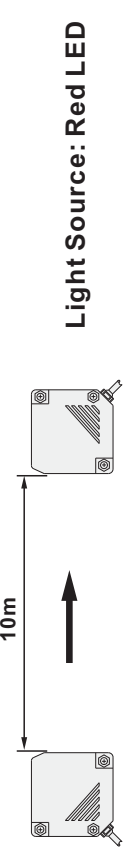











Opposed Mode (Standard Range)

Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number	
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Opposed Mode</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">Sensing Distance: 10m</p>  <p style="writing-mode: vertical-rl; transform: rotate(180deg);">Light Source: Red LED</p>	<p>2m Cable</p> 	<p>10-30V DC</p>	Emitter	<u>RP50-T010MD-EY6C2L2</u>	
			NPN	<u>RP50-T010MN-CY6C4U2</u>	
			PNP	<u>RP50-T010MP-CY6C4U2</u>	
			NPN/PNP	<u>RP50-T010MD-CY6C4U2</u>	
		<p>12-240V DC/ 24-240V AC</p>	Emitter (2-wire)	<u>RP50-T010MC-EY6C2L2</u>	
			SPDT Relay (5-wire)	<u>RP50-T010MR-CY6C5L2</u>	
			SPST solid-state Light-ON (2-wire)	<u>RP50-T010MC-LY6C2U2</u>	
			SPST solid-state Dark-ON (2-wire)	<u>RP50-T010MC-DY6C2U2</u>	
		<p>5m Cable</p> 	<p>10-30V DC</p>	Emitter	<u>RP50-T010MD-EY6C2L5</u>
				NPN	<u>RP50-T010MN-CY6C4U5</u>
				PNP	<u>RP50-T010MP-CY6C4U5</u>
				NPN/PNP	<u>RP50-T010MD-CY6C4U5</u>
	<p>12-240V DC/ 24-240V AC</p>		Emitter (2-wire)	<u>RP50-T010MC-EY6C2L5</u>	
			SPDT Relay (5-wire)	<u>RP50-T010MR-CY6C5L5</u>	
			SPST solid-state Light-ON (2-wire)	<u>RP50-T010MC-LY6C2U5</u>	
			SPST solid-state Dark-ON (2-wire)	<u>RP50-T010MC-DY6C2U5</u>	
	<p>Quick Disconnect (swivel 90°)</p> 		<p>10-30V DC (Euro-style)</p>	Emitter	<u>RP50-T010MD-EY6Q4LE-S</u>
				NPN	<u>RP50-T010MN-CY6Q4UE-S</u>
				PNP	<u>RP50-T010MP-CY6Q4UE-S</u>
				NPN/PNP	<u>RP50-T010MD-CY6Q4UE-S</u>
		<p>12-240V DC/ 24-240V AC (Micro-style)</p>	Emitter (2-wire)	<u>RP50-T010MC-EY6Q3LM-S</u>	
			SPDT Relay (5-wire)	<u>RP50-T010MR-CY6Q5LM-S</u>	
			SPST solid-state Light-ON (2-wire)	<u>RP50-T010MC-LY6Q3UM-S</u>	
			SPST solid-state Dark-ON (2-wire)	<u>RP50-T010MC-DY6Q3UM-S</u>	
<p>6" Pigtail</p> 	<p>10-30V DC (Euro-style)</p>	Emitter	<u>RP50-T010MD-EY6P4LE</u>		
		NPN	<u>RP50-T010MN-CY6P4UE</u>		
		PNP	<u>RP50-T010MP-CY6P4UE</u>		
		NPN/PNP	<u>RP50-T010MD-CY6P4UE</u>		
	<p>12-240V DC/ 24-240V AC (Micro-style)</p>	Emitter (2-wire)	<u>RP50-T010MC-EY6P3LM</u>		
		SPDT Relay (5-wire)	<u>RP50-T010MR-CY6P5LM</u>		
		SPST solid-state Light-ON (2-wire)	<u>RP50-T010MC-LY6P3UM</u>		
		SPST solid-state Dark-ON (2-wire)	<u>RP50-T010MC-DY6P3UM</u>		

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

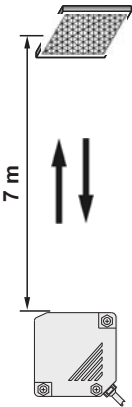




Opposed Mode (Long sensing range)

Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number
<p style="text-align: center;">Light Source: Infrared LED</p>  <p style="text-align: center;">Opposed Mode Sensing Distance: 30m</p>	<p>2m Cable</p> 	10-30V DC	Emitter	<u>RP50-T030MD-EY9C2L2</u>
			NPN	<u>RP50-T030MN-CY9C4U2</u>
			PNP	<u>RP50-T030MP-CY9C4U2</u>
			NPN/PNP	<u>RP50-T030MD-CY9C4U2</u>
		12-240V DC/ 24-240V AC	Emitter (2-wire)	<u>RP50-T030MC-EY9C2L2</u>
			SPDT Relay (5-wire)	<u>RP50-T030MR-CY9C5L2</u>
			SPST solid-state Light-ON (2-wire)	<u>RP50-T030MC-LY9C2U2</u>
			SPST solid-state Dark-ON (2-wire)	<u>RP50-T030MC-DY9C2U2</u>
	<p>5m Cable</p> 	10-30V DC	Emitter	<u>RP50-T030MD-EY9C2L5</u>
			NPN	<u>RP50-T030MN-CY9C4U5</u>
			PNP	<u>RP50-T030MP-CY9C4U5</u>
			NPN/PNP	<u>RP50-T030MD-CY9C4U5</u>
		12-240V DC/ 24-240V AC	Emitter (2-wire)	<u>RP50-T030MC-EY9C2L5</u>
			SPDT Relay (5-wire)	<u>RP50-T030MR-CY9C5L5</u>
			SPST solid-state Light-ON (2-wire)	<u>RP50-T030MC-LY9C2U5</u>
			SPST solid-state Dark-ON (2-wire)	<u>RP50-T030MC-DY9C2U5</u>
	<p>Quick Disconnect (swivel 90°)</p> 	10-30V DC (Euro-style)	Emitter	<u>RP50-T030MD-EY9Q4LE-S</u>
			NPN	<u>RP50-T030MN-CY9Q4UE-S</u>
			PNP	<u>RP50-T030MP-CY9Q4UE-S</u>
			NPN/PNP	<u>RP50-T030MD-CY9Q4UE-S</u>
		12-240V DC/ 24-240V AC (Micro-style)	Emitter (2-wire)	<u>RP50-T030MC-EY9Q3LM-S</u>
			SPDT Relay (5-wire)	<u>RP50-T030MR-CY9Q5LM-S</u>
			SPST solid-state Light-ON (2-wire)	<u>RP50-T030MC-LY9Q3UM-S</u>
			SPST solid-state Dark-ON (2-wire)	<u>RP50-T030MC-DY9Q3UM-S</u>
<p>6" Pigtail</p> 	10-30V DC (Euro-style)	Emitter	<u>RP50-T030MD-EY9P4LE</u>	
		NPN	<u>RP50-T030MN-CY9P4UE</u>	
		PNP	<u>RP50-T030MP-CY9P4UE</u>	
		NPN/PNP	<u>RP50-T030MD-CY9P4UE</u>	
	12-240V DC/ 24-240V AC (Micro-style)	Emitter (2-wire)	<u>RP50-T030MC-EY9P3LM</u>	
		SPDT Relay (5-wire)	<u>RP50-T030MR-CY9P5LM</u>	
		SPST solid-state Light-ON (2-wire)	<u>RP50-T030MC-LY9P3UM</u>	
		SPST solid-state Dark-ON (2-wire)	<u>RP50-T030MC-DY9P3UM</u>	

Note:






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

Retroreflective Mode

Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Light Source: Infrared LED</p>  <p style="writing-mode: vertical-rl; transform: rotate(180deg);">Retroreflective Mode Sensing Distance: 7 m (Note)</p>	<p>2m Cable</p> 	10-30V DC	NPN	<u>RP50-L7000N-CY9G4U2</u>
			PNP	<u>RP50-L7000P-CY9G4U2</u>
			NPN/PNP	<u>RP50-L7000D-CY9G4U2</u>
		12-240V DC/ 24-240V AC	SPDT Relay (5-wire)	<u>RP50-L7000R-CY9G5L2</u>
			SPST solid-state Light-ON (2-wire)	<u>RP50-L7000C-LY9G2U2</u>
			SPST solid-state Dark-ON (2-wire)	<u>RP50-L7000C-DY9G2U2</u>
	<p>5m Cable</p> 	10-30V DC	NPN	<u>RP50-L7000N-CY9G4U5</u>
			PNP	<u>RP50-L7000P-CY9G4U5</u>
			NPN/PNP	<u>RP50-L7000D-CY9G4U5</u>
		12-240V DC/ 24-240V AC	SPDT Relay (5-wire)	<u>RP50-L7000R-CY9G5L5</u>
			SPST solid-state Light-ON (2-wire)	<u>RP50-L7000C-LY9G2U5</u>
			SPST solid-state Dark-ON (2-wire)	<u>RP50-L7000C-DY9G2U5</u>
	<p>Quick Disconnect (swivel 90°)</p> 	10-30V DC (Euro-style)	NPN	<u>RP50-L7000N-CY9Q4UE-S</u>
			PNP	<u>RP50-L7000P-CY9Q4UE-S</u>
			NPN/PNP	<u>RP50-L7000D-CY9Q4UE-S</u>
12-240V DC/ 24-240V AC (Micro-style)		SPDT Relay (5-wire)	<u>RP50-L7000R-CY9Q5LM-S</u>	
		SPST solid-state Light-ON (2-wire)	<u>RP50-L7000C-LY9Q3UM-S</u>	
		SPST solid-state Dark-ON (2-wire)	<u>RP50-L7000C-DY9Q3UM-S</u>	
<p>6" Pigtail</p> 	10-30V DC (Euro-style)	NPN	<u>RP50-L7000N-CY9P4UE</u>	
		PNP	<u>RP50-L7000P-CY9P4UE</u>	
		NPN/PNP	<u>RP50-L7000D-CY9P4UE</u>	
	12-240V DC/ 24-240V AC (Micro-style)	SPDT Relay (5-wire)	<u>RP50-L7000R-CY9P5LM</u>	
		SPST solid-state Light-ON (2-wire)	<u>RP50-L7000C-LY9P3UM</u>	
		SPST solid-state Dark-ON (2-wire)	<u>RP50-L7000C-DY9P3UM</u>	

