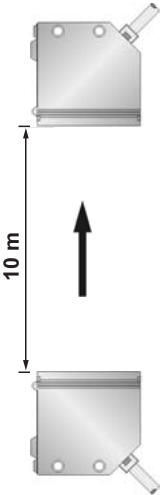



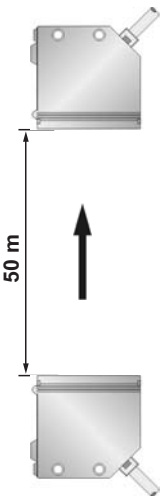



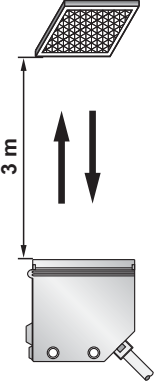


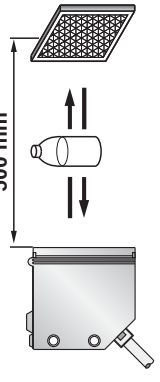









## Thru-beam Mode (Standard Type)

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

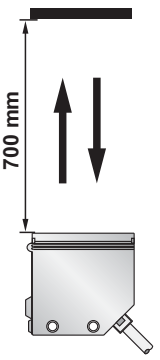



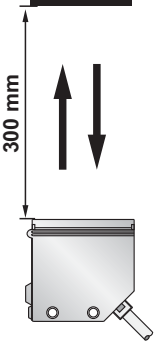



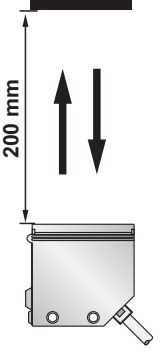



**Note:**  
 Coming Soon : Part numbers with underline  
 In Preparation: Part numbers with a line through the middle

## 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	
	 <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		
 <p>5 m</p> <p>Standard Type</p> <p>Sensing Range: 0.1 to 5 m (Note)</p> <p>Light source: Infrared</p>		6" Pigtail (Pico style) 	10-30V DC	NPN	
				PNP	
	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

## 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

## 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.	RP35-T010M...	Long Range			RP35-T050M...	RP35-T2000...		RP35-T0500...	RP35-L3000...		For transparent object sensing	RP35-L0500...	RP35-L5000...
			RP35-T010M...	RP35-T050M...	RP35-D0700...			RP35-D0300...						
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		<b>NPN</b> 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)						<b>PNP</b> 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		<b>Enclosure:</b> Die-cast zinc alloy, <b>Indicator cover:</b> Polyethersulphone, <b>Lens:</b> Polycarbonate (retroreflective type: Acrylic)												
Cable		0.15mm <sup>2</sup> 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 <sup>2</sup> , or more, cable(thru-beam type: both emitter and receiver)												
Pigtail type		See <b>Pigtail Series</b> or our <b>Cables &amp; Connectors</b> catalogue.												
Connector type		Pico style (M8) 4pin												
Weight		75g approx.												
Accessories		<b>MB-4537</b> (Sensor mounting bracket): 2 set. Adjusting screwdriver: 1 pc.				<b>MB-4537</b> (Sensor mounting bracket):1set <b>RE-6152</b> (reflector): 1 pc. Adjusting screwdriver: 1 pc.			<b>MB-4537</b> (Sensor mounting bracket):1set Adjusting screwdriver: 1pc.					

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

## Specifications (DC 2-wire type)

Type	Thru-beam Mode	Retroreflective Mode (with polarizing filter)	Diffuse Mode
<b>Item Model NO.</b>	RP35-T5000D-CY9C2U2	RP35-L2000D-CY6C2U2-PF	RP35-D0300D-CY9C2U2
<b>Sensing range</b>	5 m	0.1 to 2m (Note)	300 mm
<b>Sensing object</b>	φ 10 mm or more opaque object.	φ 50mm or more opaque, translucent or specular object	Opaque, translucent and transparent object
<b>Hysteresis</b>	—————		15% or less of operation distance
<b>Repeatability</b>	0.5mm or less	1mm or less	0.5mm or less
<b>Supply voltage</b>	10 to 30V DC    Ripple P-P 10% or less		
<b>Current consumption</b>	Emitter:8mA or less, Receiver:0.8 mA or less	1 mA or less	
<b>Sensing output</b>	<b>Non Contact DC 2-wire type</b> Load Current: 5 to 100mA Residual voltage: 4V or less		
<b>Output operation</b>	Switchable either Light-ON or Dark-ON		
<b>Short-circuit protection</b>	Incorporated		
<b>Response time</b>	3 ms or less		
<b>Operation indicator</b>	Red LED (lights up when the sensing output is ON)		
<b>Stability indicator</b>	Green LED ( Light-ON mode: Lights up under stable light received condition) Dark-ON mode: Lights up under stable dark condition		
<b>Sensitivity adjuster</b>	Continuously variable adjuster		
<b>Environmental resistance</b>	<b>Protection</b>	IP 67 (IEC)	
	<b>Ambient temperature</b>	-25 to +60°C (No dew condensation or icing allowed), storage: -30 to +70°C	
	<b>Ambient humidity</b>	35 to 85 % RH, storage:35 to 85% RH	
	<b>Ambient illuminance</b>	Sunlight: 11000 lx at the light receiving face, Incandescent light: 3500 lx at the light-receiving face.	
	<b>EMC</b>	IEC 60947-5-2, Parts 7.2.6.1.2.3 or RFI>3V/m(in 30-1000MHZ), EFT>1KV, ESD>4KV(contact)	
	<b>Voltage withstandability</b>	1000 V AC for one min. Between all supply terminals connected together and enclosure.	
	<b>Insulation resistance</b>	20M Ω ,or more, with 250V DC megger between all supply terminals connected together and enclosure	
	<b>Vibration resistance</b>	IEC 60947-5-2, Part 7.4.2 or 10-55HZ, 1.0mm amplitude In X, Y and Z directions for 30 min	
<b>Shock resistance</b>	IEC 60947-5-2, Part 7.4.1 or 30g,11ms in X,Y and Z directions for six times each		
<b>Emitting element</b>	Infrared LED (modulated)	Red LED (modulated)	Infrared LED (modulated)
<b>Material</b>	<b>Enclosure:</b> Die-cast zinc alloy, <b>Indicator cover:</b> Polyethersulphone, <b>Lens:</b> Polycarbonate		
<b>Cable</b>	0.15mm <sup>2</sup> 2-core oil, heat and cold resistant cabtyre cable, 2m long		
<b>Cable extension</b>	—————		
<b>Pigtail type</b>	See <b>Pigtail Series</b> or our <b>Cables &amp; Connectors</b> catalogue.		
<b>Connector type</b>	Pico style (M8) 4pin		
<b>Weight</b>	75g approx.		
<b>Accessories</b>	<b>MB-4537</b> (Sensor mounting bracket): 2 set. Adjusting screwdriver: 1 pc.	<b>MB-4537</b> (Sensor mounting bracket):1set <b>RE-6152</b> (Reflector): 1 pc. Adjusting screwdriver: 1 pc.	<b>MB-4537</b> (Sensor mounting bracket):1set Adjusting screwdriver: 1pc.

