



Features

- Compact cylindrical package
- Wide selection of sensing modes
- Universal supply voltage models
- Both NPN or PNP outputs (DC)
- Fast response time
- Variety of connection types

Specifications

Environmental	
Certifications	UL Listed, CSA Approved, and CE Marked for all applicable directives
Operating Environment	NEMA 3, 4X, 6, 12, 13; IP67
Operating Temperature [C (F)]	-40...+56° (-40...+150°)
Vibration	10...55 Hz, 1 mm amplitude, meets or exceeds IEC 60947-5-2
Shock	30 g with 1 ms pulse duration, meets or exceeds IEC 60947-5-2
Relative Humidity	5...95%
Ambient Light Immunity	Incandescent light 5000 lux
Optical	
Sensing Modes	Retroreflective, polarized retro, diffuse, fixed focus, sharp cutoff, wide angle, transmitted beam
Sensing Range	See Product Selection table on page 1-210
Field of View	See Product Selection table on page 1-210
Light Source	Visible red LED (660 nm), infrared LED (880 nm)
LED Indicators	Red LED for output indication
Adjustments	4-turn sensitivity potentiometer
Electrical	
Voltage	10...30V DC, 20...264V AC/DC
Current Consumption	35 mA max
Sensor Protection	Reverse polarity, false pulse
Outputs	
Response Time	See Product Selection table on page 1-210
Output Type	PNP and NPN (DC models); MOSFET (AC/DC models)
Output Mode	Light or dark operate by cat. no.
Output Current	See Product Selection table on page 1-210
Output Leakage Current	1 µA max
Mechanical	
Housing Material	Noryl
Lens Material	Acrylic
Cover Material	Neoprene
Connection Types	3 m (9.8 ft) cable, 4-pin DC micro (M12) QD, 4-pin AC micro (M12) QD
Supplied Accessories	Mounting kit # 129-106-1 and 129-106-2
Optional Accessories	See mounting brackets on page 1-212

User Interface Panel

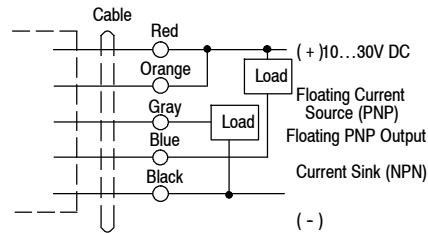
Label	Color	State	Status
Output	Red	OFF	Sensor output de-activated
		ON	Sensor output activated

Wiring Diagrams

DC All Models Except Transmitted Beam Source and High Speed Diffuse

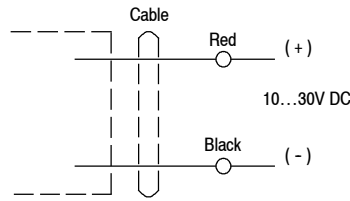
Cable Version

Models: 42SR_-6__2 and 6__3



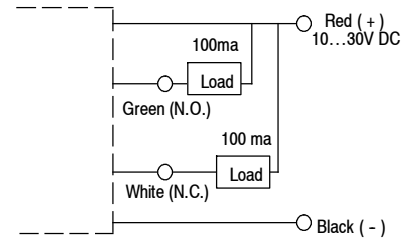
Transmitted Beam Source (42SRL-6000)

Cable Version



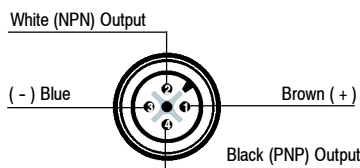
High Speed Diffuse (42SRP-6302)

Cable Version—NPN Outputs

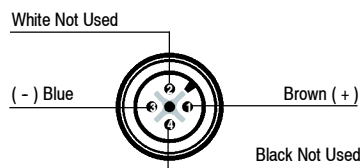


Quick-Disconnect Versions

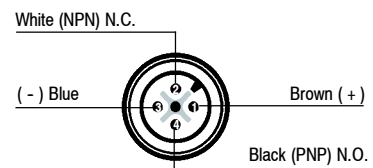
Models: 42SR_-6__2-QD and 6__3-QD



Quick-Disconnect Version



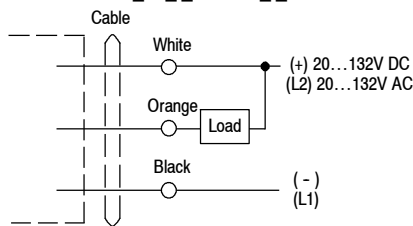
Quick-Disconnect Version



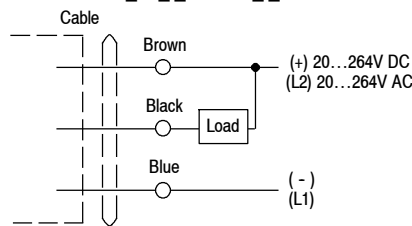
AC/DC All Models Except Transmitted Beam Source

