





RS28 SERIES

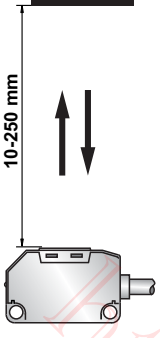



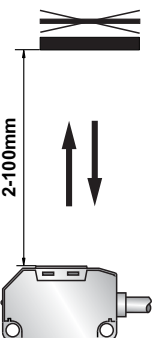



Thru-beam Mode

Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number
 <p>Thru-beam Mode Sensing Distance: 4 m Light source: Red light</p>	2m Cable 	10-30V DC	Emitter	<u>RS28-T4000D-EY6G2L2</u>
			NPN Light-ON	<u>RS28-T4000N-LY6G3U2</u>
			NPN Dark-ON	<u>RS28-T4000N-DY6G3U2</u>
			NPN L.O./D.O.	<u>RS28-T4000N-CY6G4U2</u>
			PNP Light-ON	<u>RS28-T4000P-LY6G3U2</u>
			PNP Dark-ON	<u>RS28-T4000P-DY6G3U2</u>
			PNP L.O./D.O.	<u>RS28-T4000P-CY6G4U2</u>
	Quick Disconnect (Pico-style) 	10-30V DC	Emitter	<u>RS28-T4000D-EY6Q4LP</u>
			NPN Light-ON	<u>RS28-T4000N-LY6Q4UP</u>
			NPN Dark-ON	<u>RS28-T4000N-DY6Q4UP</u>
			NPN L.O./D.O.	<u>RS28-T4000N-CY6Q4UP</u>
			PNP Light-ON	<u>RS28-T4000P-LY6Q4UP</u>
			PNP Dark-ON	<u>RS28-T4000P-DY6Q4UP</u>
			PNP L.O./D.O.	<u>RS28-T4000P-CY6Q4UP</u>
	6" Pig Tail (Pico-style) 	10-30V DC	Emitter	<u>RS28-T4000D-EY6P4LP</u>
			NPN Light-ON	<u>RS28-T4000N-LY6P4UP</u>
			NPN Dark-ON	<u>RS28-T4000N-DY6P4UP</u>
			NPN L.O./D.O.	<u>RS28-T4000N-CY6P4UP</u>
			PNP Light-ON	<u>RS28-T4000P-LY6P4UP</u>
			PNP Dark-ON	<u>RS28-T4000P-DY6P4UP</u>
			PNP L.O./D.O.	<u>RS28-T4000P-CY6P4UP</u>

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

RS28 SERIES







Diffuse Mode / BGS Type Diffuse Mode

Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number
 <p>Diffuse Mode Sensing Distance: 10-250mm Light source: Red light</p>	2m Cable 	10-30V DC	NPN Light-ON	<u>RS28-D0250N-LY6C3U2</u>
			NPN Dark-ON	<u>RS28-D0250N-DY6C3U2</u>
			NPN L.O./D.O.	<u>RS28-D0250N-CY6C4U2</u>
			PNP Light-ON	<u>RS28-D0250P-LY6C3U2</u>
			PNP Dark-ON	<u>RS28-D0250P-DY6C3U2</u>
			PNP L.O./D.O.	<u>RS28-D0250P-CY6C4U2</u>
	Quick Disconnect (Pico-style) 	10-30V DC	NPN Light-ON	<u>RS28-D0250N-LY6Q4UP</u>
			NPN Dark-ON	<u>RS28-D0250N-DY6Q4UP</u>
			NPN L.O./D.O.	<u>RS28-D0250N-CY6Q4UP</u>
			PNP Light-ON	<u>RS28-D0250P-LY6Q4UP</u>
			PNP Dark-ON	<u>RS28-D0250P-DY6Q4UP</u>
			PNP L.O./D.O.	<u>RS28-D0250P-CY6Q4UP</u>
	6" Pig Tail (Pico-style) 	10-30V DC	NPN Light-ON	<u>RS28-D0250N-LY6P4UP</u>
			NPN Dark-ON	<u>RS28-D0250N-DY6P4UP</u>
			NPN L.O./D.O.	<u>RS28-D0250N-CY6P4UP</u>
			PNP Light-ON	<u>RS28-D0250P-LY6P4UP</u>
			PNP Dark-ON	<u>RS28-D0250P-DY6P4UP</u>
			PNP L.O./D.O.	<u>RS28-D0250P-CY6P4UP</u>
 <p>Diffuse Mode With Background Suppression Sensing Distance: 2-100mm Light source: Red light</p>	2m Cable 	10-30V DC	NPN Light-ON	<u>RS28-D0100N-LY6C3U2-BS</u>
			NPN Dark-ON	<u>RS28-D0100N-DY6C3U2-BS</u>
			NPN L.O./D.O.	<u>RS28-D0100N-CY6C4U2-BS</u>
			PNP Light-ON	<u>RS28-D0100P-LY6C3U2-BS</u>
			PNP Dark-ON	<u>RS28-D0100P-DY6C3U2-BS</u>
			PNP L.O./D.O.	<u>RS28-D0100P-CY6C4U2-BS</u>
	Quick Disconnect (Pico-style) 	10-30V DC	NPN Light-ON	<u>RS28-D0100N-LY6Q4UP-BS</u>
			NPN Dark-ON	<u>RS28-D0100N-DY6Q4UP-BS</u>
			NPN L.O./D.O.	<u>RS28-D0100N-CY6Q4UP-BS</u>
			PNP Light-ON	<u>RS28-D0100P-LY6Q4UP-BS</u>
			PNP Dark-ON	<u>RS28-D0100P-DY6Q4UP-BS</u>
			PNP L.O./D.O.	<u>RS28-D0100P-CY6Q4UP-BS</u>
	6" Pig Tail (Pico-style) 	10-30V DC	NPN Light-ON	<u>RS28-D0100N-LY6P4UP-BS</u>
			NPN Dark-ON	<u>RS28-D0100N-DY6P4UP-BS</u>
			NPN L.O./D.O.	<u>RS28-D0100N-CY6P4UP-BS</u>
			PNP Light-ON	<u>RS28-D0100P-LY6P4UP-BS</u>
			PNP Dark-ON	<u>RS28-D0100P-DY6P4UP-BS</u>
			PNP L.O./D.O.	<u>RS28-D0100P-CY6P4UP-BS</u>

Note:
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Retroreflective Mode / Clear Object Detector

Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number
Retro-reflective Mode With Polarizing filter Sensing Distance: 1.5m (Note) Light source: Red light	2m Cable 	10-30V DC	NPN Light-ON	<u>RS28-L1500N-LY6C3U2-PF</u>
			NPN Dark-ON	<u>RS28-L1500N-DY6C3U2-PF</u>
			NPN L.O./D.O.	<u>RS28-L1500N-CY6C4U2-PF</u>
			PNP Light-ON	<u>RS28-L1500P-LY6C3U2-PF</u>
			PNP Dark-ON	<u>RS28-L1500P-DY6C3U2-PF</u>
			PNP L.O./D.O.	<u>RS28-L1500P-CY6C4U2-PF</u>
	Quick Disconnect (Pico-style) 	10-30V DC	NPN Light-ON	<u>RS28-L1500N-LY6Q4UP-PF</u>
			NPN Dark-ON	<u>RS28-L1500N-DY6Q4UP-PF</u>
			NPN L.O./D.O.	<u>RS28-L1500N-CY6Q4UP-PF</u>
			PNP Light-ON	<u>RS28-L1500P-LY6Q4UP-PF</u>
			PNP Dark-ON	<u>RS28-L1500P-DY6Q4UP-PF</u>
			PNP L.O./D.O.	<u>RS28-L1500P-CY6Q4UP-PF</u>
	6" Pig Tail (Pico-style) 	10-30V DC	NPN Light-ON	<u>RS28-L1500N-LY6P4UP-PF</u>
			NPN Dark-ON	<u>RS28-L1500N-DY6P4UP-PF</u>
			NPN L.O./D.O.	<u>RS28-L1500N-CY6P4UP-PF</u>
			PNP Light-ON	<u>RS28-L1500P-LY6P4UP-PF</u>
			PNP Dark-ON	<u>RS28-L1500P-DY6P4UP-PF</u>
			PNP L.O./D.O.	<u>RS28-L1500P-CY6P4UP-PF</u>
Clear Object Detector Sensing Distance: 500mm (Note) Light source: Red light	2m Cable 	10-30V DC	NPN Light-ON	<u>RS28-S0500N-LY6C3U2</u>
			NPN Dark-ON	<u>RS28-S0500N-DY6C3U2</u>
			NPN L.O./D.O.	<u>RS28-S0500N-CY6C4U2</u>
			PNP Light-ON	<u>RS28-S0500P-LY6C3U2</u>
			PNP Dark-ON	<u>RS28-S0500P-DY6C3U2</u>
			PNP L.O./D.O.	<u>RS28-S0500P-CY6C4U2</u>
	Quick Disconnect (Pico-style) 	10-30V DC	NPN Light-ON	<u>RS28-S0500N-LY6Q4UP</u>
			NPN Dark-ON	<u>RS28-S0500N-DY6Q4UP</u>
			NPN L.O./D.O.	<u>RS28-S0500N-CY6Q4UP</u>
			PNP Light-ON	<u>RS28-S0500P-LY6Q4UP</u>
			PNP Dark-ON	<u>RS28-S0500P-DY6Q4UP</u>
			PNP L.O./D.O.	<u>RS28-S0500P-CY6Q4UP</u>
	6" Pig Tail (Pico-style) 	10-30V DC	NPN Light-ON	<u>RS28-S0500N-LY6P4UP</u>
			NPN Dark-ON	<u>RS28-S0500N-DY6P4UP</u>
			NPN L.O./D.O.	<u>RS28-S0500N-CY6P4UP</u>
			PNP Light-ON	<u>RS28-S0500P-LY6P4UP</u>
			PNP Dark-ON	<u>RS28-S0500P-DY6P4UP</u>
			PNP L.O./D.O.	<u>RS28-S0500P-CY6P4UP</u>

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

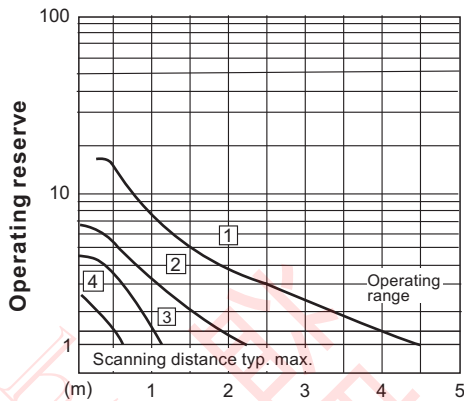
Item	Sensing Mode				
	Thru-beam	Diffuse	Diffuse (with background suppression)	Retroreflective (with polarizing filter)	Clear Object Detector
Sensing Range (Adjustable)	4 m	10...250 mm	2...100 mm	5mm...1.5m (Note)	10...500mm (Note)
Light spot diameter (approx.)	400mm@ 4 m	20mm@200mm	4mm@ 40mm	150mm@ 1.5m	40mm@ 300mm
Field of View	6°(emitter) 1.5°(receiver)	6°	5°	6°	7.5°
Light Source	Red Light				
Indicator LED	Red: Light received > switching threshold				
Response Time	≤ 0.5 ms				
Max. Frequency	1000 Hz				
Supply Voltage	10-30V DC (Ripple= 10%)				
Output Type	NPN, PNP				
Operation Mode	Light-ON, Dark-ON, Light/Dark changeover (see type number)				
Max. Output Current	100 mA				
Current consumption(no load)	≤15mA(emitter) ≤20mA(receiver)	≤20 mA			≤30 mA
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				
Material	Housing: ABS, Optics: PC				
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				
Weight	Approx. 44g (2m cable type) Approx. 7g (M8 connector type)				
Connection Type	Cable type: 2m PVC, Connector type: 4-pin M8(pico-style), Pigtail type: See Pigtail Series or our Cables & Connectors catalogue.				

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

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Sensing Characteristics (Typical)

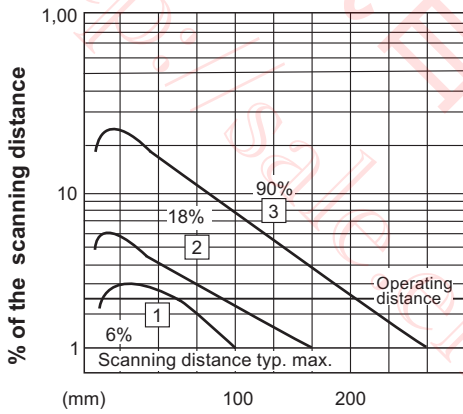
Thru-beam Mode (Sn=4 m)



Reduction in scanning range with slotted masks

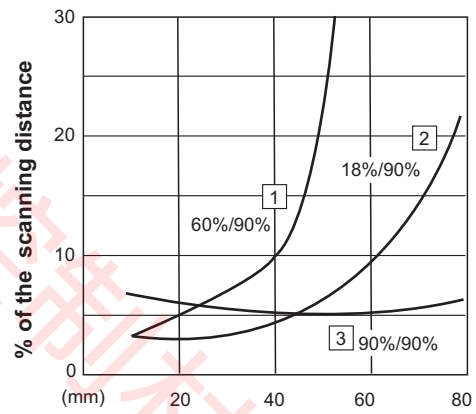
1	Without slotted mask
2	Mask aperture width 2.0 mm
3	Mask aperture width 1.0 mm
4	Mask aperture width 0.5 mm

Diffuse Mode (Sn=250 mm)



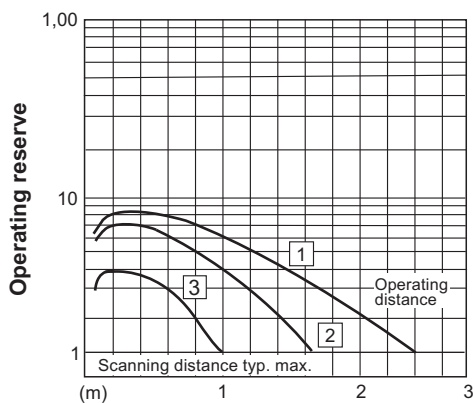
1	Scanning distance on black, 6% remission
2	Scanning distance on grey, 18% remission
3	Scanning distance on white, 90% remission

Background Suppression Diffuse (Sn=100mm)



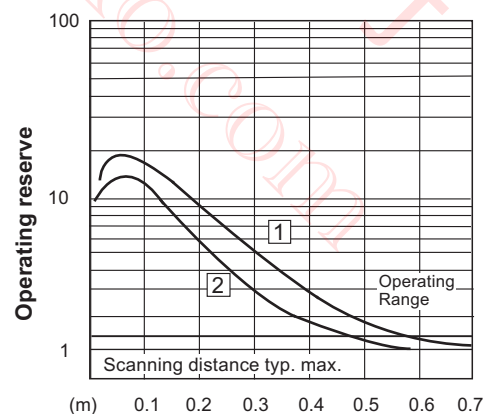
1	Scanning distance on black, 6% remission
2	Scanning distance on grey, 18% remission
3	Scanning distance on white, 90% remission

Polarized Retro-reflective Mode (Sn=1.5m)



1	RE-8484 reflector	0.01... 2m
2	RE-6152 reflector	0.01... 1.5m
3	RE-6041 reflector	0.01... 1.5m

Clear Object Detector (Sn=500mm)

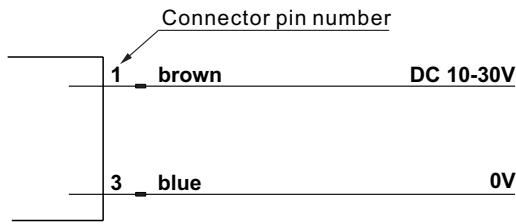


	Reflector type	Operating range (m)
1	RE-8484 reflector	0.01... 0.6m
2	RE-6152 reflector	0.01... 0.5m

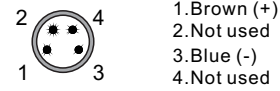
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Connection Diagrams