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

## 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 <sup>2</sup> 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 <sup>2</sup> , or more, cable(thru-beam type: both emitter and receiver)				
Pigtail type		See <b>Pigtail Series</b> or our <b>Cables &amp; Connectors</b> 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.		

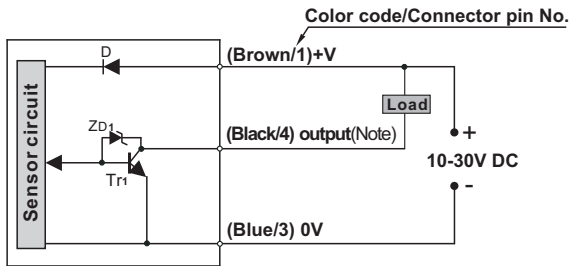
Note: Used with RE-6152 (supplied with sensor) reflector.

## 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
<b>Sensing range</b>		5 m		
<b>Sensing object</b>		φ 10 mm or more opaque object.		
<b>Repeatability</b>		0.5mm or less		
<b>Supply voltage</b>		10 to 30V DC    Ripple P-P 10% or less		
<b>Current consumption</b>		Emitter:20mA or less, Receiver:25 mA or less		
<b>Sensing output</b>		<b>NPN</b> 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)		
		<b>PNP</b> 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)		
<b>Output operation</b>		Switchable either Light-ON or Dark-ON		
<b>Short-circuit protection</b>		Incorporated		
<b>Response time</b>		1 ms or less		
<b>Test input</b>		Incorporated		
<b>Operation indicator</b>		Red LED (lights up when the sensing output is ON)		
<b>Stability indicator</b>		Green LED(Lights up under stable light received condition or stable dark condition)		
<b>Emitting indicator</b>		Red LED (lights up during beam emission)		
<b>Stability indicator</b>		Continuously variable adjuster		
<b>Environmental resistance</b>	<b>Protection</b>	IP 67 (IEC), IP67g(JEM)		
	<b>Ambient temperature</b>	-25 to +60°C (No dew condensation or icing allowed), storage: -30 to +70°C		
	<b>Ambient humidity</b>	35 to 85 % RH, storage:35 to 85% RH		
	<b>Ambient illuminance</b>	Sunlight: 11000 lx at the light receiving face, Incandescent light: 3500 lx at the light-receiving face.		
	<b>EMC</b>	IEC 60947-5-2, Parts 7.2.6.1.2.3 or RFI>3V/m(in 30-1000MHZ), EFT>1KV, ESD>4KV(contact)		
	<b>Voltage withstandability</b>	1000 V AC for one min. Between all supply terminals connected together and enclosure.		
	<b>Insulation resistance</b>	20MΩ ,or more, with 250V DC megger between all supply terminals connected together and enclosure		
	<b>Vibration resistance</b>	IEC 60947-5-2, Part 7.4.2 or 10-55HZ, 1.0mm amplitude In X, Y and Z directions for 30 min		
<b>Shock resistance</b>	IEC 60947-5-2, Part 7.4.1 or 30g,11ms in X,Y and Z directions for six times each			
<b>Emitting element</b>		Infrared LED (modulated)		
<b>Material</b>		<b>Enclosure:</b> Die-cast zinc alloy(Fluorine resin coating) , <b>Indicator cover:</b> Polyethersulphone, <b>Lens:</b> Polycarbonate, <b>Protective tube sheath:</b> Oil resistant PVC		
<b>Cable</b>		0.15mm <sup>2</sup> 5-core(thru-beam type:3-core) oil, heat and cold resistant cabtyre cable		
<b>Protective tube length</b>		1 m	2 m	4 m
<b>Cable extension</b>		Extension up to total 100m is possible for both emitter and receiver with 0.3mm <sup>2</sup> ,or more, cable		
<b>Weight</b>		Emitter: 175 g approx., Receiver: 175g approx.	Emitter: 265 g approx., Receiver: 265g approx.	Emitter: 495 g approx., Receiver: 495g approx.
<b>Accessories</b>		<b>MB-5737</b> (Sensor mounting bracket): 2 sets, Adjusting screwdriver: 1pc.		

