

42CF

12 mm Metal Cylindrical



Features

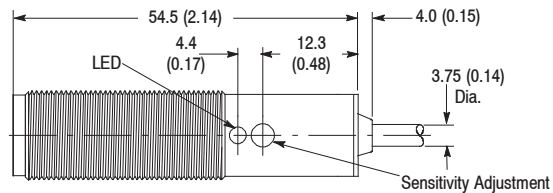
- 12 mm industry standard package
- Wide selection of sensing modes
- 30V DC operation
- NPN or PNP outputs
- Fast response time
- Variety of connection types
- Local teach button
- Accepts remote (diffuse and polarized retroreflective only) teach input

Specifications

Environmental	
Certifications	cULus and CE Marked for all applicable directives
Operating Environment	IP67
Operating Temperature [C (F)]	-25...+70° (-13...+158°)
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	5...95%
Ambient Light Immunity	Incandescent light 3000 lux
Optical	
Sensing Modes	Polarized retroreflective, standard diffuse, transmitted beam
Sensing Range	See Product Selection table on page 1-64
Field of View	See Product Selection table on page 1-64
Light Source	Visible red LED (660 nm) or infrared LED (880 nm)
LED Indicators	Yellow LED for output indication
Adjustments	Sensitivity potentiometer
Electrical	
Voltage	10...30V DC
Current Consumption	30 mA max
Sensor Protection	Reverse polarity, overload, short circuit
Outputs	
Response Time	2 ms (transmitted beam), 1.25 ms (diffuse and polarized retroreflective)
Output Type	PNP or NPN by cat. no.
Output Mode	Selectable light operate or dark operate
Output Current	100 mA
Output Leakage Current	10 µA max
Mechanical	
Housing Material	Nickel plated brass
Lens Material	Acrylic
Connection Types	2 m cable, 4-pin DC micro (M12) QD
Optional Accessories	See mounting brackets, reflectors, and cordsets on page 1-64

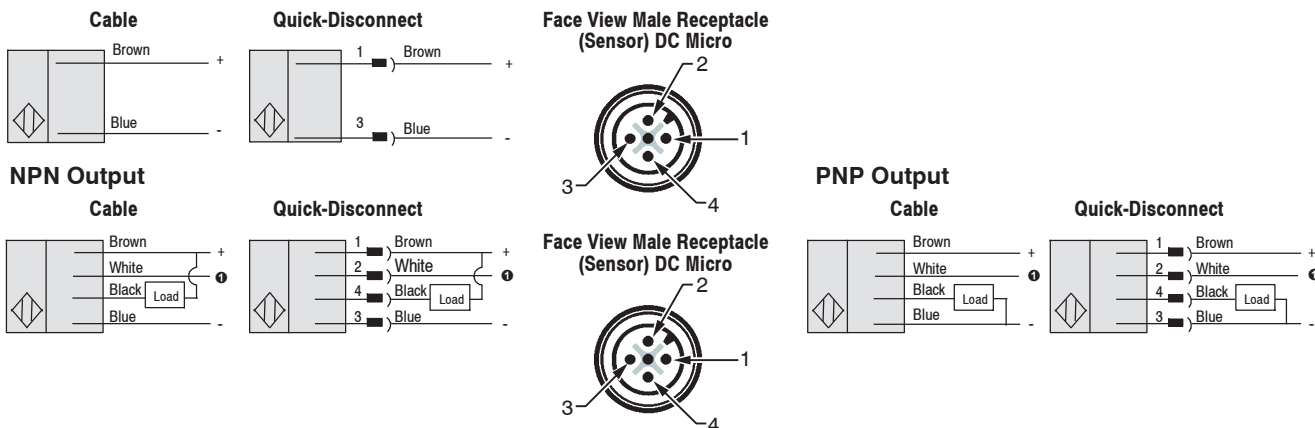
User Interface Panel

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



Wiring Diagrams

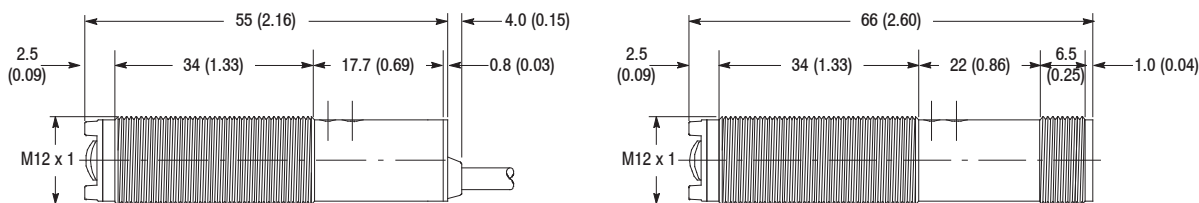
Diffuse, Polarized Retroreflective and Transmitted Beam



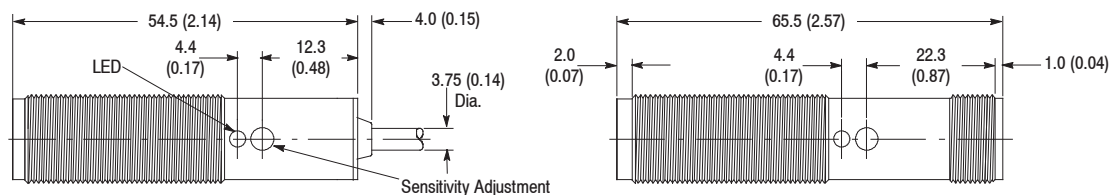
- **Polarized retroreflective:** Open circuit for dark operate. Connect white (2) and brown (1) together for light operate. Connect white (2) and blue (3) together for remote teach.
- **Diffuse:** Open circuit for light operate. Connect white (2) and brown (1) together for dark operate. Connect white (2) and blue (3) together for remote teach.
- **Transmitted beam:** Open circuit for dark operate. Connect white (2) and brown (1) together for light operate. Connect white (2) and blue (3) together for dark operate. This model does not have remote teach.