Cable Versions

Models: 42SR_-6__4 and 6__5

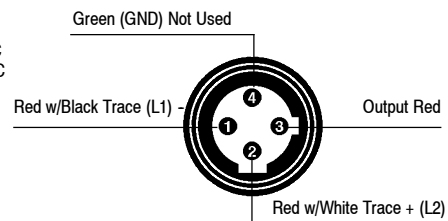


Models: 42SR_-6__6 and 6__7



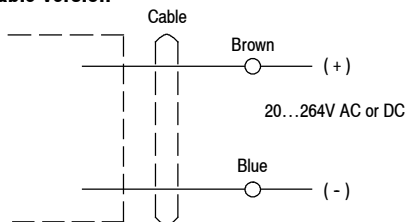
Quick-Disconnect Versions

Models: 42SR_-6__4-QD thru 6__7-QD

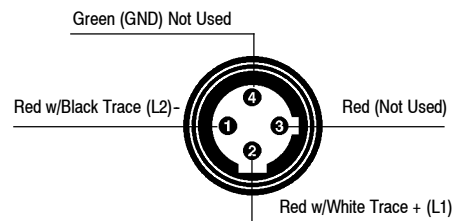


Transmitted Beam Source (42SRL-6006)

Cable Version



Quick-Disconnect Version



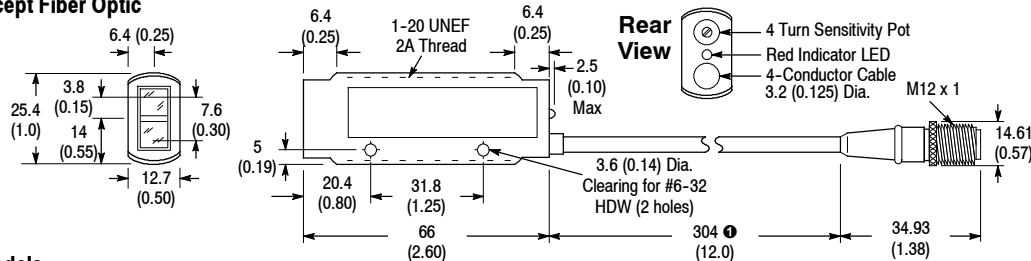
Note: Details regarding connection of Allen-Bradley Series 6000 photoelectric sensors to Allen-Bradley Programmable Controllers can be found in publication 42-2.0.

All wire colors shown refer to Allen-Bradley quick-disconnect cables.

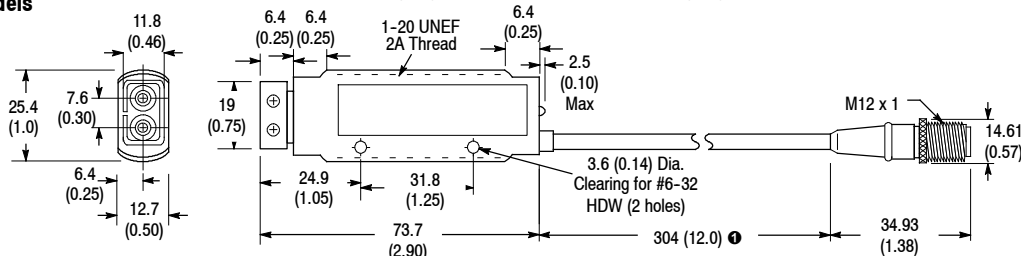
Approximate Dimensions [mm (in.)]

DC Models

All Models Except Fiber Optic

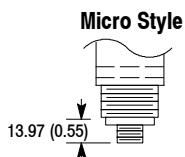


Fiber Optic Models



① Quick-disconnect cable length shown. Cable versions length is 3 m (10 ft).