## Connection Diagrams

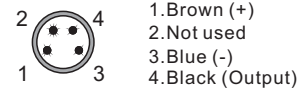
### Standard Type & Heavy Duty Type Sensor



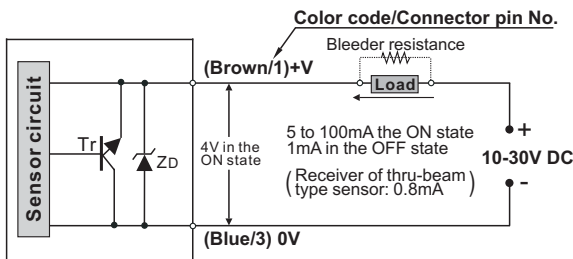
Symbols...D :Reverse supply polarity protection diode  
 ZD1: Surge absorption zener diode  
 Tr: NPN output transistor.  
 Note: The emitter of the thru-beam type sensor without output

#### Connector pin position

##### Pico-Style



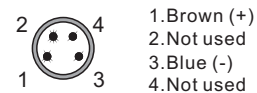
### DC 2-wire Type Sensor



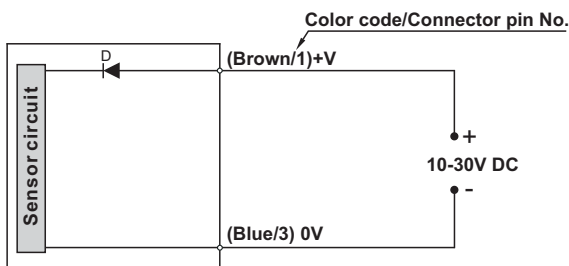
Symbols...D:Reverse supply polarity protection diode  
 ZD:Surge absorption zener diode  
 Tr :PNP output transistor

#### Connector pin position

##### Pico-Style

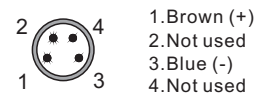


### Emitter of Thru-beam Mode (DC 2-wire type)

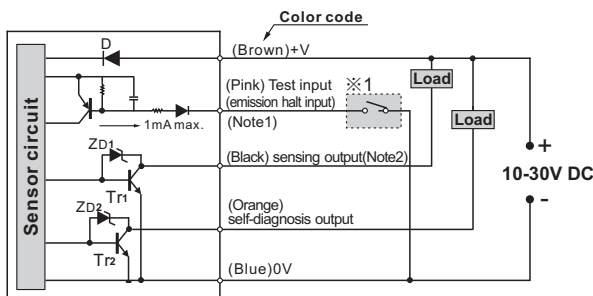


#### Connector pin position

##### Pico-Style



### Intelligent Type Sensor



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

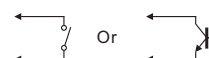
Notes:  
 (1) The receiver of the thru-beam type sensor does not incorporate the test input (emission halt input).  
 (2) The emitter of the thru-beam type sensor does not incorporate the sensing output.

#### Connector pin position

##### Pico-Style



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

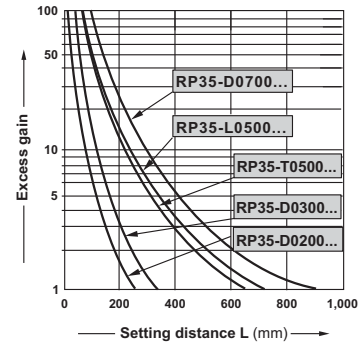
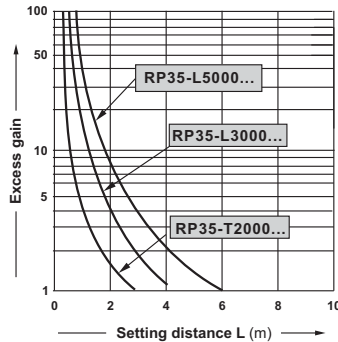
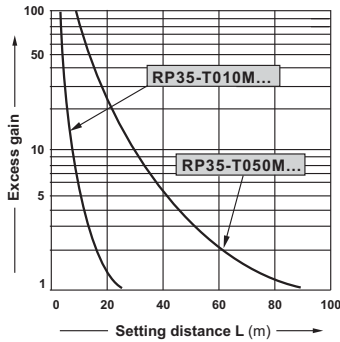


(Supply voltage -2.5V) or more (4.5V or more for the RP3 model): **emission**  
 (Supply voltage -3.3V) or less (2.5V or less for the RP3 model): **emission stopped**

