

# 42CM

## 18mm Metal Cylindrical Style



### General Specifications

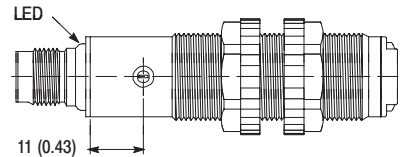
<b>Light Source</b>	Infrared 880nm or visible red 660nm
<b>Unit Protection</b>	Reverse polarity, output short-circuit and overload protection (SCP)
<b>Supply Voltage</b>	10–30V DC
<b>Current Consumption</b>	30mA maximum
<b>Output Type</b>	NPN or PNP
<b>Output Mode</b>	Light or dark operate selectable/complementary
<b>Output Rating</b>	100mA
<b>Max Leakage Current</b>	<10µA
<b>Response Time</b>	2ms (0.5ms for background suppression)
<b>Housing Material</b>	Nickel-plated brass
<b>Lens Material</b>	PMMA/PC
<b>LED Indicators</b>	Yellow–output
<b>Connection Types</b>	2m cable, 4-pin DC micro QD
<b>Supplied Accessories</b>	18mm fastening nuts
<b>Optional Accessories</b>	Mounting brackets, reflectors, cordsets—see page R1-51
<b>Operating Environment</b>	IP67
<b>Vibration</b>	10–55Hz, 0.5mm amplitude, Meets or exceeds IEC 60947-5-2
<b>Shock</b>	30g with 11ms pulse duration, Meets or exceeds IEC 60947-5-2
<b>Operating Temperature</b>	-25°C to +70°C (-13°F to +158°F)
<b>Ambient Light Immunity</b>	3000 Lx
<b>Approvals</b>	cULus and CE marked for all applicable directives

### Features

- 18mm industry standard package
- Wide selection of sensing modes
- 30V DC operation
- NPN or PNP outputs
- Fast response time
- Variety of connection types

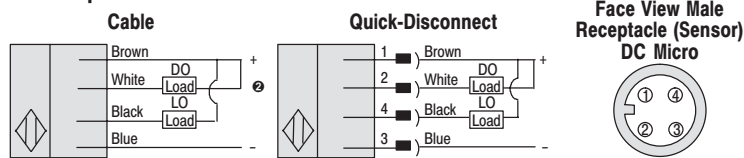
### User Interface Panel

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

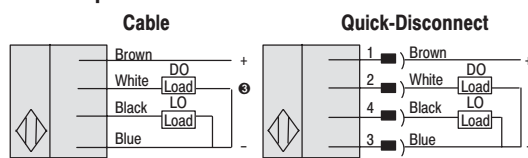


### Wiring Diagrams

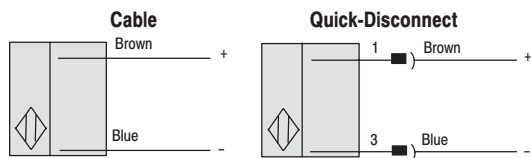
#### Diffuse NPN Output



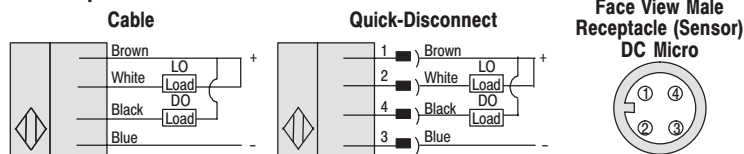
#### PNP Output



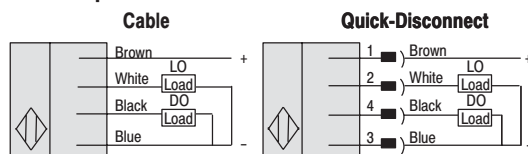
#### Transmitted Beam, Retroreflective, Polarized Retroreflective



