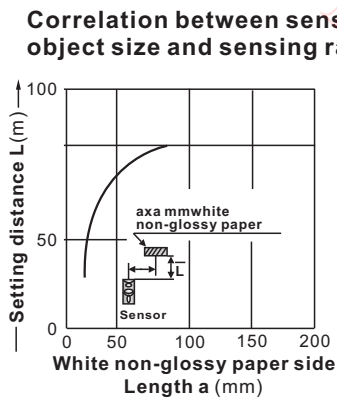
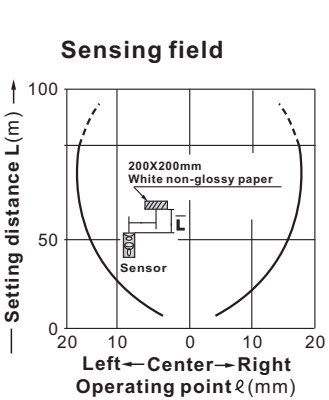
Correlation between setting distance and excess gain



Retroreflective Mode (Sn=5 m)



Standard Diffuse Mode [RP34-D0100N(P)...]



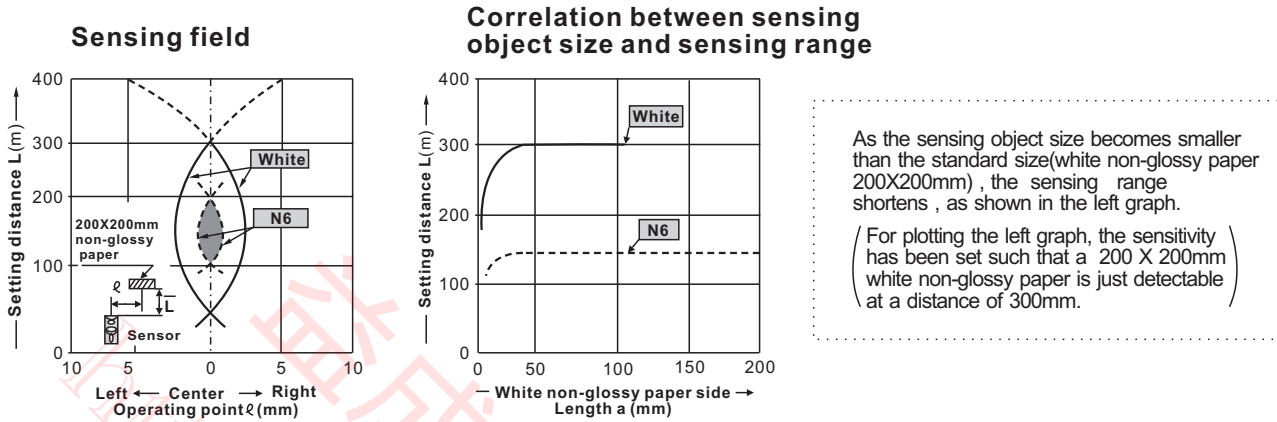
As the sensing object size becomes smaller than the standard size(white non-glossy paper 200x200mm), the sensing range shortens, as shown in the left graph. (For plotting the left graph, the sensitivity has been set such that a 200x200mm white non-glossy paper is just detectable at a distance of 800mm).

Aq: RP34 SERIES

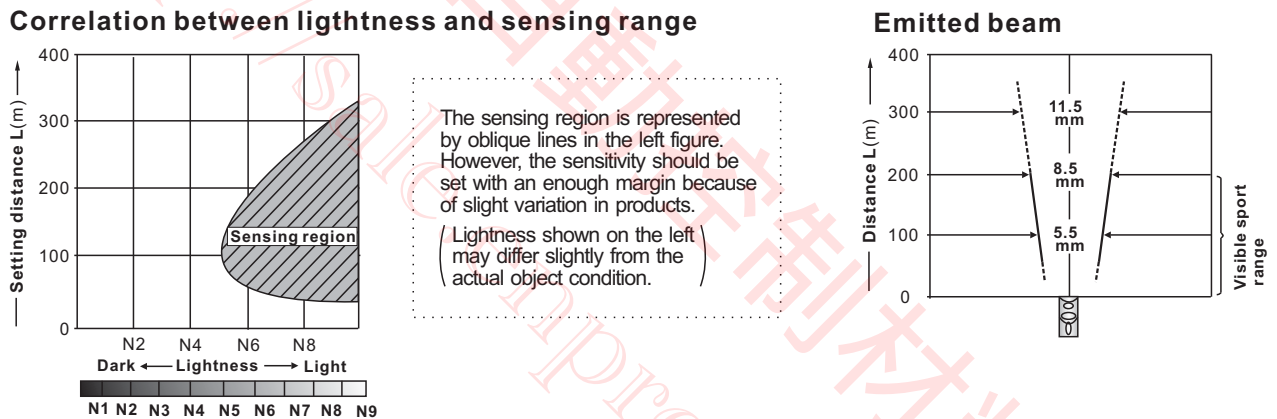
RP34 SERIES

Sensing Characteristics & Precautions for Proper Use

Narrow-view Diffuse Mode [RP34-D0300N(P)...]



Retroreflective Mode [RP34-L5000N(P)...]



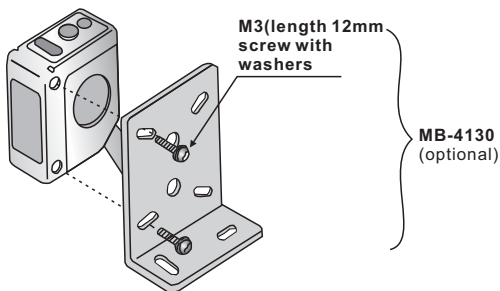
Precautions for Proper Use



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)

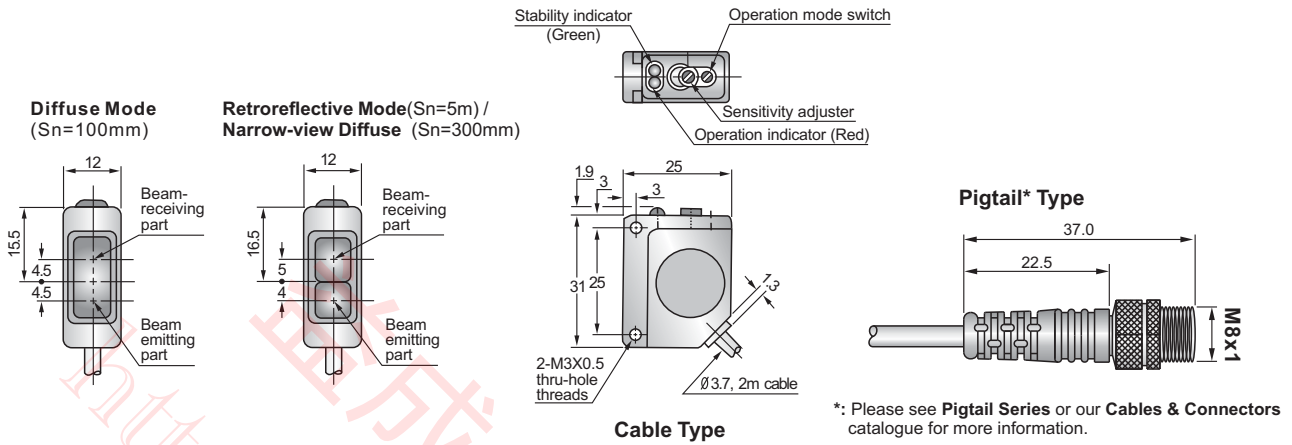
Mark	White	Yellow	Orange	Red	Green	Blue	Black
White		X	X	X	●	●	●
Yellow	X		X	X	●	●	●
Orange	X	X		X	●	●	●
Red	X	X	X		●	●	●
Green	●	●	●	●		X	X
Blue	●	●	●	●	X		X
Black	●	●	●	●	X	X	

●: Detectable X: Not detectable

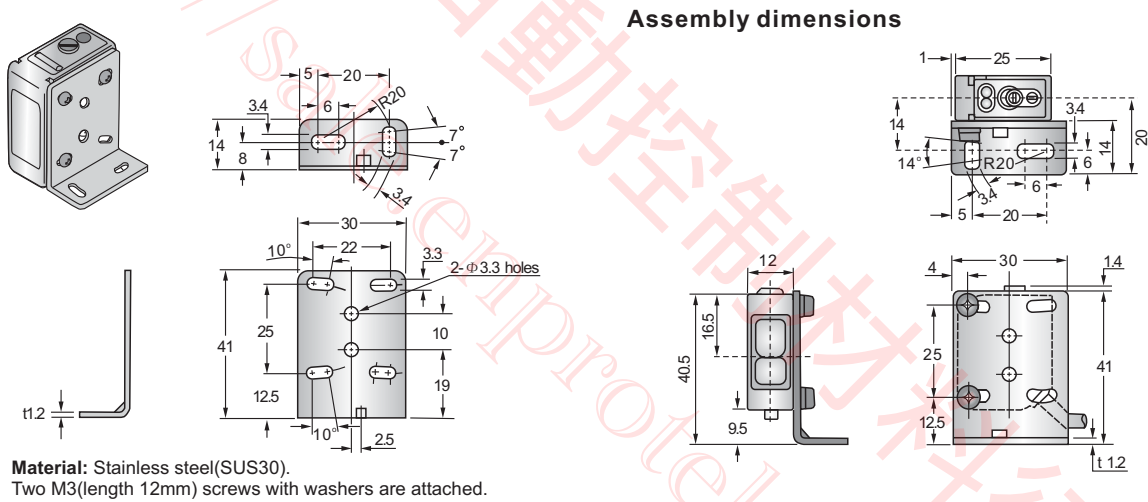
RP34 SERIES

Dimensions (Unit: mm)

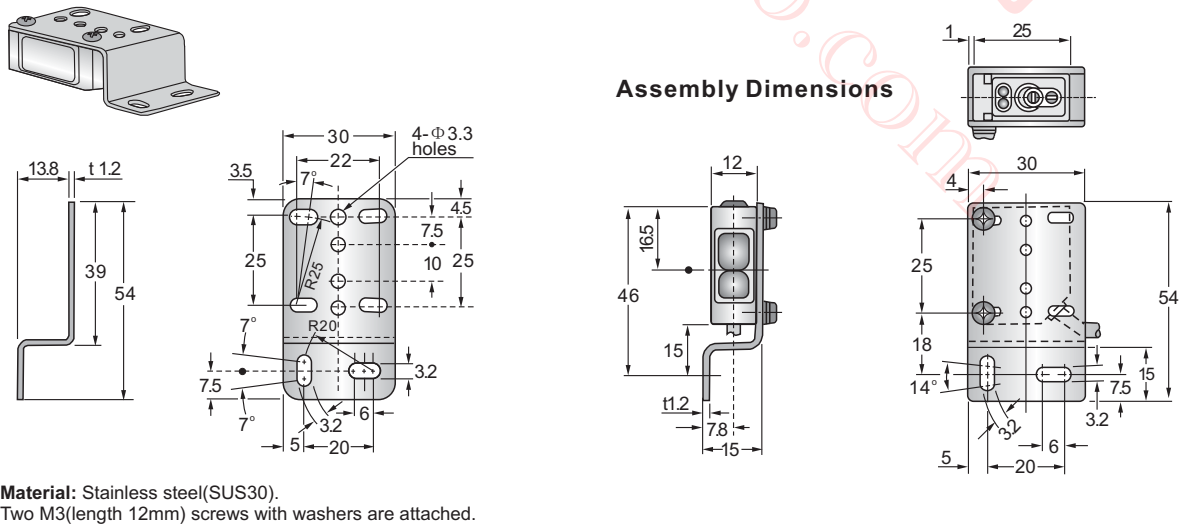
Sensor Type



MB-4130 (Sensor mounting bracket-optional)



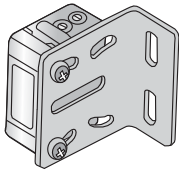
MB-5430 (Sensor mounting bracket-optional)



RP34 SERIES

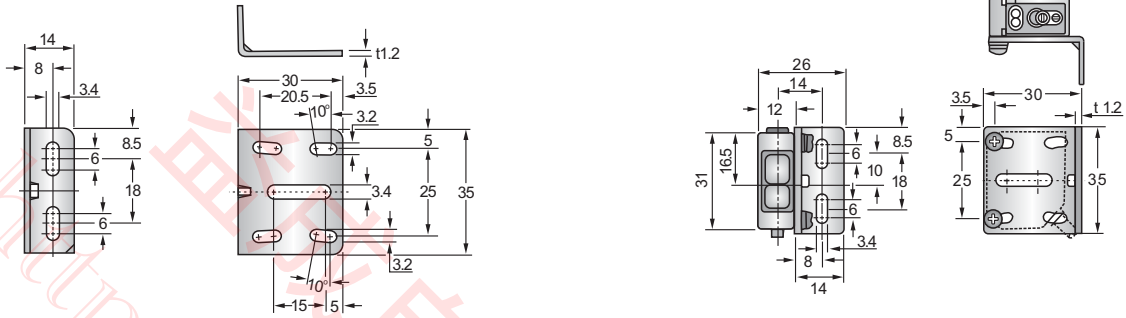
Dimensions (Unit: mm)

MB-3530 (Sensor mounting bracket-optional)

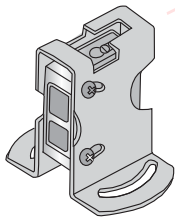


Material: Stainless steel (SUS304).
Two M3 (length 12mm) screws with washers are attached.