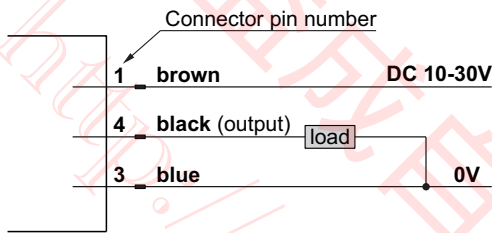
Emitter of Thru-beam Mode



Connector face view
Pico-Style

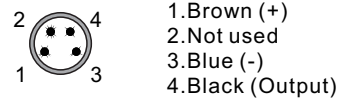


PNP Light-ON (Dark-ON) output type

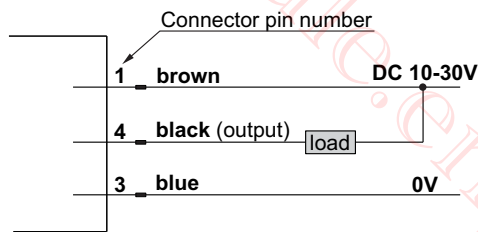


Connector face view

Pico-Style

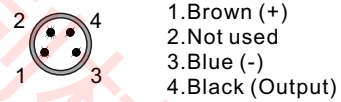


NPN Light-ON (Dark-ON) output type

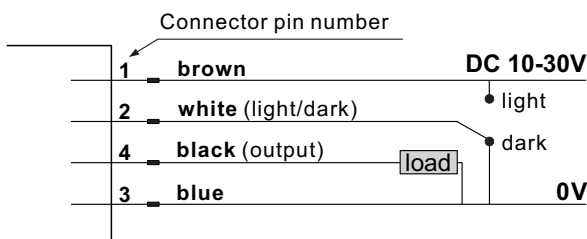


Connector face view

Pico-Style

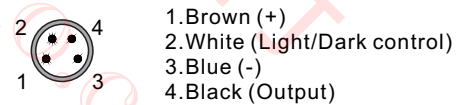


PNP L.O./D.O. output type

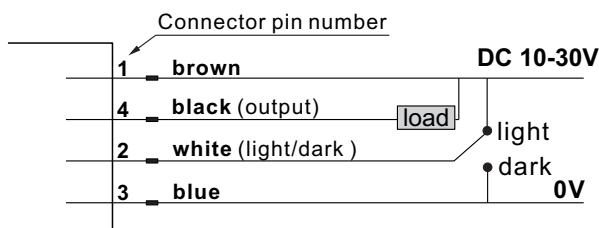


Connector face view

Pico-Style

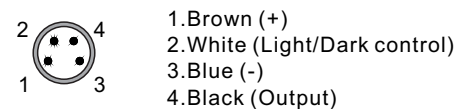


NPN L.O./D.O. output type



Connector face view

Pico-Style

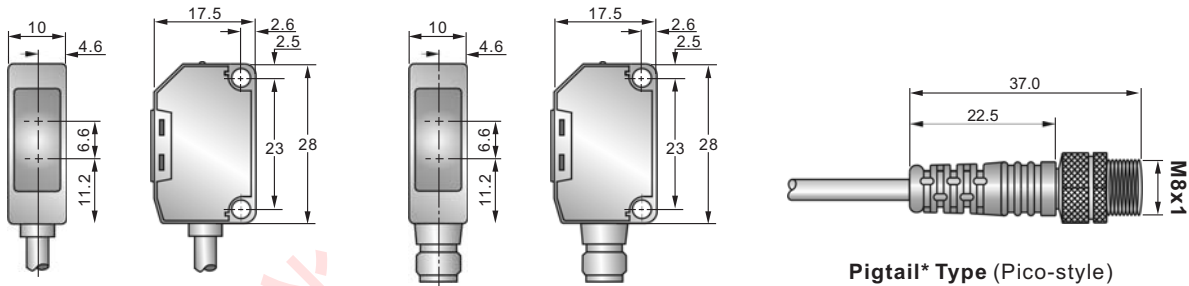


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Dimensions (Unit: mm)

Sensor Type



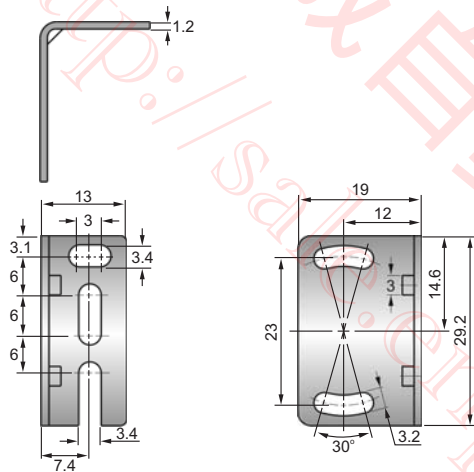
Cable Type

Connector Type (Pico-style)

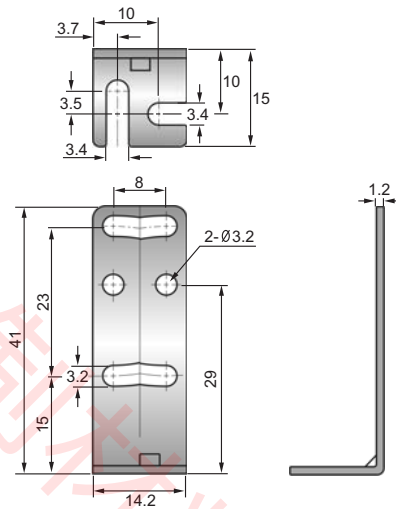
Pigtail* Type (Pico-style)

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

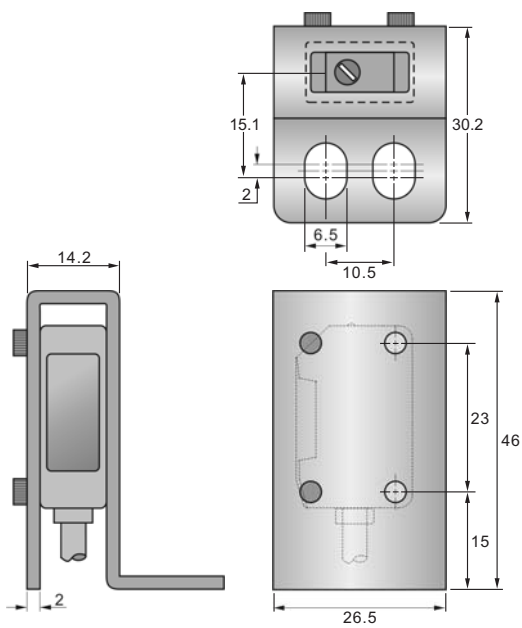
MB-2919 (Mounting bracket-optional)



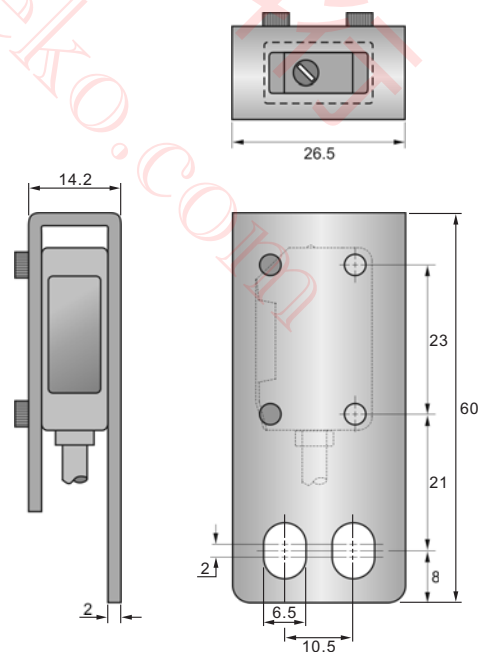
MB-4114 (Mounting bracket-optional)



PB-4626 (Protective bracket-optional)







PB-6026 (Protective bracket-optional)



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Thru-beam Mode

Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number
<p>Thru-beam Mode</p> <p>Sensing Distance: 0-15m</p> <p>Light source: Red light (680nm)</p> 	<p>2m Cable</p> 	10-30V DC	Emitter	<u>RS31-T015MD-EY6C2L2</u>
			NPN Light-ON	<u>RS31-T015MN-LY6C3U2</u>
			NPN Dark-ON	<u>RS31-T015MN-DY6C3U2</u>
			NPN L.O./D.O.	<u>RS31-T015MN-CY6C3U2</u>
			PNP Light-ON	<u>RS31-T015MP-LY6C3U2</u>
			PNP Dark-ON	<u>RS31-T015MP-DY6C3U2</u>
			PNP L.O./D.O.	<u>RS31-T015MP-CY6C3U2</u>
	<p>Quick Disconnect (Pico-style)</p> 	10-30V DC	Emitter	<u>RS31-T015MD-EY6Q4LP</u>
			NPN Light-ON	<u>RS31-T015MN-LY6Q4UP</u>
			NPN Dark-ON	<u>RS31-T015MN-DY6Q4UP</u>
			NPN L.O./D.O.	<u>RS31-T015MN-CY6Q4UP</u>
			PNP Light-ON	<u>RS31-T015MP-LY6Q4UP</u>
			PNP Dark-ON	<u>RS31-T015MP-DY6Q4UP</u>
			PNP L.O./D.O.	<u>RS31-T015MP-CY6Q4UP</u>
	<p>6" Pig Tail (Pico-style)</p> 	10-30V DC	Emitter	<u>RS31-T015MD-EY6P4LP</u>
			NPN Light-ON	<u>RS31-T015MN-LY6P4UP</u>
			NPN Dark-ON	<u>RS31-T015MN-DY6P4UP</u>
			NPN L.O./D.O.	<u>RS31-T015MN-CY6P4UP</u>
			PNP Light-ON	<u>RS31-T015MP-LY6P4UP</u>
			PNP Dark-ON	<u>RS31-T015MP-DY6P4UP</u>
			PNP L.O./D.O.	<u>RS31-T015MP-CY6P4UP</u>

Note:
 Coming Soon : Part numbers with underline
 In Preparation: Part numbers with a line through the middle
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RS31 SERIES

Diffuse Mode / BGS Type Diffuse Mode







Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number
Diffuse Mode Sensing Distance: 900mm Light source: Red light (680nm)	2m Cable 	10-30V DC	NPN Light-ON	<u>RS31-D0900N-LY6C3U2</u>
			NPN Dark-ON	<u>RS31-D0900N-DY6C3U2</u>
			NPN L.O./D.O.	<u>RS31-D0900N-CY6C3U2</u>
			PNP Light-ON	<u>RS31-D0900P-LY6C3U2</u>
			PNP Dark-ON	<u>RS31-D0900P-DY6C3U2</u>
			PNP L.O./D.O.	<u>RS31-D0900P-CY6C3U2</u>
	Quick Disconnect (Pico-style) 	10-30V DC	NPN Light-ON	<u>RS31-D0900N-LY6Q4UP</u>
			NPN Dark-ON	<u>RS31-D0900N-DY6Q4UP</u>
			NPN L.O./D.O.	<u>RS31-D0900N-CY6Q4UP</u>
			PNP Light-ON	<u>RS31-D0900P-LY6Q4UP</u>
			PNP Dark-ON	<u>RS31-D0900P-DY6Q4UP</u>
			PNP L.O./D.O.	<u>RS31-D0900P-CY6Q4UP</u>
	6" Pig Tail (Pico-style) 	10-30V DC	NPN Light-ON	<u>RS31-D0900N-LY6P4UP</u>
			NPN Dark-ON	<u>RS31-D0900N-DY6P4UP</u>
			NPN L.O./D.O.	<u>RS31-D0900N-CY6P4UP</u>
			PNP Light-ON	<u>RS31-D0900P-LY6P4UP</u>
			PNP Dark-ON	<u>RS31-D0900P-DY6P4UP</u>
			PNP L.O./D.O.	<u>RS31-D0900P-CY6P4UP</u>
Diffuse Mode With Background Suppression Sensing Distance: 140mm Light source: Red light (680nm)	2m Cable 	10-30V DC	NPN Light-ON	<u>RS31-D0140N-LY6C3U2-BS</u>
			NPN Dark-ON	<u>RS31-D0140N-DY6C3U2-BS</u>
			NPN L.O./D.O.	<u>RS31-D0140N-CY6C3U2-BS</u>
			PNP Light-ON	<u>RS31-D0140P-LY6C3U2-BS</u>
			PNP Dark-ON	<u>RS31-D0140P-DY6C3U2-BS</u>
			PNP L.O./D.O.	<u>RS31-D0140P-CY6C3U2-BS</u>
	Quick Disconnect (Pico-style) 	10-30V DC	NPN Light-ON	<u>RS31-D0140N-LY6Q4UP-BS</u>
			NPN Dark-ON	<u>RS31-D0140N-DY6Q4UP-BS</u>
			NPN L.O./D.O.	<u>RS31-D0140N-CY6Q4UP-BS</u>
			PNP Light-ON	<u>RS31-D0140P-LY6Q4UP-BS</u>
			PNP Dark-ON	<u>RS31-D0140P-DY6Q4UP-BS</u>
			PNP L.O./D.O.	<u>RS31-D0140P-CY6Q4UP-BS</u>
	6" Pig Tail (Pico-style) 	10-30V DC	NPN Light-ON	<u>RS31-D0140N-LY6P4UP-BS</u>
			NPN Dark-ON	<u>RS31-D0140N-DY6P4UP-BS</u>
			NPN L.O./D.O.	<u>RS31-D0140N-CY6P4UP-BS</u>
			PNP Light-ON	<u>RS31-D0140P-LY6P4UP-BS</u>
			PNP Dark-ON	<u>RS31-D0140P-DY6P4UP-BS</u>
			PNP L.O./D.O.	<u>RS31-D0140P-CY6P4UP-BS</u>

Note:
 Coming Soon : Part numbers with underline
 In Preparation: Part numbers with a line through the middle
 — Ab-02 —

Ab : RS31 SERIES

RS31 SERIES

Retroreflective Mode / Clear Object Detector

Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number
Retro-reflective Mode With Polarizing filter Sensing Distance: 4m (Note) Light source: Red light (680nm)	2m Cable 	10-30V DC	NPN Light-ON	<u>RS31-L4000N-LY6C3U2-PF</u>
			NPN Dark-ON	<u>RS31-L4000N-DY6C3U2-PF</u>
			NPN L.O./D.O.	<u>RS31-L4000N-CY6C3U2-PF</u>
			PNP Light-ON	<u>RS31-L4000P-LY6C3U2-PF</u>
			PNP Dark-ON	<u>RS31-L4000P-DY6C3U2-PF</u>
			PNP L.O./D.O.	<u>RS31-L4000P-CY6C3U2-PF</u>
	Quick Disconnect (Pico-style) 	10-30V DC	NPN Light-ON	<u>RS31-L4000N-LY6Q4UP-PF</u>
			NPN Dark-ON	<u>RS31-L4000N-DY6Q4UP-PF</u>
			NPN L.O./D.O.	<u>RS31-L4000N-CY6Q4UP-PF</u>
			PNP Light-ON	<u>RS31-L4000P-LY6Q4UP-PF</u>
			PNP Dark-ON	<u>RS31-L4000P-DY6Q4UP-PF</u>
			PNP L.O./D.O.	<u>RS31-L4000P-CY6Q4UP-PF</u>
	6" Pig Tail (Pico-style) 	10-30V DC	NPN Light-ON	<u>RS31-L4000N-LY6P4UP-PF</u>
			NPN Dark-ON	<u>RS31-L4000N-DY6P4UP-PF</u>
			NPN L.O./D.O.	<u>RS31-L4000N-CY6P4UP-PF</u>
PNP Light-ON			<u>RS31-L4000P-LY6P4UP-PF</u>	
PNP Dark-ON			<u>RS31-L4000P-DY6P4UP-PF</u>	
PNP L.O./D.O.			<u>RS31-L4000P-CY6P4UP-PF</u>	
Clear Object Detector Sensing Distance: 2m (Note) Light source: Red light (680nm)	2m Cable 	10-30V DC	NPN Light-ON	<u>RS31-S2000N-LY6C3U2</u>
			NPN Dark-ON	<u>RS31-S2000N-DY6C3U2</u>
			NPN L.O./D.O.	<u>RS31-S2000N-CY6C3U2</u>
			PNP Light-ON	<u>RS31-S2000P-LY6C3U2</u>
			PNP Dark-ON	<u>RS31-S2000P-DY6C3U2</u>
			PNP L.O./D.O.	<u>RS31-S2000P-CY6C3U2</u>
	Quick Disconnect (Pico-style) 	10-30V DC	NPN Light-ON	<u>RS31-S2000N-LY6Q4UP</u>
			NPN Dark-ON	<u>RS31-S2000N-DY6Q4UP</u>
			NPN L.O./D.O.	<u>RS31-S2000N-CY6Q4UP</u>
			PNP Light-ON	<u>RS31-S2000P-LY6Q4UP</u>
			PNP Dark-ON	<u>RS31-S2000P-DY6Q4UP</u>
			PNP L.O./D.O.	<u>RS31-S2000P-CY6Q4UP</u>
	6" Pig Tail (Pico-style) 	10-30V DC	NPN Light-ON	<u>RS31-S2000N-LY6P4UP</u>
			NPN Dark-ON	<u>RS31-S2000N-DY6P4UP</u>
			NPN L.O./D.O.	<u>RS31-S2000N-CY6P4UP</u>
PNP Light-ON			<u>RS31-S2000P-LY6P4UP</u>	
PNP Dark-ON			<u>RS31-S2000P-DY6P4UP</u>	
PNP L.O./D.O.			<u>RS31-S2000P-CY6P4UP</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

RS31 SERIES

Specifications

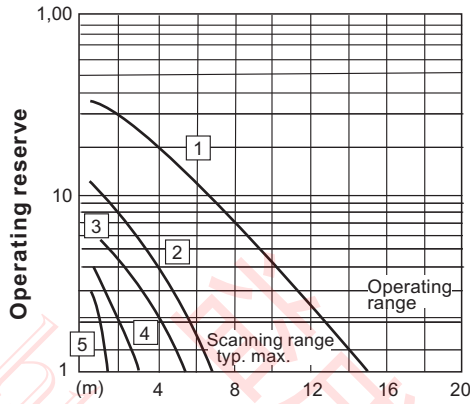
Item	Sensing Mode				
	Thru-beam	Diffuse	Diffuse (With Background Suppression)	Retroreflective (with polarizing filter)	Clear Object Detector
Sensing Range (Adjustable)	15m	900 mm	4-140mm	4 m (Note)	2m (Note)
Field of View	3.1° 1.5°	6.8°	—	4°	4°
Light Source	Visible red 680nm				
Indicator LEDs	Signal strength indicator orange: switching output active				
Response Time	≤0.5 ms				
Supply Voltage	10-30V DC (Ripple= 10%)				
Output Type	NPN, PNP				
Output Current	≤100 mA				
Switching Mode	Light-ON, Dark-ON, Light/Dark changeover (see type number)				
Voltage Drop	<1.8 V				
Material	Housing: ABS, Optics: PC				
Power consumption	<20 mA <15 mA	≤30 mA			
Enclosure Rating	IP65				
Circuit Protection	Outputs short circuit and over current protected, Vs reverse polarity protected				
Switching frequency	1000Hz				
Ambient Operating Temperature	-25...55°C				
Storage Temperature	-40...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 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				
Weight	Cable type: approx.53g, connector type: approx.9g				
Connection Type	Cable type: 2m PVC(Φ3.8 dia.), Connector type: 4-pin M8(pico-style), Pigtail type: See Pigtail Series or our Cables & Connectors catalogue.				