#### NPN Output



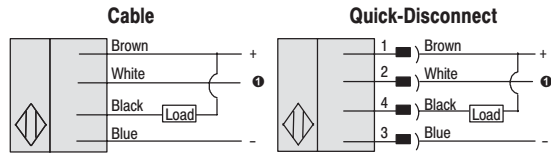
#### PNP Output



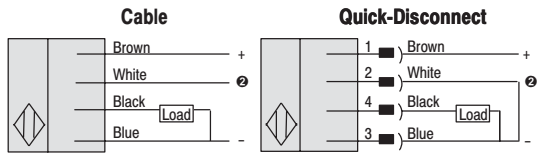
Wiring Diagrams

Background Suppression

NPN Output

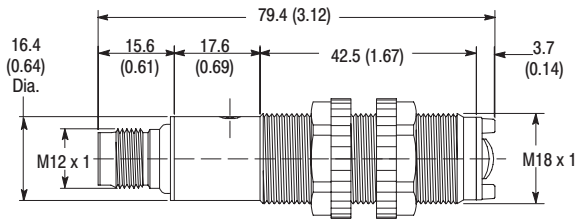
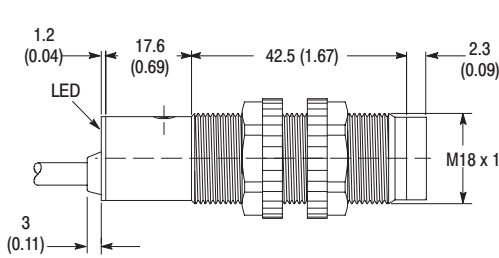


PNP Output



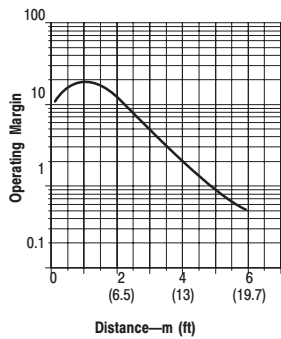
- ① Open circuit or tie white (2) and brown (1) conductors together for LO. Tie white (2) and blue (3) conductors together for DO.
- ② Tie white (2) and brown (1) conductors together for LO or tie white (2) and blue (3) conductors together for DO.

Dimensions—mm (inches)

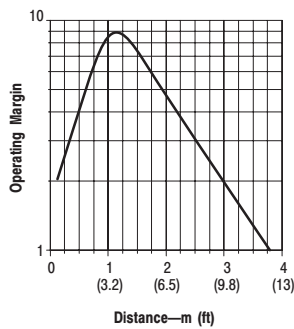


Typical Response Curve

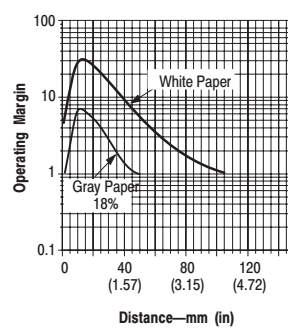
Retroreflective



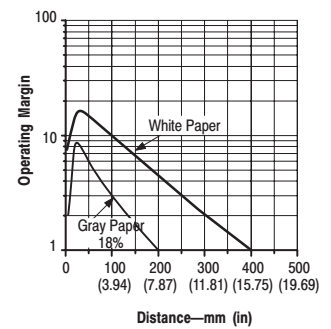
Polarized Retroreflective



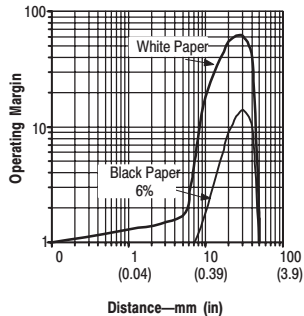
Standard Diffuse 100mm



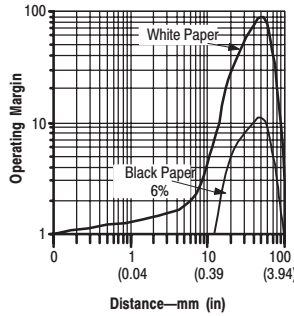
Standard Diffuse 400mm



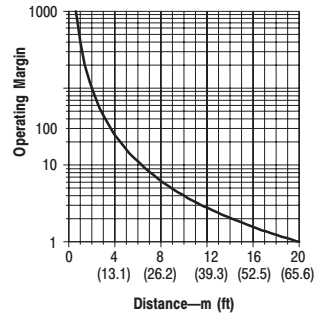
Background Suppression 50mm



Background Suppression 100mm



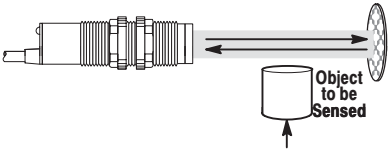
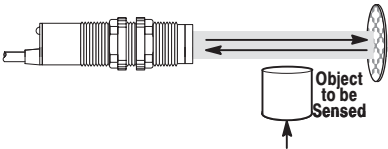
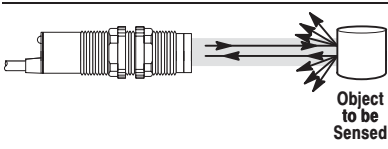
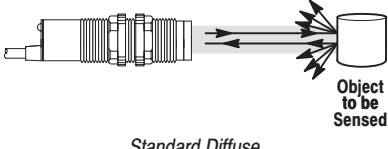
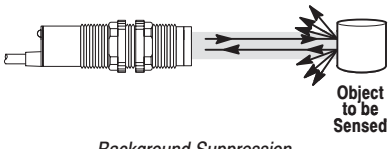
Transmitted Beam



