



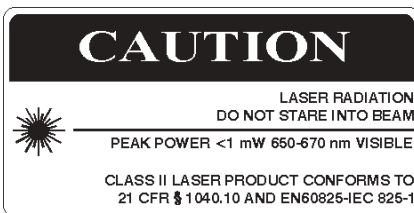
Description

LaserSight combines the robust housing design of the Series 9000 photoelectric sensor with a Class II visible red laser diode light source. This enables detection of objects at greater ranges and with greater precision than sensors fitted with a conventional infrared light source.

The LaserSight photoelectric sensor is available in both a polarized retroreflective and transmitted beam sensing modes. The polarized retroreflective mode provides a 40m (130ft) sensing range to a standard 3in reflector. The collimated beam provides a small 2x5mm spot size close in, and no greater than 3/4in at maximum range.

Any standard reflector may be used with this version provided it is suitable for use with polarized photoelectric sensors. Rockwell Automation/Allen-Bradley suggests the use of our new microcube reflectors due to their high reflectivity levels.

For applications requiring greater sensing distances, an AC/DC 300m (1000ft) range transmitted beam source version is available. Select from matching receivers with either DC or AC operation and either NPN/PNP or SPDT relay outputs.



General Specifications

Laser Classification	<1mW peak, Class II per US21 CFR1040.10 (EN 60 825)
Unit Protection	Overload and short circuit (DC only), reverse polarity, false pulse
Supply Voltage	See Product Selection on pages 1-108 to 1-109.
Current Consumption	See Product Selection on pages 1-108 to 1-109
Output Type	NPN and PNP (DC), SPDT relay (AC)
Output Mode	Light/dark operate selectable
Output Rating	See Product Selection on pages 1-108 to 1-109
Response Time	500µs to 23ms by output type
Housing Material	Valox®
Lens Material	Acrylic
LED Indicators	See User Interface on page 1-106
Connection Types	4-pin DC micro and mini QD, 2m 300V 22AWG cable (DC) 5-pin mini QD, 2m 300V 22AWG cable (AC)
Supplied Accessories	#129-130 mounting kit
Optional Accessories	Cordsets, mounting brackets—see Section 5
Operating Environment	NEMA 3, 4X, 6P, 12, 13; IP67 (IEC 529) 1200psi washdown
Vibration	10-55Hz, 1mm amplitude, Meets or exceeds IEC 947-5-2
Shock	30g with 1ms pulse duration, Meets or exceeds IEC 947-5-2
Operating Temperature	-10°C to +40°C (-14°F to +104°F) DC versions
Relative Humidity	5...95%
Approvals	UL listed, CSA certified, and CE marked for all applicable directives

Features

- Class II laser light source
- Long range polarized retroreflective and transmitted beam sensing modes
- Visible red beam for easy alignment
- Robust 30mm housing
- Both NPN and PNP outputs (DC)
- SPDT relay output (AC)
- Selectable light/dark operate
- Micro, mini QD, 2m cable connections

General Information

- Wiring Diagrams page 1-106
- Dimensions page 1-107

Sensing Modes

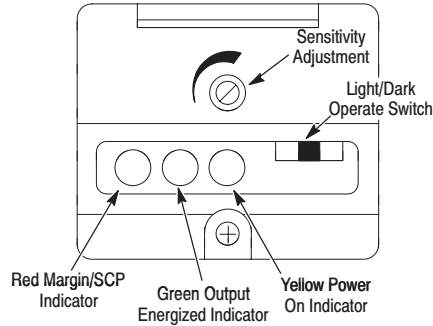
- Polarized Retroreflective page 1-108
- Transmitted Beam page 1-109

Accessories

- Quick-Disconnect Cables page 7-1
- Swivel/Tilt Bracket page 1-375
- Apertures page 1-380
- Reflectors, Reflective Tape page 1-386

User Interface Panel

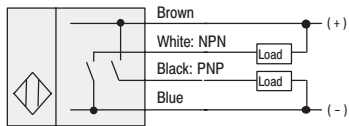
Label	Color	State	Status
Margin/SCP	Red	OFF	Margin < 2.5
		ON	Margin > 2.5
		Flashing	Output SCP active
Output	Green	OFF	Output not activated
		ON	Output activated
Power	Yellow	OFF	Sensor not powered
		ON	Sensor powered