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

RS31 SERIES

Sensing Characteristics (Typical)

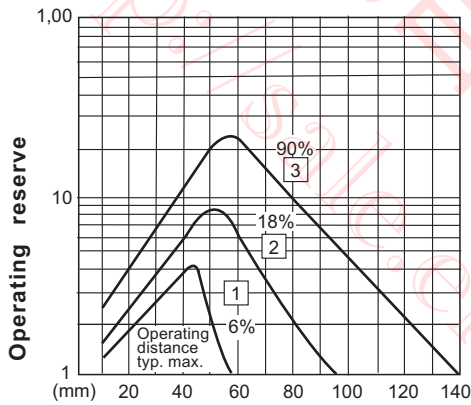
Thru-beam Mode (Sn=15m)



scanning range reduction when slotted masks are used

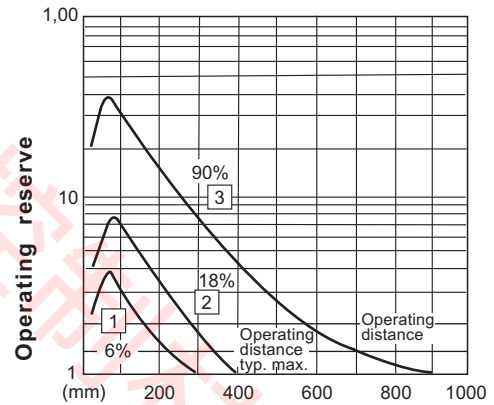
1	Without mask/polarization filter
2	With polarization filter tip adapter
3	With slotted mask, width 2.0 mm
4	With slotted mask, width 1.0 mm
5	With slotted mask, width 0.5 mm

Background Suppression Diffuse (Sn=140mm)



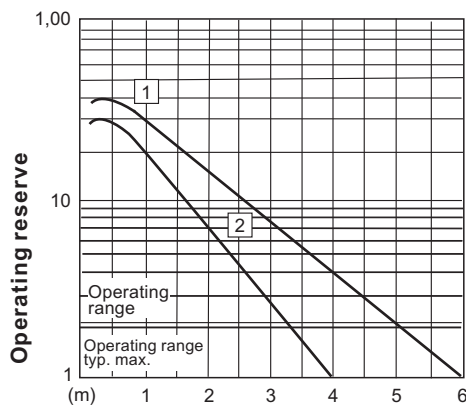
1	Scanning distance on black, 6% remission
2	Scanning distance on grey, 18% remission
3	Scanning distance on white, 90% remission

Diffuse Mode (Sn=900mm)



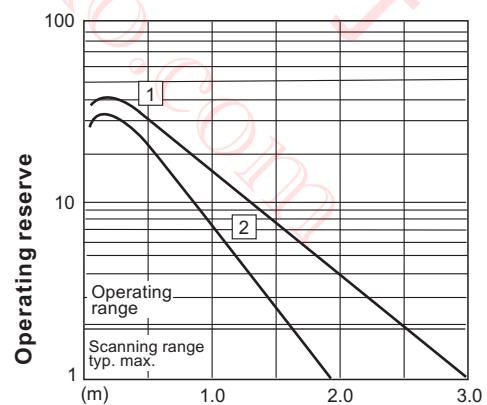
1	Scanning distance on black, 6% remission
2	Scanning distance on grey, 18% remission
3	Scanning distance on white, 90% remission

Polarized Retroreflective Mode (Sn=4m)



Reflector type	Operating range (m)
1 RE-8484	0.01-5
2 RE-6152	0.01-4.0
3 RE-6041	0.01-3.8

Clear Object Detector (Sn=2m)

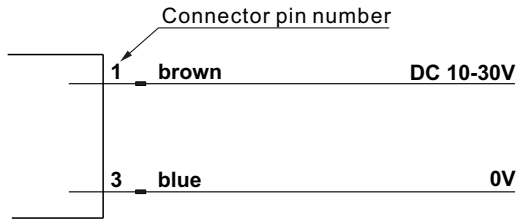


Reflector type	Operating range(m)
1 RE-8484	0.01-2.6
2 RE-6152	0.01-2
3 RE-6041	0.01-2

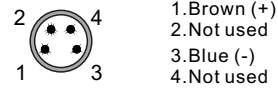
RS31 SERIES

Connection Diagrams

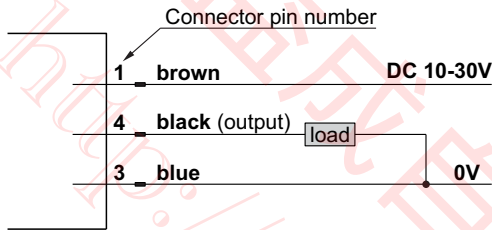
Emitter of Thru-beam Mode



Connector face view
Pico-Style

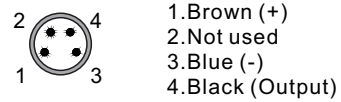


PNP Light-ON (Dark-ON) Output Type

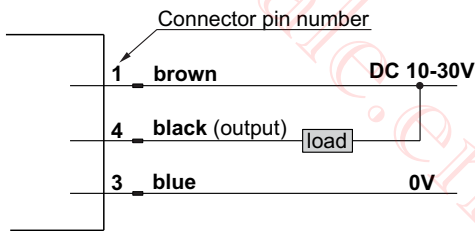


Connector face view

Pico-Style

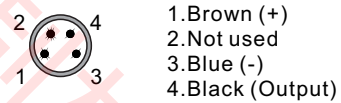


NPN Light-ON (Dark-ON) Output Type

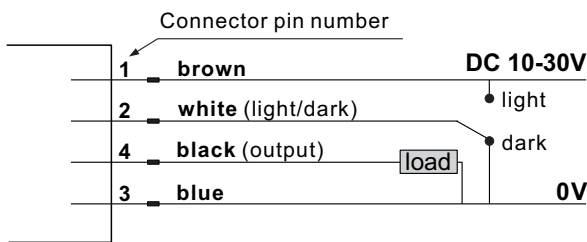


Connector face view

Pico-Style

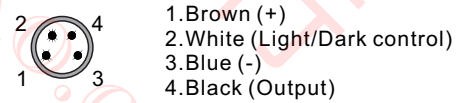


PNP L.O./D.O. output type

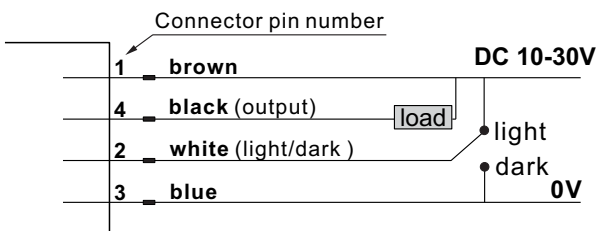


Connector face view

Pico-Style

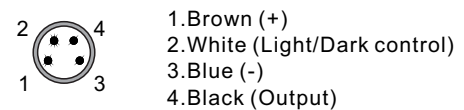


NPN L.O./D.O. output type



Connector face view

Pico-Style

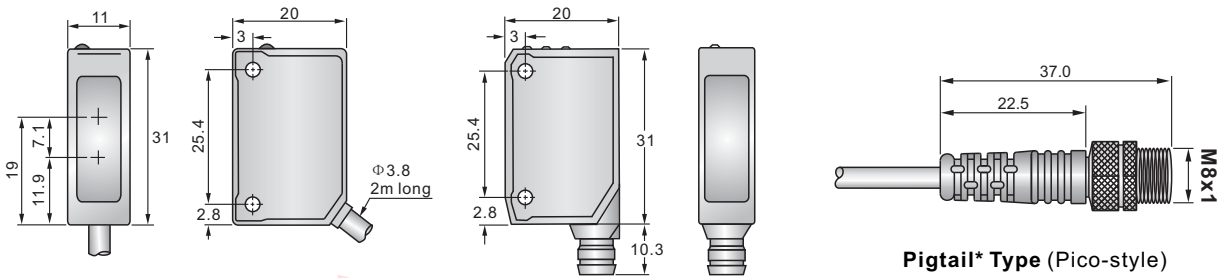


Ab : RS31 SERIES

RS31 SERIES

Dimensions (Unit: mm)

Sensor Type

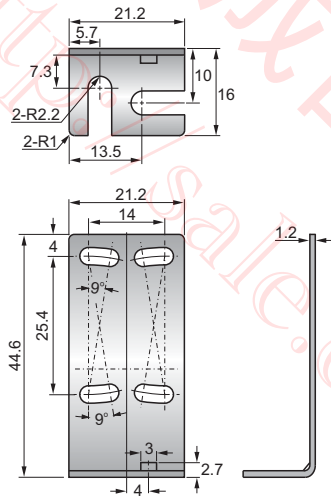


Cable Type

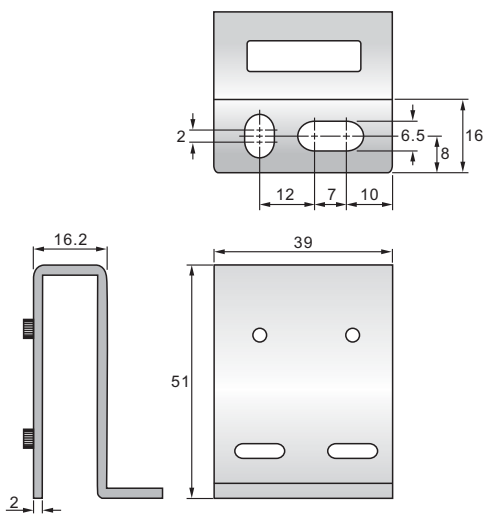
Connector Type (Pico-style)

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

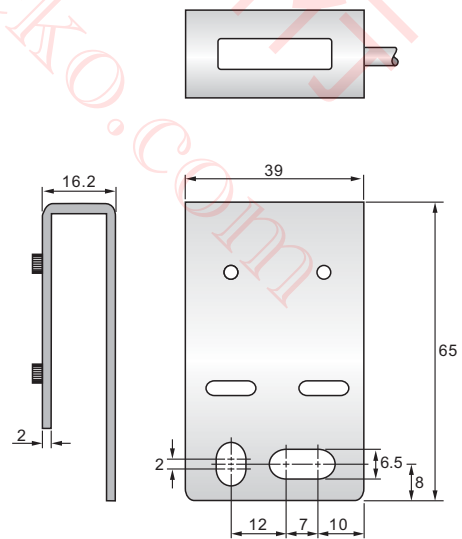
MB-4521 (Mounting bracket-optional)



PB-5139 (Protective bracket-optional)



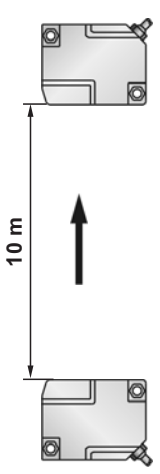



PB-6539 (Protective bracket-optional)



Ab: RS31 SERIES

RS62 SERIES





Opposed Mode

Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number
<p>Light Source: Red LED</p>  <p>Opposed Mode Sensing Distance: 10 m</p>	<p>2m Cable</p> 	10-30V DC	Emitter	<u>RS62-T010MD-EY6C2L2</u>
			NPN	<u>RS62-T010MN-CY6C4U2</u>
			PNP	<u>RS62-T010MP-CY6C4U2</u>
			NPN/PNP	<u>RS62-T010MD-CY6C4U2</u>
		12-240V DC/ 24-240V AC	Emitter (2-wire)	<u>RS62-T010MC-EY6C2L2</u>
			SPDT Relay (5-wire)	<u>RS62-T010MR-CY6C5L2</u>
			SPST Solid-state Light-ON (2-wire)	<u>RS62-T010MC-LY6C2U2</u>
			SPST Solid-state Dark-ON (2-wire)	<u>RS62-T010MC-DY6C2U2</u>
	<p>5m Cable</p> 	10-30V DC	Emitter	<u>RS62-T010MD-EY6C2L5</u>
			NPN	<u>RS62-T010MN-CY6C4U5</u>
			PNP	<u>RS62-T010MP-CY6C4U5</u>
			NPN/PNP	<u>RS62-T010MD-CY6C4U5</u>
		12-240V DC/ 24-240V AC	Emitter (2-wire)	<u>RS62-T010MC-EY6C2L5</u>
			SPDT Relay (5-wire)	<u>RS62-T010MR-CY6C5L5</u>
			SPST Solid-state Light-ON (2-wire)	<u>RS62-T010MC-LY6C2U5</u>
			SPST Solid-state Dark-ON (2-wire)	<u>RS62-T010MC-DY6C2U5</u>
<p>6" Pigtail</p> 	10-30V DC (Euro-style)	Emitter	<u>RS62-T010MD-EY6P4LE</u>	
		NPN	<u>RS62-T010MN-CY6P4UE</u>	
		PNP	<u>RS62-T010MP-CY6P4UE</u>	
		NPN/PNP	<u>RS62-T010MD-CY6P4UE</u>	
	12-240V DC/ 24-240V AC (Micro-style)	Emitter (2-wire)	<u>RS62-T010MC-EY6P3LM</u>	
		SPDT Relay (5-wire)	<u>RS62-T010MR-CY6P5LM</u>	
		SPST Solid-state Light-ON (2-wire)	<u>RS62-T010MC-LY6P3UM</u>	
		SPST Solid-state Dark-ON (2-wire)	<u>RS62-T010MC-DY6P3UM</u>	

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

RS62 SERIES

Opposed Mode

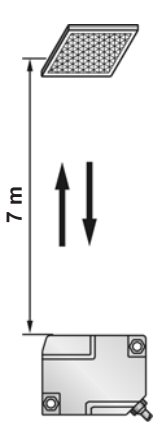



Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number
<p>Light Source: Infrared LED</p>  <p>30 m</p> <p>Opposed Mode</p> <p>Sensing Distance: 30 m</p>	<p>2m Cable</p> 	<p>10-30V DC</p>	Emitter	<u>RS62-T030MD-EY9C2L2</u>
			NPN	RS62-T030MN-CY9C4U2
			PNP	RS62-T030MP-CY9C4U2
			NPN/PNP	RS62-T030MD-CY9C4U2
		<p>12-240V DC/ 24-240V AC</p>	Emitter (2-wire)	<u>RS62-T030MC-EY9C2L2</u>
			SPDT Relay (5-wire)	RS62-T030MR-CY9C5L2
			SPST Solid-state Light-ON (2-wire)	RS62-T030MC-LY9C2U2
			SPST Solid-state Dark-ON (2-wire)	RS62-T030MC-DY9C2U2
	<p>5m Cable</p> 	<p>10-30V DC</p>	Emitter	<u>RS62-T030MD-EY9C2L5</u>
			NPN	RS62-T030MN-CY9C4U5
			PNP	RS62-T030MP-CY9C4U5
			NPN/PNP	RS62-T030MD-CY9C4U5
		<p>12-240V DC/ 24-240V AC</p>	Emitter (2-wire)	<u>RS62-T030MC-EY9C2L5</u>
			SPDT Relay (5-wire)	RS62-T030MR-CY9C5L5
			SPST Solid-state Light-ON (2-wire)	RS62-T030MC-LY9C2U5
			SPST Solid-state Dark-ON (2-wire)	RS62-T030MC-DY9C2U5
<p>6" Pigtail</p> 	<p>10-30V DC (Euro-style)</p>	Emitter	<u>RS62-T030MD-EY9P4LE</u>	
		NPN	RS62-T030MN-CY9P4UE	
		PNP	RS62-T030MP-CY9P4UE	
		NPN/PNP	RS62-T030MD-CY9P4UE	
	<p>12-240V DC/ 24-240V AC (Micro-style)</p>	Emitter (2-wire)	<u>RS62-T030MC-EY9P3LM</u>	
		SPDT Relay (5-wire)	RS62-T030MR-CY9P5LM	
		SPST Solid-state Light-ON (2-wire)	RS62-T030MC-LY9P3UM	
		SPST Solid-state Dark-ON (2-wire)	RS62-T030MC-DY9P3UM	