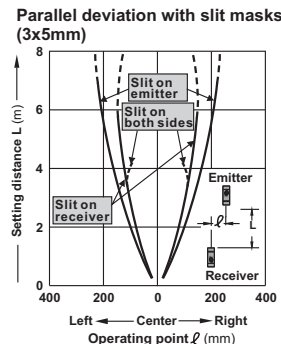
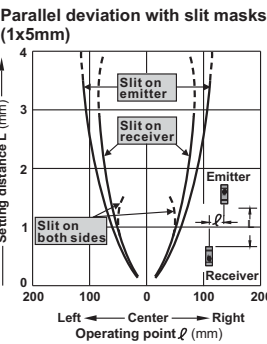
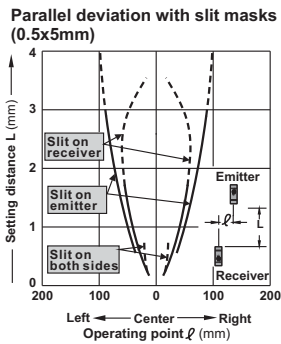
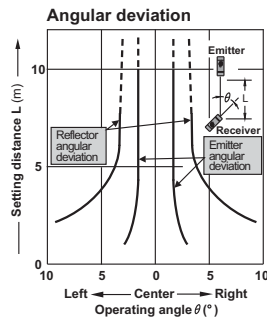
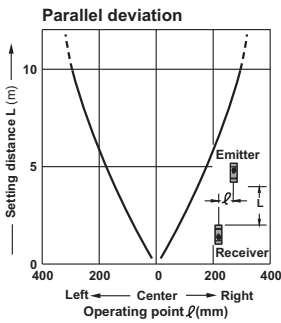


## Sensing Characteristics (Typical)

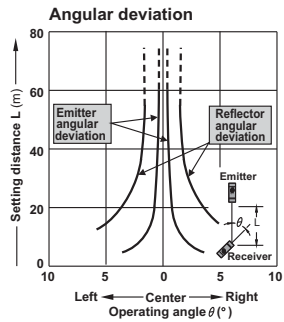
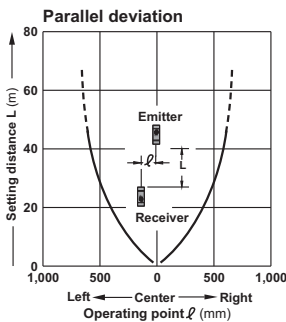
### All Models



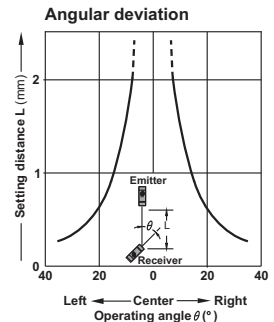
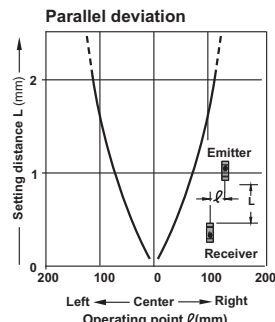
### RP35-T010MD..., RP35A-T010MN... (Thru-beam type)



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



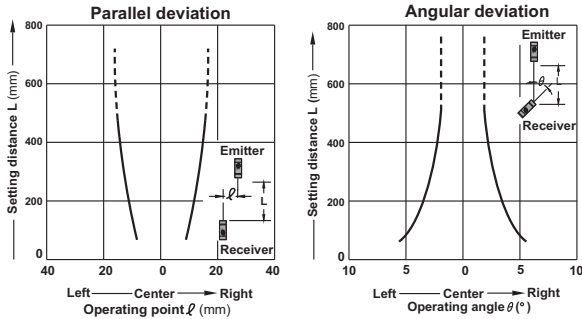
### RP35-T2000D...-K(Thru-beam type)



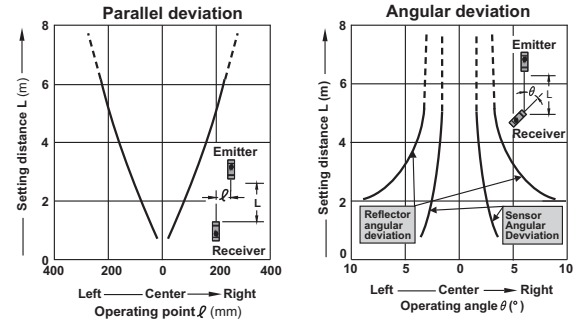
As: RP35 SERIES

## Sensing Characteristics (Typical)

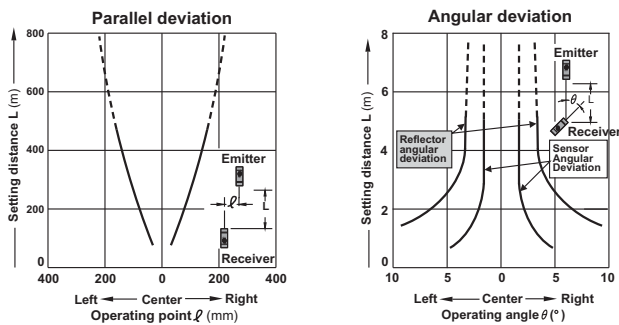
### RP35-T0500N...-K(Thru-bem type)



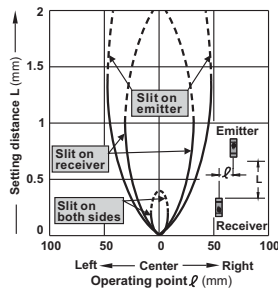
### RP35-T5000D...(Thru-bem type)



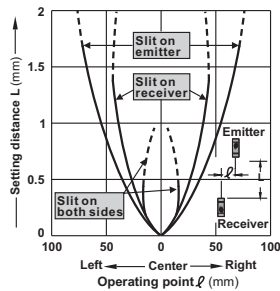
### RP35-T5000N...(Thru-bem type)



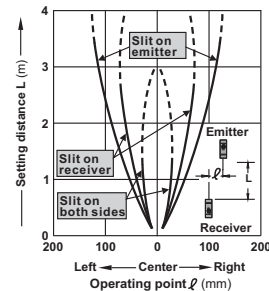
#### Parallel deviation with slit masks (0.5x5mm)