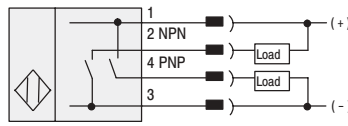
Wiring Diagrams

DC Models

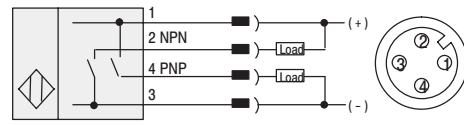
Cable Model: 42GR_-9_L0



4-pin DC Micro QD Model: 42GR_-9_L0-QD

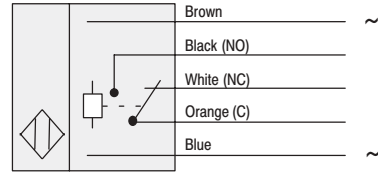


4-pin DC Mini QD Model: 42GR_-9_L0-QD1

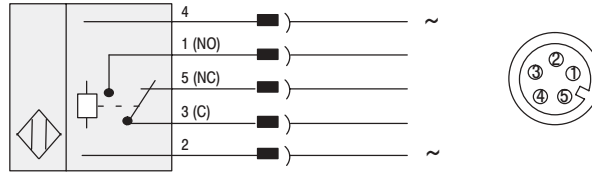


AC Models

Cable Model: 42GR_-9_L2

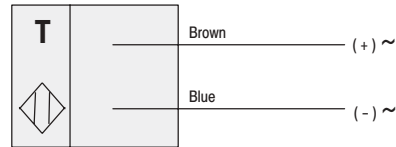


5-pin AC Mini QD Model: 42GR_-9_L2-QD

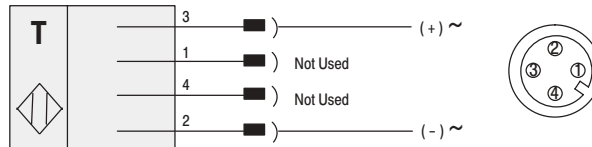


Transmitted Beam Source

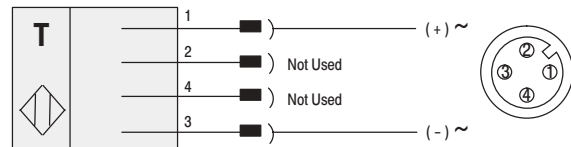
Cable Model: 42GRL-90L0



AC/DC Mini QD Model: 42GRL-90L2-QD

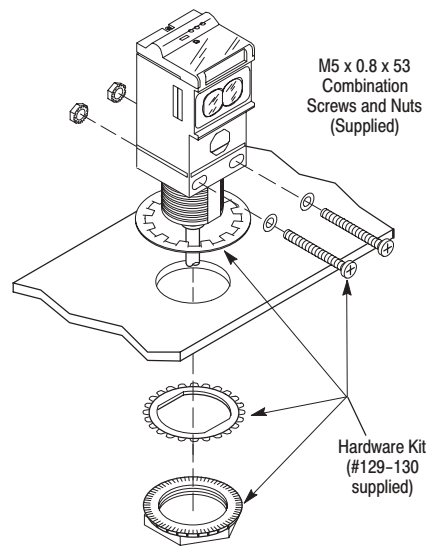
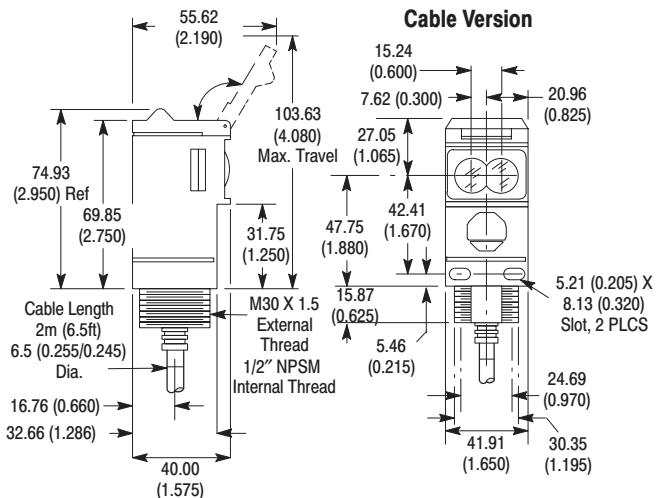


DC Micro QD Model: 42GRL-90L0-QD



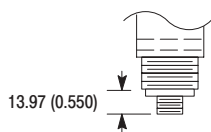
Dimensions—mm (inches)

All Versions

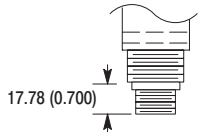


Connector Version

Micro Style



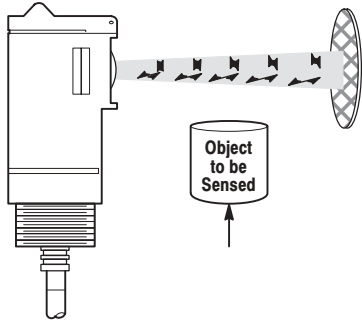
Mini Style



Thread Size

Micro Style	M12 x 1 1 Keyway
Mini Style	7/8-16 UN 1 Keyway

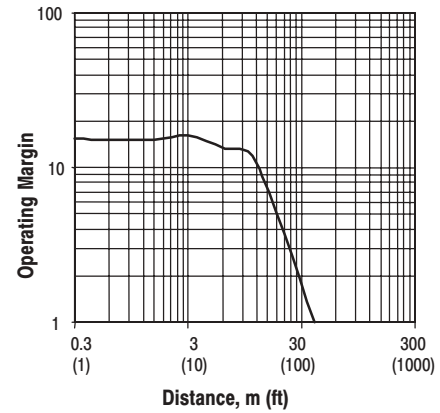
PHOTOSWITCH® Photoelectric Sensors
LaserSight™ Polarized Retroreflective