Note:
 Coming Soon : Part numbers with underline
 In Preparation: Part numbers with a line through the middle
 —Au-02—

Au: RS62 SERIES

RS62 SERIES

Retroreflective Mode

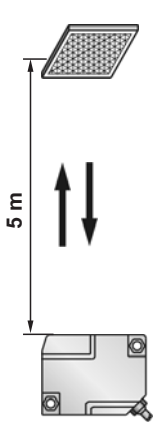



Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number
<p style="text-align: center;">Light Source: Infrared LED</p>  <p style="text-align: center;">Retroreflective Mode Sensing Distance: 7 m (Note)</p>	<p>2m Cable</p> 	10-30V DC	NPN	<u>RS62-L7000N-CY9C4U2</u>
			PNP	<u>RS62-L7000P-CY9C4U2</u>
			NPN/PNP	<u>RS62-L7000D-CY9C4U2</u>
		12-240V DC/ 24-240V AC	SPDT Relay (5-wire)	<u>RS62-L7000R-CY9C5L2</u>
			SPST Solid-state Light-ON (2-wire)	<u>RS62-L7000G-LY9C2U2</u>
			SPST Solid-state Dark-ON (2-wire)	<u>RS62-L7000C-DY9C2U2</u>
	<p>5m Cable</p> 	10-30V DC	NPN	<u>RS62-L7000N-CY9C4U5</u>
			PNP	<u>RS62-L7000P-CY9C4U5</u>
			NPN/PNP	<u>RS62-L7000D-CY9C4U5</u>
		12-240V DC/ 24-240V AC	SPDT Relay (5-wire)	<u>RS62-L7000R-CY9C5L5</u>
			SPST Solid-state Light-ON (2-wire)	<u>RS62-L7000G-LY9C2U5</u>
			SPST Solid-state Dark-ON (2-wire)	<u>RS62-L7000C-DY9C2U5</u>
	<p>6" Pigtail</p> 	10-30V DC (Euro-style)	NPN	<u>RS62-L7000N-CY9P4UE</u>
			PNP	<u>RS62-L7000P-CY9P4UE</u>
			NPN/PNP	<u>RS62-L7000D-CY9P4UE</u>
12-240V DC/ 24-240V AC (Micro-style)		SPDT Relay (5-wire)	<u>RS62-L7000R-CY9P5LM</u>	
		SPST Solid-state Light-ON (2-wire)	<u>RS62-L7000G-LY9P3UM</u>	
		SPST Solid-state Dark-ON (2-wire)	<u>RS62-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
 —Au-03—

Au: RS62 SERIES

RS62 SERIES

Retroreflective Mode with Polarizing Filter

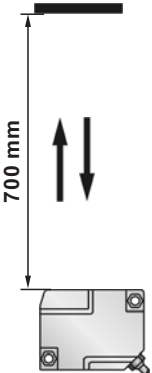



Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Light Source: Red LED</p>  <p style="writing-mode: vertical-rl; transform: rotate(180deg);">Retroreflective Mode with Polarizing Filter Sensing Distance: 5 m (Note)</p>	<p>2m Cable</p> 	10-30V DC	NPN	<u>RS62-L5000N-CY6C4U2-PF</u>
			PNP	<u>RS62-L5000P-CY6C4U2-PF</u>
			NPN/PNP	<u>RS62-L5000D-CY6C4U2-PF</u>
		12-240V DC/ 24-240V AC	SPDT Relay (5-wire)	<u>RS62-L5000R-CY6C5L2-PF</u>
			SPST Solid-state Light-ON (2-wire)	<u>RS62-L5000G-LY6C2U2-PF</u>
			SPST Solid-state Dark-ON (2-wire)	<u>RS62-L5000G-DY6C2U2-PF</u>
	<p>5m Cable</p> 	10-30V DC	NPN	<u>RS62-L5000N-CY6C4U5-PF</u>
			PNP	<u>RS62-L5000P-CY6C4U5-PF</u>
			NPN/PNP	<u>RS62-L5000D-CY6C4U5-PF</u>
		12-240V DC/ 24-240V AC	SPDT Relay (5-wire)	<u>RS62-L5000R-CY6C5L5-PF</u>
			SPST Solid-state Light-ON (2-wire)	<u>RS62-L5000G-LY6C2U5-PF</u>
			SPST Solid-state Dark-ON (2-wire)	<u>RS62-L5000G-DY6C2U5-PF</u>
<p>6" Pigtail</p> 	10-30V DC (Euro-style)	NPN	<u>RS62-L5000N-CY6P4UE-PF</u>	
		PNP	<u>RS62-L5000P-CY6P4UE-PF</u>	
		NPN/PNP	<u>RS62-L5000D-CY6P4UE-PF</u>	
	12-240V DC/ 24-240V AC (Micro-style)	SPDT Relay (5-wire)	<u>RS62-L5000R-CY6P5LM-PF</u>	
		SPST Solid-state Light-ON (2-wire)	<u>RS62-L5000G-LY6P3UM-PF</u>	
		SPST Solid-state Dark-ON (2-wire)	<u>RS62-L5000G-DY6P3UM-PF</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
 —Au-04—

Au : RS62 SERIES

RS62 SERIES

Diffuse Mode

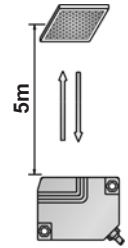


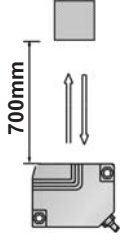


Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number
Light Source: Infrared LED 	2m Cable 	10-30V DC	NPN	<u>RS62-D0700N-CY9C4U2</u>
			PNP	<u>RS62-D0700P-CY9C4U2</u>
			NPN/PNP	<u>RS62-D0700D-CY9C4U2</u>
		12-240V DC/ 24-240V AC	SPDT Relay (5-wire)	<u>RS62-D0700R-CY9C5L2</u>
			SPST Solid-state Light-ON (2-wire)	<u>RS62-D0700C-LY9C2U2</u>
			SPST Solid-state Dark-ON (2-wire)	<u>RS62-D0700C-DY9C2U2</u>
	5m Cable 	10-30V DC	NPN	<u>RS62-D0700N-CY9C4U5</u>
			PNP	<u>RS62-D0700P-CY9C4U5</u>
			NPN/PNP	<u>RS62-D0700D-CY9C4U5</u>
		12-240V DC/ 24-240V AC	SPDT Relay (5-wire)	<u>RS62-D0700R-CY9C5L5</u>
			SPST Solid-state Light-ON (2-wire)	<u>RS62-D0700C-LY9C2U5</u>
			SPST Solid-state Dark-ON (2-wire)	<u>RS62-D0700C-DY9C2U5</u>
Diffuse Mode Sensing Distance: 700 mm 	6" pigtail	10-30V DC (Euro-style)	NPN	<u>RS62-D0700N-CY9P4UE</u>
			PNP	<u>RS62-D0700P-CY9P4UE</u>
			NPN/PNP	<u>RS62-D0700D-CY9P4UE</u>
	12-240V DC/ 24-240V AC (Micro-style)	SPDT Relay (5-wire)	<u>RS62-D0700R-CY9P5LM</u>	
		SPST Solid-state Light-ON (2-wire)	<u>RS62-D0700C-LY9P3UM</u>	
		SPST Solid-state Dark-ON (2-wire)	<u>RS62-D0700C-DY9P3UM</u>	

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

Au: RS62 SERIES

RS62 SERIES

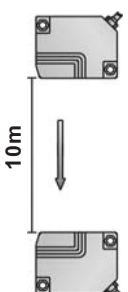


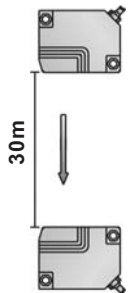


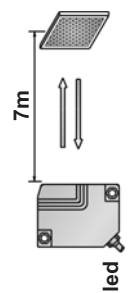


RS62 SENSORS SELECTION GUIDE

Sensing mode	Connection	Supply Voltage	Output mode	Part number
 <p>Retroreflective mode With Polarizing filter Sensing distance:5m Light source : red led</p>	2m cable 	12-240V DC or 24-240V AC	SPDT RELAY (Light-ON)	<u>RS62-L5000R-LY6C5L2-PF</u>
			SPDT RELAY (Dark-ON)	<u>RS62-L5000R-DY6C5L2-PF</u>
			—	—
	5m cable 	12-240V DC or 24-240V AC	SPDT RELAY (Light-ON)	<u>RS62-L5000R-LY6C5L5-PF</u>
			SPDT RELAY (Dark-ON)	<u>RS62-L5000R-DY6C5L5-PF</u>
			—	—
 <p>Diffuse Mode Sensing Distance:0.7m Light source: infrared led</p>	2m cable 	12-240V DC or 24-240V AC	SPDT RELAY (Light-ON)	<u>RS62-D0700R-LY9C5L2</u>
			SPDT RELAY (Dark-ON)	<u>RS62-D0700R-DY9C5L2</u>
			—	—
	5m cable 	12-240V DC or 24-240V AC	SPDT RELAY (Light-ON)	<u>RS62-D0700R-LY9C5L5</u>
			SPDT RELAY (Dark-ON)	<u>RS62-D0700R-DY9C5L5</u>
			—	—
		12-240V DC or 24-240V AC	SPDT RELAY (Light-ON)	—
			SPDT RELAY (Dark-ON)	—
			—	—
		12-240V DC or 24-240V AC	SPDT RELAY (Light-ON)	—
			SPDT RELAY (Dark-ON)	—
			—	—

Note:
Coming Soon : Part numbers with underline

RS62 SERIES

RS62 SENSORS SELECTION GUIDE

Sensing mode	Connection	Supply Voltage	Output mode	Part number
 <p>Oppose mode Sensing distance: 10m Light source : red led</p>	2m cable 	12-240V DC or 24-240V AC	Emitter	<u>RS62-T010MD-EY6C2L2</u>
			SPDT RELAY (Light-ON)	<u>RS62-T010MR-LY6C5L2</u>
			SPDT RELAY (Dark-ON)	<u>RS62-T010MR-DY6C5L2</u>
	5m cable 	12-240V DC or 24-240V AC	Emitter	<u>RS62-T010MD-EY6C2L5</u>
			SPDT RELAY (Light-ON)	<u>RS62-T010MR-LY6C5L5</u>
			SPDT RELAY (Dark-ON)	<u>RS62-T010MR-DY6C5L5</u>
 <p>Oppose mode Sensing distance: 30m Light source : infrared led</p>	2m cable 	12-240V DC or 24-240V AC	Emitter	<u>RS62-T030MD-EY9C2L2</u>
			SPDT RELAY (Light-ON)	<u>RS62-T030MR-LY9C5L2</u>
			SPDT RELAY (Dark-ON)	<u>RS62-T030MR-DY9C5L2</u>
	5m cable 	12-240V DC or 24-240V AC	Emitter	<u>RS62-T030MD-EY9C2L5</u>
			SPDT RELAY (Light-ON)	<u>RS62-T030MR-LY9C5L5</u>
			SPDT RELAY (Dark-ON)	<u>RS62-T030MR-DY9C5L5</u>
 <p>Retroreflective mode Sensing distance: 7m Light source : infrared led</p>	2m cable 	12-240V DC or 24-240V AC	SPDT RELAY (Light-ON)	<u>RS62-L7000R-LY9C5L2</u>
			SPDT RELAY (Dark-ON)	<u>RS62-L7000R-DY9C5L2</u>
			—	—
	5m cable 	12-240V DC or 24-240V AC	SPDT RELAY (Light-ON)	<u>RS62-L7000R-LY9C5L5</u>
			SPDT RELAY (Dark-ON)	<u>RS62-L7000R-DY9C5L5</u>
			—	—

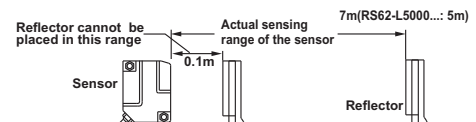
Note:
Coming Soon : Part numbers with underline

RS62 SERIES

Specifications (DC)

Type	Retroreflective Mode		Diffuse Mode	Thru-beam Mode	
	with polarizing filters	Long sensing range			Long sensing range
Model Number	RS62-L5000...	RS62-L7000...	RS62-D0700...	RS62-T010M...	RS62-T030M...
Item					
Sensing Range	0.1 to 5m (Note 1)	0.1 to 7m (Note 1)	700mm (Note 2)	10m	30m
Sensing Object	φ50 mm or more opaque,translucent or specular Object (Note 1)	φ50mm or more opaque or translucent Object (Note 1)	Opaque,translucent or transparent object	φ 20mm or more opaque object (If slit masks are fitted, an object as small as 3x6mm can be detected.)	
Hysteresis	————		15% or less of operation distance	————	
Supply Voltage	10-30V DC				
Current Consumption	<35 mA (no load)				
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	10ms or less				
Operation Indicator	Red LED (lights up when the output is ON)				
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	IP66(IEC)				
Operating Temperature	-20 to +55°C (No dew condensation or icing allowed) , Storage:-30 to +70°C				
Operating Humidity	35 to 85% RH,Storage:35 to 85% RH				
Ambient illuminance	Sunlight:11,000lx at the light-receiving face, Incandescent light:3500lx at the light-receiving face				
EMC	IEC 60947-5-2 Parts 7.2.6.1,2,3 or RFI>3V/m(In30-1000MHz),EFT>1KV,ESD>4KV(contact)				
Voltage with Standability	IEC 60947-5-2 Parts 8.3.3.4, or 500VDC for one min between all supply terminals connected together and enclosure				
Insulation Resistance	>20M,with 500VDC megger between all supply terminals				
Vibration Resistance	IEC 60947-5-2 Parts 7.4.2 or 10-55Hz 1.0m amplitude in X Y and Z directions for 30 min				
Shock Resistance	IEC 60947-5-2 Parts 7.4.1 or 30g 11ms in X Y and Z directions for six time 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 4-core or 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).				
Weight	140g approx.		Emitter: 100g approx. Receiver:140g approx.	Emitter: 125g approx. Receiver:140g approx.	
Accessories	MB-7240, MB-7040, MB-6445 (optional)				

Notes: 1)Used with RE-6152 (supplied with sensor) reflector .
The sensing range and the sensing object of the retroreflective type 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 reflective type sensor is specified for white non-glossy paper (200 x 200mm) as the object.



