



General Specifications

Light Source	Infrared 880nm or visible red 650nm
Unit Protection	Reverse polarity, output short-circuit and overload protection (SCP)
Supply Voltage	10–30V DC
Current Consumption	30mA maximum
Output Type	NPN or PNP
Output Mode	Light or dark operate selectable
Output Rating	100mA
Max Leakage Current	<10µA for all models except transmitted beam, which is 0.1µA
Response Time	2ms (0.5ms for background suppression)
Housing Material	PBT
Lens Material	PMMA 8N 33701 ROHM
LED Indicators	Yellow-output
Connection Types	2m cable, 4-pin DC micro QD
Operating Environment	IP67
Vibration	10–55Hz, 0.5mm amplitude, Meets or exceeds IEC 60947-5-2
Shock	30g with 11ms pulse duration, Meets or exceeds IEC 60947-5-2
Operating Temperature	-25°C to +70°C (-13°F to +158°F)
Ambient Light Immunity	3000 Lx
Approvals	cULus and CE marked for all applicable directives
Supplied Accessories	18mm fastening nuts
Optional Accessories	Mounting brackets and reflectors—see page R1-232

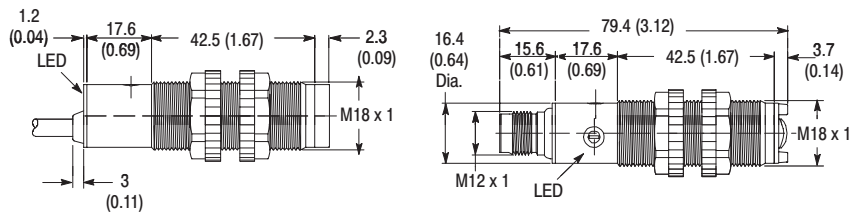
Features

- 18mm industry standard package
- Wide selection of sensing modes
- 24V DC operation
- NPN or PNP outputs
- Fast response time
- Variety of connection types

User Interface

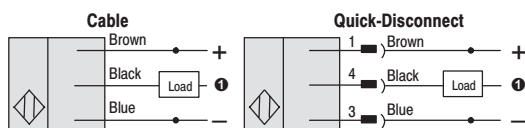
Label	Color	State	Status
Output	Orange	OFF	Sensor output de-activated
		ON	Sensor output activated

Dimensions—mm (inches)



Wiring Diagrams

Diffuse, Retroreflective, Polarized Retroreflective



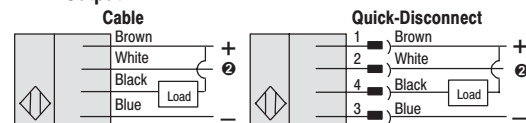
① For NPN type tie the load to Brown (+).
For PNP type tie the load to Blue (-).

Face View Male Receptacle (Sensor) DC Micro



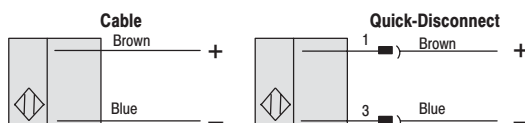
Background Suppression, Transmitted Beam

NPN Output



② Tie white (2) and brown (1) conductors together for LO.
Tie white (2) and blue (3) conductors together for DO.

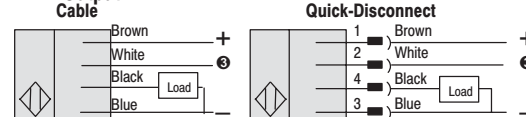
Transmitted Beam Source



Face View Male Receptacle (Sensor) DC Micro



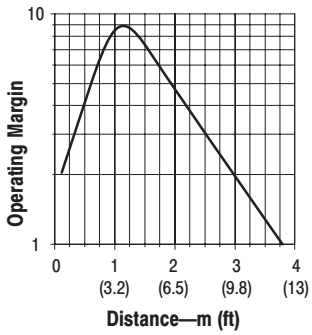
PNP Output



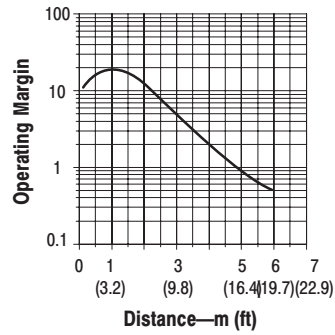
③ Tie white (2) and brown (1) conductors together for LO.
Tie white (2) and blue (3) conductors together for DO.