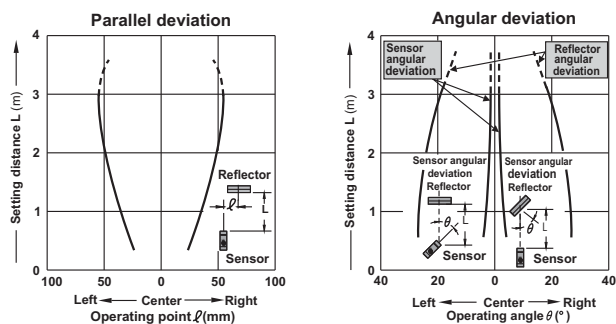
#### Parallel deviation with slit masks (1x5mm)



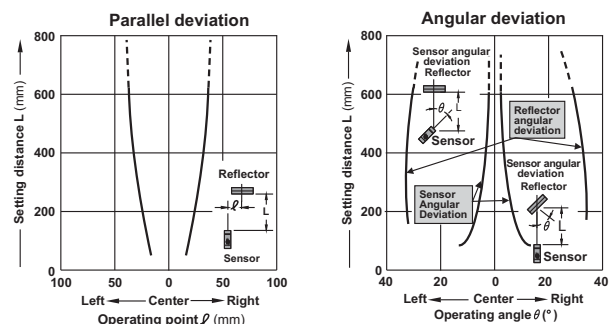
#### Parallel deviation with slit masks (3x5mm)



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

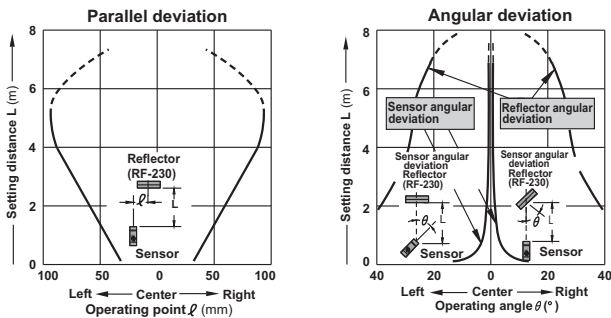


### RP35-S0500D... (Clear object detector type)

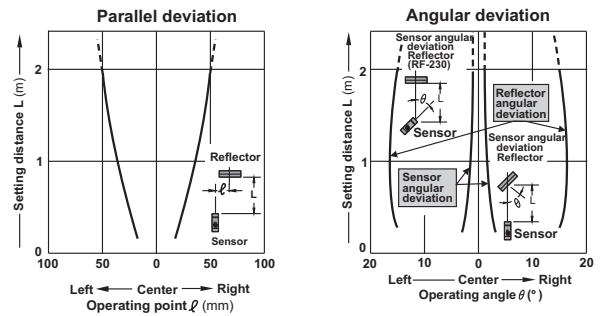


## Sensing Characteristics (Typical)

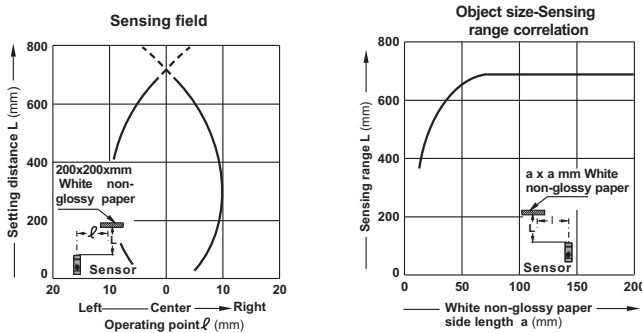
### RP35-L5000N...(Retroreflective Mode: Sn=5m)



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



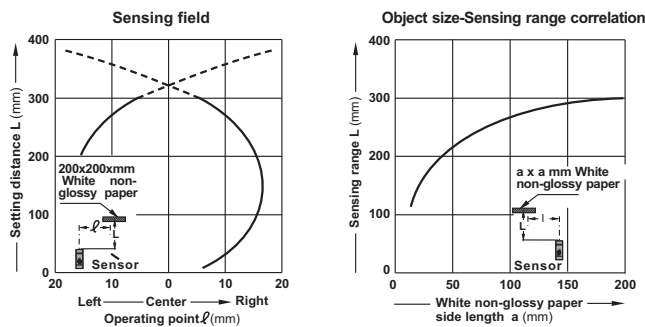
### RP35-D0700N..., RP35A-D0700N...(Diffuse Mode: Sn=700mm)



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.)

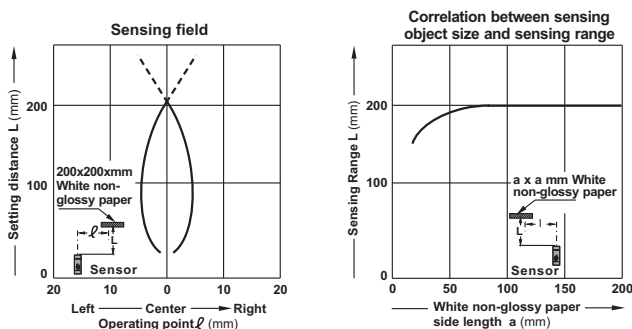
### RP35-D0300N... (Diffuse Mode: Sn=300mm)



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)

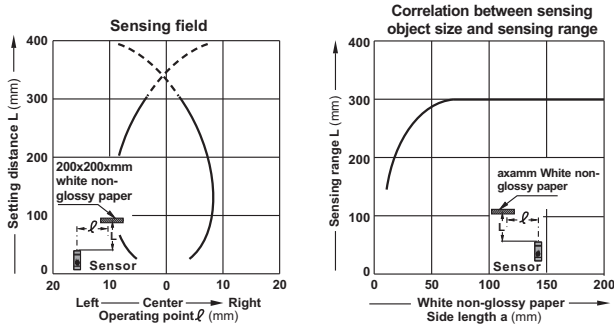


As the sensing object size becomes smaller than the standard size (white non-glossy paper 200x200mm), the sensing range shortens, as shown in the left graph.