Approximate Dimensions [mm (in.)]

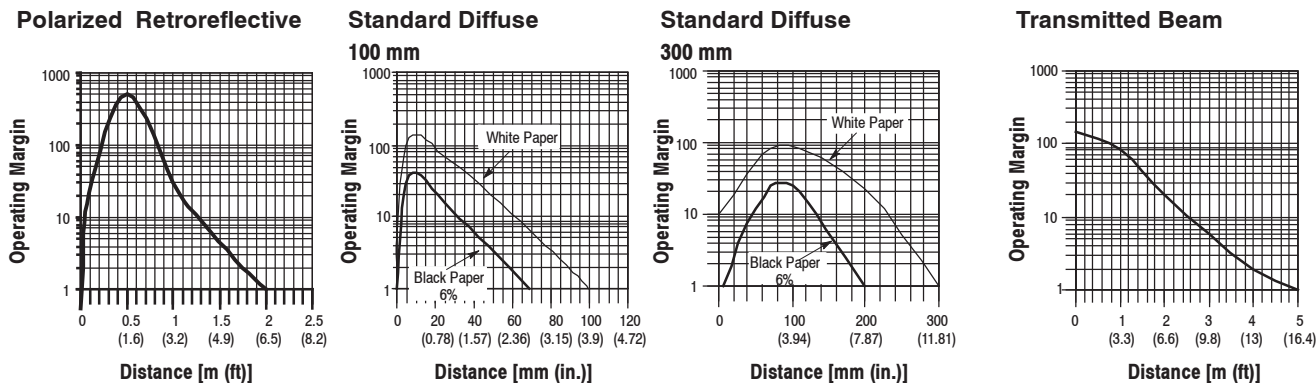
Diffuse and Polarized Retroreflective



Transmitted Beam



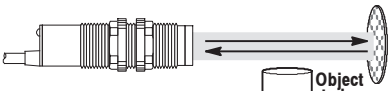
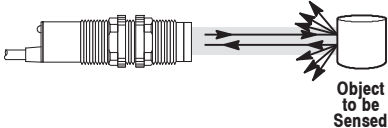
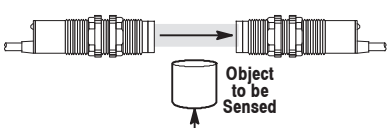
Typical Response Curve



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Product Selection

Sensing Mode	Operating Voltage Supply Current	Sensing Distance @ 1X Margin	Output Energized	Output Type Capacity Response Time	Connection Type	Cat. No.
 <p><i>Polarized Retroreflective</i></p> <p>Field of View: 2.3° Emitter LED: Visible red 660 nm</p>	10...30V DC 30 mA	3 mm...2 m (0.12 in...6.5 ft)	L.O./D.O. Selectable	NPN 100 mA 1.25 ms	2 m 300V cable	42CF-P2LNA1-A2
					4-pin DC micro	42CF-P2LNA1-D4
				PNP 100 mA 1.25 ms	2 m 300V cable	42CF-P2LPA1-A2
					4-pin DC micro	42CF-P2LPA1-D4
 <p><i>Standard Diffuse</i></p> <p>Field of View: 11.4° (100 mm) 5.3° (300 mm) Emitter LED: Infrared 880 nm</p>	10...30V DC 30 mA	0...100 mm (0...3.9 in.) (adjustable)	L.O./D.O. Selectable	NPN 100 mA 1.25 ms	2 m 300V cable	42CF-D1LNA1-A2
					4-pin DC micro	42CF-D1LNA1-D4
		PNP 100 mA 1.25 ms		2 m 300V cable	42CF-D1LPA1-A2	
				4-pin DC micro	42CF-D1LPA1-D4	
		NPN 100 mA 1.25 ms		0...300 mm (0...12.2 in.) (adjustable)	2 m 300V cable	42CF-D1LNA2-A2
					4-pin DC micro	42CF-D1LNA2-D4
PNP 100 mA 1.25 ms	2 m 300V cable	42CF-D1LPA2-A2				
4-pin DC micro	42CF-D1LPA2-D4					
 <p><i>Transmitted Beam</i></p> <p>Field of View: 1.4° Emitter LED: Infrared 880 nm</p>	10...30V DC 25 mA	3 mm...4 m (0.12 in... 13.2 ft)	L.O./D.O. Selectable	—	2 m 300V cable	42CF-E1EZB-A2
	10...30V DC 20 mA				4-pin DC micro	42CF-E1EZB-D4
				NPN 100 mA 2 ms	2 m 300V cable	42CF-R1LNB1-A2
	4-pin DC micro	42CF-R1LNB1-D4				
	PNP 100 mA 2 ms			2 m 300V cable	42CF-R1LPB1-A2	
				4-pin DC micro	42CF-R1LPB1-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	871A-BRNR	Reflectors	92-39
		Snap-Clamp Mounting Bracket	871A-SCBP12		