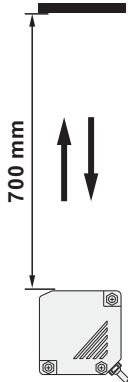




Note: Used with RE-6152 (supplied with sensor) reflector.
 Coming Soon : Part numbers with underline
 In Preparation: Part numbers with a line through the middle
 — At-03 —

Retroreflective Mode with Polarizing Filter

Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number		
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Light Source: Red LED</p>  <p style="writing-mode: vertical-rl; transform: rotate(180deg);">Retroreflective Mode with Polarizing Filter Sensing Distance: 5 m (Note)</p>	<p>2m Cable</p> 	10-30V DC	NPN	RP50-L5000N-CY6G4U2-PF		
			PNP	RP50-L5000P-CY6G4U2-PF		
			NPN/PNP	RP50-L5000D-CY6G4U2-PF		
		12-240V DC/ 24-240V AC	<p>5m Cable</p> 	10-30V DC	NPN	RP50-L5000N-CY6G4U5-PF
					PNP	RP50-L5000P-CY6G4U5-PF
					NPN/PNP	RP50-L5000D-CY6G4U5-PF
				12-240V DC/ 24-240V AC	SPDT Relay (5-wire)	RP50-L5000R-CY6C5L2-PF
					SPST solid-state Light-ON (2-wire)	RP50-L5000G-LY6G2U2-PF
					SPST solid-state Dark-ON (2-wire)	RP50-L5000G-DY6G2U2-PF
	<p>Quick Disconnect (swivel 90°)</p> 	10-30V DC (Euro-style)	NPN	RP50-L5000N-CY6Q4UE-PS		
			PNP	RP50-L5000P-CY6Q4UE-PS		
			NPN/PNP	RP50-L5000D-CY6Q4UE-PS		
		12-240V DC/ 24-240V AC (Micro-style)	<p>6" Pigtail</p> 	10-30V DC (Euro-style)	NPN	RP50-L5000N-CY6P4UE-PF
					PNP	RP50-L5000P-CY6P4UE-PF
					NPN/PNP	RP50-L5000D-CY6P4UE-PF
				12-240V DC/ 24-240V AC (Micro-style)	SPDT Relay (5-wire)	RP50-L5000R-CY6P5LM-PF
					SPST solid-state Light-ON (2-wire)	RP50-L5000G-LY6P3UM-PF
					SPST solid-state Dark-ON (2-wire)	RP50-L5000G-DY6P3UM-PF

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

Diffuse Mode

Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Light Source: Infrared LED</p>  <p style="writing-mode: vertical-rl; transform: rotate(180deg);">Diffuse Mode</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">Sensing Distance: 700 mm</p>	<p>2m Cable</p> 	10-30V DC	NPN	<u>RP50-D0700N-CY9C4U2</u>
			PNP	<u>RP50-D0700P-CY9C4U2</u>
			NPN/PNP	<u>RP50-D0700D-CY9C4U2</u>
		12-240V DC/ 24-240V AC	SPDT Relay (5-wire)	<u>RP50-D0700R-CY9C5L2</u>
			SPST solid-state Light-ON (2-wire)	<u>RP50-D0700C-LY9C2U2</u>
			SPST solid-state Dark-ON (2-wire)	<u>RP50-D0700C-DY9C2U2</u>
	<p>5m Cable</p> 	10-30V DC	NPN	<u>RP50-D0700N-CY9C4U5</u>
			PNP	<u>RP50-D0700P-CY9C4U5</u>
			NPN/PNP	<u>RP50-D0700D-CY9C4U5</u>
		12-240V DC/ 24-240V AC	SPDT Relay (5-wire)	<u>RP50-D0700R-CY9C5L5</u>
			SPST solid-state Light-ON (2-wire)	<u>RP50-D0700C-LY9C2U5</u>
			SPST solid-state Dark-ON (2-wire)	<u>RP50-D0700C-DY9C2U5</u>
<p>Quick Disconnect (swivel 90°)</p> 	10-30V DC (Euro-style)	NPN	<u>RP50-D0700N-CY9Q4UE-S</u>	
		PNP	<u>RP50-D0700P-CY9Q4UE-S</u>	
		NPN/PNP	<u>RP50-D0700D-CY9Q4UE-S</u>	
	12-240V DC/ 24-240V AC (Micro-style)	SPDT Relay (5-wire)	<u>RP50-D0700R-CY9Q5LM-S</u>	
		SPST solid-state Light-ON (2-wire)	<u>RP50-D0700C-LY9Q3UM-S</u>	
		SPST solid-state Dark-ON (2-wire)	<u>RP50-D0700C-DY9Q3UM-S</u>	
<p>6" Pigtail</p> 	10-30V DC (Euro-style)	NPN	<u>RP50-D0700N-CY9P4UE</u>	
		PNP	<u>RP50-D0700P-CY9P4UE</u>	
		NPN/PNP	<u>RP50-D0700D-CY9P4UE</u>	
	12-240V DC/ 24-240V AC (Micro-style)	SPDT Relay (5-wire)	<u>RP50-D0700R-CY9P5LM</u>	
		SPST solid-state Light-ON (2-wire)	<u>RP50-D0700C-LY9P3UM</u>	
		SPST solid-state Dark-ON (2-wire)	<u>RP50-D0700C-DY9P3UM</u>	