Assembly dimensions

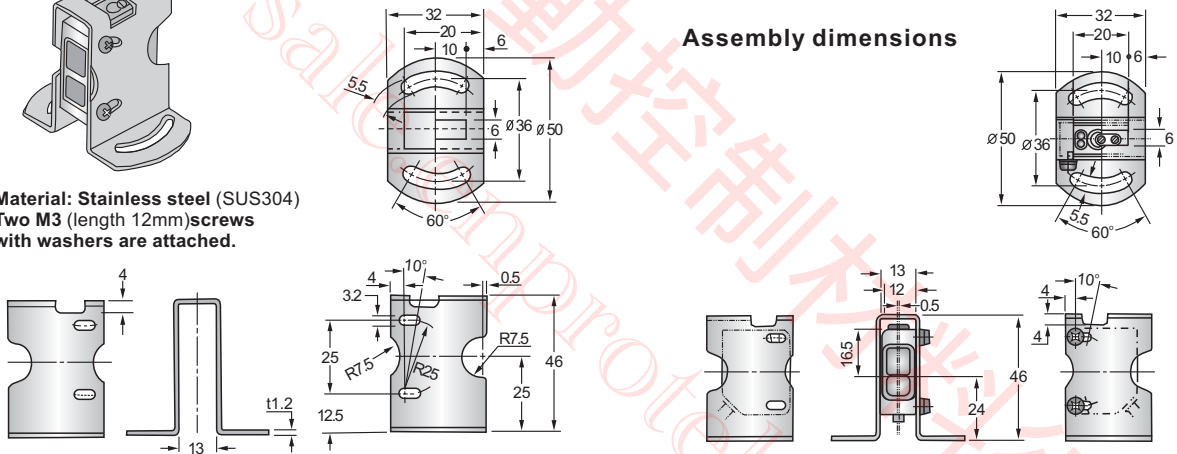


MB-4632 (Sensor mounting bracket-optional)



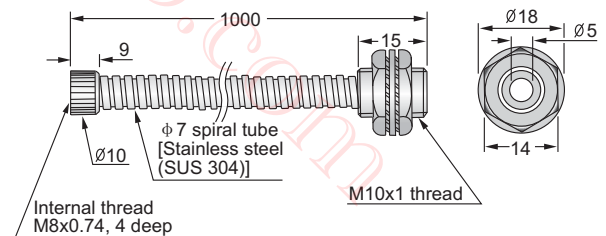
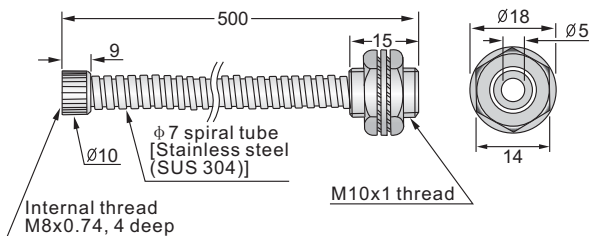
Material: Stainless steel (SUS304)
Two M3 (length 12mm) screws with washers are attached.

Assembly dimensions



PT-RP500 (Protective tube-optional)









PT-RP1000 (Protective tube-optional)



Aq: RP34 SERIES

RP35 SERIES

Thru-beam Mode (Standard Type)

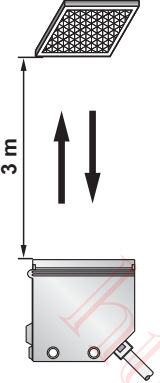



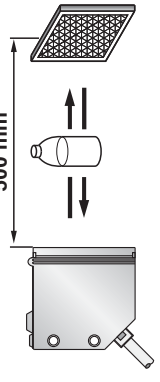







Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number
 <p>Standard Range Sensing Distance 10 m Light source: Infrared</p>	2m Cable 	10-30V DC	Emitter	<u>RP35-T010MD-EY9C2L2/D</u>
			NPN	<u>RP35-T010MN-CY9C3U2/D</u>
			PNP	<u>RP35-T010MP-CY9C3U2/D</u>
	Quick Disconnect (Pico style) 	10-30V DC	Emitter	<u>RP35-T010MD-EY9C2L2/D</u>
			NPN	<u>RP35-T010MN-CY9C3U2/D</u>
			PNP	<u>RP35-T010MP-CY9C3U2/D</u>
	6" Pigtail (Pico style) 	10-30V DC	Emitter	<u>RP35-T010MD-EY9C2L2/D</u>
			NPN	<u>RP35-T010MN-CY9C3U2/D</u>
			PNP	<u>RP35-T010MP-CY9C3U2/D</u>
 <p>Long Sensing Range Sensing distance 50 m Light source: Infrared</p>	2m Cable 	10-30V DC	Emitter	<u>RP35-T010MD-EY9C2L2/D</u>
			NPN	<u>RP35-T010MN-CY9C3U2/D</u>
			PNP	<u>RP35-T010MP-CY9C3U2/D</u>
	Quick Disconnect (Pico style) 	10-30V DC	Emitter	<u>RP35-T010MD-EY9C2L2/D</u>
			NPN	<u>RP35-T010MN-CY9C3U2/D</u>
			PNP	<u>RP35-T010MP-CY9C3U2/D</u>
	6" Pigtail (Pico style) 	10-30V DC	Emitter	<u>RP35-T010MD-EY9C2L2/D</u>
			NPN	<u>RP35-T010MN-CY9C3U2/D</u>
			PNP	<u>RP35-T010MP-CY9C3U2/D</u>

As: RP35 SERIES

Note:
 Coming Soon : Part numbers with underline
 In Preparation: Part numbers with a line through the middle

RP35 SERIES

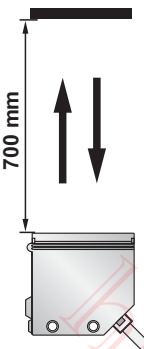



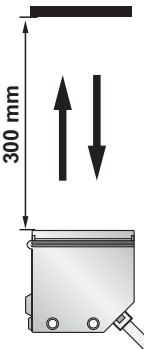



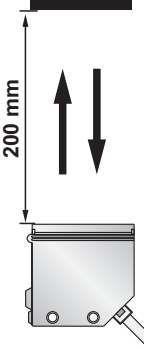



Retroreflective Mode (Standard Type)

Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number	
 <p>3 m</p> <p>With Polarizing Filter</p> <p>Sensing Range: 0.1 to 3 m (Note)</p> <p>Light source: Red Light</p>	2m Cable 	10-30V DC	NPN	RP35-L3000N-CY6C3U2-PF/D	
				PNP	RP35-L3000P-CY6C3U2-PF/D
	Quick Disconnect (Pico style) 	10-30V DC	NPN	RP35-L3000N-CY6Q4UP-PF/D	
				PNP	RP35-L3000P-CY6Q4UP-PF/D
		6" Pigtail (Pico style) 	10-30V DC	NPN	
				PNP	
 <p>500 mm</p> <p>Clear Object Detector</p> <p>Sensing Range: 500 mm (Note)</p> <p>Light source: Red Light</p>	2m Cable 	10-30V DC	NPN		
				PNP	
	Quick Disconnect (Pico style) 	10-30V DC	NPN		
				PNP	
		6" Pigtail (Pico style) 	10-30V DC	NPN	
				PNP	
 <p>5 m</p> <p>Standard Type</p> <p>Sensing Range: 0.1 to 5 m (Note)</p> <p>Light source: Infrared</p>	2m Cable 	10-30V DC	NPN	RP35-L5000N-CY9C3U2/D	
				PNP	RP35-L5000P-CY9C3U2/D
	Quick Disconnect (Pico style) 	10-30V DC	NPN	RP35-L5000N-CY9Q4UP/D	
				PNP	RP35-L5000P-CY9Q4UP/D
		6" Pigtail (Pico style) 	10-30V DC	NPN	
				PNP	

Note: Used with RE-6152 (supplied with sensor) reflector.
 Coming Soon : Part numbers with underline
 In Preparation: Part numbers with a line through the middle

RP35 SERIES

Diffuse Mode (Standard Type)

Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number
 <p>Long Sensing Range Sensing Range: 700mm Light source: Infrared</p>	2m Cable 	10-30V DC	NPN	RP35-D0700N-CY9C3U2
			PNP	RP35-D0700P-CY9C3U2
	Quick Disconnect (Pico style) 	10-30V DC	NPN	RP35-D0700N-CY9Q4UP
			PNP	RP35-D0700P-CY9Q4UP
	6" Pigtail (Pico style) 	10-30V DC	NPN	
			PNP	
 <p>Wide-View Type Sensing Range: 300mm Light source: Infrared</p>	2m Cable 	10-30V DC	NPN	RP35-D0300N-CY9C3U2/D
			PNP	RP35-D0300P-CY9C3U2/D
	Quick Disconnect (Pico style) 	10-30V DC	NPN	RP35-D0300N-CY9Q4UP/D
			PNP	RP35-D0300P-CY9Q4UP/D
	6" Pigtail (Pico style) 	10-30V DC	NPN	
			PNP	
 <p>Narrow-View Type Sensing Range: 200mm Light source: Red Light</p>	2m Cable 	10-30V DC	NPN	
			PNP	
	Quick Disconnect (Pico style) 	10-30V DC	NPN	
			PNP	
	6" Pigtail (Pico style) 	10-30V DC	NPN	
			PNP	

Note:
 Coming Soon : Part numbers with underline
 In Preparation: Part numbers with a line through the middle

As: RP35 SERIES

RP35 SERIES

Specifications (Standard Type)

Type	Thru-beam Mode				Retroreflective Mode			Diffuse Mode			
	Infrared		Red	Green	Red (with polarizing filter)		Infrared (Long Range)	Infrared		Red	
Item	Model NO.	Long Range				For transparent object sensing		Wide-View			
		RP35-T010M...	RP35-T050M...	RP35-T2000...	RP35-T0500...	RP35-L3000...	RP35-L0500...	RP35-L5000...	RP35-D0700...	RP35-D0300...	RP35-D0200...
Sensing range	10 m	50 m	2 m	500 mm	0.1 to 3m (Note)	500mm (Note)	0.1 to 5m (Note)	700 mm	300 mm	200 mm	
Sensing object	φ 10 mm or more opaque object.				φ 50 mm or more opaque, translucent or specular object	φ 50 mm or more opaque, translucent or transparent object	φ 50 mm or more opaque, translucent object	Opaque, translucent or transparent object (Min. sensing object: φ 0.5 mm copper wire)			
Hysteresis	—————							15% or less of operation distance			
Repeatability	0.5mm or less				1mm or less	0.2mm or less	1mm or less	0.5mm or less			
Supply voltage	10 to 30V DC Ripple P-P 10% or less										
Current consumption	Emitter:< 25mA, Receiver:< 25mA 40mA or less										
Sensing output	NPN open-collector transistor Maximum sink current: 100mA Applied voltage: 30V DC or less (between output and 0V) Residual voltage: 1.5V or less (at 100mA sink current)					PNP open-collector transistor Maximum source current: 100mA Applied voltage: 30V DC or less (between output and 0V) Residual voltage: 1.5V or less (at 100mA source current)					
	Utilization category	DC-12 or DC-13									
	Output operation	Switchable either Light-ON or Dark-ON									
	Short-circuit protection	Incorporated									
Response time	1 ms or less										
Operation indicator	Red LED (lights up when the sensing output is ON)										
Stability indicator	Green LED (lights up under stable light received condition or stable dark condition)										
Sensitivity adjuster	Continuously variable adjuster										
Automatic interference prevention function	—————				Incorporated (Two units of sensors can be mounted closely)						
Environmental resistance	Pollution degree	3 (Industrial environment)									
	Protection	IP 67 (IEC)									
	Ambient temperature	-25 to +60°C (No dew condensation or icing allowed), storage: -30 to +70°C									
	Ambient humidity	35 to 85 % RH, storage:35 to 85% RH									
	Ambient illuminance	Sunlight: 11000 lx at the light receiving face, Incandescent light: 3500 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	1000 V 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)	Green LED (modulated)		Red LED (modulated)		Infrared LED (modulated)		Red LED (modulated)		
Material	Enclosure: Die-cast zinc alloy, Indicator cover: Polyethersulphone, Lens: Polycarbonate (retroreflective type: Acrylic)										
Cable	0.15mm ² 3-core(emitter of thru-beam mode:2-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(thru-beam type: both emitter and receiver)										
Pigtail type	See Pigtail Series or our Cables & Connectors catalogue.										
Connector type	Pico style (M8) 4pin										
Weight	75g approx.										
Accessories	MB-4537 (Sensor mounting bracket): 2 set. Adjusting screwdriver: 1 pc.				MB-4537 (Sensor mounting bracket):1set RE-6152 (reflector): 1 pc. Adjusting screwdriver: 1 pc.			MB-4537 (Sensor mounting bracket):1set Adjusting screwdriver: 1pc.			