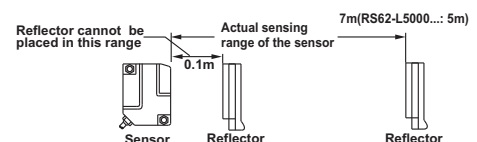
Au : RS62 SERIES

RS62 SERIES

Specifications (AC/DC)

Type	Retroreflective Mode		Diffuse Mode	Thru-beam Mode	
	with polarizing filters	Long sensing range		Long sensing range	
Model Number	RS62-L5000...	RS62-L7000...	RS62-D0700...	RS62-T010M...	RS62-T030M...
Item					
Sensing Range	0.1 to 5m (Note 1)	0.1 to 7m (Note 1)	700mm (Note 2)	10m	30m
Sensing Object	φ50 mm or more opaque,translucent or specular Object (Note 1)	φ50mm or more opaque or translucent Object (Note 1)	Opaque,translucent or transparent object	φ 20mm or more opaque object (If slit masks are fitted, an object as small as 3x6mm can be detected.)	
Hysteresis	—————		15% or less of operation distance	—————	
Repeatability	0.2mm or less		0.3mm or less	0.1mm or less	0.2mm or less
Power Supply	24 to 240V AC		10% or 12 to 240V DC	10% Ripple P-P 10% or less	
Power Consumption	2VA or less			Emitter: 1VA or less Receiver:2VA or less	Emitter:1.5VA or less Receiver: 2VA orless
Output	Relay contact 1c • Switching capacity:250V AC 1A (resistive load) 30V DC 2A (resistive load) • Electrical life:100,000or more operations (at rated AC load) 500,000or more operations (at rated DC load) • Mechanical life:100,000,000 or more operations				
Light/Dark Operation	Relay Oouput: Light-ON or Dark-ON selectable , SPST Solid state: Either Light-ON or Dark-ON				
Response Time	10ms or less				
Operation Indicator	Red LED (lights up when the output is ON)				
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	IP66(IEC)				
Operating Temperature	-20 to +55°C (No dew condensation or icing allowed) , Storage:-30 to +70°C				
Operating Humidity	35 to 85% RH,Storage:35 to 85% RH				
Ambient illuminance	Sunlight:11,000l x at the light-receiving face, Incandescent light:3500l at the light-receiving face				
EMC	IEC 60947-5-2 Parts 7.2.6.1,2,3 or RFI>3V/m(In30-1000MHz),EFT>1KV,ESD>4KV(contact)				
Voltage with Standability	IEC 60947-5-2 Parts 8.3.3.4, or 500VDC for one min between all supply terminals connected together and enclosure				
Insulation Resistance	>20M,with 500VDC megger between all supply terminals				
Vibration Resistance	IEC 60947-5-2 Parts 7.4.2 or 10-55Hz 1.0m amplitude in X Y and Z directions for 30 min				
Shock Resistance	IEC 60947-5-2 Parts 7.4.1 or 30g 11ms in X Y and Z directions for six time 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 or 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).				
Weight	140g approx.			Emitter: 100g approx. Receiver:140g approx.	Emitter: 125g approx. Receiver:140g approx.
Accessories	MB-7240, MB-7040, MB-6445 (optional)				

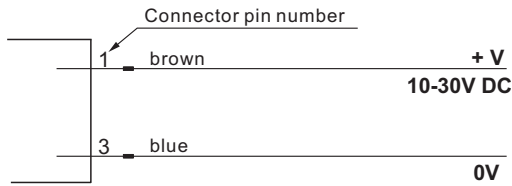
Notes: 1)Used with RE-6152 (supplied with sensor) reflector. The sensing range and the sensing object of the retroreflective type sensor is specified for the reflector. further, the sensing range is the possible setting range for the reflector.
2)The sensing range of the diffuse reflective type sensor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



RS62 SERIES

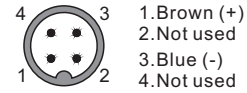
Connection Diagrams (DC)

Emitter of Thru-beam Mode

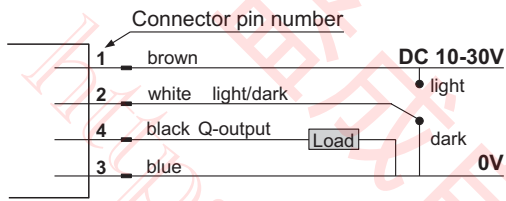


Connector pin position

Euro-style



PNP output type

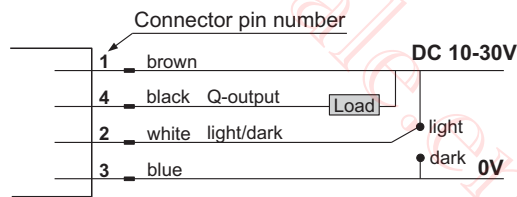


Connector pin position

Euro-style

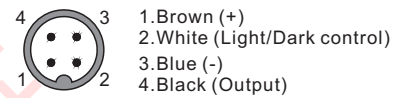


NPN output type

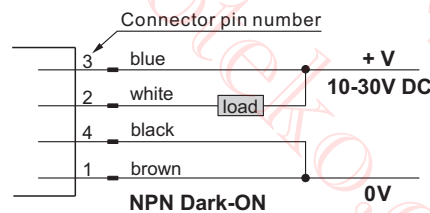
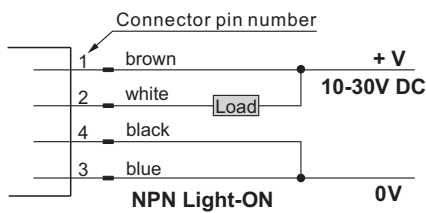


Connector pin position

Euro-style

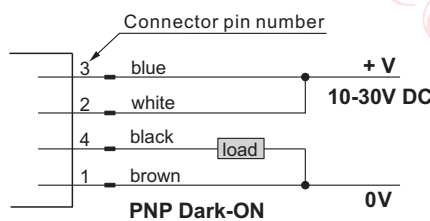
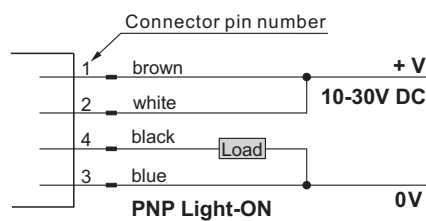
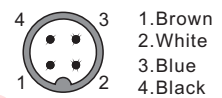


NPN/PNP output type



Connector pin position

Euro-style

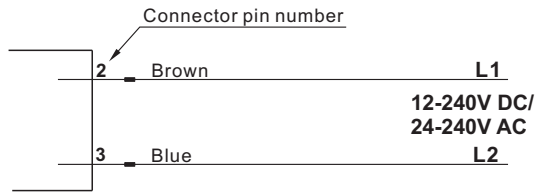


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RS62 SERIES

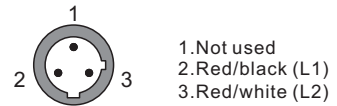
Connection Diagrams (AC/DC)

Emitter of Thru-beam Mode

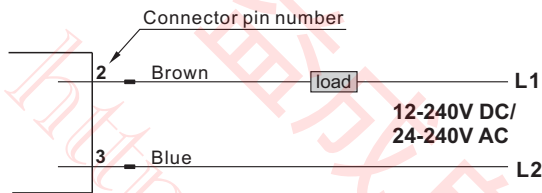


Connector face view

Micro-style

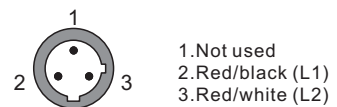


SPST Solid-state output type

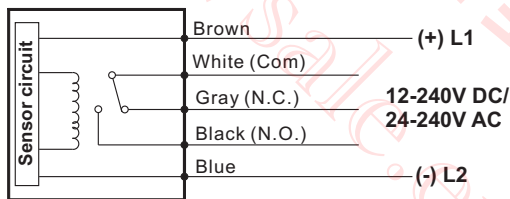


Connector face view

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

RS62 SERIES

Precautions For Proper Use

Precautions for proper use

Cautions:

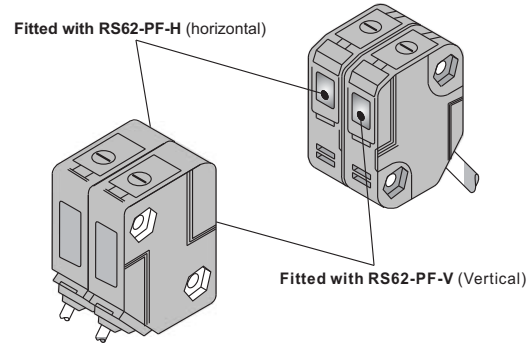
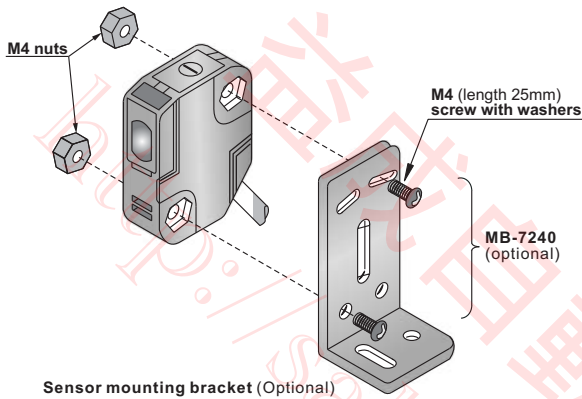
Don't use the sensor for a safety aim, because it's only designed for a normal object detection

Mounting

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

**Interference prevention filter
(Exclusively for RS62-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.

Others

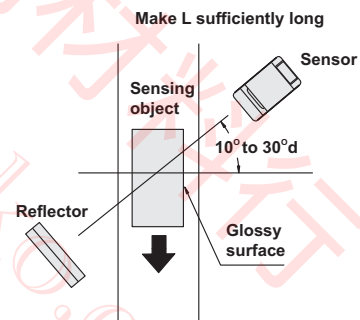
Do not use during the initial transient time (50ms) after the power supply is switched on.

Retroreflective type sensor (RS62-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.

RS62-L500R-LY6C5L2-PF; does not need the above adjustment.



Retroreflective type sensor with polarizing filters (RS62-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

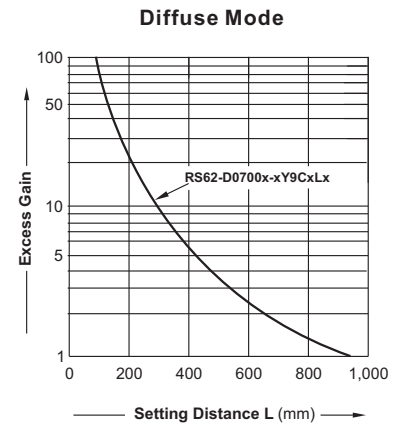
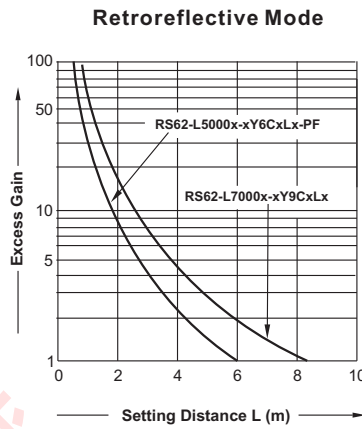
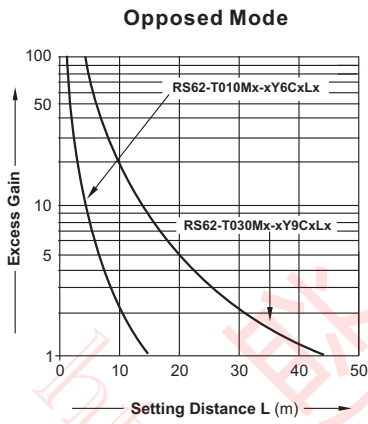
- Tilt the sensor with respect to the sensing object while fitting.
- Reduce the sensitivity.
- Increase the distance between the sensor and the sensing object.

Au : RS62 SERIES

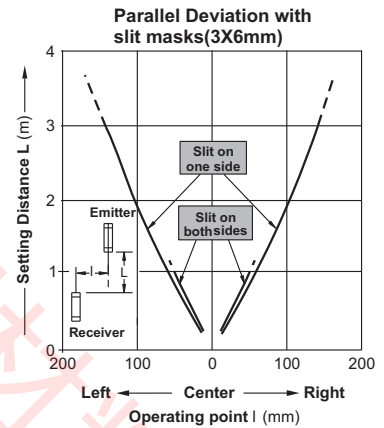
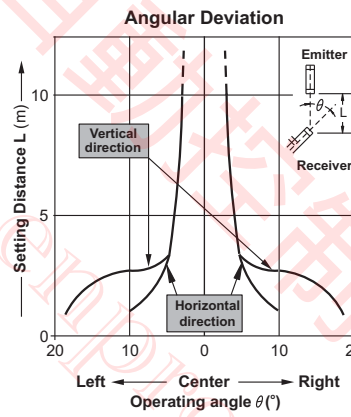
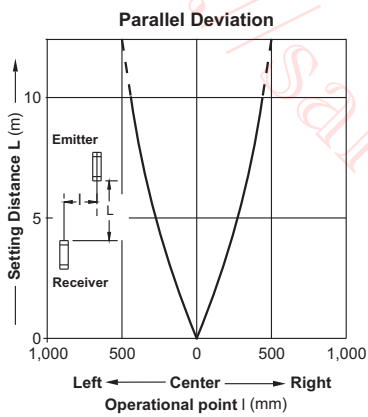
RS62 SERIES

Sensing Characteristics (Typical)

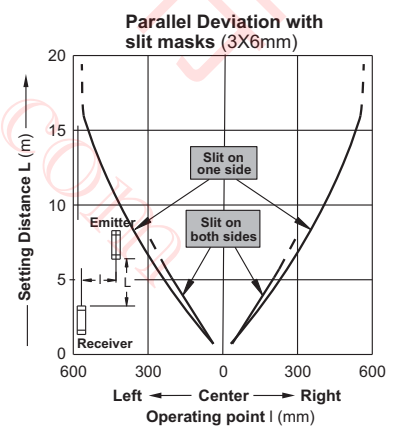
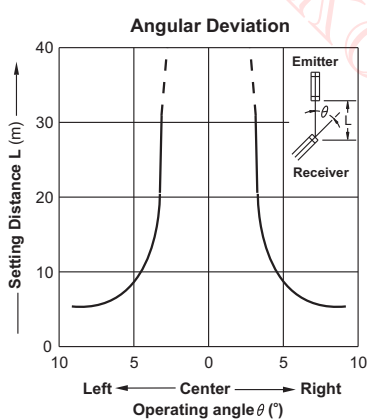
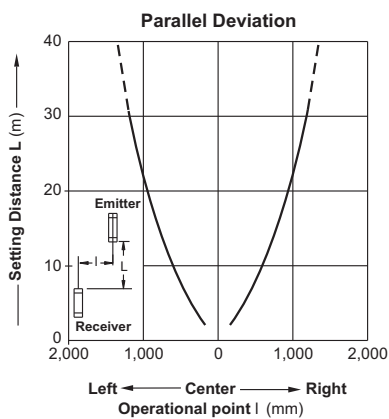
All Models



Thru-beam Mode (Sn=10 m)



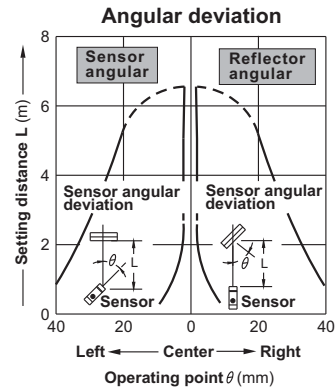
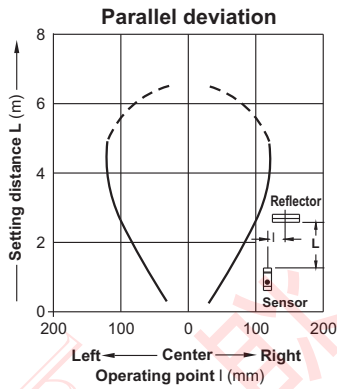
Long Range Thru-beam Mode (Sn=30 m)



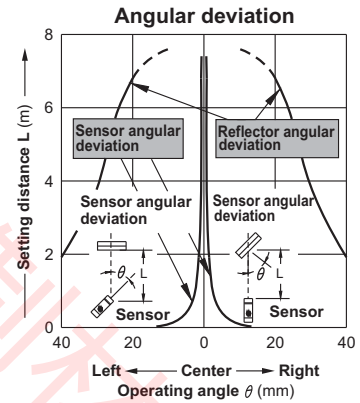
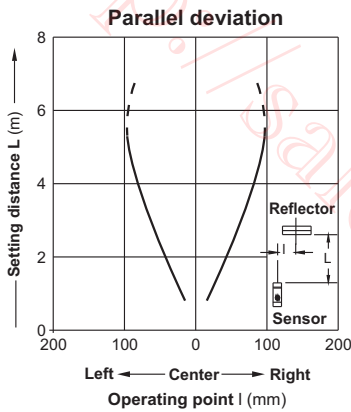
RS62 SERIES

Sensing Characteristics (Typical)

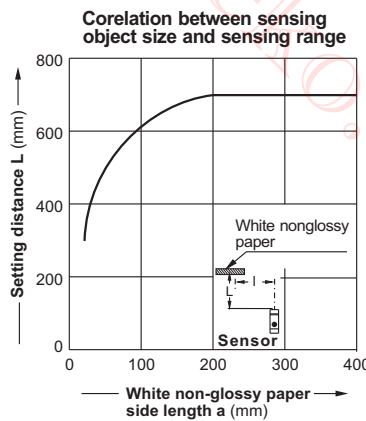
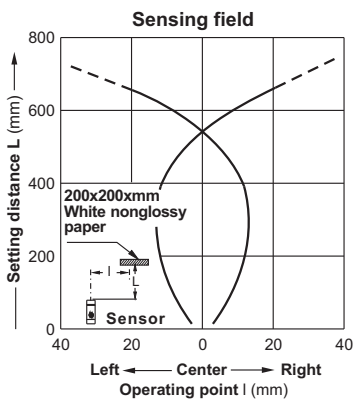
Retroreflective Mode with polarizing filter (Sn=5 m)



Retroreflective Mode (Sn=7 m)



Diffuse Mode (Sn=700 mm)



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.