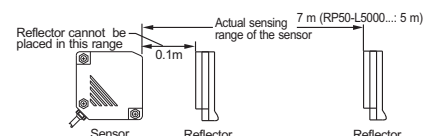
Note:

Coming Soon : Part numbers with underline
 In Preparation: Part numbers with a line through the middle
 — At-05 —

Specifications (DC)

Item	Type Model No.	Retroreflective Mode		Diffuse Mode	Opposed Mode	
		(with polarizing filters)	Long sensing range		Standard	Long sensing range
		RP50-L5000...	RP50-L7000...	RP50-D0700...	RP50-T010M...	RP50-T030M...
Sensing range		0.1 to 5 m (Note1)	0.1 to 7 m (Note1)	700 mm (Note2)	10 m	30m
Sensing object		φ 50mm or more opaque translucent or specular object	φ 50mm or more opaque or translucent object	Opaque, translucent or transparent object	φ 20mm or more opaque object (if slit masks are fitted, an object as small as 3x6 mm can be detected)	
Hysteresis		—————		15% or less of sensing distance	—————	
Supply voltage		10 to 30V DC				
Current consumption		<35 mA				
Output Type		PNP, NPN, 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		Selectable either Light-on Dark-on by the control input wire				
Response time		10 ms or less				
Operation indicator		Red LED (lights up under stable light received condition or stable dark condition)				
Stability indicator		Green LED (lights up under stable light received condition or stable dark condition)				
Power indicator		—————				Red LED (lights up when the power is ON)
Sensitivity adjuster		Continuously variable adjuster	—————	Continuously variable adjuster	Continuously variable adjuster	—————
Interference immunity		Incorporated (Two units of sensors can be mounted closely.)			(Use optional interference prevention filters)	—————
Pollution degree		3 (Industrial environment)				
Enclose category		IP 66 (IEC)				
Ambient temperature		-20 to +55°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: 11,000 lx at the light receiving face, Incandescent light: 3000 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		IEC 60947-5-2 Parts 8.3.3.4, or 500V DC for one min between all supply terminals connected together and enclosure				
Insulation resistance		20M Ω, or more, with 500V DC megger between all supply terminals				
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		Red LED (modulated)	Infrared LED (modulated)		Red LED (modulated)	Infrared LED(modulated)
Material		Enclosure: Acrylonitrile Butadine Styrene (ABS), Lens: Polycarbonate, Cover: Acrylonitrile Butadine Styrene (ABS), Front cover: Acrylic (retroreflective type sensor only)				
Cable		0.3mm ² 5-core (thru-beam emitter: 2-core) cabtyre cable, 2m long				
Cable Length		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		M12 (Euro-style) connector				
Weight		140g approx.			Emitter: 100g approx. Receiver: 140g approx.	Emitter: 125g approx. Receiver: 140g approx.

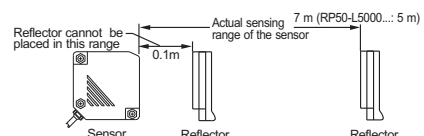
Notes: 1) Used with **RE-6152** (supplied with sensor) reflector.
The sensing range and the sensing object of the retroreflective mode sensor is specified for the reflector. Further, the sensing range is the possible setting range for the reflector
2) The sensing range of the diffuse mode sensor is specified for white non-glossy paper (200 x 200 mm) as the object.



Specifications (AC/DC)