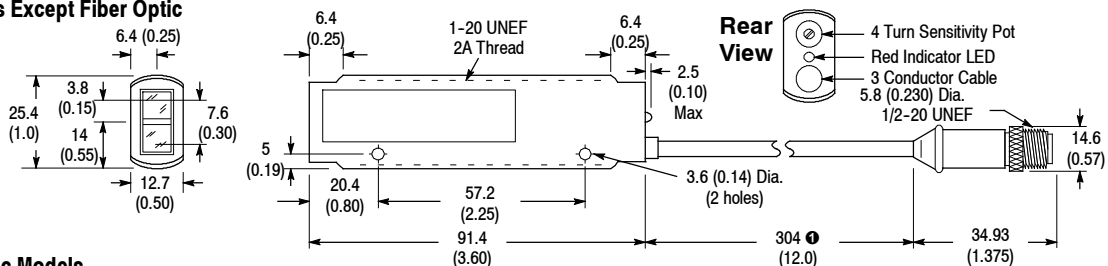
Connector Version



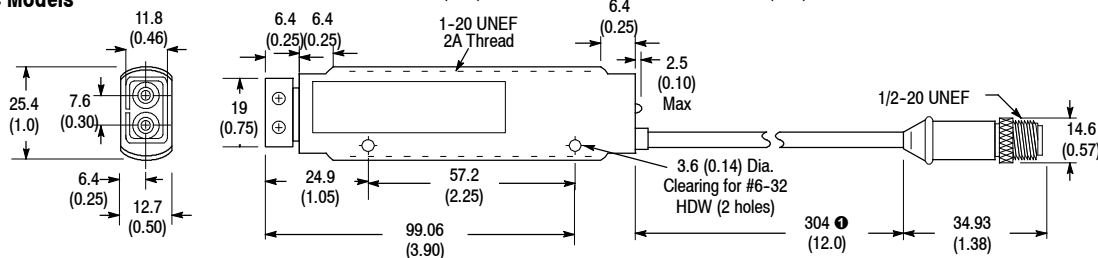
Thread Size

	AC	DC
Micro	1/2-20 UNF 2 Keyways	M12 x 1 1 Keyway

All Models Except Fiber Optic



Fiber Optic Models

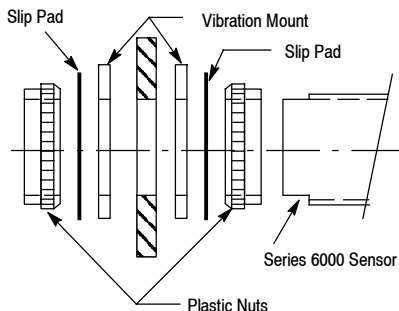


① Quick-disconnect cable length shown. Cable versions length is 3 m (10 ft).

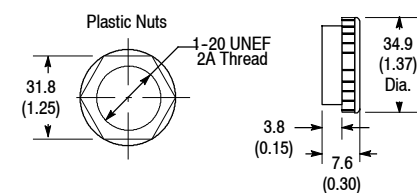
Supplied Accessories

Mounting Kit #129-106-1 contains two plastic nuts, anti-vibration mount, and slip pads.

