



Features

- Class 1 laser
- Small spot size—0.1 mm @ 100 mm sensing distance
- Metal housing for heavy duty industrial applications
- 18 mm industry standard package
- Three sensing modes
- 30V DC operation
- NPN or PNP outputs
- Fast response time—less than 0.7 ms
- 2 m cable or micro QD connector

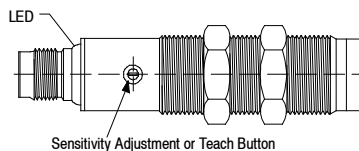
Specifications

Environmental	
Certifications	cULus and CE Marked for all applicable directives
Operating Environment	IP67
Operating Temperature [C (F)]	-10...+55° (+14...+131°)
Vibration	10...55 Hz, 1 mm amplitude, meets or exceeds IEC 60068-2-6
Shock	30 g with 1 ms pulse duration, meets or exceeds IEC 60068-2-27
Relative Humidity	15...95%
Ambient Light Immunity	Incandescent light 5000 lux
Optical	
Sensing Modes	Polarized retroreflective, diffuse, and transmitted beam
Sensing Range	See Product Selection table on page 1-118
Light Source	Class 1 laser 650 nm
LED Indicators	See User Interface Panel below
Adjustments	Sensitivity potentiometer or teach button
Electrical	
Voltage	10...30V DC
Current Consumption	25 mA max
Sensor Protection	Reverse polarity, overload, short circuit
Outputs	
Response Time	0.5 ms (transmitted beam), 0.7 ms (diffuse, polarized retroreflective)
Output Type	PNP or NPN by cat. no.
Output Mode	Complementary light or dark operate
Output Current	100 mA
Output Leakage Current	10 µA max
Mechanical	
Housing Material	Nickel-plated brass
Lens Material	Glass
Connection Types	2 m cable, 4-pin DC micro (M12) QD
Supplied Accessories	18 mm fastening nuts (871C-N3)
Optional Accessories	See mounting brackets, reflectors, and cordsets on page 1-118

User Interface Panel

LED Color	State	Status	LO Output	DO Output
Yellow	OFF	Dark condition	OFF	ON
	Flashing ❶	Light condition (excess gain < 2)	ON	OFF
	ON	Light condition (excess gain > 2)	ON	OFF
Green	ON	Power On	—	—

❶ Transmitted beam receivers do not have a "Flashing" (low margin) state.