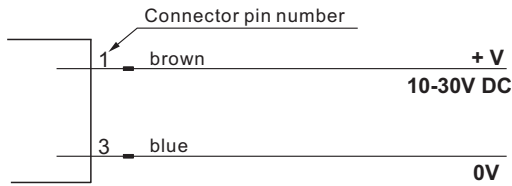
Item	Type Model No.	Retroreflective Mode		Diffuse Mode RP50-D0700...	Opposed Mode		
		(with polarizing filters) RP50-L5000...	Long sensing range RP50-L7000...		Standard RP50-T010M...	Long sensing range RP50-T030M...	
Sensing range		0.1 to 5 m (Note1)	0.1 to 7 m (Note1)	700 mm (Note2)	10 m	30m	
Sensing object		φ 50mm or more opaque translucent or specular object	φ 50mm or more opaque or translucent object	Opaque, translucent or transparent object	φ 20mm or more opaque object (if slit masks are fitted, an object as small as 3x6 mm can be detected)		
Hysteresis		—————		15% or less of sensing distance	—————		
Repeatability		0.2mm or less		0.3mm or less	0.1mm or less	0.2mm or less	
Supply voltage		12 to 240V DC 10% or 24 to 240V AC 10%				Ripple P-P 10% or less	
Current consumption		2 VA or less			Emitter: 1VA or less Receiver: 2VA or less	Emitter: 1.5VA or less Receiver: 2VA or less	
Output		Relay contact 1c <ul style="list-style-type: none"> • Switching capacity: 250V AC 1A (resistive load) 30V DC 2A (resistive load) • Electrical life: 100,000 or more operations (at rated AC load) 500,000 or more operations (at rated DC load) • Mechanical life: 100,000,000 or more operations 					
Light/Dark Operation		Relay Output: Light-ON or Dark-ON selectable via control wire, SPST Solid state: Either Light-ON or Dark-ON					
Response time		10 ms or less					
Operation indicator		Red LED (lights up under stable light received condition or stable dark condition)					
Stability indicator		Green LED (lights up under stable light received condition or stable dark condition)					
Power indicator		—————				Red LED (lights up when the power is ON)	
Sensitivity adjuster		Continuously variable adjuster	—————	Continuously variable adjuster	Continuously variable adjuster	—————	
Interference immunity		Incorporated (Two units of sensors can be mounted closely.)			(Use optional interference prevention filters)	—————	
Pollution degree		3 (Industrial environment)					
Enclose category		IP 66 (IEC)					
Ambient temperature		-20 to +55°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: 11,000 x at the light receiving face, Incandescent light: 3000 x 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		IEC 60947-5-2 Parts 8.3.3.4, or 500V DC for one min between all supply terminals connected together and enclosure					
Insulation resistance		20M Ω, or more, with 500V DC megger between all supply terminals					
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		Red LED (modulated)	Infrared LED (modulated)		Red LED (modulated)	Infrared LED(modulated)	
Material		Enclosure: Acrylonitrile Butadine Styrene (ABS), Lens: Polycarbonate, Cover: Acrylonitrile Butadine Styrene (ABS), Front cover: Acrylic (retroreflective type sensor only)					
Cable		0.3mm ² 5-core (thru-beam emitter: 2-core) cabtyre cable, 2m long					
Cable Length		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		M12 (Micro style) connector					
Weight		140g approx.			Emitter: 100g approx. Receiver: 140g approx.	Emitter: 125g approx. Receiver: 140g approx.	

Notes: 1) Used with **RE-6152** (supplied with sensor) reflector.
The sensing range and the sensing object of the retroreflective mode sensor is specified for the reflector. Further, the sensing range is the possible setting range for the reflector
2) The sensing range of the diffuse mode sensor is specified for white non-glossy paper (200 x 200 mm) as the object.



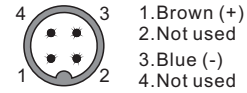
Connection Diagrams (DC)

Emitter of Thru-beam Mode

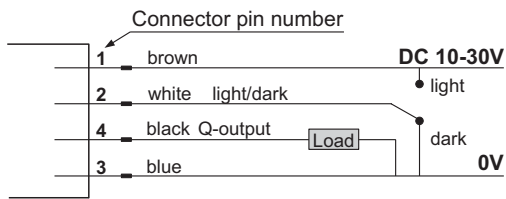


Connector pin position

Euro-style



PNP output type

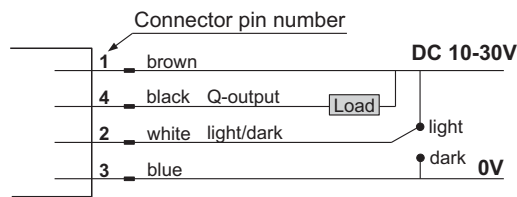


Connector pin position

Euro-style

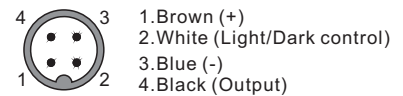


NPN output type

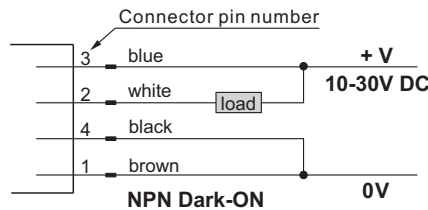
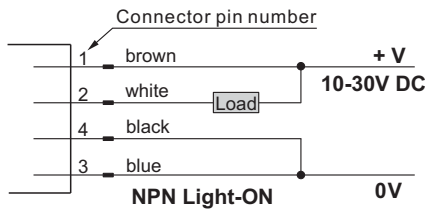