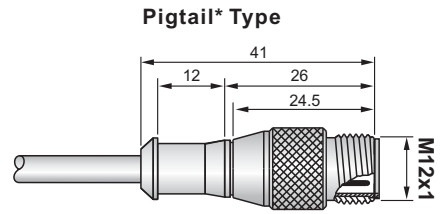
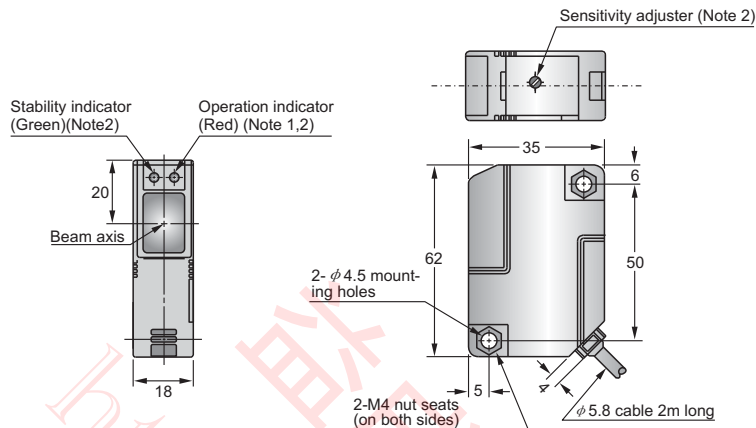
For plotting the left graph, the sensitivity has been set such that a 200X200mm white nonglossy paper is just detectable at a distance of 700mm.

Au : RS62 SERIES

RS62 SERIES

Dimensions (Unit: mm)

Sensor Type



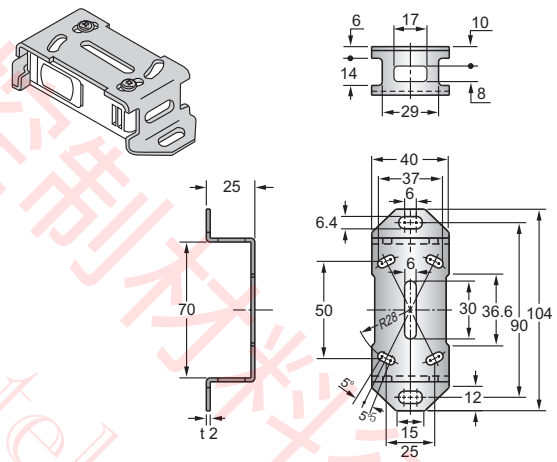
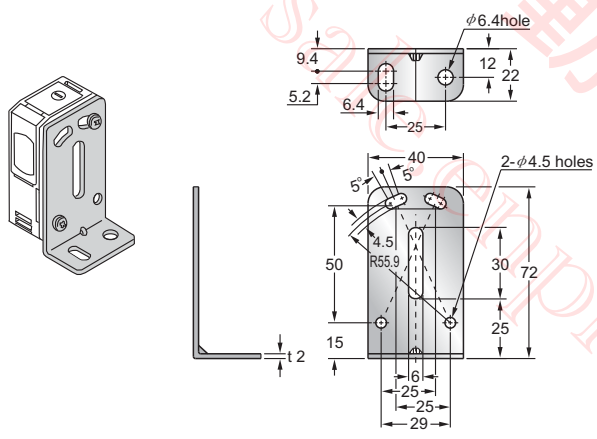
*: Please see **Pigtail Series** or our **Cables & Connectors** catalogue for more information.

Cable Type

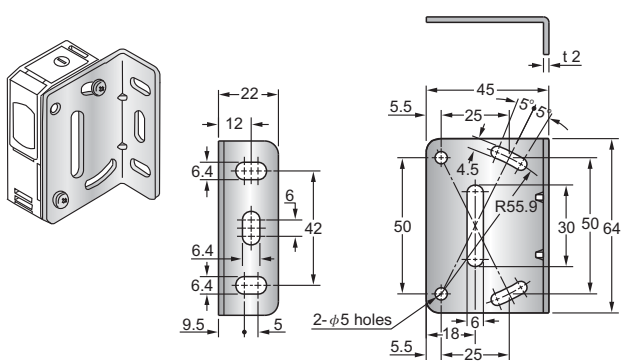
Notes: 1) It is the power indicator (red) on the emitter of thru-beam mode,
2) Not incorporated on the emitter of thru-beam mode.

MB-7240 (Sensor mounting bracket-optional)

MB-7040 (Sensor mounting bracket-optional)



MB-6445 (Sensor mounting bracket-optional)

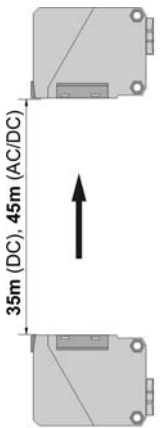


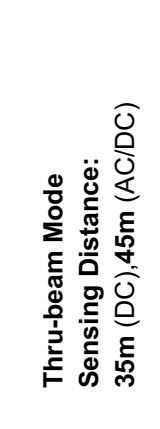



Au: RS62 SERIES

RS76 SERIES

Thru-beam Mode





Ah: RS76 SERIES

Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number
<p>Red Light 660nm</p> 	<p>Terminal</p> 	<p>10-30V DC</p>	Emitter	<u>RS76-T035MD-EY6T5L</u>
			NPN L.O./D.O.	<u>RS76-T035MN-CY6T5U</u>
			PNP L.O./D.O.	<u>RS76-T035MP-CY6T5U</u>
			NPN/PNP L.O./D.O.	<u>RS76-T035MD-CY6T5U</u>
			NPN , Timing delay	<u>RS76-T035MN-CY6T5U-T</u>
			PNP , Timing delay	<u>RS76-T035MP-CY6T5U-T</u>
			NPN/PNP, Timing delay	<u>RS76-T035MD-CY6T5U-T</u>
	<p>12-240V DC/ 24-240V AC</p>	Emitter (2-wire)	<u>RS76-T045MC-EY6T5L</u>	
		Relay L.O./D.O. (5-wire)	<u>RS76-T045MR-CY6T5L</u>	
		Relay, Timing delay (5-wire)	<u>RS76-T045MR-CY6T5L-T</u>	
		SPST Solid-state L.O./D.O. (2-wire)	<u>RS76-T045MC-CY6T5U</u>	
		<p>QuickDisconnect (0° or 90° settled)</p> 	Emitter	<u>RS76-T035MD-EY6Q4LE</u>
			NPN L.O./D.O.	<u>RS76-T035MN-CY6Q4UE</u>
			PNP L.O./D.O.	<u>RS76-T035MP-CY6Q4UE</u>
NPN/PNP L.O./D.O.	<u>RS76-T035MD-CY6Q4UE</u>			
NPN , Timing delay	<u>RS76-T035MN-CY6Q4UE-T</u>			
PNP , Timing delay	<u>RS76-T035MP-CY6Q4UE-T</u>			
<p>10-30V DC (Euro Style)</p>	NPN/PNP L.O./D.O.	<u>RS76-T035MD-CY6Q4UE</u>		
	NPN , Timing delay	<u>RS76-T035MN-CY6Q4UE-T</u>		
	PNP , Timing delay	<u>RS76-T035MP-CY6Q4UE-T</u>		
	NPN/PNP, Timing delay	<u>RS76-T035MD-CY6Q4UE-T</u>		
	<p>12-240V DC/ 24-240V AC (Micro Style)</p>	Emitter (2-wire)	<u>RS76-T045MC-EY6Q4LM</u>	
		Relay L.O./D.O. (5-wire)	<u>RS76-T045MR-CY6Q5LM</u>	
Relay, Timing delay (5-wire)		<u>RS76-T045MR-CY6Q5LM-T</u>		
SPST Solid-state L.O./D.O. (2-wire)		<u>RS76-T045MC-CY6Q4UM</u>		
<p>Thru-beam Mode Sensing Distance: 35m (DC), 45m (AC/DC)</p> 	<p>6" Pigtail</p> 	<p>10-30V DC (Euro Style)</p>	Emitter	<u>RS76-T035MD-EY6P4LE</u>
			NPN L.O./D.O.	<u>RS76-T035MN-CY6P4UE</u>
			PNP L.O./D.O.	<u>RS76-T035MP-CY6P4UE</u>
			NPN/PNP L.O./D.O.	<u>RS76-T035MD-CY6P4UE</u>
			NPN , Timing delay	<u>RS76-T035MN-CY6P4UE-T</u>
			PNP , Timing delay	<u>RS76-T035MP-CY6P4UE-T</u>
			NPN/PNP, Timing delay	<u>RS76-T035MD-CY6P4UE-T</u>
	<p>12-240V DC/ 24-240V AC (Micro Style)</p>	Emitter (2-wire)	<u>RS76-T045MC-EY6P4LM</u>	
		Relay L.O./D.O. (5-wire)	<u>RS76-T045MR-CY6P5LM</u>	
		Relay, Timing delay (5-wire)	<u>RS76-T045MR-CY6P5LM-T</u>	
		SPST Solid-state L.O./D.O. (2-wire)	<u>RS76-T045MC-CY6P4UM</u>	

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

RS76 SERIES

Retroreflective Mode with Polarizing Filter

Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number	
<p>LED Red: 660nm</p>  <p>15 m (Mute input type: 12m)</p> <p>Retro-reflective Mode with Polarizing Filter Sensing Distance: 15m (Note)</p>	<p>Terminal</p> 	10-30V DC	NPN L.O./D.O.	<u>RS76-L015MN-CY6T5U-PF</u>	
			PNP L.O./D.O.	<u>RS76-L015MP-CY6T5U-PF</u>	
			NPN/PNP L.O./D.O.	<u>RS76-L015MD-CY6T5U-PF</u>	
			NPN , Timing delay	<u>RS76-L015MN-CY6T5U-TP</u>	
			PNP , Timing delay	<u>RS76-L015MP-CY6T5U-TP</u>	
			NPN/PNP, Timing delay	<u>RS76-L015MD-CY6T5U-TP</u>	
		12-240V DC/ 24-240V AC	Relay L.O./D.O. (5-wire)	<u>RS76-L015MR-CY6T5L-PF</u>	
			Relay, Timing delay (5-wire)	<u>RS76-L015MR-CY6T5L-TP</u>	
			SPST Solid-state L.O./D.O. (2-wire)	<u>RS76-L015MC-CY6T5U-PF</u>	
	24V DC/ 24V AC	Relay output with Mute Input (5-wire)	<u>RS76-L012MR-CY6T5L-PF/MU</u>		
	<p>QuickDisconnect (0° or 90° settled)</p> 	10-30V DC (Euro Style)	NPN L.O./D.O.	<u>RS76-L015MN-CY6Q4UE-PF</u>	
			PNP L.O./D.O.	<u>RS76-L015MP-CY6Q4UE-PF</u>	
			NPN/PNP L.O./D.O.	<u>RS76-L015MD-CY6Q4UE-PF</u>	
			NPN , Timing delay	<u>RS76-L015MN-CY6Q4UE-TP</u>	
			PNP , Timing delay	<u>RS76-L015MP-CY6Q4UE-TP</u>	
			NPN/PNP, Timing delay	<u>RS76-L015MD-CY6Q4UE-TP</u>	
		12-240V DC/ 24-240V AC (Micro Style)	Relay L.O./D.O. (5-wire)	<u>RS76-L015MR-CY6Q5LM-PF</u>	
			Relay, Timing delay (5-wire)	<u>RS76-L015MR-CY6Q5LM-TP</u>	
			SPST Solid-state L.O./D.O. (2-wire)	<u>RS76-L015MC-CY6Q4UM-PF</u>	
		24V DC/24V AC (Micro Style)	Relay output with Mute Input (5-wire)	<u>RS76-L012MR-CY6Q5LM-PF/MU</u>	
		<p>6" Pigtail</p> 	10-30V DC (Euro Style)	NPN L.O./D.O.	<u>RS76-L015MN-CY6P4UE-PF</u>
				PNP L.O./D.O.	<u>RS76-L015MP-CY6P4UE-PF</u>
	NPN/PNP L.O./D.O.			<u>RS76-L015MD-CY6P4UE-PF</u>	
	NPN , Timing delay			<u>RS76-L015MN-CY6P4UE-TP</u>	
PNP , Timing delay	<u>RS76-L015MP-CY6P4UE-TP</u>				
NPN/PNP, Timing delay	<u>RS76-L015MD-CY6P4UE-TP</u>				
12-240V DC/ 24-240V AC (Micro Style)	Relay L.O./D.O. (5-wire)		<u>RS76-L015MR-CY6P5LM-PF</u>		
	Relay, Timing delay (5-wire)		<u>RS76-L015MR-CY6P5LM-TP</u>		
	SPST Solid-state L.O./D.O. (2-wire)		<u>RS76-L015MC-CY6P4UM-PF</u>		
24V DC/24V AC (Micro Style)	Relay output with Mute Input (5-wire)		<u>RS76-L012MR-CY6P5LM-PF/MU</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
 — Ah-02 —

Ah: RS76 SERIES

RS76 SERIES

Long Range Diffuse Mode (Sn=3.5m)





Ah: RS76 SERIES

Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number			
<p>Infrared: 880nm</p>  <p>3.5 m</p> <p>Long Range Diffuse Mode Sensing Distance: 3.5 m</p>	<p>Terminal</p> 	10-30V DC	NPN L.O./D.O.	<u>RS76-D3500N-CY9T5U</u>			
			PNP L.O./D.O.	<u>RS76-D3500P-CY9T5U</u>			
			NPN/PNPL.O./D.O.	<u>RS76-D3500D-CY9T5U</u>			
			NPN , Timing delay	<u>RS76-D3500N-CY9T5U-T</u>			
			PNP , Timing delay	<u>RS76-D3500P-CY9T5U-T</u>			
			NPN/PNP, Timing delay	<u>RS76-D3500D-CY9T5U-T</u>			
		12-240V DC/ 24-240V AC	Relay L.O./D.O. (5-wire)	<u>RS76-D3500R-CY9T5L</u>			
			Relay, Timing delay (5-wire)	<u>RS76-D3500R-CY9T5L-T</u>			
			SPST Solid-state L.O./D.O. (2-wire)	<u>RS76-D3500C-CY9T5U</u>			
			QuickDisconnect (0° or 90° settled)		10-30V DC (Euro Style)	NPN L.O./D.O.	<u>RS76-D3500N-CY9Q4UE-T</u>
						PNP L.O./D.O.	<u>RS76-D3500P-CY9Q4UE-T</u>
						NPN/PNPL.O./D.O.	<u>RS76-D3500N-CY9Q4UE</u>
	NPN , Timing delay	<u>RS76-D3500P-CY9Q4UE</u>					
	PNP , Timing delay	<u>RS76-D3500R-CY9Q5LM-T</u>					
	NPN/PNP, Timing delay	<u>RS76-D3500D-CY9Q4UE</u>					
	12-240V DC/ 24-240V AC (Micro Style)	Relay L.O./D.O. (5-wire)	<u>RS76-D3500P-CY9Q4UE-T</u>				
		Relay, Timing delay (5-wire)	<u>RS76-D3500R-CY9Q5LM</u>				
		SPST Solid-state L.O./D.O. (2-wire)	<u>RS76-D3500C-CY9Q4UM</u>				
		6" Pigtail		10-30V DC (Euro Style)	NPN L.O./D.O.	<u>RS76-D3500N-CY9P4UE</u>	
					PNP L.O./D.O.	<u>RS76-D3500P-CY9P4UE</u>	
					NPN/PNPL.O./D.O.	<u>RS76-D3500D-CY9P4UE</u>	
	NPN , Timing delay				<u>RS76-D3500N-CY9P4UE-T</u>		
	PNP , Timing delay				<u>RS76-D3500P-CY9P4UE-T</u>		
	NPN/PNP, Timing delay				<u>RS76-D3500D-CY9P4UE-T</u>		
12-240V DC/ 24-240V AC (Micro Style)	Relay L.O./D.O. (5-wire)	<u>RS76-D3500R-CY9P5LM</u>					
	Relay, Timing delay (5-wire)	<u>RS76-D3500R-CY9P5LM-T</u>					
	SPST Solid-state L.O./D.O. (2-wire)	<u>RS76-D3500C-CY9P4UM</u>					

Note:
 Coming Soon : Part numbers with underline
 In Preparation: Part numbers with a line through the middle
 — Ah-03 —

RS76 SERIES

Standard Diffuse Mode (Sn=1.7m)

Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number			
<p>LED Red: 660nm</p>  <p>Standard Diffuse Mode Sensing Distance: 1.7 m</p>	<p>Terminal</p> 	10-30V DC	NPN L.O./D.O.	<u>RS76-D1700N-CY6T5U</u>			
			PNP L.O./D.O.	<u>RS76-D1700P-CY6T5U</u>			
			NPN/PNP L.O./D.O.	<u>RS76-D1700D-CY6T5U</u>			
			NPN , Timing delay	<u>RS76-D1700N-CY6T5U-T</u>			
			PNP , Timing delay	<u>RS76-D1700P-CY6T5U-T</u>			
			NPN/PNP, Timing delay	<u>RS76-D1700D-CY6T5U-T</u>			
		12-240V DC/ 24-240V AC	Relay L.O./D.O. (5-wire)	<u>RS76-D1700R-CY6T5L</u>			
			Relay, Timing delay (5-wire)	<u>RS76-D1700R-CY6T5L-T</u>			
			SPST Solid-state L.O./D.O. (2-wire)	<u>RS76-D1700C-CY6T5U</u>			
			QuickDisconnect (0° or 90° settled)		10-30V DC (Euro Style)	NPN L.O./D.O.	<u>RS76-D1700N-CY6Q4UE</u>
						PNP L.O./D.O.	<u>RS76-D1700P-CY6Q4UE</u>
						NPN/PNP L.O./D.O.	<u>RS76-D1700D-CY6Q4UE</u>
	NPN , Timing delay	<u>RS76-D1700N-CY6Q4UE-T</u>					
	PNP , Timing delay	<u>RS76-D1700P-CY6Q4UE-T</u>					
	NPN/PNP, Timing delay	<u>RS76-D1700D-CY6Q4UE-T</u>					
	12-240V DC/ 24-240V AC (Micro Style)	Relay L.O./D.O. (5-wire)	<u>RS76-D1700R-CY6Q5LM</u>				
		Relay, Timing delay (5-wire)	<u>RS76-D1700R-CY6Q5LM-T</u>				
		SPST Solid-state L.O./D.O. (2-wire)	<u>RS76-D1700C-CY6Q4UM</u>				
		6" Pigtail		10-30V DC (Euro Style)	NPN L.O./D.O.	<u>RS76-D1700N-CY6P4UE</u>	
					PNP L.O./D.O.	<u>RS76-D1700P-CY6P4UE</u>	
					NPN/PNP L.O./D.O.	<u>RS76-D1700D-CY6P4UE</u>	
	NPN , Timing delay				<u>RS76-D1700N-CY6P4UE-T</u>		
	PNP , Timing delay				<u>RS76-D1700P-CY6P4UE-T</u>		
	NPN/PNP, Timing delay				<u>RS76-D1700D-CY6P4UE-T</u>		
12-240V DC/ 24-240V AC (Micro Style)	Relay L.O./D.O. (5-wire)	<u>RS76-D1700R-CY6P5LM</u>					
	Relay, Timing delay (5-wire)	<u>RS76-D1700R-CY6P5LM-T</u>					
	SPST Solid-state L.O./D.O. (2-wire)	<u>RS76-D1700C-CY6P4UM</u>					





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

Ah: RS76 SERIES

RS76 SERIES

Diffuse Mode with Background Suppression (Standard Range)

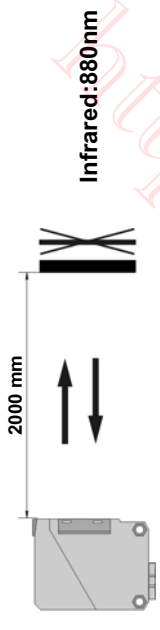



Ah: RS76 SERIES

Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number	
<p style="text-align: center;">Infrared: 880nm</p>  <p style="text-align: center;">380mm</p> <p style="text-align: center;">Diffuse Mode with Background Suppression Sensing Distance: 380mm</p>	<p>Terminal</p> 	10-30V DC	NPN L.O./D.O.	<u>RS76-D0380N-CY9T5U-BS</u>	
			PNP L.O./D.O.	<u>RS76-D0380P-CY9T5U-BS</u>	
			NPN/PNP L.O./D.O.	<u>RS76-D0380D-CY9T5U-BS</u>	
			NPN , Timing delay	<u>RS76-D0380N-CY9T5U-BT</u>	
			PNP , Timing delay	<u>RS76-D0380P-CY9T5U-BT</u>	
			NPN/PNP, Timing delay	<u>RS76-D0380D-CY9T5U-BT</u>	
		12-240V DC/ 24-240V AC	Relay L.O./D.O. (5-wire)	<u>RS76-D0380R-CY9T5L-BS</u>	
			Relay, Timing delay (5-wire)	<u>RS76-D0380R-CY9T5L-BT</u>	
			SPST Solid-state L.O./D.O. (2-wire)	<u>RS76-D0380C-CY9T5U-BS</u>	
	<p>QuickDisconnect (0° or 90° settled)</p> 	10-30V DC (Euro Style)	NPN L.O./D.O.	<u>RS76-D0380N-CY9Q4UE-BS</u>	
			PNP L.O./D.O.	<u>RS76-D0380P-CY9Q4UE-BS</u>	
			NPN/PNP L.O./D.O.	<u>RS76-D0380D-CY9Q4UE-BS</u>	
			NPN , Timing delay	<u>RS76-D0380N-CY9Q4UE-BT</u>	
			PNP , Timing delay	<u>RS76-D0380P-CY9Q4UE-BT</u>	
			NPN/PNP, Timing delay	<u>RS76-D0380D-CY9Q4UE-BT</u>	
		12-240V DC/ 24-240V AC (Micro Style)	Relay L.O./D.O. (5-wire)	<u>RS76-D0380R-CY9Q5LM-BS</u>	
			Relay, Timing delay (5-wire)	<u>RS76-D0380R-CY9Q5LM-BT</u>	
			SPST Solid-state L.O./D.O. (2-wire)	<u>RS76-D0380C-CY9Q4UM-BS</u>	
		<p>6" Pigtail</p> 	10-30V DC (Euro Style)	NPN L.O./D.O.	<u>RS76-D0380N-CY9P4UE-BS</u>
				PNP L.O./D.O.	<u>RS76-D0380P-CY9P4UE-BS</u>
				NPN/PNP L.O./D.O.	<u>RS76-D0380D-CY9P4UE-BS</u>
				NPN , Timing delay	<u>RS76-D0380N-CY9P4UE-BT</u>
				PNP , Timing delay	<u>RS76-D0380P-CY9P4UE-BT</u>
				NPN/PNP, Timing delay	<u>RS76-D0380D-CY9P4UE-BT</u>
12-240V DC/ 24-240V AC (Micro Style)	Relay L.O./D.O. (5-wire)		<u>RS76-D0380R-CY9P5LM-BS</u>		
	Relay, Timing delay (5-wire)		<u>RS76-D0380R-CY9P5LM-BT</u>		
	SPST Solid-state L.O./D.O. (2-wire)		<u>RS76-D0380C-CY9P4UM-BS</u>		

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

RS76 SERIES

Diffuse Mode with Background Suppression (Long Range)

Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number	
<p>Infrared: 880nm</p>  <p>2000 mm</p> <p>Diffuse Mode with Background Suppression Sensing Distance: 2000 mm</p>	<p>Terminal</p> 	10-30V DC	NPN L.O./D.O.	<u>RS76-D2000N-CY9T5U-BS</u>	
			PNP L.O./D.O.	<u>RS76-D2000P-CY9T5U-BS</u>	
			NPN/PNP L.O./D.O.	<u>RS76-D2000D-CY9T5U-BS</u>	
			NPN , Timing delay	<u>RS76-D2000N-CY9T5U-BT</u>	
			PNP , Timing delay	<u>RS76-D2000P-CY9T5U-BT</u>	
			NPN/PNP, Timing delay	<u>RS76-D2000D-CY9T5U-BT</u>	
		12-240V DC/ 24-240V AC	Relay L.O./D.O. (5-wire)	<u>RS76-D2000R-CY9T5L-BS</u>	
			Relay, Timing delay (5-wire)	<u>RS76-D2000R-CY9T5L-BT</u>	
			SPST Solid-state L.O./D.O. (2-wire)	<u>RS76-D2000C-CY9T5U-BS</u>	
	<p>QuickDisconnect (0° or 90° settled)</p> 	10-30V DC (Euro Style)	NPN L.O./D.O.	<u>RS76-D2000N-CY9Q4UE-BS</u>	
			PNP L.O./D.O.	<u>RS76-D2000P-CY9Q4UE-BS</u>	
			NPN/PNP L.O./D.O.	<u>RS76-D2000D-CY9Q4UE-BS</u>	
			NPN , Timing delay	<u>RS76-D2000N-CY9Q4UE-BT</u>	
			PNP , Timing delay	<u>RS76-D2000P-CY9Q4UE-BT</u>	
			NPN/PNP, Timing delay	<u>RS76-D2000D-CY9Q4UE-BT</u>	
		12-240V DC/ 24-240V AC (Micro Style)	Relay L.O./D.O. (5-wire)	<u>RS76-D2000R-CY9Q5LM-BS</u>	
			Relay, Timing delay (5-wire)	<u>RS76-D2000R-CY9Q5LM-BT</u>	
			SPST Solid-state L.O./D.O. (2-wire)	<u>RS76-D2000C-CY9Q4UM-BS</u>	
		<p>6" Pigtail</p> 	10-30V DC (Euro Style)	NPN L.O./D.O.	<u>RS76-D2000N-CY9P4UE-BS</u>
				PNP L.O./D.O.	<u>RS76-D2000P-CY9P4UE-BS</u>
				NPN/PNP L.O./D.O.	<u>RS76-D2000D-CY9P4UE-BS</u>
				NPN , Timing delay	<u>RS76-D2000N-CY9P4UE-BT</u>
				PNP , Timing delay	<u>RS76-D2000P-CY9P4UE-BT</u>
				NPN/PNP, Timing delay	<u>RS76-D2000D-CY9P4UE-BT</u>
12-240V DC/ 24-240V AC (Micro Style)	Relay L.O./D.O. (5-wire)		<u>RS76-D2000R-CY9P5LM-BS</u>		
	Relay, Timing delay (5-wire)		<u>RS76-D2000R-CY9P5LM-BT</u>		
	SPST Solid-state L.O./D.O. (2-wire)		<u>RS76-D2000C-CY9P4UM-BS</u>		

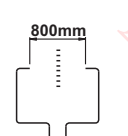
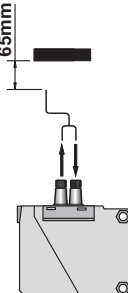



Note:
 Coming Soon : Part numbers with underline
 In Preparation: Part numbers with a line through the middle
 — Ah-06 —

Ah: RS76 SERIES

RS76 SERIES

Glass Fiber Optic Mode

Ah: RS76 SERIES

Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number
<p>LED Red: 660nm</p>   <p>Glass Fiber-optic Sensing Distance (Note)</p>	<p>Terminal</p> 	<p>10-30V DC</p>	NPN L.O./D.O.	<u>RS76-FGFN-CY6T5U</u>
			PNP L.O./D.O.	<u>RS76-FGFP-CY6T5U</u>
			NPN/PNP L.O./D.O.	<u>RS76-FGFD-CY6T5U</u>
			NPN , Timing delay	<u>RS76-FGFN-CY6T5U-T</u>
			PNP , Timing delay	<u>RS76-FGFP-CY6T5U-T</u>
			NPN/PNP,Timing delay	<u>RS76-FGFD-CY6T5U-T</u>
	<p>QuickDisconnect(0°or90° settled)</p> 	<p>10-30V DC (Euro Style)</p>	Relay L.O./D.O. (5-wire)	<u>RS76-FGFR-CY6T5L</u>
			Relay, Timing delay (5-wire)	<u>RS76-FGFR-CY6T5L-T</u>
			SPST Solid-state L.O./D.O. (2-wire)	<u>RS76-FGFC-CY6T5U</u>
			NPN L.O./D.O.	<u>RS76-FGFN-CY6Q4UE</u>
			PNP L.O./D.O.	<u>RS76-FGFP-CY6Q4UE</u>
			NPN/PNP L.O./D.O.	<u>RS76-FGFD-CY6Q4UE</u>
	<p>6" Pigtail</p> 	<p>10-30V DC (Euro Style)</p>	NPN , Timing delay	<u>RS76-FGFN-CY6Q4UE-T</u>
			PNP , Timing delay	<u>RS76-FGFP-CY6Q4UE-T</u>
			NPN/PNP,Timing delay	<u>RS76-FGFD-CY6Q4UE-T</u>
			Relay L.O./D.O. (5-wire)	<u>RS76-FGFR-CY6Q5LM</u>
			Relay, Timing delay (5-wire)	<u>RS76-FGFR-CY6Q5LM-T</u>
			SPST Solid-state L.O./D.O. (2-wire)	<u>RS76-FGFC-CY6Q4UM</u>
<p>12-240V DC/ 24-240V AC</p>	<p>12-240V DC/ 24-240V AC (Micro Style)</p>	NPN L.O./D.O.	<u>RS76-FGFN-CY6P4UE</u>	
		PNP L.O./D.O.	<u>RS76-FGFP-CY6P4UE</u>	
		NPN/PNP L.O./D.O.	<u>RS76-FGFD-CY6P4UE</u>	
		NPN , Timing delay	<u>RS76-FGFN-CY6P4UE-T</u>	
		PNP , Timing delay	<u>RS76-FGFP-CY6P4UE-T</u>	
		NPN/PNP,Timing delay	<u>RS76-FGFD-CY6P4UE-T</u>	
	<p>12-240V DC/ 24-240V AC (Micro Style)</p>	Relay L.O./D.O. (5-wire)	<u>RS76-FGFR-CY6P5LM</u>	
		Relay, Timing delay (5-wire)	<u>RS76-FGFR-CY6P5LM-T</u>	
		SPST Solid-state L.O./D.O. (2-wire)	<u>RS76-FGFC-CY6P4UM</u>	

Note: Depends on fiber optic used (Please see our Glass Fiber & Plastic Fiber catalogue for detail information).

Coming Soon : Part numbers with underline

In Preparation: Part numbers with a line through the middle

RS76 SERIES

Specifications (DC)

Item	Sensing Mode				
	Thru-beam	Retroreflective (with polarizing filter)	Diffuse (L: Long range S: Standard)	Diffuse (with background suppression)	Glass Fiber
Sensing Range, Adjustable	35 m	0.01...15 m (Note)	L:10...3500mm S:5...1700mm	L:0...2000mm S:0...380mm	depends on glass fiber optic used
Angle of Divergence	Approx. 1°	Approx. 1.7°	L: Approx. 1.8° S: Approx. 2.5°	Approx. 1.5°	——
Light Spot Size	700mm@30m	300 mm @ 10m	L:80 mm@ 2.5 m S:45mm@1 m	L: 50mm@1 m S:17mm@300mm	depends on sensing range
Light Source	Red Light	Red Light	L: Infrared S: Red light	Infrared	Red Light
Response Time/Frequency	<=1ms/500Hz	<=1.5ms/333Hz	L:<=5ms/100Hz S:<=1.5ms/333Hz	<=2ms/250Hz	<=2ms/250Hz
Supply Voltage	10-30V DC (limit values)				
Current Consumption (no load)	<35 mA (emitter of thru-beam mode: <20mA)				
Ripple (within Vs tolerance)	<= 5 V peak-to-peak				
Indicator LED	Red: Signal strength indicator				
Output Type	PNP, NPN, PNP/NPN				
Output Voltage High	PNP is Vs-(<=2.5V); NPN is approx. Vs				
Output Voltage Low	PNP is approx. 0V; NPN is <=1.5V				
Output Current Max.	100 mA				
Operation Mode	Light or dark switching selectable via switch				
Material	Housing: ABS; Optic: PC				
Enclosure Rating	IP 67				
Circuit Protection	Outputs short circuit and over current protected, Vs reverse polarity protected				
Test input	Emitter off: Test to 0V (only for thru-beam mode)				
Time Options	No delay, On delay, Off delay, One-shot (with timer mode only)				
Time Settings	0.1 ... 10s Variable (with timer mode only)				
Ambient Operating Temperature	-25...55°C				
Storage Temperature	-40...70°C				
EMC	IEC 60947-5-2, Parts 7.2.6.1.2.3 or RFI>3V/m(in 80-1000MHZ), 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	>20MΩ, 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				
Weight	Approx. 120 g				
Mounting Bracket	MB-7263 (optional)				
Pig tail Type	See Pigtail Series or our Cables & Connectors catalogue				

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

RS76 SERIES

Specifications (AC/DC)

