













Thru-beam Mode & Retroreflective Mode

Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number
Thru-beam Mode Sensing Distance: 22m Light Source: Red Light	2m Cable 	10-30V DC	Emitter	RP43-T022MD-EY6C3L2
			NPN	RP43-T022MN-CY6C4U2
			PNP	RP43-T022MP-CY6C4U2
			NPN/PNP	RP43-T022MD-CY6C4U2
	Quick Disconnect (Pico-style) 	10-30V DC	Emitter	RP43-T022MD-EY6Q4LP
			NPN	RP43-T022MN-CY6Q4UP
			PNP	RP43-T022MP-CY6Q4UP
			NPN/PNP	RP43-T022MD-CY6Q4UP
	6" Pig Tail (Pico-style) 	10-30V DC	Emitter	RP43-T022MD-EY6P4LP
			NPN	RP43-T022MN-CY6P4UP
			PNP	RP43-T022MP-CY6P4UP
			NPN/PNP	RP43-T022MD-CY6P4UP
Retro-reflective Mode with Polarizing filter Sensing Distance: 5m (Note) Light Source: Red Light	2m Cable 	10-30V DC	NPN	RP43-L5000N-CY6C4U2-PF
			PNP	RP43-L5000P-CY6C4U2-PF
			NPN/PNP	RP43-L5000D-CY6C4U2-PF
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	Quick Disconnect (Pico-style) 	10-30V DC	NPN	RP43-L5000N-CY6Q4UP-PF
			PNP	RP43-L5000P-CY6Q4UP-PF
			NPN/PNP	RP43-L5000D-CY6Q4UP-PF
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	6" Pig Tail (Pico-style) 	10-30V DC	NPN	RP43-L5000N-CY6P4UP-PF
			PNP	RP43-L5000P-CY6P4UP-PF
			NPN/PNP	RP43-L5000D-CY6P4UP-PF
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Note: Used with RE-6152 (supplied with sensor) reflector.

Diffuse Mode with Background Suppression

Sensing Mode	Connection	Supply Voltage	Output Mode	Part Number
Diffuse Mode with Background Suppression Sensing Distance: 100mm Light Source: Red Light	2m Cable 	10-30V DC	NPN	RP43-D0100N-CY6C4U2-BS
			PNP	RP43-D0100P-CY6C4U2-BS
			NPN/PNP	RP43-D0100D-CY6C4U2-BS
			—	—
	Quick Disconnect (Pico-style) 	10-30V DC	NPN	RP43-D0100N-CY6Q4UP-BS
			PNP	RP43-D0100P-CY6Q4UP-BS
			NPN/PNP	RP43-D0100D-CY6Q4UP-BS
			—	—
	6" Pig Tail (Pico-style) 	10-30V DC	NPN	RP43-D0100N-CY6P4UP-BS
			PNP	RP43-D0100P-CY6P4UP-BS
			NPN/PNP	RP43-D0100D-CY6P4UP-BS
			—	—
Diffuse Mode with Background Suppression Sensing Distance: 300mm Light Source: Red Light	2m Cable 	10-30V DC	NPN	RP43-D0300N-CY6C4U2-BS
			PNP	RP43-D0300P-CY6C4U2-BS
			NPN/PNP	RP43-D0300D-CY6C4U2-BS
			—	—
	Quick Disconnect (Pico-style) 	10-30V DC	NPN	RP43-D0300N-CY6Q4UP-BS
			PNP	RP43-D0300P-CY6Q4UP-BS
			NPN/PNP	RP43-D0300D-CY6Q4UP-BS
			—	—
	6" Pig Tail (Pico-style) 	10-30V DC	NPN	RP43-D0300N-CY6P4UP-BS
			PNP	RP43-D0300P-CY6P4UP-BS
			NPN/PNP	RP43-D0300D-CY6P4UP-BS
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Ad: RP43 SERIES