Connector pin position

Euro-style

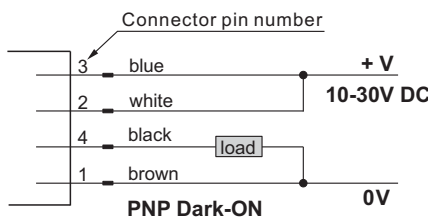
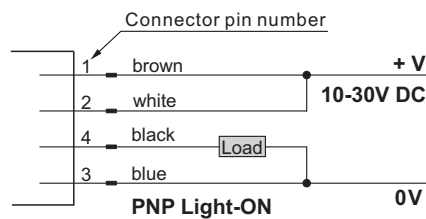
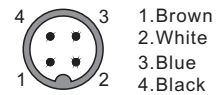


NPN/PNP output type



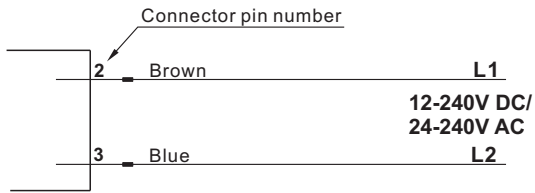
Connector pin position

Euro-style



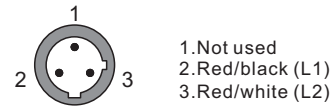
Connection Diagrams (AC/DC)

Emitter of Thru-beam Mode

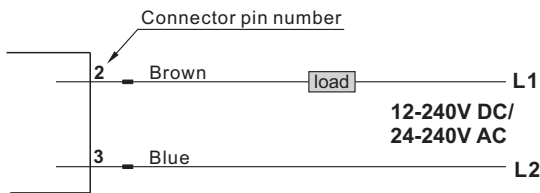


Connector face view

Micro-style

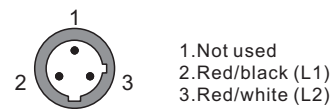


SPST Solid-state output type

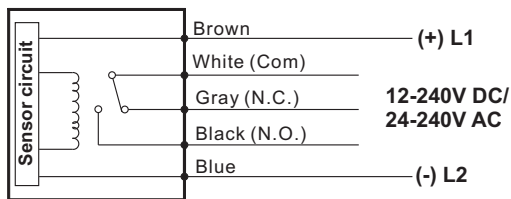


Connector face view

Micro-style



SPDT Relay output



Connector face view

Micro-style



SPDT Relay Output operation

Sensing Mode		Thru-beam & Retroreflective type				Diffuse type			
		Light-ON type		Dark-ON type		Light-ON type		Dark-ON type	
Output		NO (Black cable)	NC (Gray cable)	NO (Black cable)	NO (Gray cable)	NO (Black cable)	NC (Gray cable)	NO (Black cable)	NO (Gray cable)
Output Condition	Power OFF	Open	Close	Open	Close	Open	Close	Open	Close
	Beam-received	Close	Open	Open	Close	Close	Open	Open	Close
	Beam-interrupted	Open	Close	Close	Open	Open	Close	Close	Open

■ Object detected state

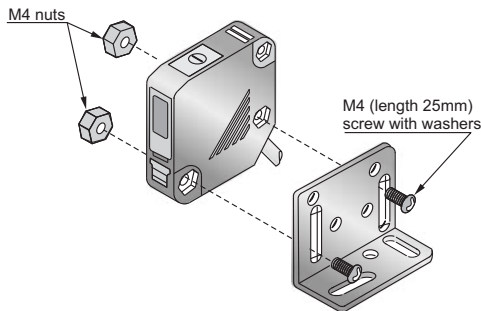
Precautions For Proper Use

Cautions:

Don't use the sensor for a safety aim, because it's only designed for a normal object detection

Mounting

The tightening torque should be 0.8N.m or less.

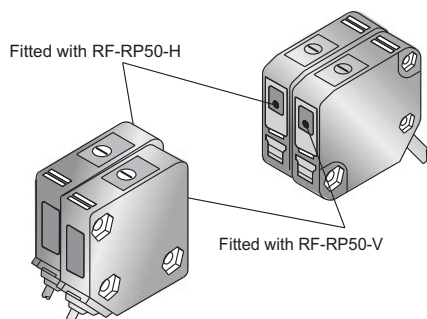


Others

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

Interference prevention filter (exclusively for RP50-T010M...)

Use the interference prevention filters (optional) when two units of thru-beam type sensors are mounted closely.



There are two types of interference prevention filters. The two sets of thru-beam type sensors should be fitted with different types of interference prevention filters.

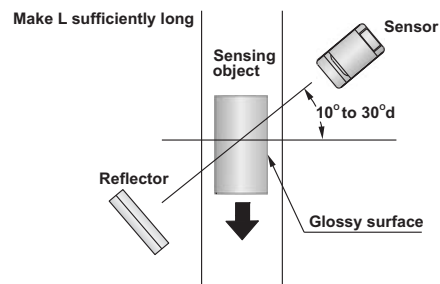
Retroreflective type sensor (RP50-L7000R-CY9C5L2)

• 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.

RP50-L5000R-LY6C5L2-PF;

does not need the above adjustment.