Note: Used with RE-6152 (supplied with sensor) reflector.

RP35 SERIES

Specifications (DC 2-wire type)

Type	Thru-beam Mode	Retroreflective Mode (with polarizing filter)	Diffuse Mode
Item Model NO.	RP35-T5000D-CY9C2U2	RP35-L2000D-CY6C2U2-PF	RP35-D0300D-CY9C2U2
Sensing range	5 m	0.1 to 2m (Note)	300 mm
Sensing object	φ 10 mm or more opaque object.	φ 50mm or more opaque, translucent or specular object	Opaque, translucent and transparent object
Hysteresis	—————		15% or less of operation distance
Repeatability	0.5mm or less	1mm or less	0.5mm or less
Supply voltage	10 to 30V DC Ripple P-P 10% or less		
Current consumption	Emitter:8mA or less, Receiver:0.8 mA or less		1 mA or less
Sensing output	Non Contact DC 2-wire type Load Current: 5 to 100mA Residual voltage: 4V or less		
Output operation	Switchable either Light-ON or Dark-ON		
Short-circuit protection	Incorporated		
Response time	3 ms or less		
Operation indicator	Red LED (lights up when the sensing output is ON)		
Stability indicator	Green LED (Light-ON mode: Lights up under stable light received condition) Dark-ON mode: Lights up under stable dark condition		
Sensitivity adjuster	Continuously variable adjuster		
Environmental resistance	Protection	IP 67 (IEC)	
	Ambient temperature	-25 to +60°C (No dew condensation or icing allowed), storage: -30 to +70°C	
	Ambient humidity	35 to 85 % RH, storage:35 to 85% RH	
	Ambient illuminance	Sunlight: 11000 lx at the light receiving face, Incandescent light: 3500 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	1000 V 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)	Infrared LED (modulated)
Material	Enclosure: Die-cast zinc alloy, Indicator cover: Polyethersulphone, Lens: Polycarbonate		
Cable	0.15mm ² 2-core oil, heat and cold resistant cabtyre cable, 2m long		
Cable extension	—————		
Pigtail type	See Pigtail Series or our Cables & Connectors catalogue.		
Connector type	Pico style (M8) 4pin		
Weight	75g approx.		
Accessories	MB-4537 (Sensor mounting bracket): 2 set. Adjusting screwdriver: 1 pc.	MB-4537 (Sensor mounting bracket):1set RE-6152 (Reflector): 1 pc. Adjusting screwdriver: 1 pc.	MB-4537 (Sensor mounting bracket):1set Adjusting screwdriver: 1pc.

Note: Used with RE-6152 (supplied with sensor) reflector.

As: RP35 SERIES

RP35 SERIES

Specifications (Intelligent Type)

Type		Thru-beam Mode	Retroreflective Mode (with polarizing filter)		Diffuse Mode
			Clear Object Detector		
Item	Model NO.	RP35A-T010MN(P)...	RP35A-L3000N(P)...	RP35A-S0500N...	RP35A-D0700N(P)...
Sensing range		10 m	0.1 to 3m (Note)	500 mm (Note)	700 mm
Sensing object		φ 10 mm or more opaque object.	φ 50mm or more opaque, translucent or specular object		Opaque, translucent & transparent object
Hysteresis		—————			15% or less of operation distance
Repeatability		0.5mm or less	1mm or less	0.2 mm or less	0.5mm or less
Supply voltage		10 to 30V DC Ripple P-P 10% or less			
Current consumption		Emitter: 20mA or less Receiver: 45mA or less	40mA or less		
Sensing output		NPN open-collector transistor Maximum sink current: 100mA Applied voltage: 30V DC or less(between output and 0V) Residual voltage: 1.5V or less (at 100mA sink current)		PNP open-collector transistor Maximum source current: 100mA Applied voltage: 30V DC or less(between output and 0V) Residual voltage: 1.5V or less (at 100mA source current)	
	Output operation	Switchable either Light-ON or Dark-ON			
	Short-circuit protection	Incorporated			
Self-diagnosis output		NPN open-collector transistor Maximum sink current: 100mA Applied voltage: 30V DC or less(between output and 0V) Residual voltage: 1 V or less (at 100mA sink current)		PNP open-collector transistor Maximum source current: 100mA Applied voltage: 30V DC or less(between output and 0V) Residual voltage: 1 V or less (at 100mA source current)	
	Output operation	ON under unstable sensing or the sensor circuit failure conditions			
	Short-circuit protection	—————			
Response time		3 ms or less			
Test input		Incorporated			
Operation indicator		Red LED (lights up when the sensing output is ON, blinks when the sensor circuit has failed)			
Stability indicator		Green LED (lights up when the sensing output wire is disconnected, lights up under stable received condition or stable dark condition, and blinks under unstable sensing condition)			
Emitting indicator		Red LED (lights up during beam emission)	—————		
Stability indicator		Continuously variable adjuster			
Automatic interference prevention function		—————	Incorporated (Two units of sensors can be mounted closely)		
Self-diagnosis unction		Self-diagnosis of incident light intensity and internal circuit failure			
Environmental resistance	Protection	IP 67 (IEC)			
	Ambient temperature	-25 to +60°C (No dew condensation or icing allowed), storage: -30 to +70°C			
	Ambient humidity	35 to 85 % RH, storage:35 to 85% RH			
	Ambient illuminance	Sunlight: 11000 lx at the light receiving face, Incandescent light: 3500 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	1000 V AC for one min. Between all supply terminals connected together and enclosure.			
	Insulation resistance	20MΩ ,or more, with 250V DC megger between all supply terminals connected together and enclosure			
	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)	Infrared LED (modulated)	
Material		Enclosure: Die-cast zinc alloy, Indicator cover: Polyethersulphone, Lens: Polycarbonate (retroreflective type: Acrylic)			
Cable		0.15mm ² 5-core(thru-beam type: 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(thru-beam type: both emitter and receiver)			
Pigtail type		See Pigtail Series or our Cables & Connectors catalogue.			
Connector type		Pico style (M8) 4pin			
Weight		75g approx.			
Accessories		MB-4537 (Sensor mounting bracket): 2 set. Adjusting screwdriver: 1 pc.	MB-4537(Sensor mounting bracket):1set RE-6152 (Reflector): 1 pc. Adjusting screwdriver: 1 pc.	MB-4537 (Sensor mounting bracket):1set Adjusting screwdriver: 1pc.	

Note: Used with RE-6152 (supplied with sensor) reflector.

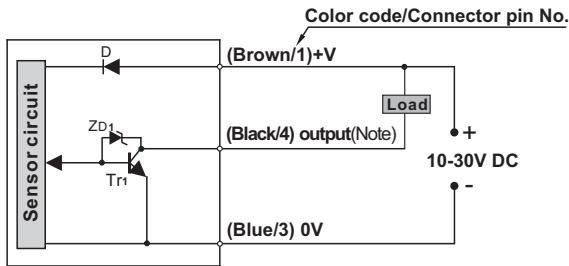
RP35 SERIES**Specifications (Heavy duty type)**

Type		Thru-beam Mode		
		Cable length 2m	Cable length 3m	Cable length 5m
Item	Model NO.	RP35B-T5000N(P)-CY9C3U2	RP35B-T5000N(P)-CY9C3U3	RP35B-T5000N(P)-CY9C3U5
Sensing range		5 m		
Sensing object		φ 10 mm or more opaque object.		
Repeatability		0.5mm or less		
Supply voltage		10 to 30V DC Ripple P-P 10% or less		
Current consumption		Emitter:20mA or less, Receiver:25 mA or less		
Sensing output		NPN Open-collector transistor Maximum sink Current: 100mA Applied voltage: 30V DC or less (between output and 0V) Residual voltage: 1.5V or less (at 100mA sink current)		
		PNP Open-collector transistor Maximum source Current: 100mA Applied voltage: 30V DC or less (between output and 0V) Residual voltage: 1.5V or less (at 100mA source current)		
Output operation		Switchable either Light-ON or Dark-ON		
Short-circuit protection		Incorporated		
Response time		1 ms or less		
Test input		Incorporated		
Operation indicator		Red LED (lights up when the sensing output is ON)		
Stability indicator		Green LED(Lights up under stable light received condition or stable dark condition)		
Emitting indicator		Red LED (lights up during beam emission)		
Stability indicator		Continuously variable adjuster		
Environmental resistance	Protection	IP 67 (IEC), IP67g(JEM)		
	Ambient temperature	-25 to +60℃ (No dew condensation or icing allowed), storage: -30 to +70℃		
	Ambient humidity	35 to 85 % RH, storage:35 to 85% RH		
	Ambient illuminance	Sunlight: 11000 lx at the light receiving face, Incandescent light: 3500 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	1000 V AC for one min. Between all supply terminals connected together and enclosure.		
	Insulation resistance	20MΩ ,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)		
Material		Enclosure: Die-cast zinc alloy(Fluorine resin coating) , Indicator cover: Polyethersulphone, Lens: Polycarbonate, Protective tube sheath: Oil resistant PVC		
Cable		0.15mm ² 5-core(thru-beam type:3-core) oil, heat and cold resistant cabtyre cable		
Protective tube length		1 m	2 m	4 m
Cable extension		Extension up to total 100m is possible for both emitter and receiver with 0.3mm ² ,or more, cable		
Weight		Emitter: 175 g approx., Receiver: 175g approx.	Emitter: 265 g approx., Receiver: 265g approx.	Emitter: 495 g approx., Receiver: 495g approx.
Accessories		MB-5737 (Sensor mounting bracket): 2 sets, Adjusting screwdriver: 1pc.		

RP35 SERIES

Connection Diagrams

Standard Type & Heavy Duty Type Sensor

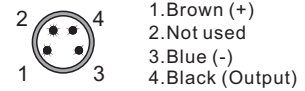


Symbols...D :Reverse supply polarity protection diode
 ZD1: Surge absorption zener diode
 Tr: NPN output transistor.

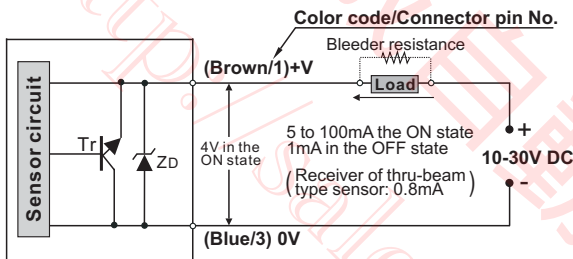
Note: The emitter of the thru-beam type sensor without output

Connector pin position

Pico-Style



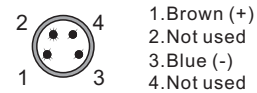
DC 2-wire Type Sensor



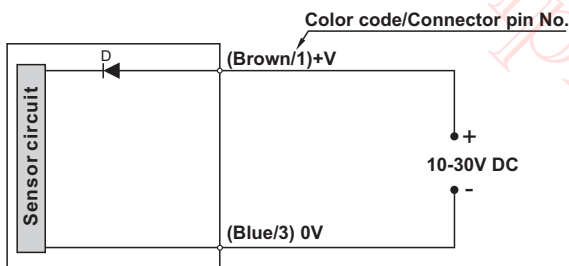
Symbols...D:Reverse supply polarity protection diode
 ZD:Surge absorption zener diode
 Tr :PNP output transistor

Connector pin position

Pico-Style

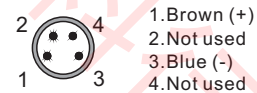


Emitter of Thru-beam Mode (DC 2-wire type)

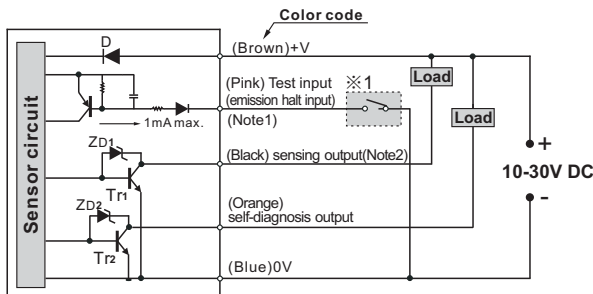


Connector pin position

Pico-Style



Intelligent Type Sensor

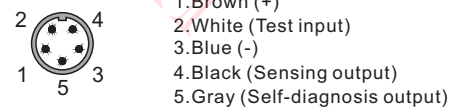


Symbols...D : Reverse supply polarity protection diode
 Zd1 : Surge absorption zener diode
 Tr1, Tr2 : NPN output transistor

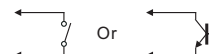
Notes:
 (1) The receiver of the thru-beam type sensor does not incorporate the test input (emission halt input).
 (2) The emitter of the thru-beam type sensor does not incorporate the sensing output.

