













Thru-beam Mode

Ba: RP40 SERIES

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

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

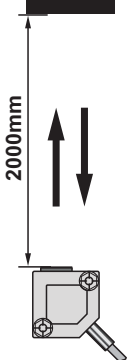



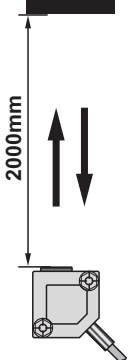


Retroreflective Mode with Polarizing Filter

Sensing Mode	Appearance	Supply Voltage	Output Mode	Part Number
<div style="display: flex; flex-direction: column; align-items: center;"> <div style="margin-bottom: 20px;"> <p>LED red 660nm</p>  </div> <div style="margin-bottom: 20px;"> <p>6 m</p>  </div> <div style="margin-bottom: 20px;"> <p>Retroreflective Mode (With Polarizing Filter)</p> </div> <div> <p>Sensing Distance: 6 m (Note)</p> </div> </div>	2m Cable 	10-36VDC	NPN PNP NPN/PNP	<u>RP40-L6000N-CY6C4U2-PF</u> <u>RP40-L6000P-CY6C4U2-PF</u> RP40-L6000D-CY6C4U2-PF
	12-240V DC/ 24-240V AC	Solid State Isolated Relay (4-wire) SPST Solid-state Light-ON (2-wire) SPST Solid-state Dark-ON (2-wire)	<u>RP40-L6000S-CY6C4L2-PF</u> <u>RP40-L6000C-LY6C2U2-PF</u> <u>RP40-L6000C-DY6C2U2-PF</u>	
	M8 Quick Disconnect (Pico-style) 	10-36VDC	NPN PNP NPN/PNP	<u>RP40-L6000N-CY6Q4UP-PF</u> <u>RP40-L6000P-CY6Q4UP-PF</u> RP40-L6000D-CY6Q4UP-PF
	12-240V DC/ 24-240V AC	_____ _____ _____	_____ _____ _____	
	M12 Quick Disconnect 	10-36VDC (Euro-style)	NPN PNP NPN/PNP	<u>RP40-L6000N-CY6Q4UE-PF</u> <u>RP40-L6000P-CY6Q4UE-PF</u> RP40-L6000D-CY6Q4UE-PF
	12-240V DC/ 24-240V AC (Micro-style)	Solid State Isolated Relay (4-wire) SPST Solid-state Light-ON (2-wire) SPST Solid-state Dark-ON (2-wire)	<u>RP40-L6000S-CY6Q4LM-PF</u> <u>RP40-L6000C-LY6Q4UM-PF</u> <u>RP40-L6000C-DY6Q4UM-PF</u>	
	6" M8 Pigtail (Pico-style) 	10-36VDC	NPN PNP NPN/PNP	<u>RP40-L6000N-CY6P4UP-PF</u> <u>RP40-L6000P-CY6P4UP-PF</u> RP40-L6000D-CY6P4UP-PF
	12-240V DC/ 24-240V AC	_____ _____ _____	_____ _____ _____	
	6" M12 Pigtail 	10-36VDC (Euro-style)	NPN PNP NPN/PNP	<u>RP40-L6000N-CY6P4UE-PF</u> <u>RP40-L6000P-CY6P4UE-PF</u> RP40-L6000D-CY6P4UE-PF
	12-240V DC/ 24-240V AC (Micro-style)	Solid State Isolated Relay (4-wire) SPST Solid-state Light-ON (2-wire) SPST Solid-state Dark-ON (2-wire)	<u>RP40-L6000S-CY6P4LM-PF</u> <u>RP40-L6000C-LY6P4UM-PF</u> <u>RP40-L6000C-DY6P4UM-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

Diffuse Mode

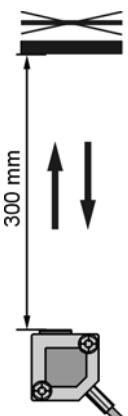





Ba: RP40 SERIES

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

Note:

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







Diffuse Mode with Background Suppression

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

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

Glass Fiber Optic Mode

Ba: RP40 SERIES

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

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

Specifications (DC)