Retroreflective type sensor with polarizing filters (RP50-L5000R-CY6C5L2-PF)

- 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

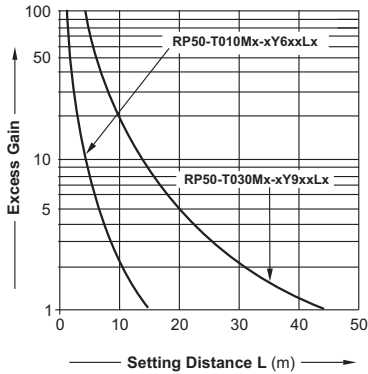
Steps

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

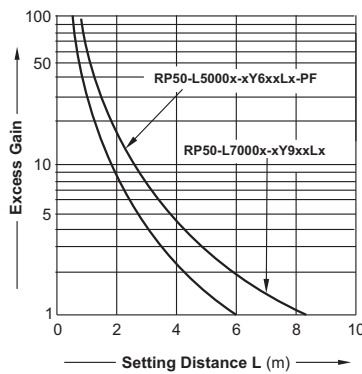
Sensing Characteristics (Typical)

All Models

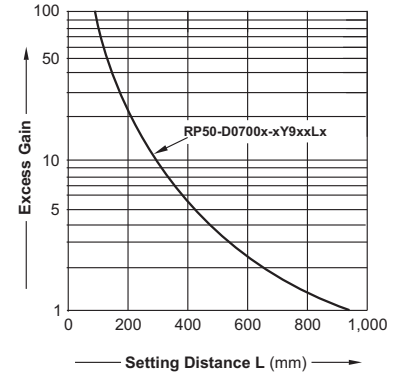
Opposed Mode



Retroreflective Mode

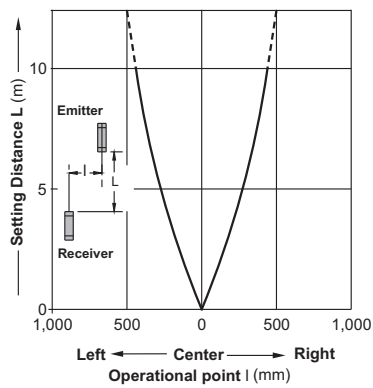


Diffuse Mode

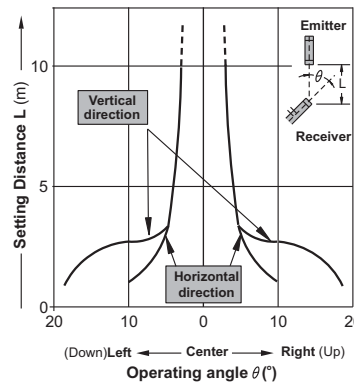


Opposed mode sensor (sensing range=10m)

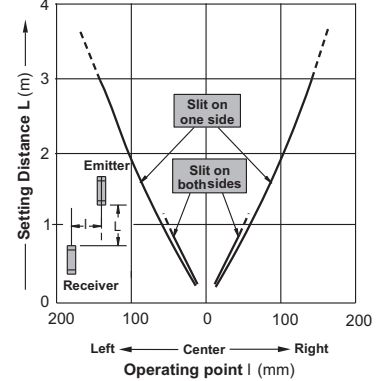
Parallel Deviation



Angular Deviation

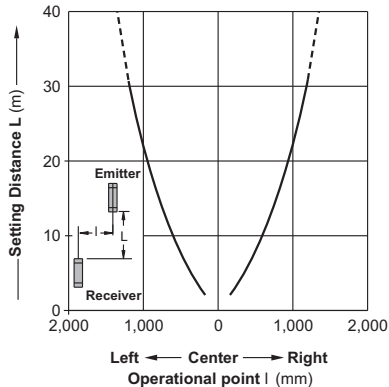


Parallel Deviation with slit masks(3X6mm)

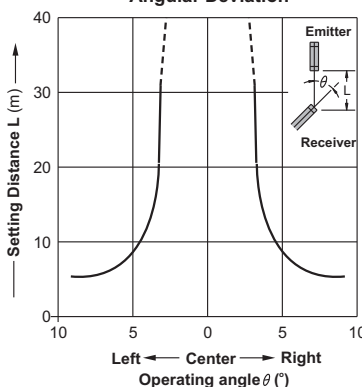


Opposed mode sensor (sensing range=30m)

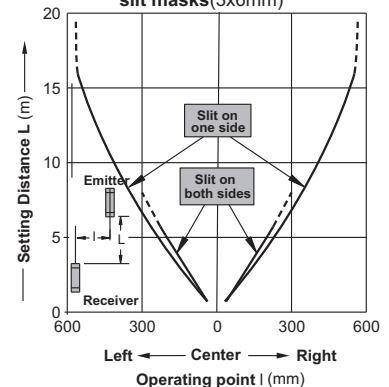
Parallel Deviation



Angular Deviation

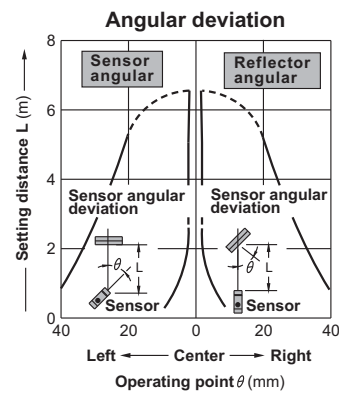
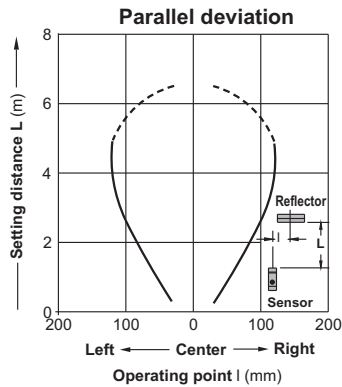