Connector pin position

Pico-Style



※1 Non-voltage contact or NPN open-collector transistor

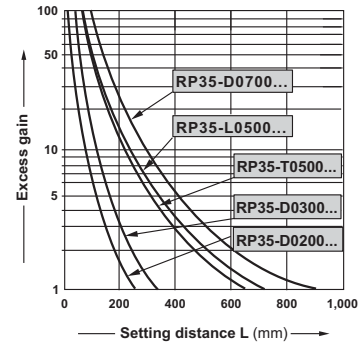
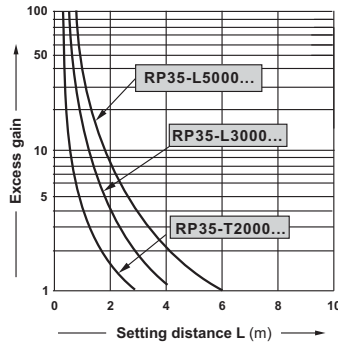
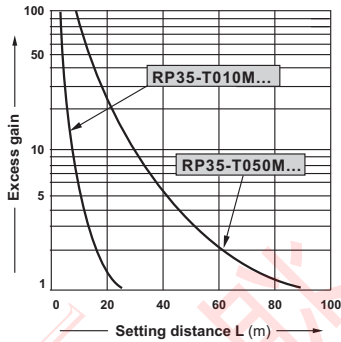


(Supply voltage -2.5V) or more (4.5V or more for the RP3 model): **emission**
 (Supply voltage -3.3V) or less (2.5V or less for the RP3 model): **emission stopped**

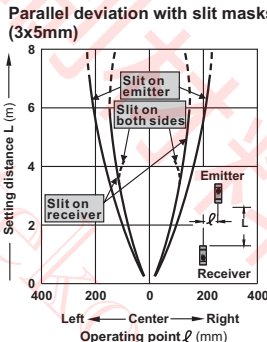
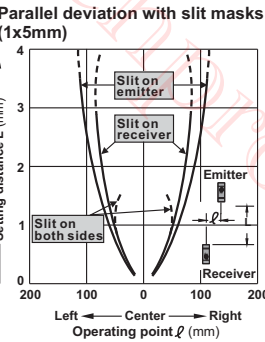
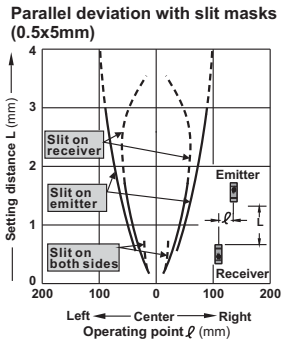
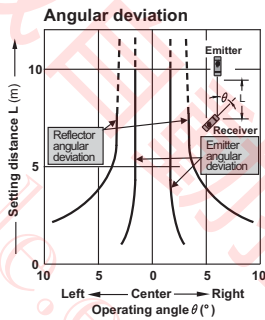
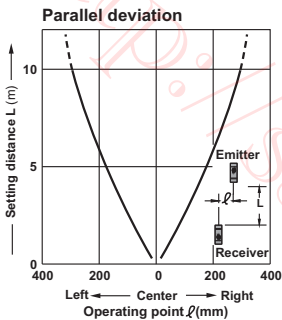
RP35 SERIES

Sensing Characteristics (Typical)

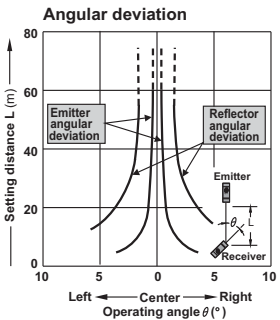
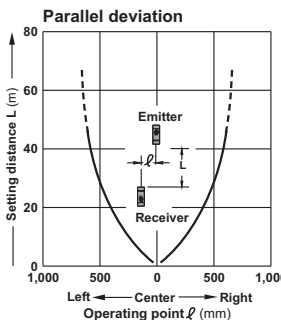
All Models



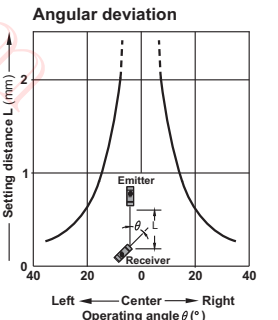
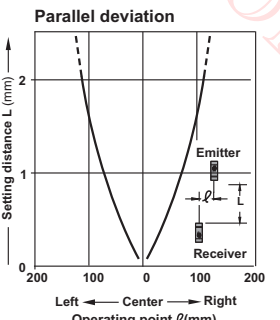
RP35-T010MD..., RP35A-T010MN... (Thru-beam type)



RP35-T050MD... (Thru-beam type)



RP35-T2000D...-K (Thru-beam type)

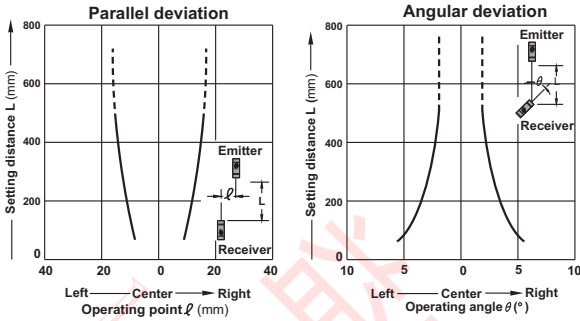


As: RP35 SERIES

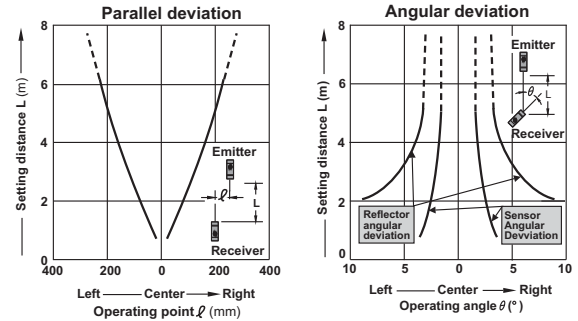
RP35 SERIES

Sensing Characteristics (Typical)

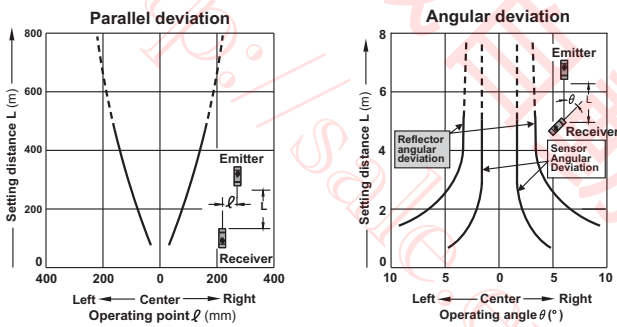
RP35-T0500N...-K(Thru-bem type)



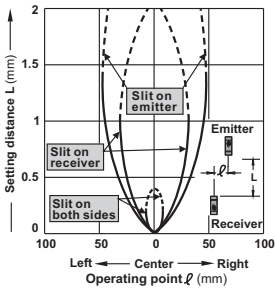
RP35-T5000D...(Thru-bem type)



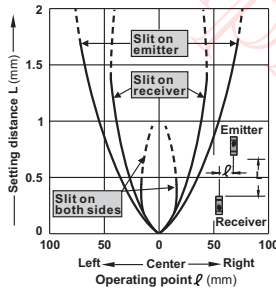
RP35-T5000N...(Thru-bem type)



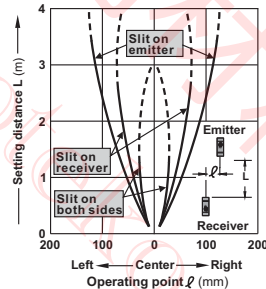
Parallel deviation with slit masks (0.5x5mm)



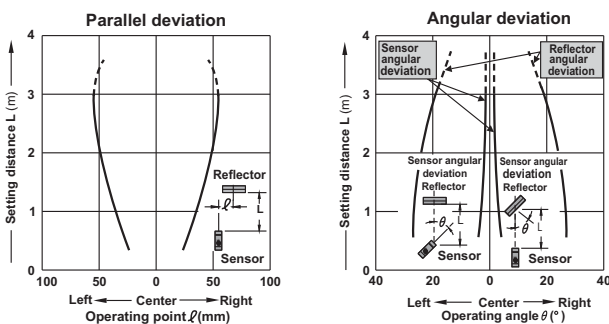
Parallel deviation with slit masks (1x5mm)



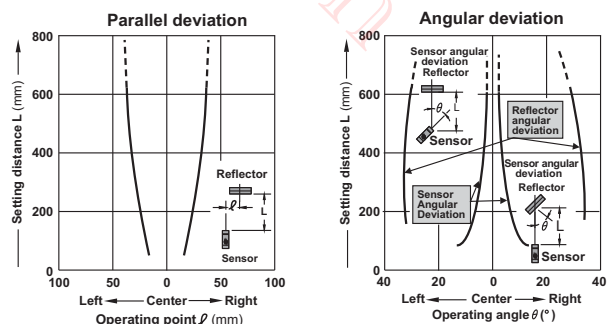
Parallel deviation with slit masks (3x5mm)



RP35-L3000N... RP35A-L3000N... (Polarized Retroreflective type)



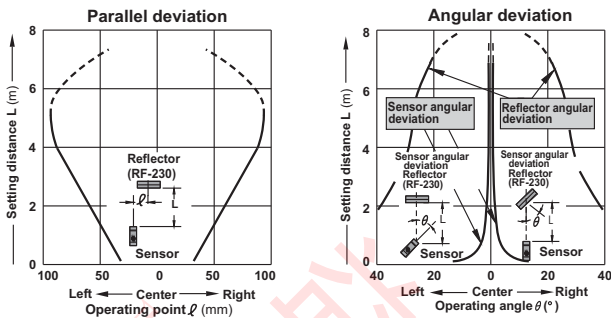
RP35-S0500D... RP35A-S0500N... (Clear object detector type)



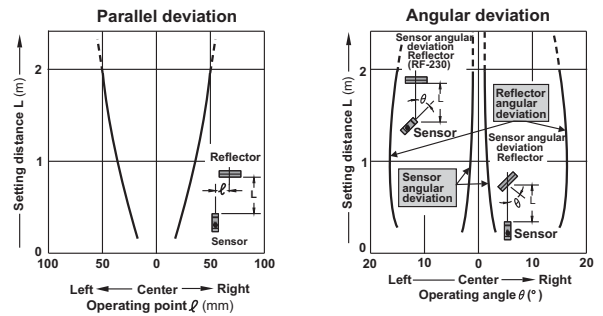
RP35 SERIES

Sensing Characteristics (Typical)

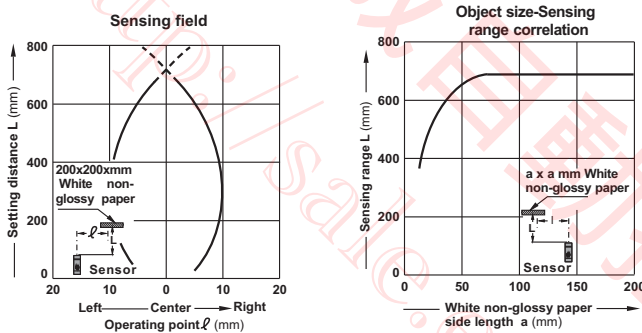
RP35-L5000N...(Retroreflective Mode: Sn=5m)



RP35-L2000N...(Retroreflective Mode: Sn=2m)



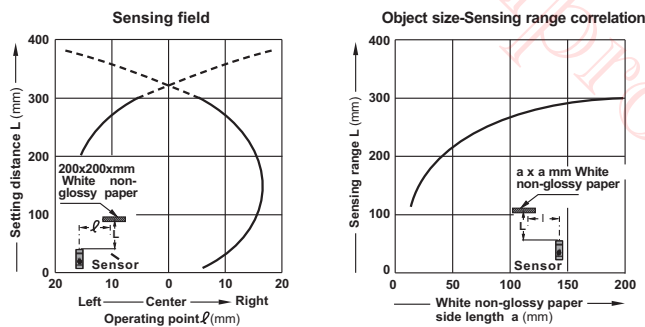
RP35-D0700N..., RP35A-D0700N...(Diffuse Mode: Sn=700mm)



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 700mm.)

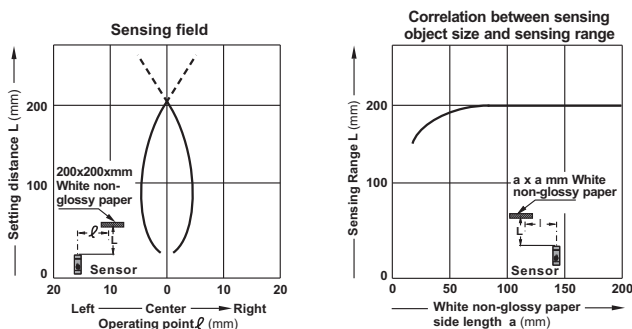
RP35-D0300N... (Diffuse Mode: Sn=300mm)



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.)