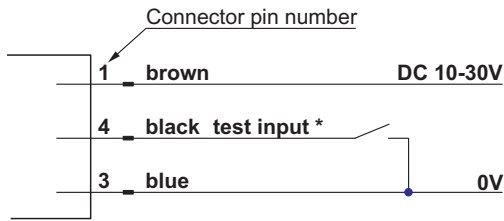
Specifications

Sensing Mode	Thru-beam Mode		Retro-reflective Mode (with polarizing filter)	Diffuse Mode (With background suppression)
	Emitter	Receiver		
Sensing Range, Adjustable	Max.: 22m (72.2 ft) Typical: 14m (45.9ft)		5 m (Note)	40...100 mm (1.6...3.9 in) 100...300 mm (3.9...11.8 in)
Angle of Divergence	approx.40°		approx.2.5°	approx.40°
Light spot size	approx. 1.5m @ 20m (4.9 ft @ 65.6 ft)		approx. 400mm @ 5m (15.7 in @ 26.2 ft)	approx. 10mm @ 100mm approx. 30mm @ 300mm
Light Source	LED Red			
Response Time/Frequency	<15 ms / 33 Hz		<0.7 ms / 700 Hz	<2 ms / 250 Hz
Supply Voltage	10...30V DC (limit values)			
Current Consumption(no load)	<=35 mA			
Ripple (within Vs tolerance)	< 6 V peak-to-peak			
Output Type	PNP, NPN, NPN+PNP			
Output Voltage High	PNP: Vs - (<=1.5V); NPN: approx. Vs.			
Output Voltage Low	PNP: approx. 0V; NPN: <=1.5V.			
Output Current Max.	100 mA			
Operation Mode	Light or dark switching selectable via switch			
Connection	Cable, M8 4-pin plug, M8 pigtail			
Connecting Cable	PVC, 2m			
Housing Material	ABS			
Enclosure Rating	IP 67 / NEMA 6			
Circuit Protection	Outputs short circuit and over current protected, Vs reverse polarity protected (NPN/PNP output without reverse polarity protected)			
Test Input	Vs: light source off, 0 V or no connection: light source on. (only for emitter of thru-beam mode)			
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 With Stand Ability	IEC 60947-5-2, Part 8.3.3.4 or 500VDC for one min, between all supply terminals connected together and enclosure			
Insulation Resistance	>20M Ω , with 500V DC megger between all supply terminals connected together and enclosure			
Vibration Resistance	IEC 60947-5-2, Part 7.4.2 or 10-55Hz, 1.0mm amplitude in x , y and z directions for 30 min			
Shock Resistance	IEC 60947-5-2, Part 7.4.1 or 30g, 11ms in x , y and z directions for six time each			
Mounting Bracket	MB-4932 (optional)			
Weight	approx. 23g			
Cable	2m or 9m 4.0 ϕ 4x0.5 (Emitter :3X0.5) PVC.			
Pigtail Type	See page Pigtail Series or our Cables & Connectors catalogue.			

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

Connection Diagrams

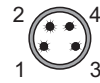
Emitter of Thru-beam Mode



*: Test input=0V Emitter off.

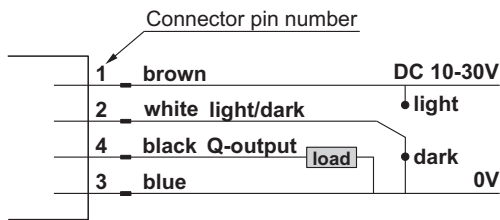
Connector face view

Pico-Style



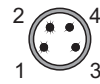
- 1. Brown (+)
- 2. Not used
- 3. Blue (-)
- 4. Black (Test input)

PNP output type



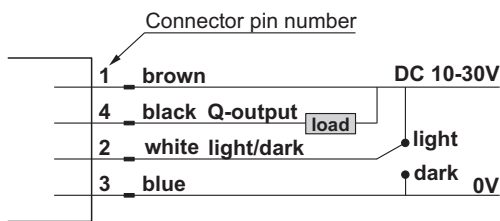
Connector face view

Pico-Style



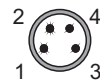
- 1. Brown (+)
- 2. White (Light/Dark control)
- 3. Blue (-)
- 4. Black (Output)

NPN output type



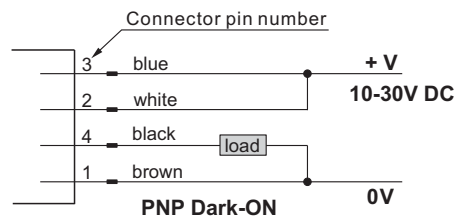
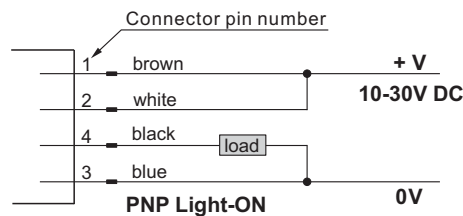
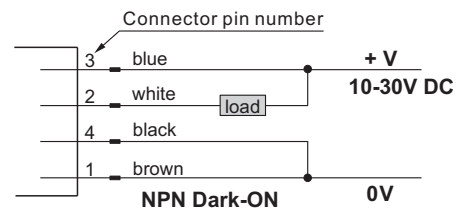
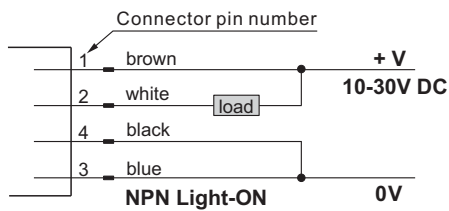
Connector face view