Item \ Sensing Mode	Diffuse (background suppression)	Diffuse	Retroreflective (with polarizing filter)	Thru-beam	Fiber Optic
Sensing Range, Adjustable	300 mm	2000mm	6 m (Note)	15 m	150 mm
Field of View	3.0°	3.5°	1.5°	1.5°	—
Light Source	Infrared 880nm	Infrared 880nm	Red light 660nm	Infrared 880nm	Infrared 880nm
Indicator LEDs	Green: Power, Yellow: Output, Red: Margin (thru-beam mode only with Green: Power)				
Response Time	2 ms(Thru-beam mode with 5ms)				
Supply Voltage	10-36V DC (Ripple<=10%)				
Output Type	NPN , PNP ,NPN/PNP				
Max. Load Current	250 mA				
No Load Current	<30 mA				
Max. Leakage Current	<10 uA				
Operation Mode	Light or dark switching selectable via control wire				
Housing Material	Glass fiber reinforced plastic				
Lens Material	Acrylic				
Cover Gasket Material	Neoprene				
Enclosure Rating	IP67				
Circuit Protection	Outputs short circuit and over current protected, Vs reverse polarity protected				
Ambient Operating Temperature	-25...55°C				
Storage Temperature	-40...70°C				
Relative Humidity	5% to 95%				
EMC	IEC 60947-5-2, Parts 7.2.6.1. 2.3 or RFI>3V/m(in 30-1000MHZ), EFT>1KV, ESD>4KV(contact)				
Voltage Withstand Ability	IEC 60947-5-2, Part 8.3.3.4 or 500VDC for one min, between all supply terminals connected together and enclosure				
Insulation Resistance	>20M Ω , with 500V DC megger between all supply terminals connected together and enclosure				
Vibration Resistance	IEC 60947-5-2, Part 7.4.2 or 10-55Hz, 1.0mm amplitude in x , y and z directions for 30 min				
Shock Resistance	IEC 60947-5-2, Part 7.4.1 or 30g, 11ms in x , y and z directions for six time each				
Cable	Standard: 2m long (other length on request)				
Connector Type	Pico style (M8), Euro style (M12)				
Pigtail Type	See Pigtail Series or our Cables & Connectors catalogue.				

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

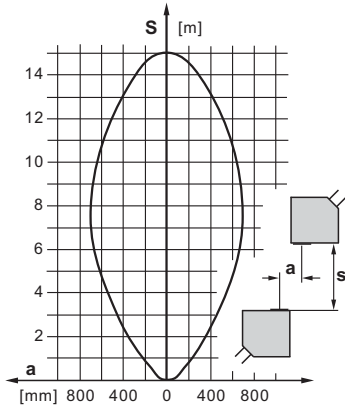
Specifications (AC/DC)

Item \ Sensing Mode	Diffuse (background suppression)	Diffuse	Retroreflective (with polarizing filter)	Thru-beam	Fiber Optic
Sensing Range, Adjustable	300 mm	2000 mm	6 m (Note)	15 m	150 mm
Field of View	3.0°	3.5°	1.5°	1.5°	—
Light Source	Infrared 880nm	Infrared 880nm	red light 660nm	Infrared 880nm	Infrared 880nm
Indicator LEDs	Green: Power, Yellow: Output, Red: Margin (thru-beam mode only with Green: Power)				
Output Type	Solid State Isolated Relay , SPST solid-state output				
Supply Voltage	12-240V DC / 24-240V AC				
Response Time	Solid State Isolated Relay output: 2ms; SPST solid-state relay output: 8ms (thru-beam's receiver units : Solid state Isolated Relay. output: 15ms; SPST solid-state relay output: 2ms ON and 1ms OFF), response time is independent of signal strength.				
Max. Load Current	Solid State Isolate Relay : 300mA at 240V AC/DC SPST solid-state relay: 300mA to 50°C ambient, 100mA to 70°C ambient				
No Load Current	<30 mA				
Max. Leakage Current	Solid State Isolate Relay : 1mA at 240VAC SPST solid-state relay: less than 1.7 mA rms				
Operation Mode	Solid State Isolated Relay: Light-ON / Dark-ON switchable, SPST solid-state : either Light-ON or Dark-ON				
Housing Material	Glass fiber reinforced plastic				
Lens Material	Acrylic				
Cover Gasket Material	Neoprene				
Enclosure Rating	IP67				
Short Circuit Protection	YES (Solid State Isolated Relay without short circuit protection)				
Ambient Operating Temperature	-25...55°C				
Storage Temperature	-40...70°C				
Relative Humidity	5% to 95%				
EMC	IEC 60947-5-2, Parts 7.2.6.1. 2.3 or RFI>3V/m(in 30-1000MHZ), EFT>1KV, ESD>4KV(contact)				
Voltage Withstand Ability	IEC 60947-5-2, Part 8.3.3.4 or 1500VAC for one min, between all supply terminals connected together and enclosure				
Insulation Resistance	>20M Ω , with 1500V AC megger between all supply terminals connected together and enclosure				
Vibration Resistance	IEC 60947-5-2, Part 7.4.2 or 10-55Hz, 1.0mm amplitude in x , y and z directions for 30 min				
Shock Resistance	IEC 60947-5-2, Part 7.4.1 or 30g, 11ms in x , y and z directions for six time each				
Cable	Standard: 2m length (other length on request)				
Connector Type	Micro style				
Pigtail Type	See Pigtail Series or our Cables & Connectors catalogue.				