# 42CM

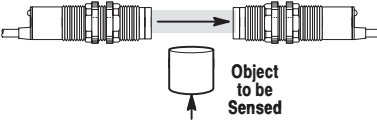
## 18mm Metal Cylindrical Style

### Product Selection

Sensing Mode	Operating Voltage Supply Current	Sensing Distance @ 1X Margin	Output Energized	Output Type Capacity Response Time	Connection Type	Catalog Number
 <p><i>Retroreflective</i></p> <p>Field of View: 1.9° Emitter LED: Infrared 880nm</p>	10-30V DC 30mA	3mm (0.12in) to 4m (13.2ft)	LO/DO Selectable	NPN 100mA 4ms	2m 300V cable	42CM-U1MNB-A2
					4-pin DC micro	42CM-U1MNB-D4
				PNP 100mA 4ms	2m 300V cable	42CM-U1MPB-A2
					4-pin DC micro	42CM-U1MPB-D4
 <p><i>Polarized Retroreflective</i></p> <p>Field of View: 1.8° Emitter LED: Visible red 660nm</p>	10-30V DC 30mA	3mm (0.12in) to 3m (9.9ft)	LO/DO Selectable	NPN 100mA 4ms	2m 300V cable	42CM-P2MNB-A2
					4-pin DC micro	42CM-P2MNB-D4
				PNP 100mA 4ms	2m 300V cable	42CM-P2MPB-A2
					4-pin DC micro	42CM-P2MPB-D4
 <p><i>Standard Diffuse</i></p> <p>Field of View: 6.6° Emitter LED: Visible Red 660nm</p>	10-30V DC 30mA	0 to 100mm (3.9in) (Adjustable)	LO/DO Selectable	NPN 100mA 2ms	2m 300V cable	42CM-D2MNAE-A2
					4-pin DC micro	42CM-D2MNAE-D4
				PNP 100mA 2ms	2m 300V cable	42CM-D2MPAE-A2
					4-pin DC micro	42CM-D2MPAE-D4
 <p><i>Standard Diffuse</i></p> <p>Field of View: 6.6° Emitter LED: Infrared 880nm</p>	10-30V DC 30mA	0 to 400mm (13.6in) (Adjustable)	LO/DO Selectable	NPN 100mA 2ms	2m 300V cable	42CM-D1MNAL-A2
					4-pin DC micro	42CM-D1MNAL-D4
				PNP 100mA 2ms	2m 300V cable	42CM-D1MPAL-A2
					4-pin DC micro	42CM-D1MPAL-D4
 <p><i>Background Suppression</i></p> <p>Field of View: 50mm = 5.7° 100mm = 3.4° Emitter LED: Visible red 660nm</p>	10-30V DC 30mA	50mm (1.97in)	L.O./D.O. Selectable	NPN 100mA 0.5ms	2m 300V cable	42CM-B2LNBC-A2
					4-pin DC micro	42CM-B2LNBC-D4
				PNP 100mA 0.5ms	2m 300V cable	42CM-B2LPBC-A2
					4-pin DC micro	42CM-B2LPBC-D4
		100mm (3.9in)		NPN 100mA 0.5ms	2m 300V cable	42CM-B2LNBE-A2
					4-pin DC micro	42CM-B2LNBE-D4
				PNP 100mA 0.5ms	2m 300V cable	42CM-B2LPBE-A2
					4-pin DC micro	42CM-B2LPBE-D4

Refer to page R1-51 for cordsets and accessories.

**Product Selection**

Sensing Mode	Operating Voltage Supply Current	Sensing Distance	Output Energized	Output Type Capacity Response Time	Connection Type	Catalog Number
 <p>Object to be Sensed</p> <p>Transmitted Beam</p> <p>Field of View: 1.6° Emitter LED: Infrared 880nm</p>	10-30V DC 25mA	3mm (0.12in) to 20m (65.6ft) (Adjustable)	NA Light Source		2m 300V cable	42CM-E1EZB-A2
					4-pin DC micro	42CM-E1EZB-D4
			L.O./D.O. Selectable	NPN 100mA 2ms	2m 300V cable	42CM-R1MNB-A2
					4-pin DC micro	42CM-R1MNB-D4
				PNP 100mA 2ms	2m 300V cable	42CM-R1MPB-A2
					4-pin DC micro	42CM-R1MPB-D4

**Cordsets and Accessories**

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