(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.)

## 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

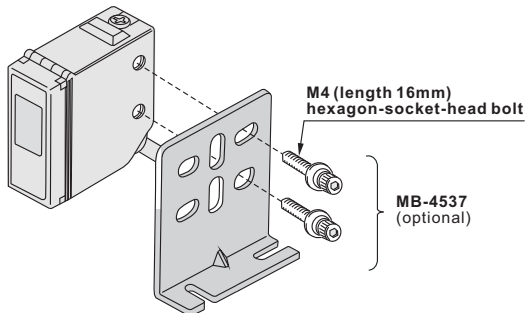
### All Models



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.



### Wiring

The self-diagnosis output is not incorporated with a short-circuit protection circuit. Do not connect it directly to a power supply or a capacitive load.

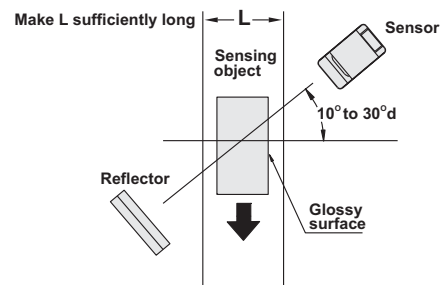
### Others

Do not use during the initial transient time (50ms) after the power supply is switched on.

### 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

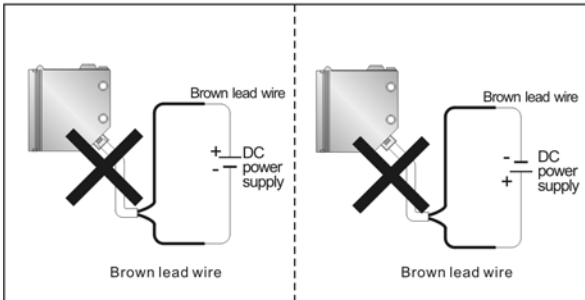
#### Steps

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

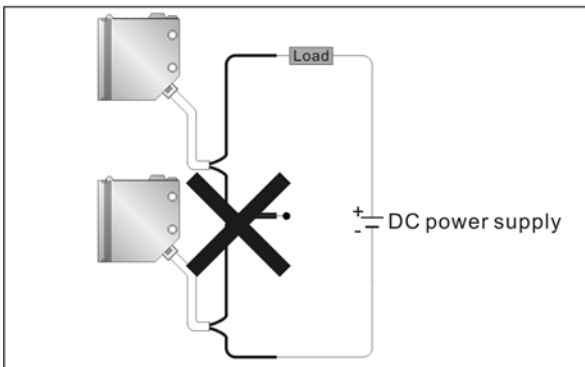
## Precautions For Proper Use (DC 2-wire type sensor)

### Wiring

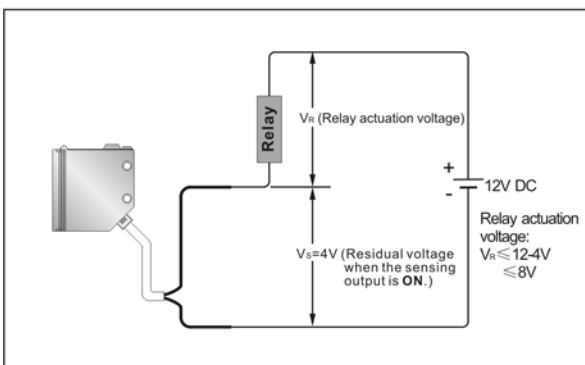
- Always connect the sensor to the power supply through a load. If the sensor is connected to the power supply directly, the short-circuit protection makes the sensor inoperable (The output stays in the OFF state and no indicator lights up). If this happens, connect the sensor to the power supply through 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.)

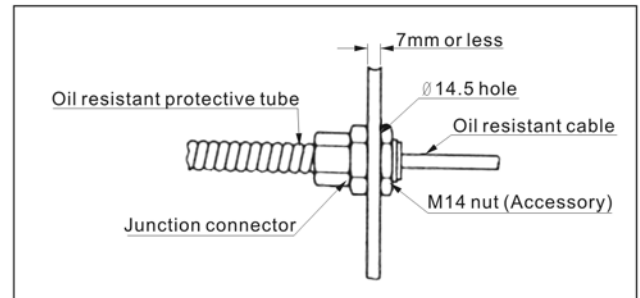


### Heavy duty type

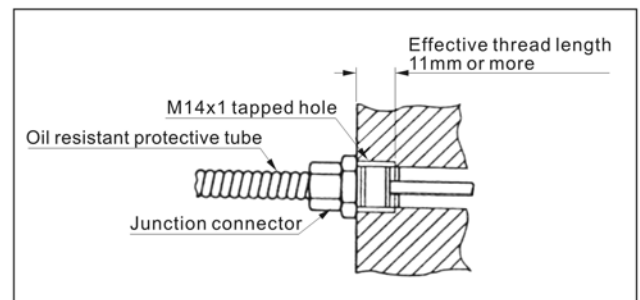
- Connection of protective tube connector**