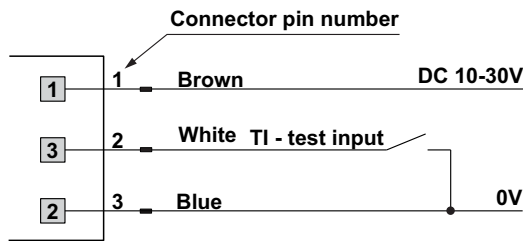
Item	Sensing Mode					
	Thru-beam	Retroreflective (with polarizing filter)	Diffuse (L: Long range S: Standard)	Diffuse (with background suppression)	Glass Fiber	Retroreflective (with polarizing filter, with Mute input)
Sensing Range, Adjustable	45 m	0.01...15 m (Note)	L: 10...3500mm S: 5...1700mm	L: 0...2000mm S: 0...380mm	depends on glass fiber optic used	12 m
Angle of Divergence	Approx. 1°	Approx. 1.7°	L: Approx. 1.7° S: Approx. 2.5°	Approx. 1.5°	—	Approx. 1.5°
Light Spot Size	700mm@40m	300 mm @ 10m	L: 95 mm@ 3 m S: 60mm@1.3m	L: 200mm@2 m S: 17mm@300mm	depends on sensing range	280 mm @ 4m
Light Source	Red Light	Red Light	L: Infrared S: Red light	Infrared	Red Light	Red Light
Response Time / Frequency	<=20 ms /25 Hz					20Hz
Supply Voltage	12-240V DC / 24-240V AC (10%)					24V DC(20) 24V AC(20)
Switching Voltage Max.	240 V AC					—
Switching Current Max.	3 A					10mA @ 24V DC 16mA @ 24V AC
Current Consumption (No load)	< 30 mA					
Power Consumption	<=5 VA (emitter of thru-beam mode: <=4 VA)					
Indicator LED	Red: Signal strength indicator					
Output Type	Relay electrically isolated (provide arc suppression for inductive / capacitive loads), SPST Solid-state relay with either normally closed or normally open contact					
Operation Mode	Relay isolated : Light or dark switching selectable via switch SPST Solid-state: Light/Dark operate select switch					
Material	Housing: ABS; Optic: PC					
Enclosure Rating	IP 67					
Circuit Protection	Output short circuit protected (only for 2-wire type), Vs reverse polarity protected					
Time Options	No delay, On delay, Off delay, One-shot (with timer mode only)					
Time Settings	Adjustable, 0.1...10 s (with timer mode only)					
Ambient Operating Temperature	-25...55°C					
Storage Temperature	-40...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 Withstand Ability	IEC 60947-5-2, Part 8.3.3.4 or 1500V AC for one min, between all supply terminals connected together and enclosure					
Insulation Resistance	>20MΩ , with 500V 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					
Mounting Bracket	MB-7263 (optional)					
Weight	approx. 120 g					
Pig tail Type	See Pigtail Series or our Cables & Connectors catalogue					

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

RS76 SERIES

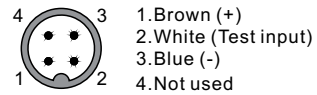
Connection Diagrams

Emitter of Thru-beam Mode (DC)

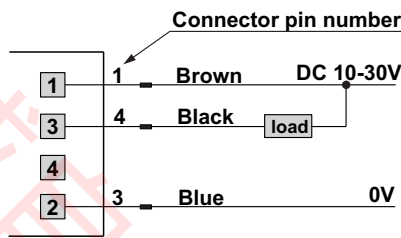
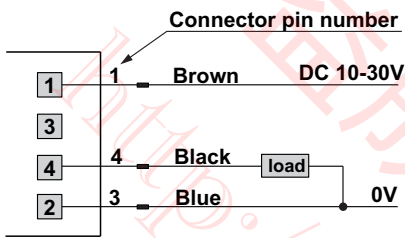


Connector pin position

Euro-style

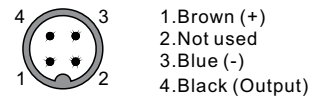


PNP output NPN output

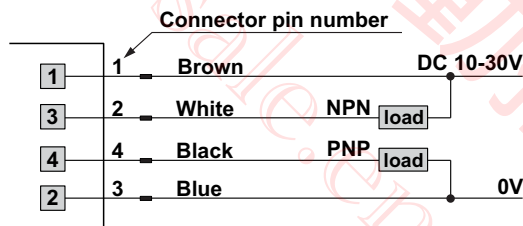


Connector pin position

Euro-style

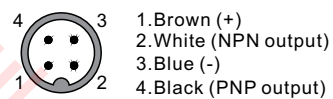


NPN/PNP output

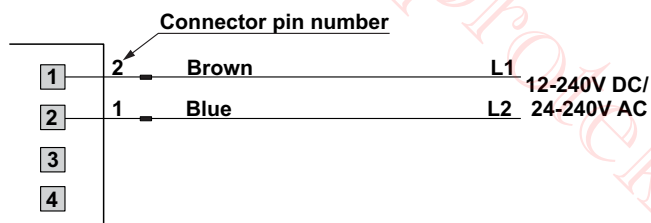


Connector pin position

Euro-style

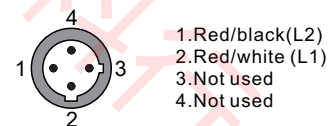


Emitter of Thru-beam Mode (AC/DC)

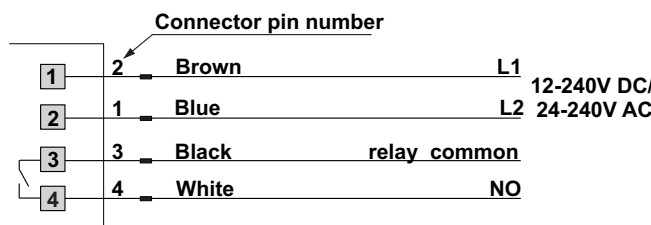


Connector pin position

Micro-style



Relay output (AC/DC)

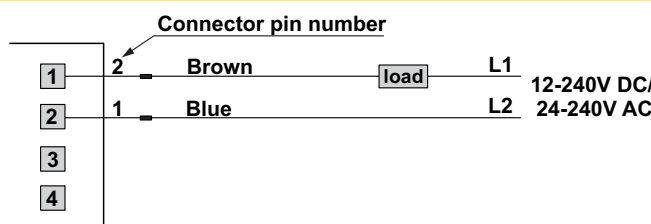


Connector pin position

Micro-style

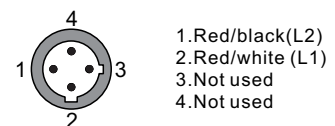


SPST Solid-state output (AC/DC)



Connector pin position

Micro-style

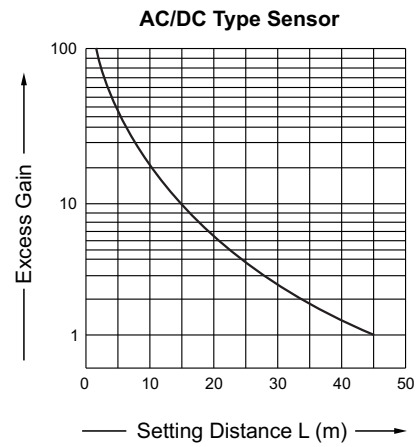
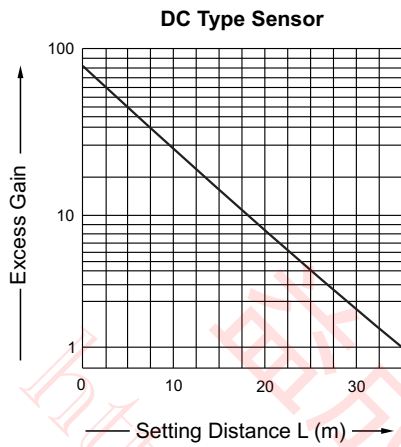


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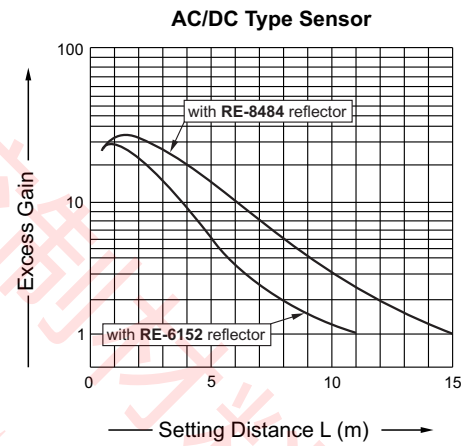
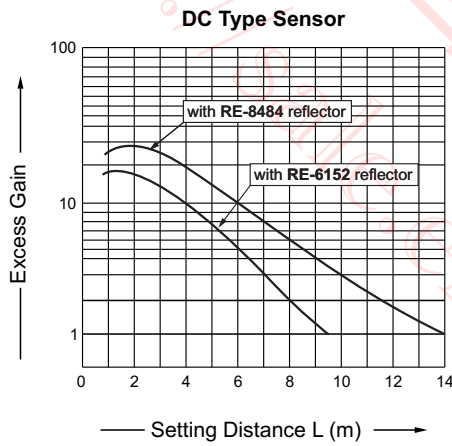
RS76 SERIES

Sensing Characteristics (Typical)

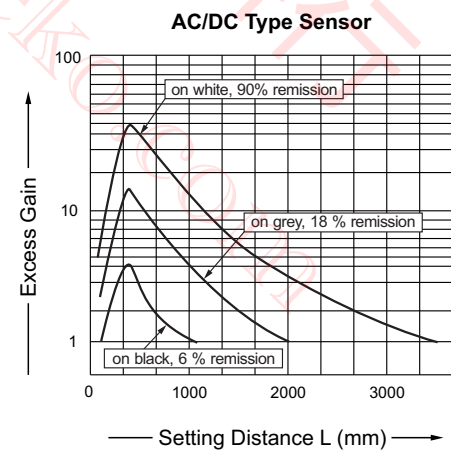
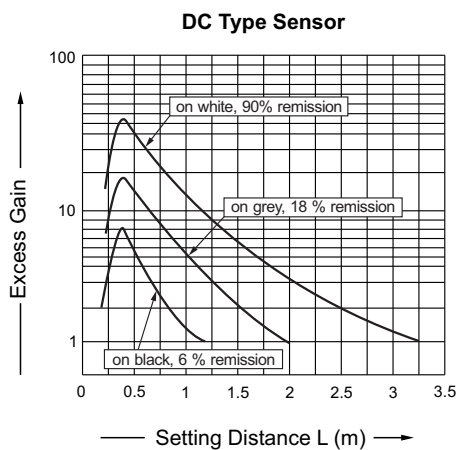
Thru-beam Mode



Polarized Retroreflective Mode



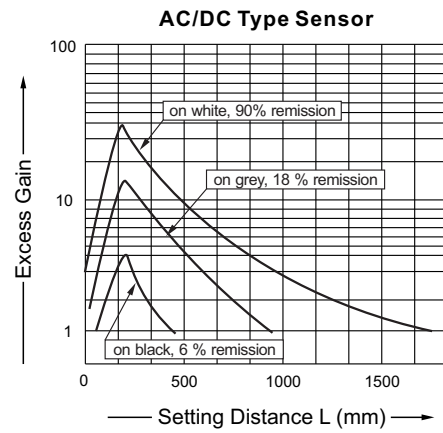
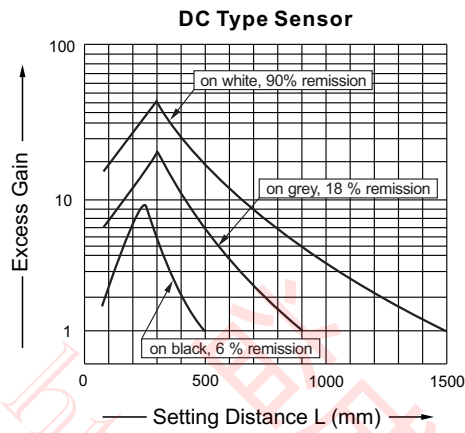
Long Range Diffuse Mode



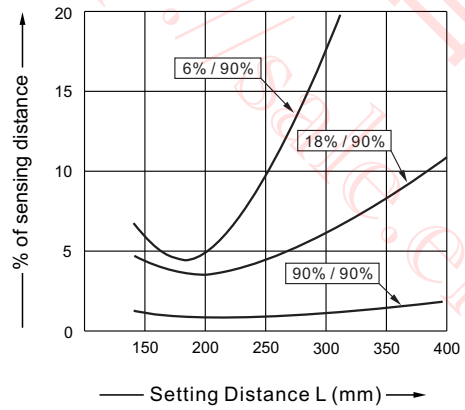
RS76 SERIES

Sensing Characteristics (Typical)

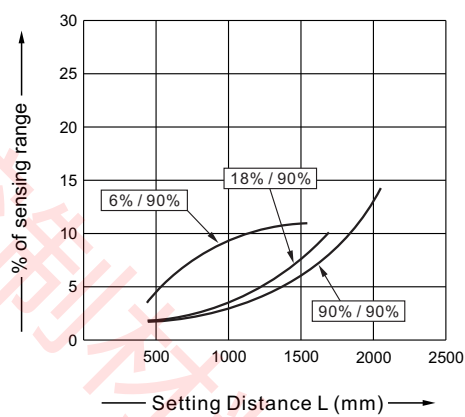
Standard Diffuse Mode



BGS Type Diffuse Mode (Sn=380mm)



BGS Type Diffuse Mode (Sn=2000mm)



Mute Operation Diagram (Only for Mute input type sensor)



Mute Function	Switch selectable
Make on	≥4 VDC/VAC
Response time output off	<20 ms
Make off	<2V DC/VAC
Response time output on	<45 MS
Break on	≤2 VDC/VAC
Response time output off	< 45 ms
Break off	> 4 VDC/VAC
Response time output on	< 20 ms

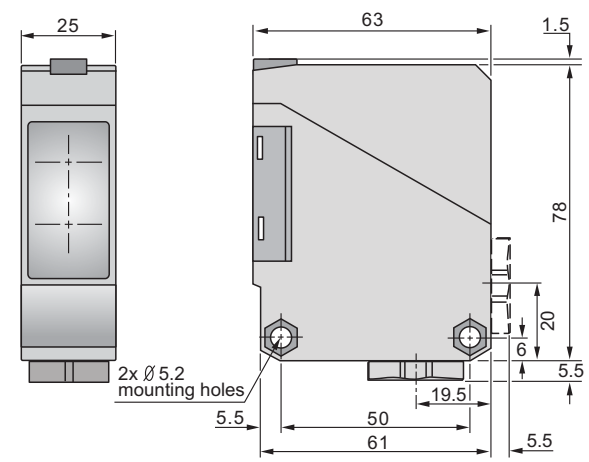
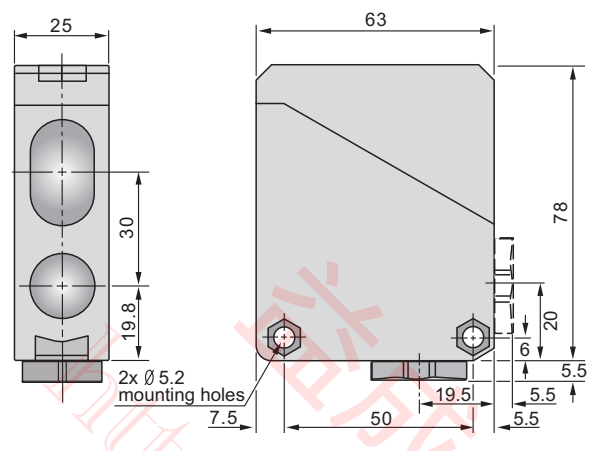
Ah: RS76 SERIES

RS76 SERIES

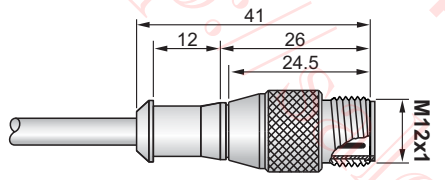
Dimensions (Unit: mm)

Long Range BGS Type Diffuse (Sn=2 m) Sensor

All Other Mode Sensor (Terminal Type)



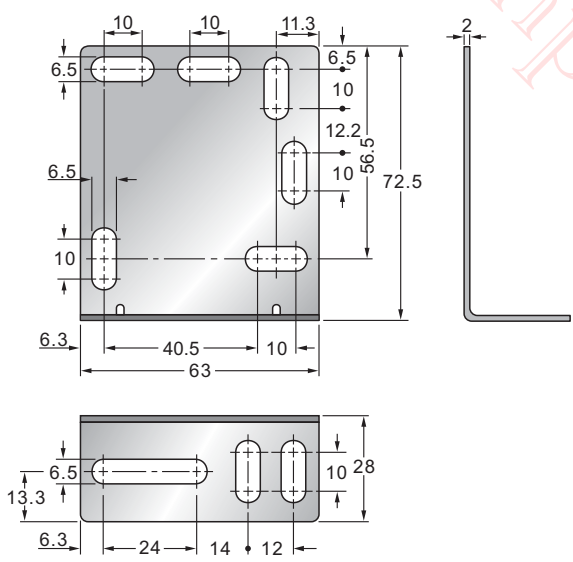
Pigtail * Type



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

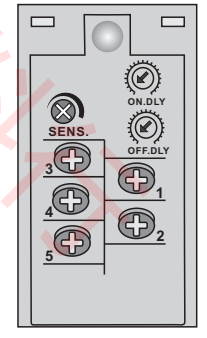
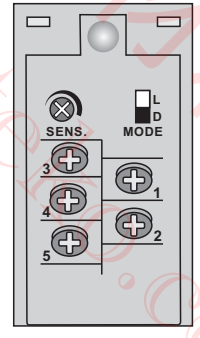
MB-7263 (Mounting bracket-optional)

Panel View Detail



Without timing delay

With timing delay



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