RP35-D0200N...(Diffuse Mode: Sn=200mm)



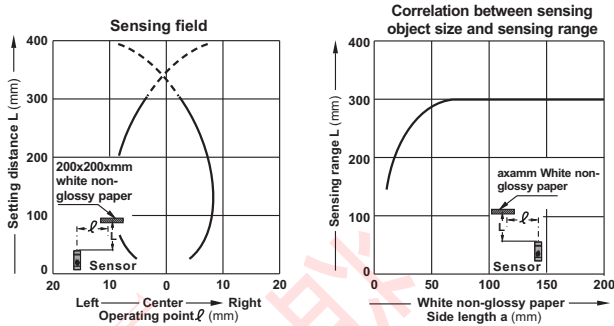
As the sensing object size becomes smaller than the standard size (white non-glossy paper 200x200mm), the sensing range shortens, as shown in the left graph.

(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 200mm.)

RP35 SERIES

Sensing Characteristics (Typical) / Precautions For Proper Use

RP35-D0300D...(Diffuse 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.)

Precautions For Proper Use

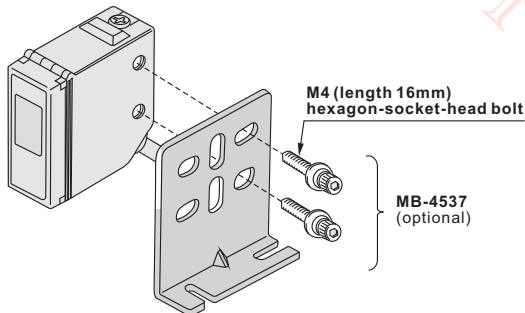
All Models



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

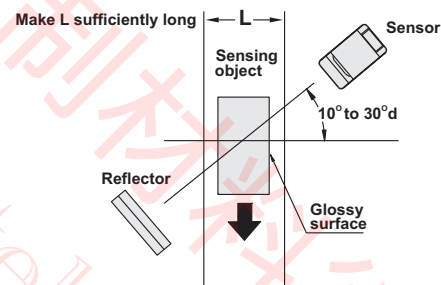
- The tightening torque should be 1.17N m or less.



RP35-L5000

Glossy object sensing

- Please take care of the following points when detecting materials having a gloss.
 - Make L, shown in the diagram, sufficiently long.
 - Install at an angle of 10 to 30 degrees to the sensing object.



RP35-L3000N RP35-L0500N RP35-L2000N

Retroreflective type sensor with polarizing filters

- If a shiny object is covered or wrapped with a transparent film such as those described below, the retroreflective type sensor with polarizing filters may not be able to detect it. In that case, follow the steps given below.

Example of sensing objects

- Can wrapped by clear film
- Aluminum sheet covered by plastic film
- Gold or silver color (glossy) label or wrapping paper

Steps

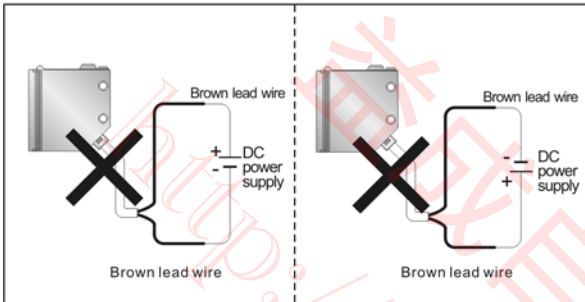
- Tilt the sensor with respect to the sensing object while fitting. Reduce the sensitivity. Increase the distance between the sensor and the sensing object.

RP35 SERIES

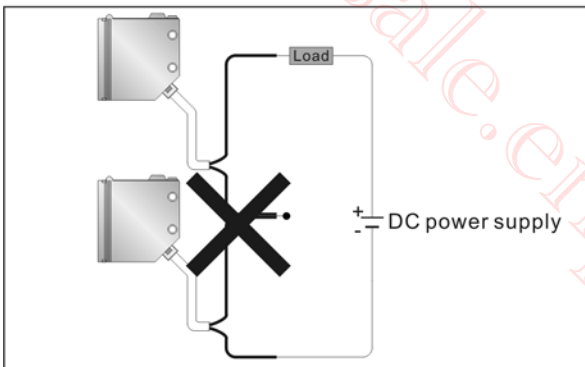
Precautions For Proper Use (DC 2-wire type sensor)

Wiring

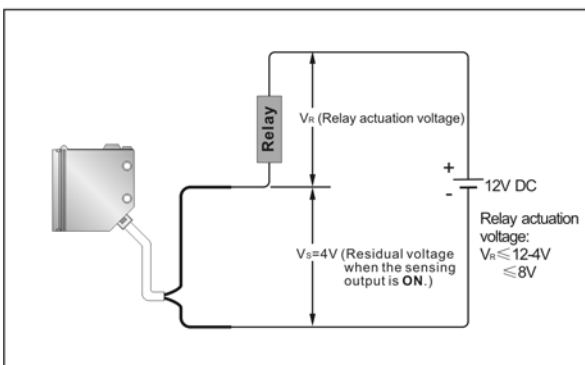
- Always connect the sensor to the power supply through a load. If the sensor is connected to the power supply directly, the short-circuit protection makes the sensor inoperable (The output stays in the OFF state and no indicator lights up). If this happens, connect the sensor to the power supply through a load. Further, note that the sensor will be damaged if the power supply is connected in reverse without a load.



- Do not connect sensors in series (and circuit)



- The residual voltage of the sensor is 4V. Before connecting to a relay, be aware of the actuation voltage of the relay. (Not all 12V relays may be connected as the load.)

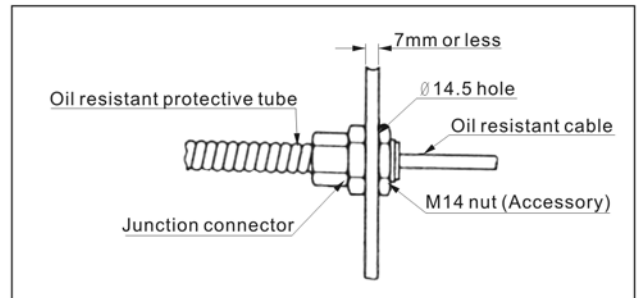


Heavy duty type

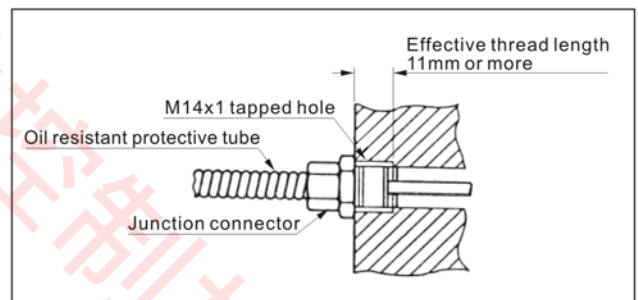
- Connection of protective tube connector**

Connect the junction connector securely as shown below. The tightening torque should be 0.98N · m or less.

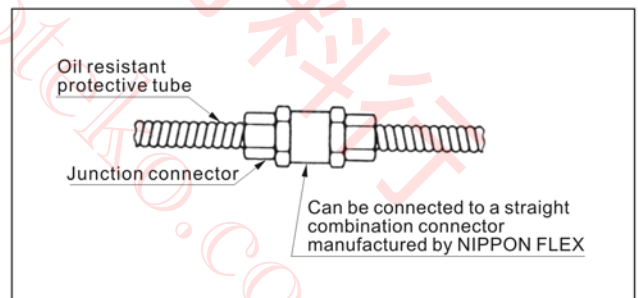
- When mounted on a plate**



- When mounted with a female screw**



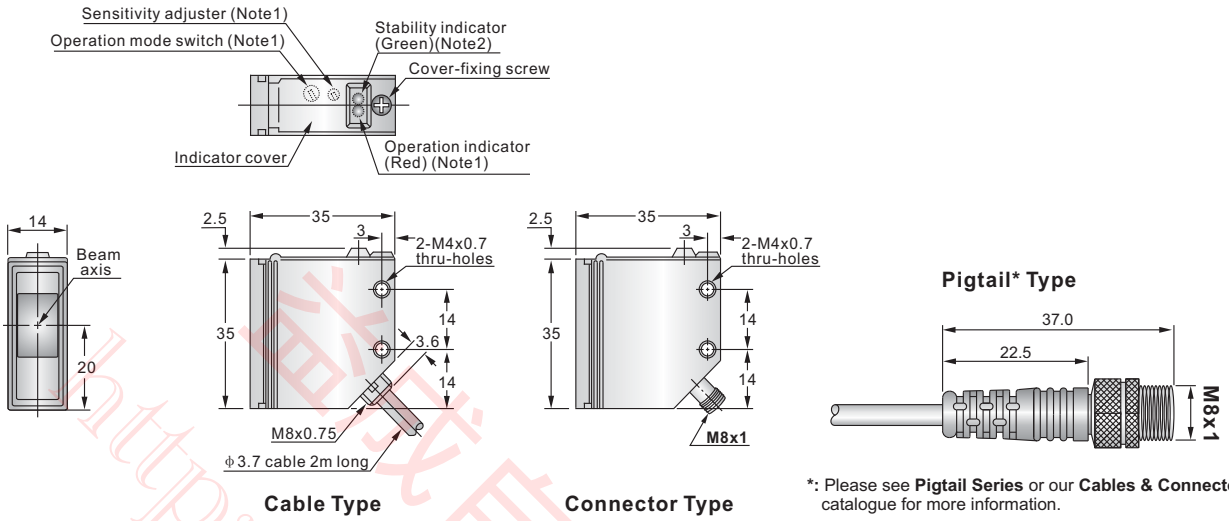
- When connected to another protective tube**



RP35 SERIES

Dimensions (Unit: mm)

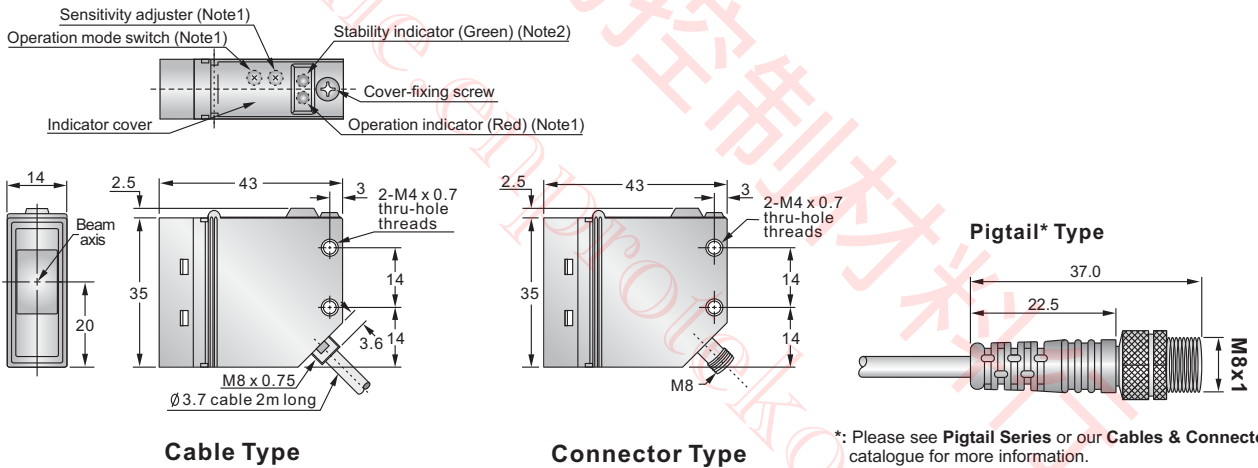
Thru-beam Mode Type Sensor (Except Sn=50m type) / Diffuse Mode Sensor



*: Please see **Pigtail Series** or our **Cables & Connectors** catalogue for more information.

- Notes: 1) Not incorporated on the emitter of thru-beam mode.
2) It is the emitting indicator (red) on the emitter of the thru-beam mode.

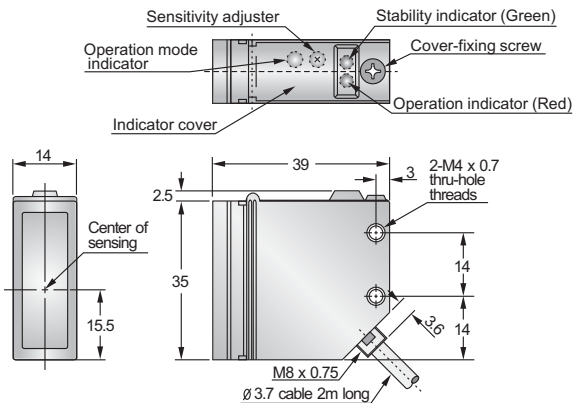
Thru-beam Mode Type Sensor (Only for Sn=50m type)



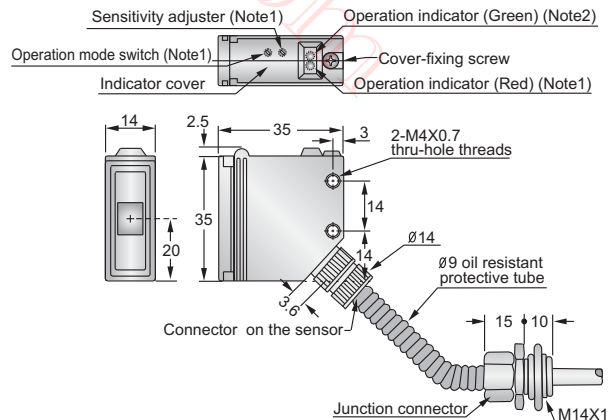
*: Please see **Pigtail Series** or our **Cables & Connectors** catalogue for more information.