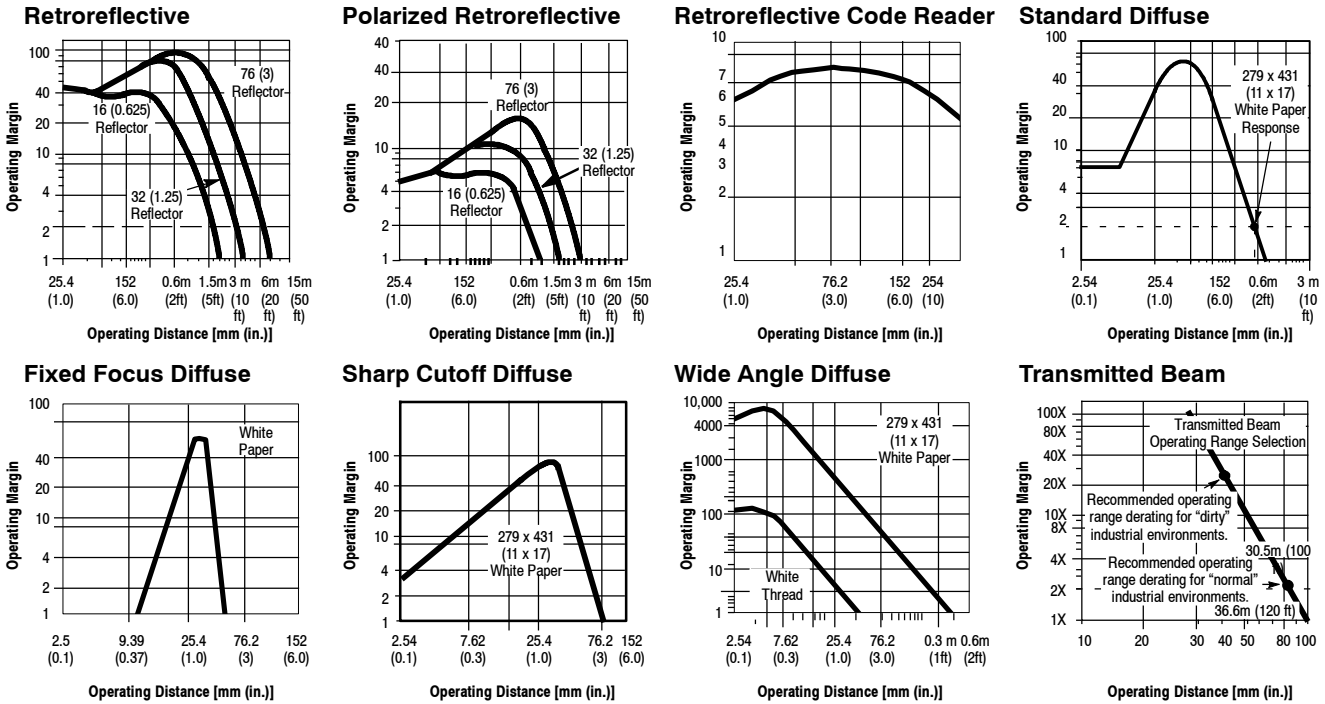
Mounting Kit #129-106-2 contains two plastic nuts, anti-vibration mount, slip pads, and fiber optic mounting hardware.



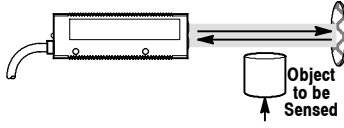
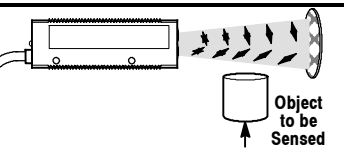
Plastic Nuts



Typical Response Curve

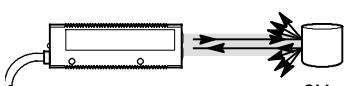
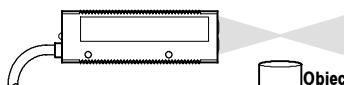
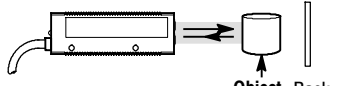
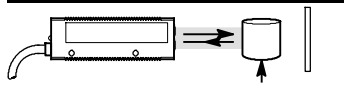
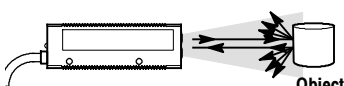


Product Selection

Sensing Mode	Operating Voltage Supply Current	Sensing Distance @ 1X Margin	Output Energized	Output Type Response Time	Connection Type	Cat. No.
 <p><i>Retroreflective</i></p> <p>Field of View: 3° Emitter LED: Infrared 880 nm</p>	10...30V DC 35 mA	25.4 mm... 9 m (1 in...30 ft) with 76 mm (3 in.) Reflector	Light	NPN and PNP 200 mA 1 ms	3 m cable	42SRU-6002
			Dark		4-pin DC micro	42SRU-6002-QD
	20...132V AC/DC 50...60 Hz 1.2V A		Light	Power MOSFET 300 mA AC/DC 12 ms AC, 5 ms DC	3 m cable	42SRU-6003
			Dark		4-pin DC micro	42SRU-6003-QD
			Light		3 m cable	42SRU-6004
			Dark		4-pin AC micro	42SRU-6004-QD
 <p><i>Polarized Retroreflective</i></p> <p>Field of View: 3° Minimum Sensing Distance: 50.8 mm (2 in.) Emitter LED: Visible Red 660 nm Indicator LED: Red: Output</p>	10...30V DC 35 mA	50.8 mm... 3 m (2 in...10 ft) with 76 mm (3 in.) Reflector	Light	NPN and PNP 200 mA 1 ms	3 m cable	42SRU-6202
			Dark		4-pin DC micro	42SRU-6202-QD
	20...132V AC/DC 50...60 Hz 1.2V A		Light	Power MOSFET 300 mA AC/DC 12 ms AC, 5 ms DC	3 m cable	42SRU-6203
			Dark		4-pin DC micro	42SRU-6203-QD
			Light		3 m cable	42SRU-6204
			Dark		4-pin AC micro	42SRU-6204-QD
Light	3 m cable	42SRU-6205				
Dark	4-pin AC micro	42SRU-6205-QD				