PHOTOSWITCH® Photoelectric Sensors

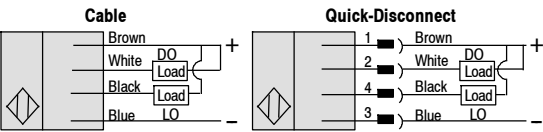
42CM LaserSight™

18 mm Metal Cylindrical, Class 1 Laser Sensor

Wiring Diagrams

Diffuse

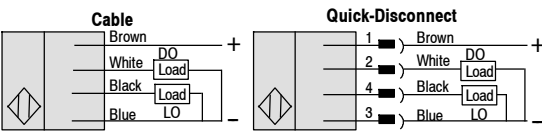
NPN Output



Face View Male Receptacle (Sensor) DC Micro

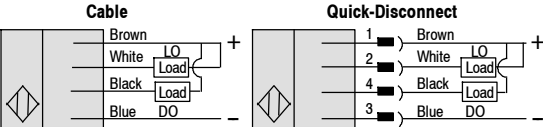


PNP Output

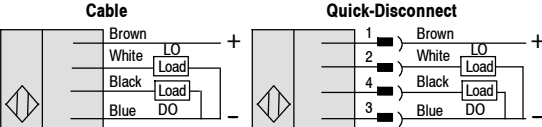


Transmitted Beam, Polarized Retroreflective

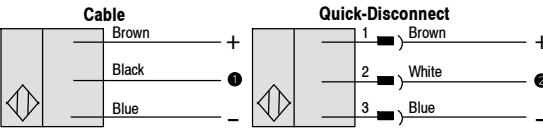
NPN Output



PNP Output



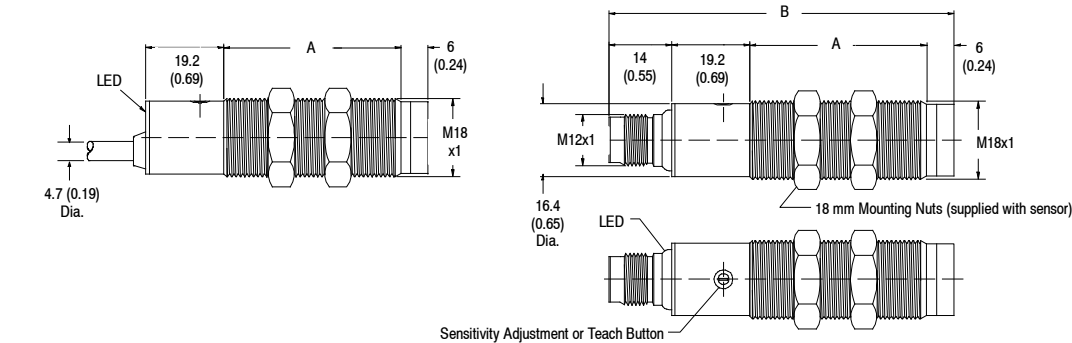
Laser Transmitted Beam Emitter (Standard LED)



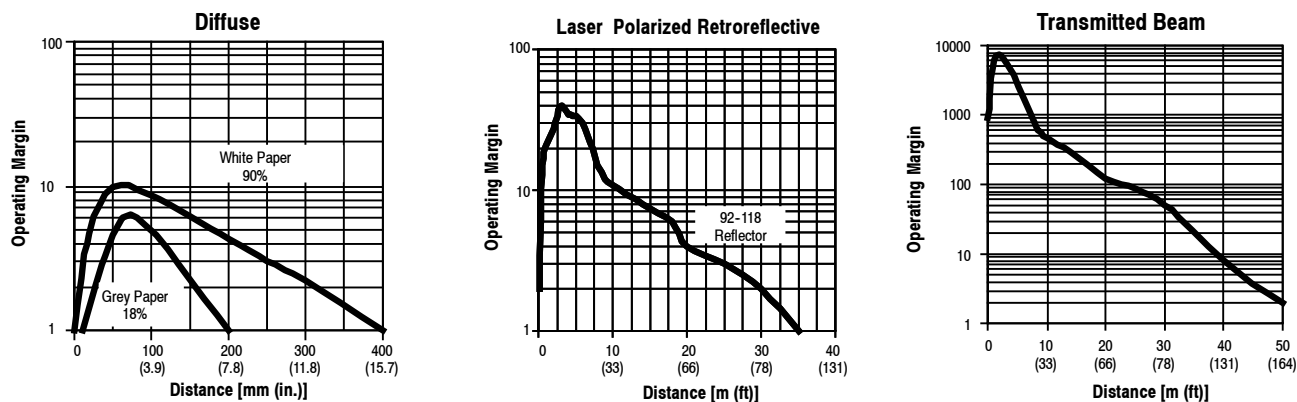
- ① Black open circuit to enable laser. Tie black to blue/V- to disable laser.
- ② Pin 2/white open circuit to enable laser. Tie pin 2/white to blue/V- to disable laser.

Approximate Dimensions [mm (in.)]