- Notes: 1) Not incorporated on the emitter.
2) It is the emitting indicator (red) on the emitter.

Retroreflective Type / Clear Object Detector Type Sensor



Heavy Duty Type Sensor (RP35B-T5000...type)

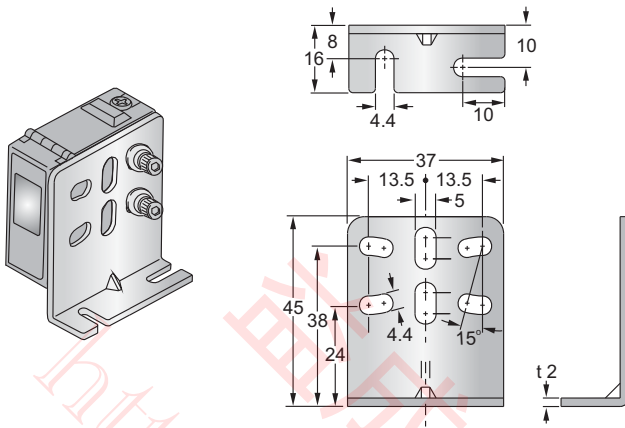


- Notes: 1) Not incorporated on the emitter.
2) It is the emitting indicator (red) on the emitter.

RP35 SERIES

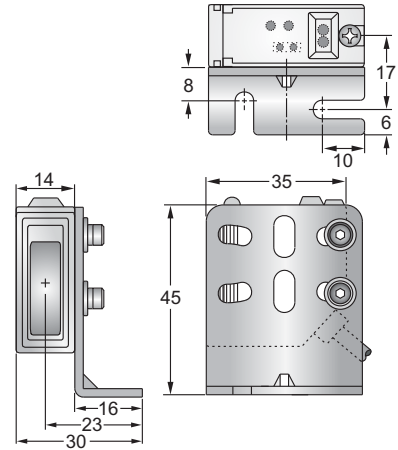
Dimensions (Unit: mm)

MB-4537 (Sensor mounting bracket-optional)

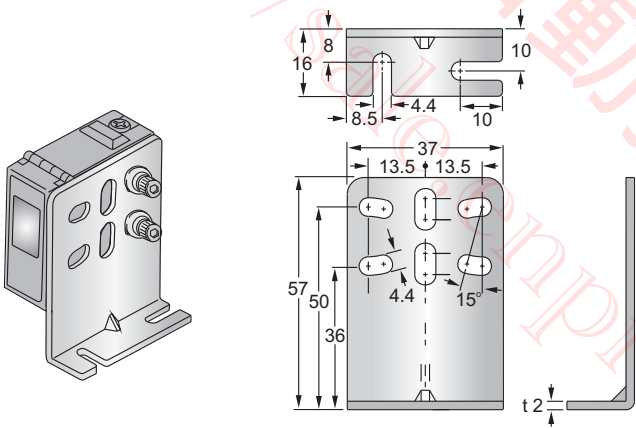


Material: Cold rolled carbon steel (SPCC)
Two M4 (length 16mm) hexagon-socket-head bolts are attached.

Assembly dimensions

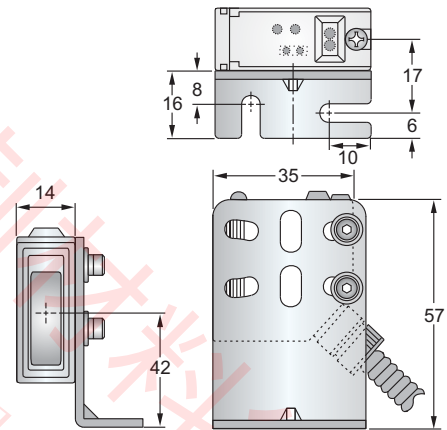


MB-5737 (Sensor mounting bracket-only for heavy duty type sensor-optional)

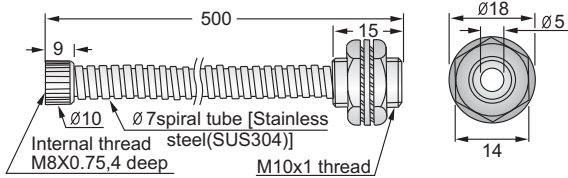


Material: Cold rolled carbon steel (SPCC)
Two M4 (length 16mm) hexagon-socket-head bolts are attached.

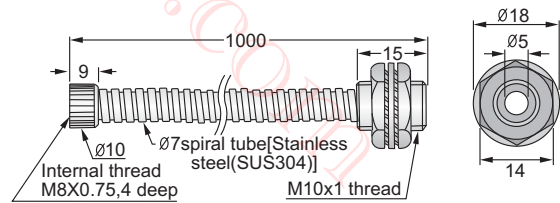
Assembly dimensions



PT-RP500 (Protective Tube-optional)



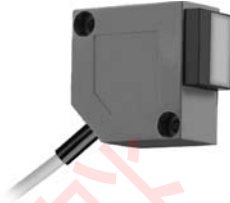
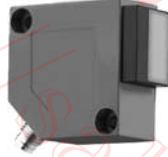



PT-RP1000 (Protective Tube-optional)



RP40 SERIES

Thru-beam Mode

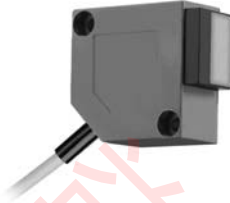
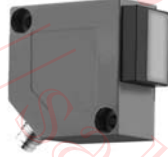



Ba: RP40 SERIES

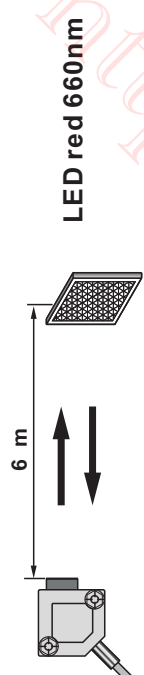
Sensing Mode	Appearance	Supply Voltage	Output Mode	Part Number
Infrared 880nm	2m Cable 	10-36VDC	Emitter	<u>RP40-T015MD-EY9C3L2</u>
			NPN	<u>RP40-T015MN-CY9C4U2</u>
			PNP	<u>RP40-T015MP-CY9C4U2</u>
			NPN/PNP	<u>RP40-T015MD-CY9C4U2</u>
		12-240V DC/ 24-240V AC	Emitter (2-wire)	<u>RP40-T015MC-EY9C2L2</u>
			Solid State Isolated Relay (4-wire)	<u>RP40-T015MS-CY9C4L2</u>
			SPST Solid-state Light-ON (2-wire)	<u>RP40-T015MC-LY9C2U2</u>
			SPST Solid-state Dark-ON (2-wire)	<u>RP40-T015MC-DY9C2U2</u>
	M8 Quick Disconnect (Pico-style) 	10-36VDC	Emitter	<u>RP40-T015MD-EY9Q4UP</u>
			NPN	<u>RP40-T015MN-CY9Q4UP</u>
			PNP	<u>RP40-T015MP-CY9Q4UP</u>
			NPN/PNP	<u>RP40-T015MD-CY9Q4UP</u>
		12-240V DC/ 24-240V AC	—	—
			—	—
			—	—
			—	—
Thru-beam Mode Sensing Distance: 15m	M12 Quick Disconnect 	10-36VDC (Euro-style)	Emitter	<u>RP40-T015MD-EY9Q4LE</u>
			NPN	<u>RP40-T015MN-CY9Q4UE</u>
			PNP	<u>RP40-T015MP-CY9Q4UE</u>
			NPN/PNP	<u>RP40-T015MD-CY9Q4UE</u>
		12-240V DC/ 24-240V AC (Micro-style)	Emitter (2-wire)	<u>RP40-T015MC-EY9Q4LM</u>
			Solid State Isolated Relay (4-wire)	<u>RP40-T015MS-CY9Q4LM</u>
			SPST Solid-state Light-ON (2-wire)	<u>RP40-T015MC-LY9Q4UM</u>
			SPST Solid-state Dark-ON (2-wire)	<u>RP40-T015MC-DY9Q4UM</u>
	M8 Pigtail (Pico-style) 	10-36VDC	Emitter	<u>RP40-T015MD-EY9P4LP</u>
			NPN	<u>RP40-T015MN-CY9P4UP</u>
			PNP	<u>RP40-T015MP-CY9P4UP</u>
			NPN/PNP	<u>RP40-T015MD-CY9P4UP</u>
12-240V DC/ 24-240V AC		—	—	
		—	—	
		—	—	
		—	—	
M12 Pigtail 	10-36VDC (Euro-style)	Emitter	<u>RP40-T015MD-EY9P4LE</u>	
		NPN	<u>RP40-T015MN-CY9P4UE</u>	
		PNP	<u>RP40-T015MP-CY9P4UE</u>	
		NPN/PNP	<u>RP40-T015MD-CY9P4UE</u>	
	12-240V DC/ 24-240V AC (Micro-style)	Emitter (2-wire)	<u>RP40-T015MC-EY9P4LM</u>	
		Solid State Isolated Relay (4-wire)	<u>RP40-T015MS-CY9P4LM</u>	
		SPST Solid-state Light-ON (2-wire)	<u>RP40-T015MC-LY9P4UM</u>	
		SPST Solid-state Dark-ON (2-wire)	<u>RP40-T015MC-DY9P4UM</u>	

Note:
 Coming Soon : Part numbers with underline
 In Preparation: Part numbers with a line through the middle
 — Ba-01 —

RP40 SERIES

Retroreflective Mode with Polarizing Filter

Sensing Mode	Appearance	Supply Voltage	Output Mode	Part Number	
Retroreflective Mode (With Polarizing Filter) Sensing Distance: 6 m (Note)	2m Cable 	10-36VDC	NPN	<u>RP40-L6000N-CY6C4U2-PF</u>	
			PNP	<u>RP40-L6000P-CY6C4U2-PF</u>	
			NPN/PNP	<u>RP40-L6000D-CY6C4U2-PF</u>	
		12-240V DC/ 24-240V AC	Solid State Isolated Relay (4-wire)	<u>RP40-L6000S-CY6C4L2-PF</u>	
			SPST Solid-state Light-ON (2-wire)	<u>RP40-L6000C-LY6C2U2-PF</u>	
			SPST Solid-state Dark-ON (2-wire)	<u>RP40-L6000G-DY6C2U2-PF</u>	
		M8 Quick Disconnect (Pico-style) 	10-36VDC	NPN	<u>RP40-L6000N-CY6Q4UP-PF</u>
				PNP	<u>RP40-L6000P-CY6Q4UP-PF</u>
				NPN/PNP	<u>RP40-L6000D-CY6Q4UP-PF</u>
	12-240V DC/ 24-240V AC		—	—	
			—	—	
			—	—	
	M12 Quick Disconnect 	10-36VDC (Euro-style)	NPN	<u>RP40-L6000N-CY6Q4UE-PF</u>	
			PNP	<u>RP40-L6000P-CY6Q4UE-PF</u>	
			NPN/PNP	<u>RP40-L6000D-CY6Q4UE-PF</u>	
		12-240V DC/ 24-240V AC (Micro-style)	Solid State Isolated Relay (4-wire)	<u>RP40-L6000S-CY6Q4LM-PF</u>	
			SPST Solid-state Light-ON (2-wire)	<u>RP40-L6000C-LY6Q4UM-PF</u>	
			SPST Solid-state Dark-ON (2-wire)	<u>RP40-L6000G-DY6Q4UM-PF</u>	
	6" M8 Pigtail (Pico-style) 	10-36VDC	NPN	<u>RP40-L6000N-CY6P4UP-PF</u>	
			PNP	<u>RP40-L6000P-CY6P4UP-PF</u>	
			NPN/PNP	<u>RP40-L6000D-CY6P4UP-PF</u>	
		12-240V DC/ 24-240V AC	—	—	
			—	—	
			—	—	
6" M12 Pigtail 	10-36VDC (Euro-style)	NPN	<u>RP40-L6000N-CY6P4UE-PF</u>		
		PNP	<u>RP40-L6000P-CY6P4UE-PF</u>		
		NPN/PNP	<u>RP40-L6000D-CY6P4UE-PF</u>		
	12-240V DC/ 24-240V AC (Micro-style)	Solid State Isolated Relay (4-wire)	<u>RP40-L6000S-CY6P4LM-PF</u>		
		SPST Solid-state Light-ON (2-wire)	<u>RP40-L6000C-LY6P4UM-PF</u>		
		SPST Solid-state Dark-ON (2-wire)	<u>RP40-L6000G-DY6P4UM-PF</u>		



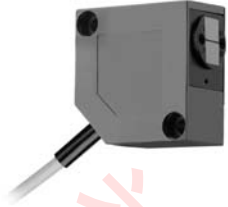
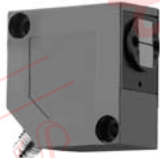