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

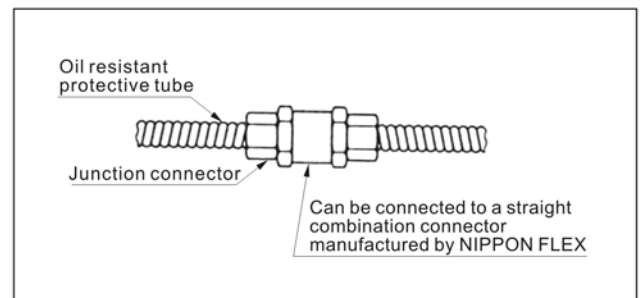
- When mounted on a plate**



- When mounted with a female screw**

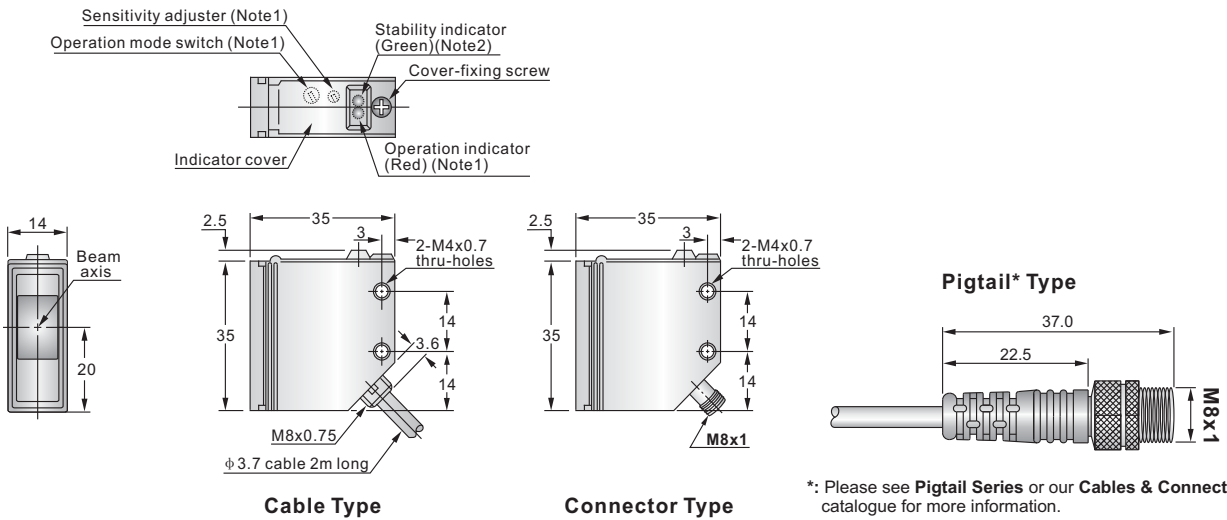


- When connected to another protective tube**



## Dimensions (Unit: mm)

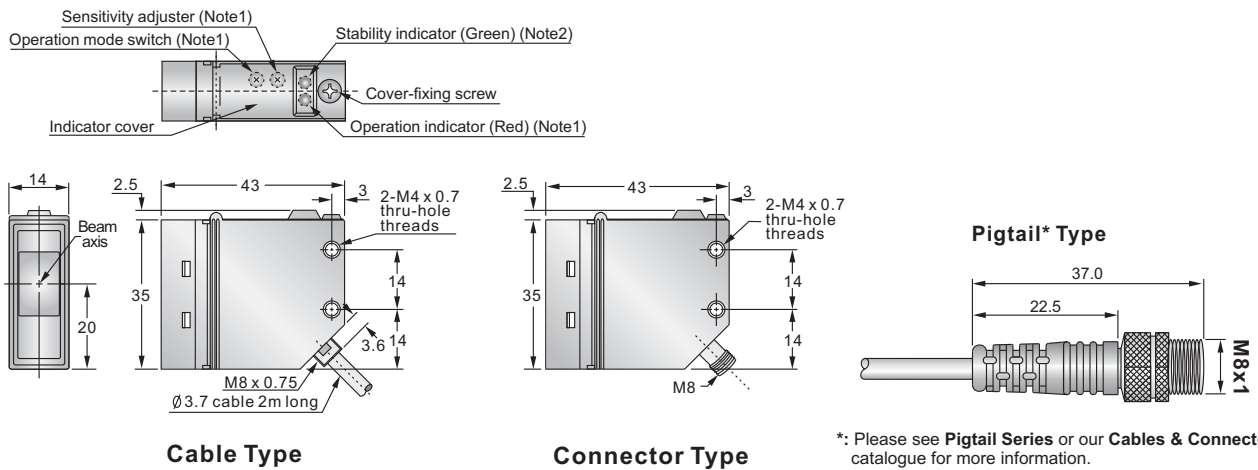
### Thru-beam Mode Type Sensor (Except Sn=50m type) / Diffuse Mode Sensor



\*: 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.