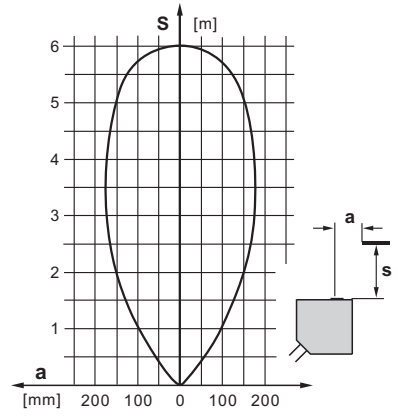
Note: Used with RE-6152 (supplied with sensor) reflector.

Sensing Characteristics (Typical)

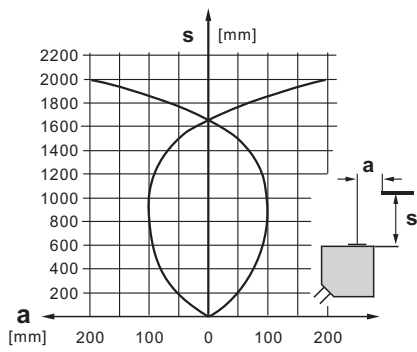
Thru-beam Sensor



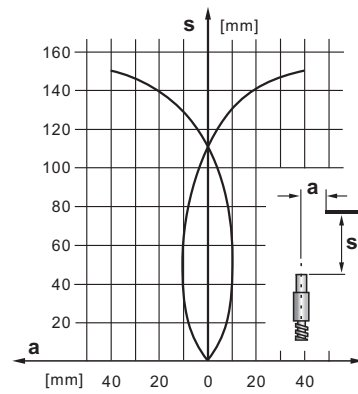
Retroreflective Sensor (with polarizing filter)



Diffuse Sensor



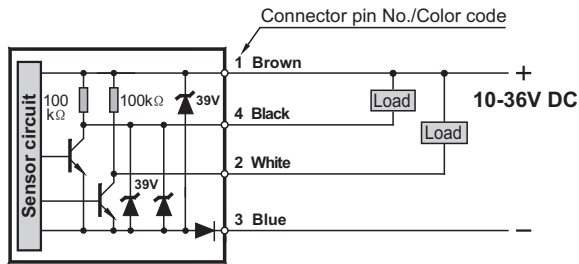
Fiber-optic Amplifier



Ba: RP40 SERIES

Connection Diagrams (DC)

NPN output type



Connector pin position

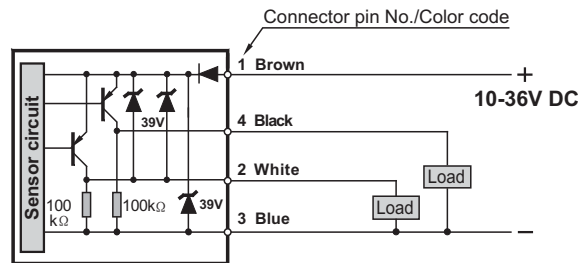
Euro-style



Pico-Style



PNP output type

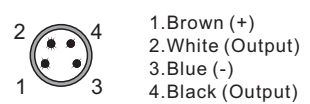


Connector pin position

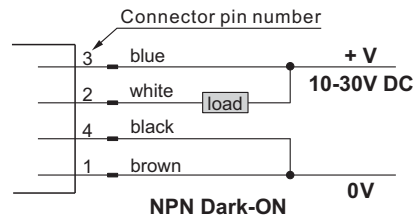
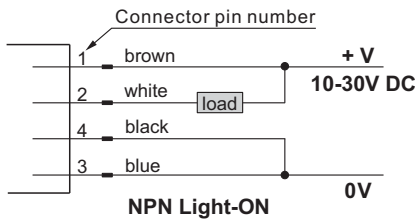
Euro-style