Ba: RP40 SERIES

Note: Used with RE-6152 (supplied with sensor) reflector.
 Coming Soon : Part numbers with underline
 In Preparation: Part numbers with a line through the middle

RP40 SERIES

Diffuse Mode

Ba: RP40 SERIES


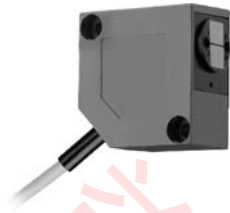




Sensing Mode	Appearance	Supply Voltage	Output Mode	Part Number
Infrared 880nm 2000mm Diffuse Mode Sensing Distance: 2000mm	2m Cable 	10-36VDC	NPN	<u>RP40-D2000N-CY9C4U2</u>
			PNP	<u>RP40-D2000P-CY9C4U2</u>
			NPN/PNP	<u>RP40-D2000D-CY9C4U2</u>
		12-240V DC/ 24-240V AC	Solid State Isolated Relay (4-wire)	<u>RP40-D2000S-CY9C4L2</u>
			SPST Solid-state Light-ON (2-wire)	<u>RP40-D2000C-LY9C2U2</u>
			SPST Solid-state Dark-ON (2-wire)	<u>RP40-D2000C-DY9C2U2</u>
	M8 Quick Disconnect (Pico-style) 	10-36VDC	NPN	<u>RP40-D2000N-CY9Q4UP</u>
			PNP	<u>RP40-D2000P-CY9Q4UP</u>
			NPN/PNP	<u>RP40-D2000D-CY9Q4UP</u>
		12-240V DC/ 24-240V AC	_____	_____
			_____	_____
			_____	_____
	M12 Quick Disconnect 	10-36VDC (Euro-style)	NPN	<u>RP40-D2000N-CY9Q4UE</u>
			PNP	<u>RP40-D2000P-CY9Q4UE</u>
			NPN/PNP	<u>RP40-D2000D-CY9Q4UE</u>
		12-240V DC/ 24-240V AC (Micro-style)	Solid State Isolated Relay (4-wire)	<u>RP40-D2000S-CY9Q4LM</u>
			SPST Solid-state Light-ON (2-wire)	<u>RP40-D2000C-LY9Q4UM</u>
			SPST Solid-state Dark-ON (2-wire)	<u>RP40-D2000C-DY9Q4UM</u>
M8 Pigtail (Pico-style) 	10-36VDC	NPN	<u>RP40-D2000N-CY9P4UP</u>	
		PNP	<u>RP40-D2000P-CY9P4UP</u>	
		NPN/PNP	<u>RP40-D2000D-CY9P4UP</u>	
	12-240V DC/ 24-240V AC	_____	_____	
		_____	_____	
		_____	_____	
M12 Pigtail 	10-36VDC (Euro-style)	NPN	<u>RP40-D2000N-CY9P4UE</u>	
		PNP	<u>RP40-D2000P-CY9P4UE</u>	
		NPN/PNP	<u>RP40-D2000D-CY9P4UE</u>	
	12-240V DC/ 24-240V AC (Micro-style)	Solid State Isolated Relay (4-wire)	<u>RP40-D2000S-CY9P4LM</u>	
		SPST Solid-state Light-ON (2-wire)	<u>RP40-D2000C-LY9P4UM</u>	
		SPST Solid-state Dark-ON (2-wire)	<u>RP40-D2000C-DY9P4UM</u>	

Note:
 Coming Soon : Part numbers with underline
 In Preparation: Part numbers with a line through the middle

RP40 SERIES

Diffuse Mode with Background Suppression

Ba: RP40 SERIES







Sensing Mode	Appearance	Supply Voltage	Output Mode	Part Number
Infrared 880nm  300 mm Diffuse Mode with Background Suppression Sensing Distance: 300 mm	2m Cable 	10-36VDC	NPN	<u>RP40-D0300N-CY9C4U2-BS</u>
			PNP	<u>RP40-D0300P-CY9C4U2-BS</u>
			NPN/PNP	<u>RP40-D0300D-CY9C4U2-BS</u>
		12-240V DC/ 24-240V AC	Solid State Isolated Relay (4-wire)	<u>RP40-D0300S-CY9C4L2-BS</u>
			SPST Solid-state Light-ON (2-wire)	<u>RP40-D0300C-LY9C2U2-BS</u>
			SPST Solid-state Dark-ON (2-wire)	<u>RP40-D0300C-DY9C2U2-BS</u>
	M8 Quick Disconnect (Pico-style) 	10-36VDC	NPN	<u>RP40-D0300N-CY9Q4UP-BS</u>
			PNP	<u>RP40-D0300P-CY9Q4UP-BS</u>
			NPN/PNP	<u>RP40-D0300D-CY9Q4UP-BS</u>
		12-240V DC/ 24-240V AC	_____	_____
			_____	_____
			_____	_____
	M12 Quick Disconnect 	10-36VDC (Euro-style)	NPN	<u>RP40-D0300N-CY9Q4UE-BS</u>
			PNP	<u>RP40-D0300P-CY9Q4UE-BS</u>
			NPN/PNP	<u>RP40-D0300D-CY9Q4UE-BS</u>
		12-240V DC/ 24-240V AC (Micro-style)	Solid State Isolated Relay (4-wire)	<u>RP40-D0300S-CY9Q4LM-BS</u>
			SPST Solid-state Light-ON (2-wire)	<u>RP40-D0300C-LY9Q4UM-BS</u>
			SPST Solid-state Dark-ON (2-wire)	<u>RP40-D0300C-DY9Q4UM-BS</u>
	M8 Pigtail (Pico-style) 	10-36VDC	NPN	<u>RP40-D0300N-CY9P4UP-BS</u>
			PNP	<u>RP40-D0300P-CY9P4UP-BS</u>
			NPN/PNP	<u>RP40-D0300D-CY9P4UP-BS</u>
		12-240V DC/ 24-240V AC	_____	_____
			_____	_____
			_____	_____
M12 Pigtail 	10-36VDC (Euro-style)	NPN	<u>RP40-D0300N-CY9P4UE-BS</u>	
		PNP	<u>RP40-D0300P-CY9P4UE-BS</u>	
		NPN/PNP	<u>RP40-D0300D-CY9P4UE-BS</u>	
	12-240V DC/ 24-240V AC (Micro-style)	Solid State Isolated Relay (4-wire)	<u>RP40-D0300S-CY9P4LM-BS</u>	
		SPST Solid-state Light-ON (2-wire)	<u>RP40-D0300C-LY9P4UM-BS</u>	
		SPST Solid-state Dark-ON (2-wire)	<u>RP40-D0300C-DY9P4UM-BS</u>	

Note:
 Coming Soon : Part numbers with underline
 In Preparation: Part numbers with a line through the middle
 — Ba-04 —

RP40 SERIES

Glass Fiber Optic Mode

Ba: RP40 SERIES

Sensing Mode	Appearance	Supply Voltage	Output Mode	Part Number
Infrared 880nm  Glass Fiber Optic (Diffuse Mode) Sensing Distance: 150mm (Note)	2m Cable 	10-36VDC	NPN	RP40-DGFN-CY9C4U2/150
			PNP	RP40-DGFP-CY9C4U2/150
			NPN/PNP	RP40-DGFD-CY9C4U2/150
		12-240V DC/ 24-240V AC	Solid State Isolated Relay (4-wire)	RP40-DGFS-CY9C4L2/150
			SPST Solid-state Light-ON (2-wire)	RP40-DGFC-LY9C2U2/150
			SPST Solid-state Dark-ON (2-wire)	RP40-DGFC-DY9C2U2/150
	M8 Quick Disconnect (Pico-style) 	10-36VDC	NPN	RP40-DGFN-CY9Q4UP/150
			PNP	RP40-DGFP-CY9Q4UP/150
			NPN/PNP	RP40-DGFD-CY9Q4UP/150
		12-240V DC/ 24-240V AC	_____	_____
			_____	_____
			_____	_____
	M12 Quick Disconnect 	10-36VDC (Euro-style)	NPN	RP40-DGFN-CY9Q4UE/150
			PNP	RP40-DGFP-CY9Q4UE/150
			NPN/PNP	RP40-DGFD-CY9Q4UE/150
		12-240V DC/ 24-240V AC (Micro-style)	Solid State Isolated Relay (4-wire)	RP40-DGFS-CY9Q4LM/150
			SPST Solid-state Light-ON (2-wire)	RP40-DGFC-LY9Q4UM/150
			SPST Solid-state Dark-ON (2-wire)	RP40-DGFC-DY9Q4UM/150
	M8 Pigtail (Pico-style) 	10-36VDC	NPN	RP40-DGFN-CY9P4UP/150
			PNP	RP40-DGFP-CY9P4UP/150
			NPN/PNP	RP40-DGFD-CY9P4UP/150
		12-240V DC/ 24-240V AC	_____	_____
			_____	_____
			_____	_____
M12 Pigtail 	10-36VDC (Euro-style)	NPN	RP40-DGFN-CY9P4UE/150	
		PNP	RP40-DGFP-CY9P4UE/150	
		NPN/PNP	RP40-DGFD-CY9P4UE/150	
	12-240V DC/ 24-240V AC (Micro-style)	Solid State Isolated Relay (4-wire)	RP40-DGFS-CY9P4LM/150	
		SPST Solid-state Light-ON (2-wire)	RP40-DGFC-LY9P4UM/150	
		SPST Solid-state Dark-ON (2-wire)	RP40-DGFC-DY9P4UM/150	

Note: Depends on fiber optic used (Please see our **Glass Fiber & Plastic Fiber** catalogue for detail information).
In Preparation: Part numbers with a line through the middle

RP40 SERIES**Specifications (DC)**

Item \ Sensing Mode	Diffuse (background suppression)	Diffuse	Retroreflective (with polarizing filter)	Thru-beam	Fiber Optic
Sensing Range, Adjustable	300 mm	2000mm	6 m (Note)	15 m	150 mm
Field of View	3.0°	3.5°	1.5°	1.5°	—
Light Source	Infrared 880nm	Infrared 880nm	Red light 660nm	Infrared 880nm	Infrared 880nm
Indicator LEDs	Green: Power, Yellow: Output, Red: Margin (thru-beam mode only with Green: Power)				
Response Time	2 ms(Thru-beam mode with 5ms)				
Supply Voltage	10-36V DC (Ripple<=10%)				
Output Type	NPN , PNP ,NPN/PNP				
Max. Load Current	250 mA				
No Load Current	<30 mA				
Max. Leakage Current	<10 uA				
Operation Mode	Light or dark switching selectable via control wire				
Housing Material	Glass fiber reinforced plastic				
Lens Material	Acrylic				
Cover Gasket Material	Neoprene				
Enclosure Rating	IP67				
Circuit Protection	Outputs short circuit and over current protected, Vs reverse polarity protected				
Ambient Operating Temperature	-25...55°C				
Storage Temperature	-40...70°C				
Relative Humidity	5% to 95%				
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 Withstand Ability	IEC 60947-5-2, Part 8.3.3.4 or 500VDC for one min, between all supply terminals connected together and enclosure				
Insulation Resistance	>20M Ω , with 500V 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 time each				
Cable	Standard: 2m long (other length on request)				
Connector Type	Pico style (M8), Euro style (M12)				
Pigtail Type	See Pigtail Series or our Cables & Connectors catalogue.				

Note: Used with RE-6152 (supplied with sensor) reflector.

RP40 SERIES**Specifications (AC/DC)**

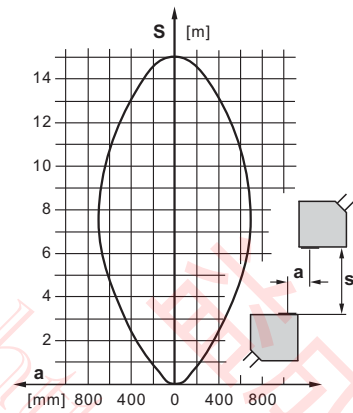
Item	Sensing Mode				
	Diffuse (background suppression)	Diffuse	Retroreflective (with polarizing filter)	Thru-beam	Fiber Optic
Sensing Range, Adjustable	300 mm	2000 mm	6 m (Note)	15 m	150 mm
Field of View	3.0°	3.5°	1.5°	1.5°	—
Light Source	Infrared 880nm	Infrared 880nm	red light 660nm	Infrared 880nm	Infrared 880nm
Indicator LEDs	Green: Power, Yellow: Output, Red: Margin (thru-beam mode only with Green: Power)				
Output Type	Solid State Isolated Relay , SPST solid-state output				
Supply Voltage	12-240V DC / 24-240V AC				
Response Time	Solid State Isolated Relay output: 2ms; SPST solid-state relay output: 8ms (thru-beam's receiver units : Solid state Isolated Relay. output: 15ms; SPST solid-state relay output: 2ms ON and 1ms OFF), response time is independent of signal strength.				
Max. Load Current	Solid State Isolate Relay : 300mA at 240V AC/DC SPST solid-state relay: 300mA to 50°C ambient, 100mA to 70°C ambient				
No Load Current	<30 mA				
Max. Leakage Current	Solid State Isolate Relay : 1mA at 240VAC SPST solid-state relay: less than 1.7 mA rms				
Operation Mode	Solid State Isolated Relay: Light-ON / Dark-ON switchable, SPST solid-state : either Light-ON or Dark-ON				
Housing Material	Glass fiber reinforced plastic				
Lens Material	Acrylic				
Cover Gasket Material	Neoprene				
Enclosure Rating	IP67				
Short Circuit Protection	YES (Solid State Isolated Relay without short circuit protection)				
Ambient Operating Temperature	-25...55°C				
Storage Temperature	-40...70°C				
Relative Humidity	5% to 95%				
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 Withstand Ability	IEC 60947-5-2, Part 8.3.3.4 or 1500VAC for one min, between all supply terminals connected together and enclosure				
Insulation Resistance	>20M Ω , with 1500V AC 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 time each				
Cable	Standard: 2m length (other length on request)				
Connector Type	Micro style				
Pigtail Type	See Pigtail Series or our Cables & Connectors catalogue.				