Parallel Deviation with slit masks(3x6mm)

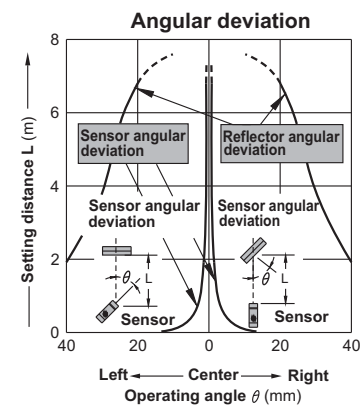
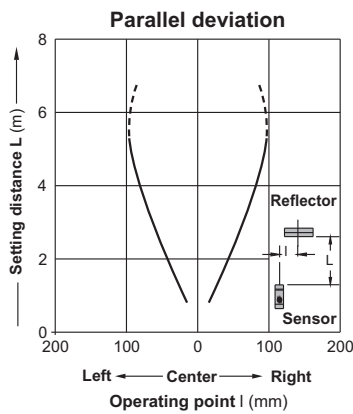


Sensing Characteristics (Typical)

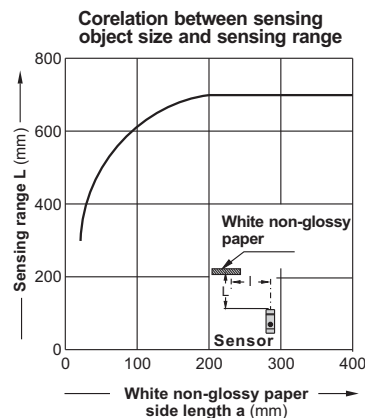
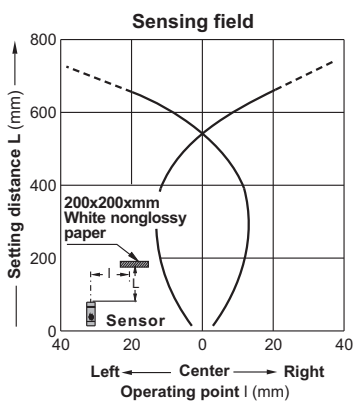
Polarized retroreflective mode sensor (Sensing Range=5m)



Long range retroreflective mode sensor (Sensing Range=7m)



Diffuse mode sensor (Sensing rang=700mm)

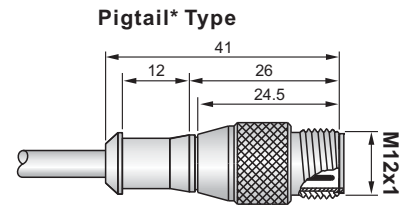
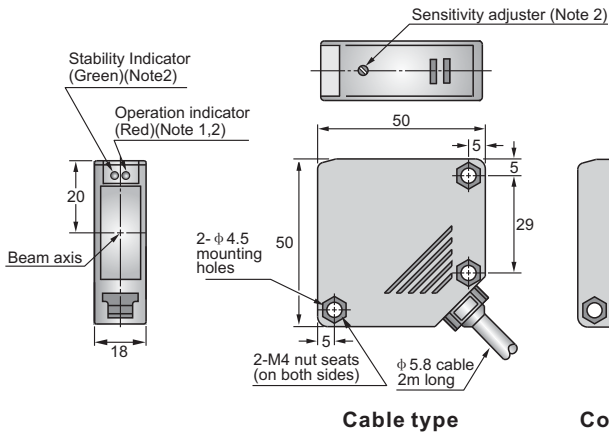


As the sensing object size becomes smaller than the standard size (white non-glossy paper 200X200mm), the sensing range shortens, as shown in the left graph.

For plotting the left graph, the sensitivity has been set such that a 200X200mm white nonglossy paper is just detectable at a distance of 700mm.

Dimensions (Unit: mm)

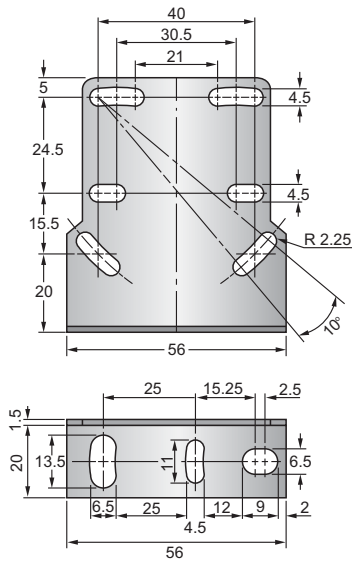
Sensor Type



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

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

MB-6556 (optional)



MB-5035 (optional)