Refer to page 1-212 for cordsets and accessories.

Product Selection

Sensing Mode	Operating Voltage Supply Current	Sensing Distance @ 1X Margin	Output Energized	Output Type Response Time	Connection Type	Cat. No.
 <p><i>Standard Diffuse</i> Field of View: 7.5° Emitter LED: Infrared 880 nm</p>	10...30V DC 35 mA	2.54...760 mm (0.1...30 in.) to White Paper	Light	NPN and PNP 200 mA 1 ms	3 m cable	42SRP-6002
			Dark		4-pin DC micro	42SRP-6002-QD
	20...132V AC/DC 50...60 Hz 1.2V A		Light	Power MOSFET 300 mA AC/DC 12 ms AC, 5 ms DC	3 m cable	42SRP-6004
			Dark		4-pin AC micro	42SRP-6004-QD
			Light		3 m cable	42SRP-6005
			Dark		4-pin AC micro	42SRP-6005-QD
 <p><i>Fixed Focus Diffuse</i> Field of View: 1.52 mm (0.06 in.) square Emitter LED: Visible Red 660 nm</p>	10...30V DC 35 mA	27.9...28 mm (1.098...1.10 in.) to White Paper	Light	NPN and PNP 200 mA 1 ms	3 m cable	42SRP-6022
			Dark		4-pin DC micro	42SRP-6022-QD
	20...132V AC/DC 50...60 Hz 1.2V A		Light	Power MOSFET 300 mA AC/DC 12 ms AC, 5 ms DC	3 m cable	42SRP-6023
			Dark		4-pin DC micro	42SRP-6023-QD
			Light		3 m cable	42SRP-6024
			Dark		4-pin AC micro	42SRP-6024-QD
 <p><i>Sharp Cutoff Diffuse</i> Field of View: 7.5° Emitter LED: Infrared 880 nm</p>	10...30V DC 35 mA	5...76 mm (0.2...3 in.) to White Paper	Light	NPN and PNP 200 mA 1 ms	3 m cable	42SRP-6032
			Dark		4-pin DC micro	42SRP-6032-QD
	20...132V AC/DC 50...60 Hz 1.2V A		Light	Power MOSFET 300 mA AC/DC 12 ms AC, 5 ms DC	3 m cable	42SRP-6033
			Dark		4-pin DC micro	42SRP-6033-QD
			Light		3 m cable	42SRP-6034
			Dark		4-pin AC micro	42SRP-6034-QD
 <p><i>Sharp Cutoff Diffuse</i> Field of View: 7.5° Emitter LED: Infrared 880 nm</p>	20...264V AC/DC 50...60 Hz 1.2V A	5...76 mm (0.2...3 in.) to White Paper	Dark	Power MOSFET 150 mA AC/DC 18 ms AC, 10 ms DC	4-pin AC micro	42SRP-6037-QD
 <p><i>Wide Angle Diffuse</i> Field of View: 62° Emitter LED: Infrared 660 nm</p>	10...30V DC 35 mA	2.54...380 mm (0.1...15 in.) to White Paper	Light	NPN and PNP 200 mA 1 ms	3 m cable	42SRP-6012
			Dark		4-pin DC micro	42SRP-6012-QD
	20...132V AC/DC 50...60 Hz 1.2V A		Light	Power MOSFET 300 mA AC/DC 12 ms AC, 5 ms DC	3 m cable	42SRP-6013
			Dark		4-pin DC micro	42SRP-6013-QD
			Light		3 m cable	42SRP-6014
			Dark		4-pin AC micro	42SRP-6014-QD
	3 m cable	42SRP-6015				
	4-pin AC micro	42SRP-6015-QD				

Refer to page 1-212 for cordsets and accessories.