Pico-Style

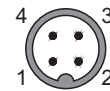


NPN/PNP output type



Connector pin position

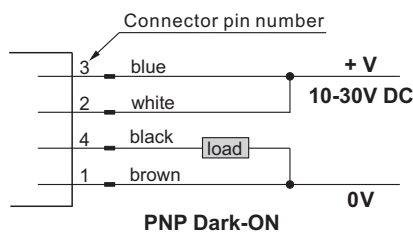
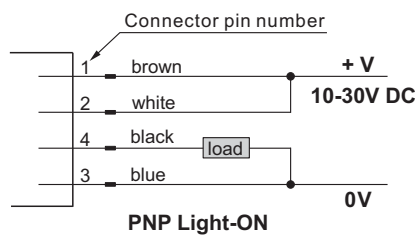
Euro-style



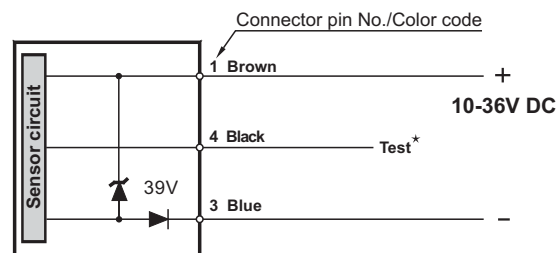
Pico-Style



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



Emitter of Thru-beam Mode



Connector pin position

Euro-style



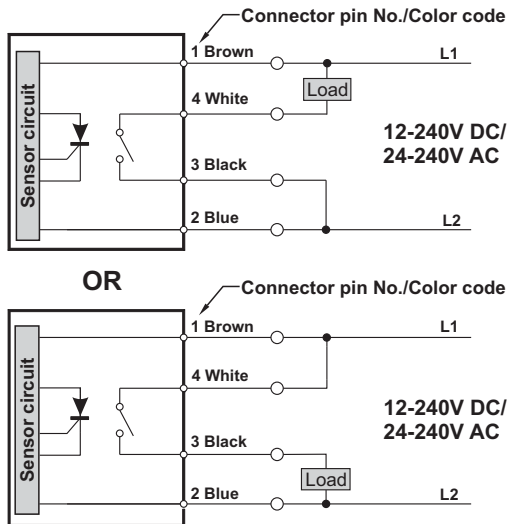
Pico-Style



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

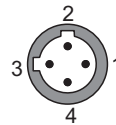
Connection Diagrams (AC/DC)

Solid State Isolated Relay output type



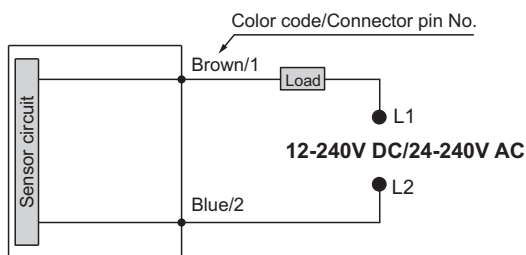
Connector pin position

Micro-Style



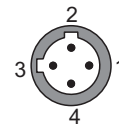
- 1: Red/black(L1)
- 2: Red/white(L2)
- 3: Red (output)
- 4: Green (output)

SPST solid-state output type



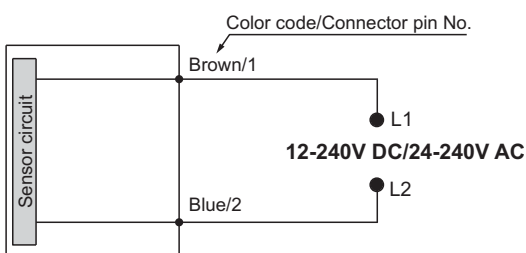
Connector pin position

Micro-style



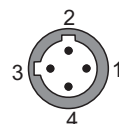
- 1: Red/black(L1)
- 2: Red/white(L2)
- 3: Not used
- 4: Not used