Pico-Style



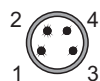
- 1. Brown (+)
- 2. White (Light/Dark control)
- 3. Blue (-)
- 4. Black (Output)

NPN/PNP type



Connector face view

Pico-Style

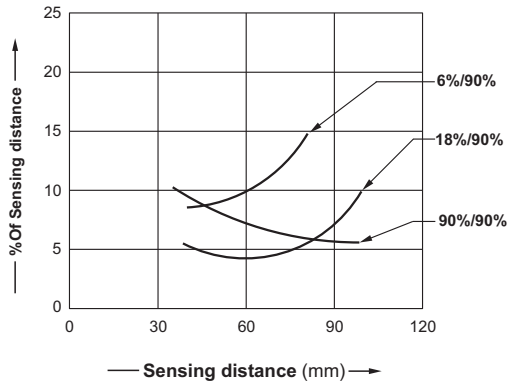


- 1. Brown
- 2. White
- 3. Blue
- 4. Black

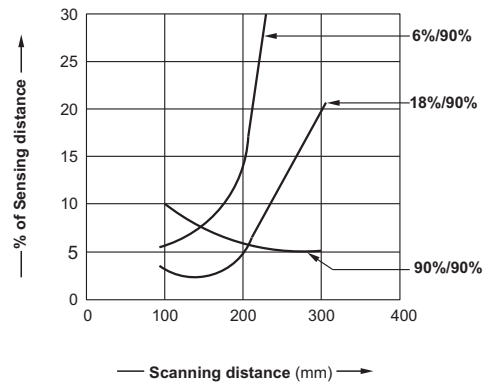
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Sensing Characteristics (Typical)

BGS type Diffuse sensor (Sn=100mm)

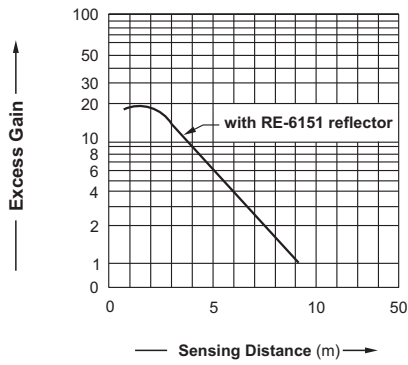


BGS type Diffuse sensor (Sn=300mm)



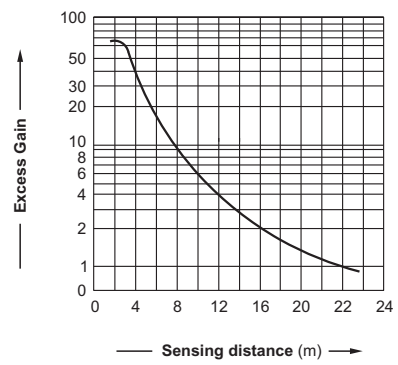
Retro-reflective sensor (Sn=5m)

Excess gain curve



Thru-beam sensor (Sn=22m)

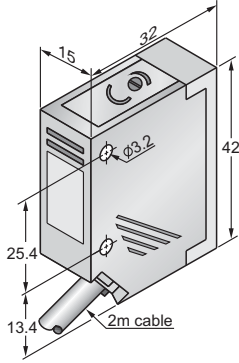
Excess gain curve



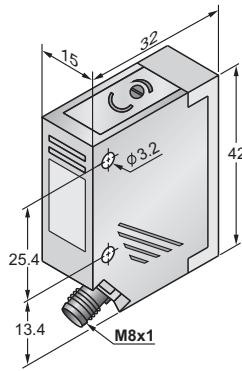
Dimensions (Unit: mm)

Sensor Type

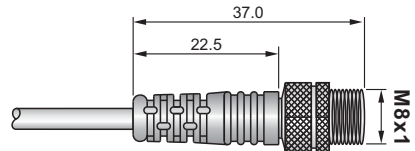
Cable type



Connector Type (Pico-style)



Pigtail* Type (Pico-style)



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

MB-4932 (Mounting bracket-optional)