Typical Response Curve

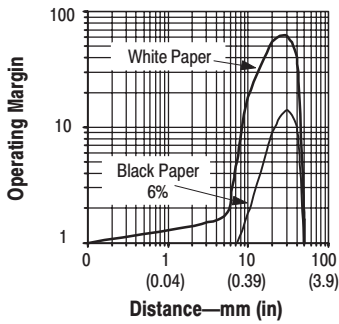
Polarized Retroreflective



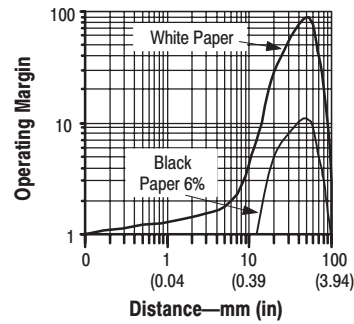
Retroreflective



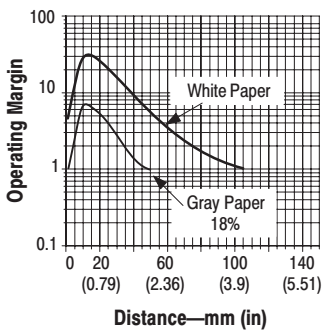
Background Suppression—50mm



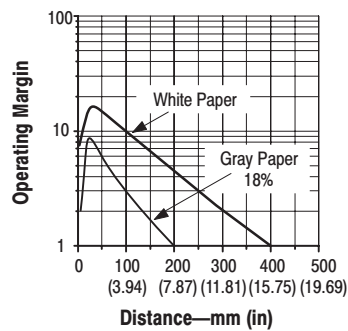
Background Suppression—100mm



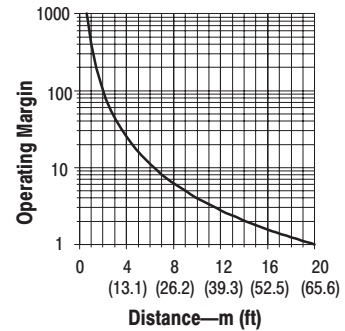
Standard Diffuse—100mm



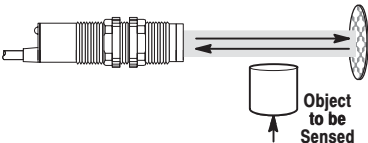
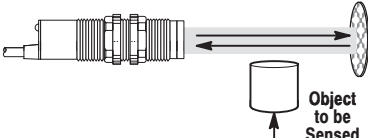
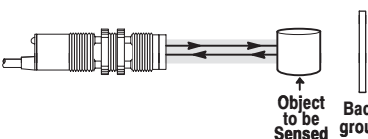
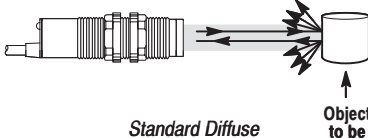
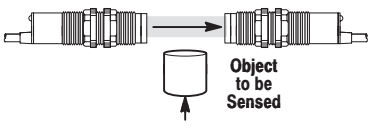
Standard Diffuse—400mm



Transmitted Beam



Product Selection

Sensing Mode	Operating Voltage Supply Current	Sensing Distance @ 2X Margin	Output Energized	Output Type Capacity Response Time	Connection Type	Catalog Number
 <p>Polarized Retroreflective Field of View: 1.8° Emitter LED: Visible red 660nm</p>	10-30V DC 30mA	3mm (0.12in) to 3m (9.9ft)	Dark	NPN 100mA 2ms	2m 300V cable	42CA-P2KNB-A2
					4-pin DC micro	42CA-P2KNB-D4
				PNP 100mA 2ms	2m 300V cable	42CA-P2KPB-A2
					4-pin DC micro	42CA-P2KPB-D4
 <p>Retroreflective Field of View: 1.9° Emitter LED: Infrared 880nm</p>	10-30V DC 30mA	3mm (0.12in) to 4m (13.2ft)	Dark	NPN 100mA 4ms	2m 300V cable	42CA-U1KNB-A2
					4-pin DC micro	42CA-U1KNB-D4
				PNP 100mA 4ms	2m 300V cable	42CA-U1KPB-A2
					4-pin DC micro	42CA-U1KPB-D4
 <p>Background Suppression Field of View: 50mm = 5.7° 100mm = 3.4° Emitter LED: Visible red 660nm</p>	10-30V DC 30mA	50mm (1.97in)	Light/Dark Selectable	NPN 100mA 0.5ms	2m 300V cable	42CA-B2LNBC-A2
					4-pin DC micro	42CA-B2LNBC-D4
				PNP 100mA 0.5ms	2m 300V cable	42CA-B2LPBC-A2
					4-pin DC micro	42CA-B2LPBC-D4
		100mm (3.9in)		NPN 100mA 0.5ms	2m 300V cable	42CA-B2LNBE-A2
					4-pin DC micro	42CA-B2LNBE-D4
				PNP 100mA 0.5ms	2m 300V cable	42CA-B2LPBE-A2
					4-pin DC micro	42CA-B2LPBE-D4
 <p>Standard Diffuse Field of View: 6.6° Emitter LED: Infrared 880nm</p>	10-30V DC 30mA	0 to 100mm (3.9in) (Adjustable)	Light	NPN 100mA 2ms	2m 300V cable	42CA-D1JNAE-A2
					4-pin DC micro	42CA-D1JNAE-D4
				PNP 100mA 2ms	2m 300V cable	42CA-D1JP AE-A2
					4-pin DC micro	42CA-D1JP AE-D4
		0 to 400mm (13.6in) (Adjustable)		NPN 100mA 2ms	2m 300V cable	42CA-D1JNAJ-A2
					4-pin DC micro	42CA-D1JNAJ-D4
				PNP 100mA 2ms	2m 300V cable	42CA-D1JP AJ-A2
					4-pin DC micro	42CA-D1JP AJ-D4
 <p>Transmitted Beam Field of View: 1.6° Emitter LED: Infrared 880nm</p>	10-30V DC 25mA	3mm (0.12in) to 8m (26.2ft) (Adjustable)	NA Light Source	NA Light Source	2m 300V cable	42CA-E1EZB-A2
					4-pin DC micro	42CA-E1EZB-D4
	10-30V DC 25mA		NPN 100mA 2ms	2m 300V cable	42CA-R1LNA-A2	
				4-pin DC micro	42CA-R1LNA-D4	
			PNP 100mA 2ms	2m 300V cable	42CA-R1LPA-A2	
				4-pin DC micro	42CA-R1LPA-D4	

Cordsets and Accessories

Cordset		Accessories			
DC Micro QD Cordset, 4-pin, 2m	889D-F4AC-2	Mounting Bracket	60-2657	Reflectors	92-39