QD Cordsets and Accessories

Description	Catalog Number
1.8m (6ft) 4-pin mini QD cordset	889N-F4AF-6F
1.8m (6ft) 5-pin mini QD cordset	889N-F5AF-6F
2m (6.5ft) 4-pin DC micro QD cordset	889D-F4AC-2
Tilt/Swivel Bracket	60-2439
Reflector, 3in dia.	92-39

Typical Response Curve

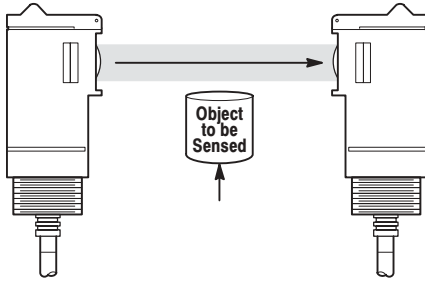


Specifications

Spot Size	19mm (3/4in) @ 40m (130ft)
Emitter LED	Visible Laser, 650nm

Product Selection

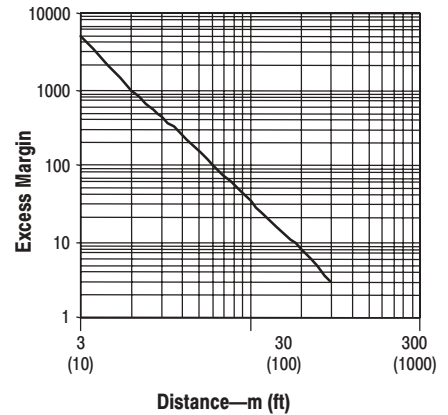
Operating Voltage Supply Current	Sensing Distance	Output Energized	Output Type/Capacity Response Time	Maximum Leakage Current	Connection Type	Catalog Number
10-30V DC 45mA	30cm (1ft) to 40m (130ft)	Selectable Light/Dark Operate	PNP/250mA NPN/250mA 500µs	10uA	2m 300V cable	42GRU-92L0
					4-pin DC micro QD	42GRU-92L0-QD
					4-pin DC mini QD	42GRU-92L0-QD1
110-132V AC 70mA			SPDT EM Relay 2A/132V AC 1A/150V DC 15ms	—	2m 300V cable	42GRU-92L2
					5-pin mini QD	42GRU-92L2-QD



QD Cordsets and Accessories

Description	Catalog Number
1.8m (6ft) 4-pin mini QD cordset	889N-F4AF-6F
1.8m (6ft) 5-pin mini QD cordset	889N-F5AF-6F
2m (6.5ft) 4-pin DC micro QD cordset	889D-F4AC-2
Tilt/Swivel Bracket	60-2439

Typical Response Curve



Specifications

Emitter LED	Visible Laser, 650nm
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Product Selection for Light Source

Operating Voltage Supply Current	Maximum Sensing Distance	Connection Type	Catalog Number
10-264V AC/DC 10mA	300m (1000ft)	2m 300V cable	42GRL-90L0 ①
		4-pin micro QD	42GRL-90L0-QD ①
		4-pin mini QD	42GRL-90L2-QD ①

Product Selection for Receiver

Operating Voltage Supply Current	Sensing Distance	Output Energized	Output Type/Capacity Response Time	Maximum Leakage Current	Connection Type	Catalog Number
10-40V DC 25mA	5m (16ft) to 300m (1000ft)	Selectable Light/Dark Operate	PNP/250mA NPN/250mA 5ms max.	10uA	2m 300V cable	42GRR-90L0
					4-pin micro QD	42GRR-90L0-QD
					4-pin mini QD	42GRR-90L0-QD1
70-264V AC/DC 10mA	5m (16ft) to 300m (1000ft)	Selectable Light/Dark Operate	SPDT EM Relay 2A/132V AC 1A/264V AC 1A/150V DC 23ms	—	2m 300V cable	42GRR-90L2
					5-pin mini QD	42GRR-90L2-QD

① Temperature rating -10°C to +40°C for 24V DC operation. Reduce by 5°C for 120V AC and 10°C for 220V AC operation.