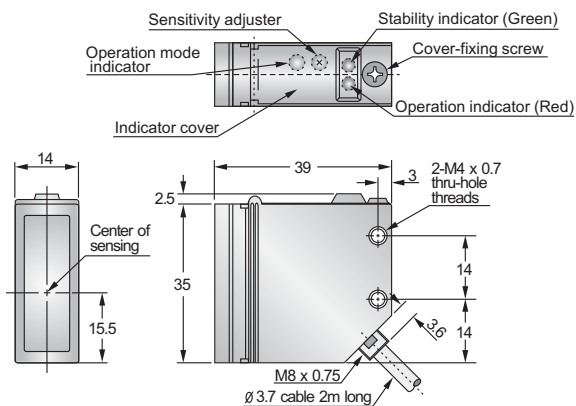
### Thru-beam Mode Type Sensor (Only for Sn=50m type)



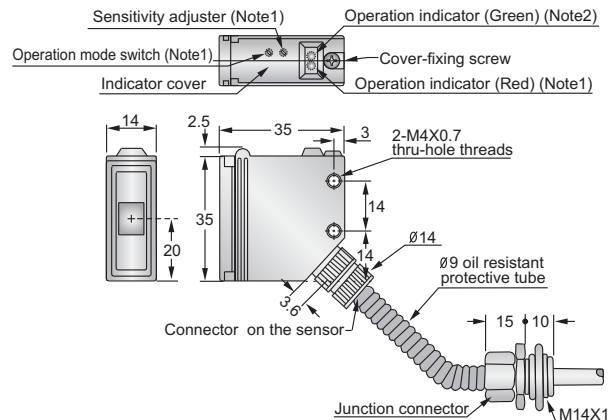
\*: Please see **Pigtail Series** or our **Cables & Connectors** catalogue for more information.

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

### Retroreflective Type / Clear Object Detector Type Sensor



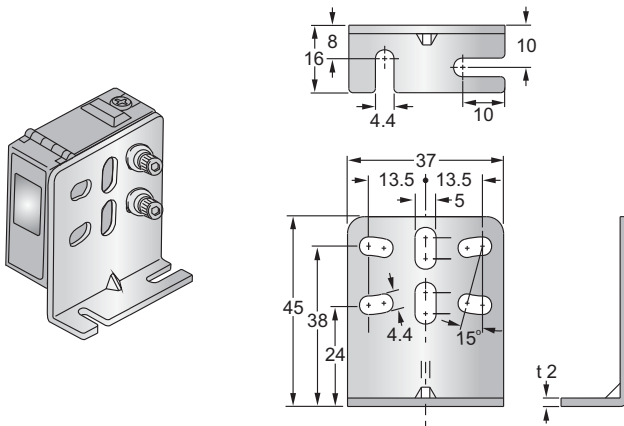
### Heavy Duty Type Sensor (RP35B-T5000...type)



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

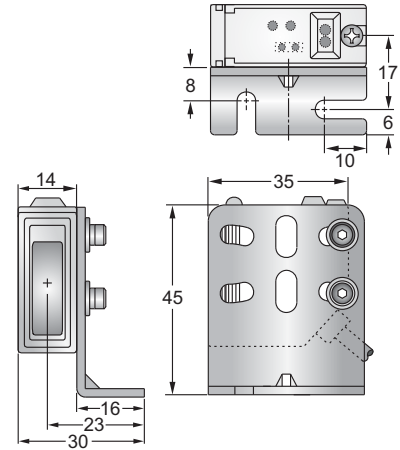
## Dimensions (Unit: mm)

### MB-4537 (Sensor mounting bracket-optional)

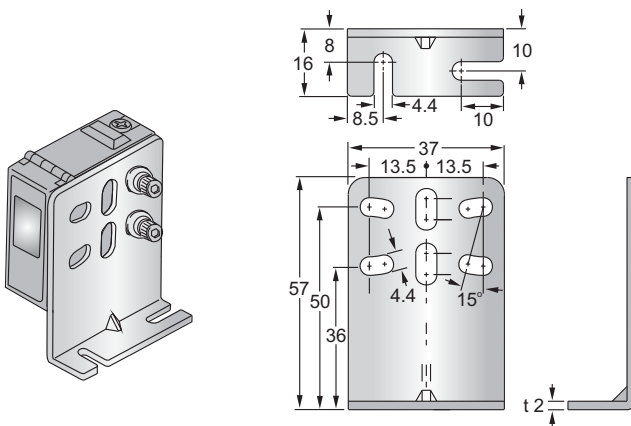


**Material: Cold rolled carbon steel (SPCC)**  
**Two M4 (length 16mm) hexagon-socket-head bolts are attached.**

### Assembly dimensions

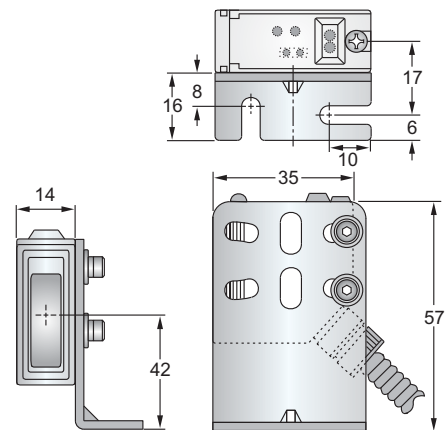


### MB-5737 (Sensor mounting bracket-only for heavy duty type sensor-optional)

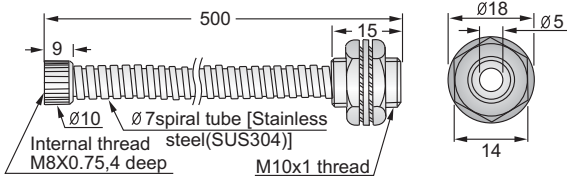


**Material: Cold rolled carbon steel (SPCC)**  
**Two M4 (length 16mm) hexagon-socket-head bolts are attached.**

### Assembly dimensions



### PT-RP500 (Protective Tube-optional)



### PT-RP1000 (Protective Tube-optional)