Emitter of Thru-beam Mode



Connector pin position

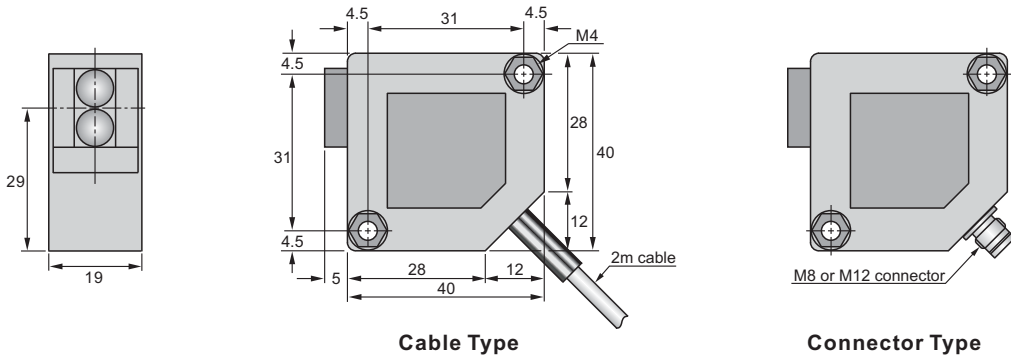
Micro-style



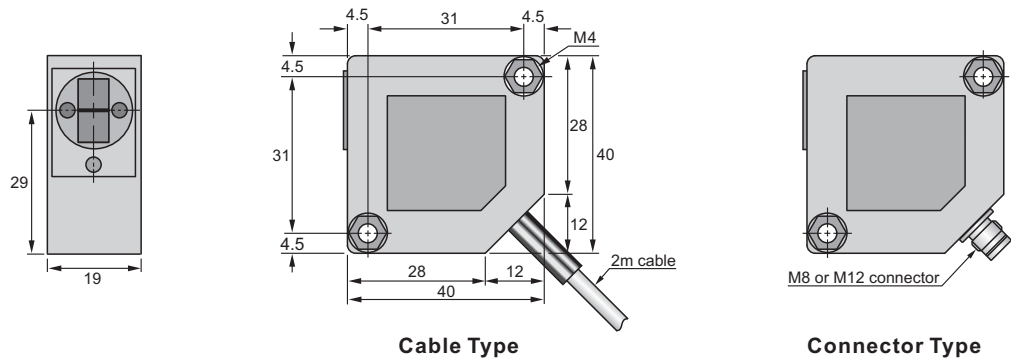
- 1: Red/black(L1)
- 2: Red/white(L2)
- 3: Not used
- 4: Not used

Dimensions (Unit: mm)

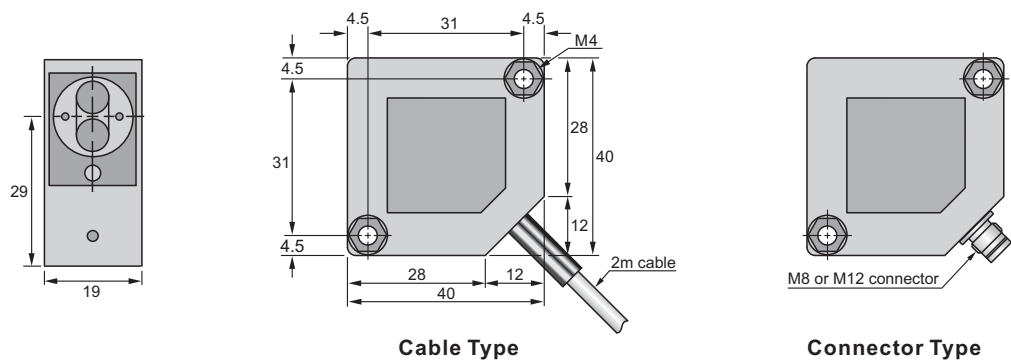
Thru-beam Sensor/ Polarizing Retroreflective Sensor



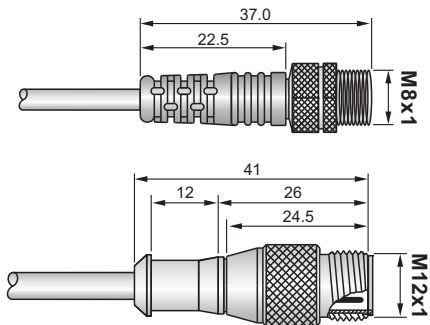
Diffuse Sensor



Fiber-optic Amplifier



Pigtail* Type



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

MB-5230 (sensor mounting bracket-optional)