Note: Used with RE-6152 (supplied with sensor) reflector.

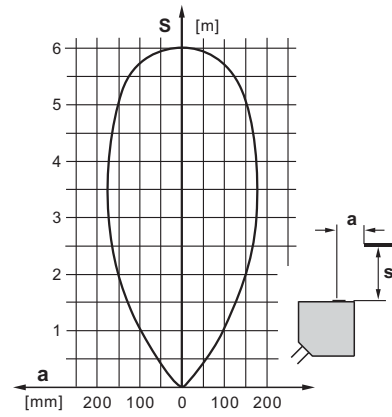
RP40 SERIES

Sensing Characteristics (Typical)

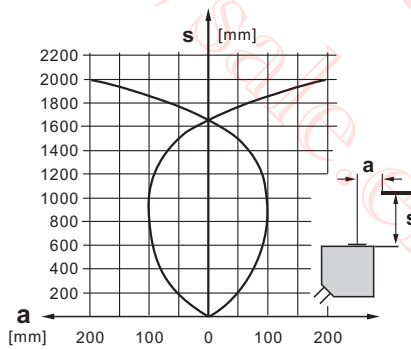
Thru-beam Sensor



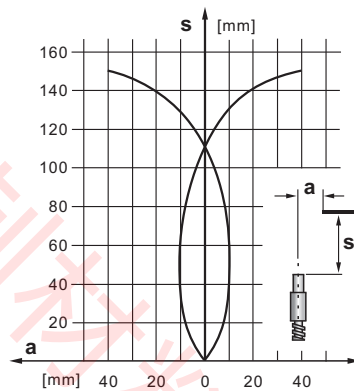
Retroreflective Sensor (with polarizing filter)



Diffuse Sensor



Fiber-optic Amplifier



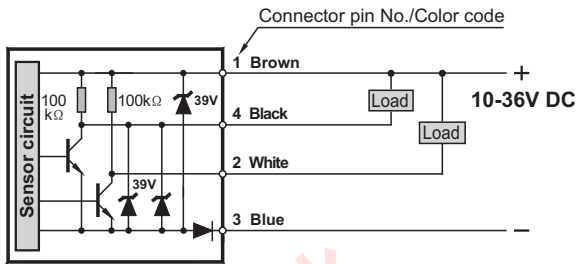
Ba: RP40 SERIES

RP40 SERIES

Connection Diagrams (DC)

Ba: RP40 SERIES

NPN output type

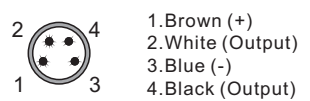


Connector pin position

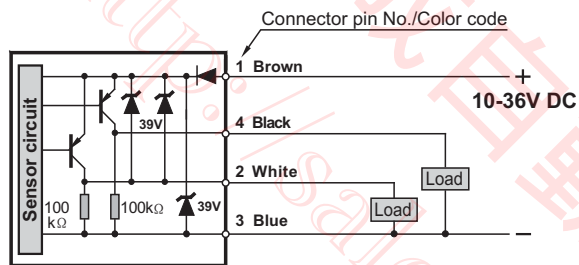
Euro-style



Pico-Style



PNP output type



Connector pin position

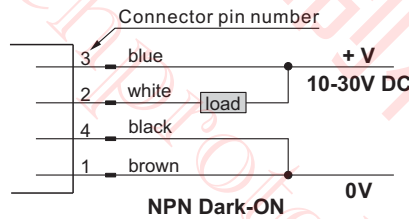
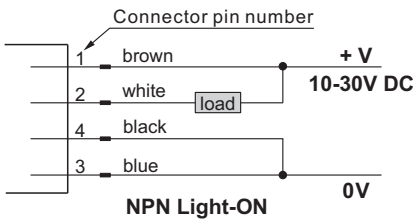
Euro-style



Pico-Style



NPN/PNP output type

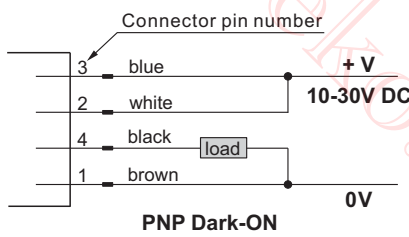
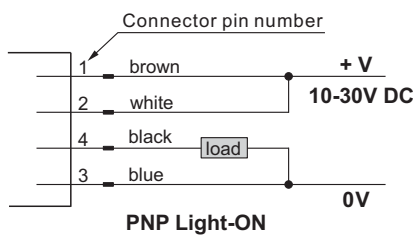


Connector pin position

Euro-style

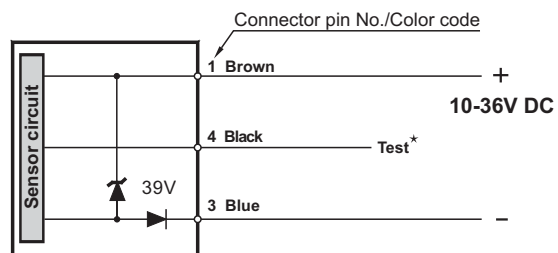


Pico-Style



- 1. Brown
- 2. White
- 3. Blue
- 4. Black

Emitter of Thru-beam Mode



Connector pin position

Euro-style



Pico-Style

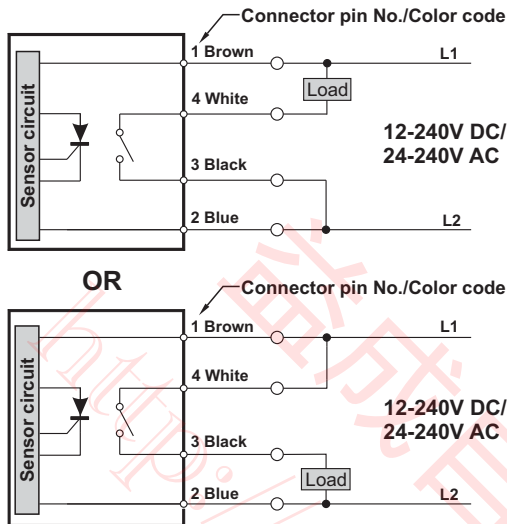


*: Test(black wire)=0V, Emitter off.

RP40 SERIES

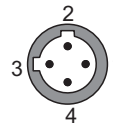
Connection Diagrams (AC/DC)

Solid State Isolated Relay output type



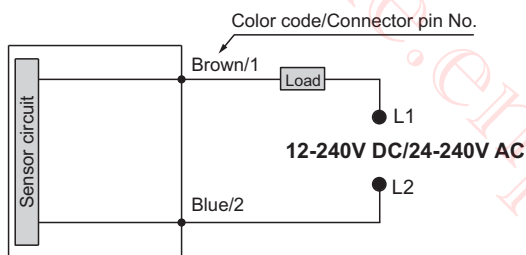
Connector pin position

Micro-Style



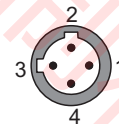
- 1: Red/black(L1)
- 2: Red/white(L2)
- 3: Red (output)
- 4: Green (output)

SPST solid-state output type



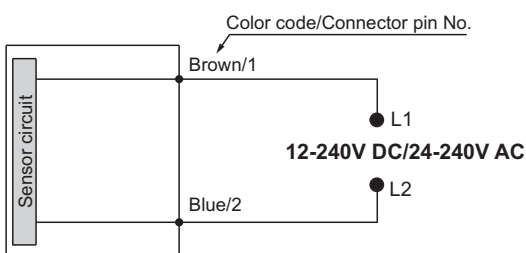
Connector pin position

Micro-style



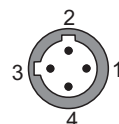
- 1: Red/black(L1)
- 2: Red/white(L2)
- 3: Not used
- 4: Not used

Emitter of Thru-beam Mode



Connector pin position

Micro-style

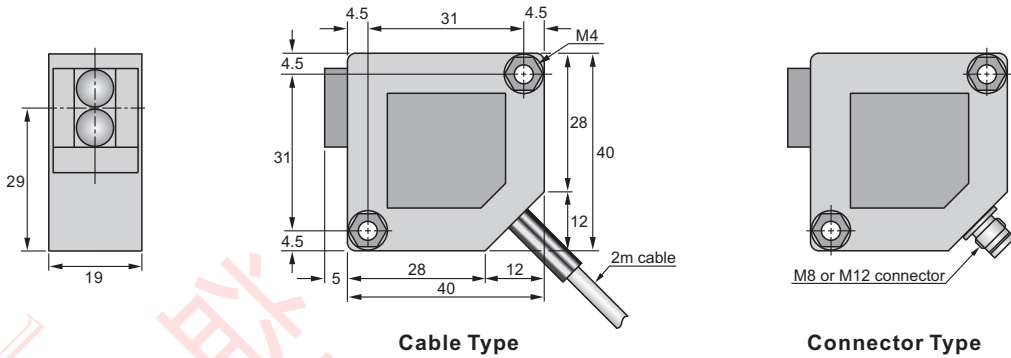


- 1: Red/black(L1)
- 2: Red/white(L2)
- 3: Not used
- 4: Not used

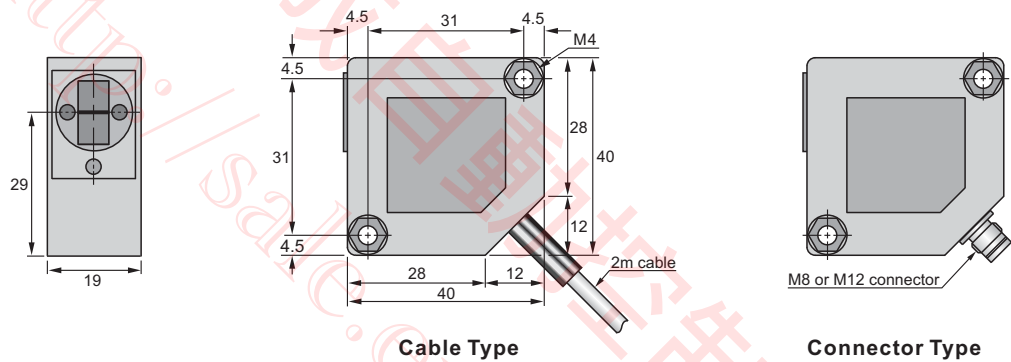
RP40 SERIES

Dimensions (Unit: mm)

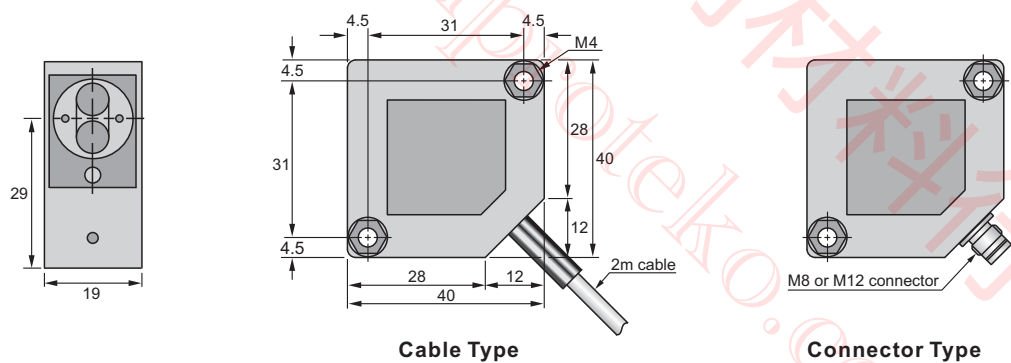
Thru-beam Sensor/ Polarizing Retroreflective Sensor



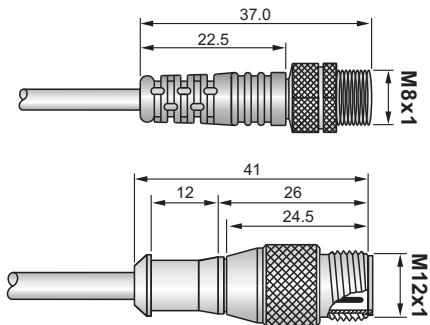
Diffuse Sensor



Fiber-optic Amplifier



Pigtail* Type



*: Please see **Pigtail Series** or our **Cables & Connectors** catalogue for more information.

MB-5230 (sensor mounting bracket-optional)