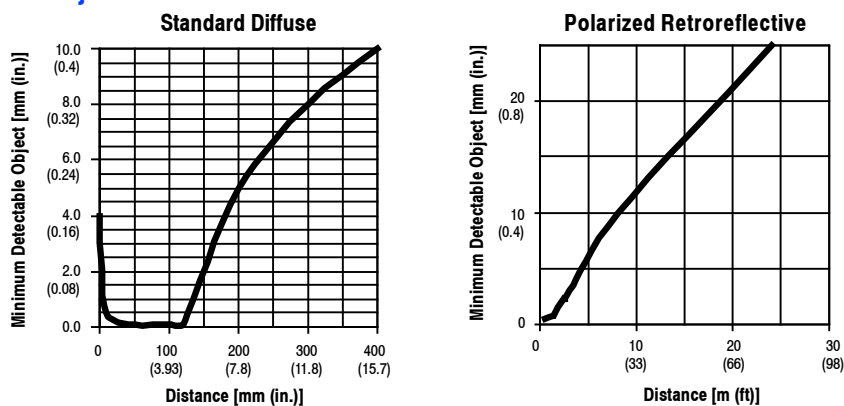
Dimension	Laser Receiver [mm (in.)]	Other Laser Models [mm (in.)]
A	42.7 (1.68)	57.5 (2.26)
B	82.8 (3.26)	97.7 (3.85)



Typical Response Curve

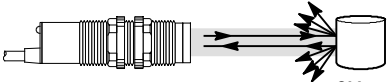
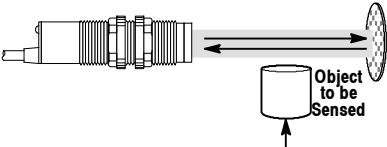
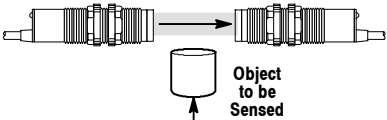


Minimum Detectable Object



PHOTOSWITCH® Photoelectric Sensors
42CM LaserSight™
18 mm Metal Cylindrical, Class 1 Laser Sensor

Product Selection

Sensing Mode	Operating Voltage Supply Current	Sensing Distance @ 2X Margin	Output Energized	Output Type Capacity Response Time	Connection Type	Cat. No.
 <i>Standard Diffuse</i> Emitter: Class 1—Visible laser 650 nm	10...30V DC 25 mA	3...300 mm (0.12...11.8 in.) (Teachable)	L.O./D.O. Complementary	NPN 100 mA 0.7 ms	2 m 300V cable	42CM-D8MNA-A2
					4-pin DC micro	42CM-D8MNA-D4
				PNP 100 mA 0.7 ms	2 m 300V cable	42CM-D8MPA-A2
					4-pin DC micro	42CM-D8MPA-D4
 <i>Polarized Retroreflective</i> Emitter: Class 1—Visible laser 650 nm	10...30V DC 25 mA	3 mm...30 m (0.12 in...78 ft) (Teachable)	L.O./D.O. Complementary	NPN 100 mA 0.7 ms	2 m 300V cable	42CM-P8MNB-A2
					4-pin DC micro	42CM-P8MNB-D4
				PNP 100 mA 0.7 ms	2 m 300V cable	42CM-P8MPB-A2
					4-pin DC micro	42CM-P8MPB-D4
 <i>Transmitted Beam</i> Emitter: Class 1—Visible laser 650 nm	10...30V DC 25 mA	3 mm...50 m (0.12 in...164 ft) (Adjustable)	NA Light Source		2 m 300V cable	42CM-E8EZB-A2
					4-pin DC micro	42CM-E8EZB-D4
			L.O./D.O. Complementary	NPN 100 mA 0.5 ms	2 m 300V cable	42CM-R8MNB-A2
					4-pin DC micro	42CM-R8MNB-D4
				PNP 100 mA 0.5 ms	2 m 300V cable	42CM-R8MPB-A2
					4-pin DC micro	42CM-R8MPB-D4

Cordsets and Accessories

Cordset		Accessories			
Description	Cat. No.	Description	Cat. No.	Description	Cat. No.
DC micro QD cordset, 4-pin, 2 m	889D-F4AC-2	Mounting bracket	60-2657	Micro cube reflector	92-118
18 mm fastening nuts	871C-N3	Swivel/tilt bracket	60-2649		