

Series 7000 LTD

Miniature Rectangular Style



Description

The Series 7000 LTD family of photoelectric sensors is intended for use in light duty industrial environments where low cost is a driving factor in the selection process. The sensor retains many of the same features found in the Series 7000 with the following exceptions.

- Single output (NPN or PNP)
- Light operate mode
- Reduced response time
- Limited sensing modes
- Reduced environmental protection

For ease of maintenance, all adjustments are made on a user interface panel located on the top of the sensor. A clutch-protected single-turn potentiometer is used as the sensor sensitivity adjustment on the diffuse sensing mode only. A single red LED provides a visual indication of the output status.

General Specifications

Light Source	See Product Selection
Unit Protection	Reverse polarity
Supply Voltage	See Product Selection
Current Consumption	46mA maximum
Output Type	NPN or PNP
Output Mode	Light operate
Output Rating	100mA @ 28V DC
Response Time	1ms
Housing Material	Valox®
Lens Material	Acrylic
LED Indicators	See User Interface on page 1-191
Connection Types	3m 300V cable; 4-pin DC micro QD on 12-inch pigtail
Supplied Accessories	None
Optional Accessories	Mounting brackets, reflectors, cordsets
Operating Environment	NEMA 12 (IP62)
Vibration	10-55Hz, 1mm amplitude, Meets or exceeds IEC 60947-5-2
Shock	30g with 1ms pulse duration, Meets or exceeds IEC 60947-5-2
Operating Temperature	-40°C to +65°C (-40°F to +150°F)
Relative Humidity	5...95%
Approvals	UL listed, CSA approved, and CE marked for all applicable directives

Features

- Low cost sensing solution
- Compact rectangular package
- Wide selection of sensing modes
- 24V DC operation
- NPN or PNP outputs
- Fast response time
- Variety of connection types

General Information

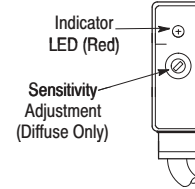
Wiring Diagrams page 1-191
 Dimensions page 1-191

Sensing Modes

Retroreflective and Antiglare
 Retroreflective page 1-192
 Standard Diffuse page 1-193
 Transmitted Beam page 1-188

User Interface Panel

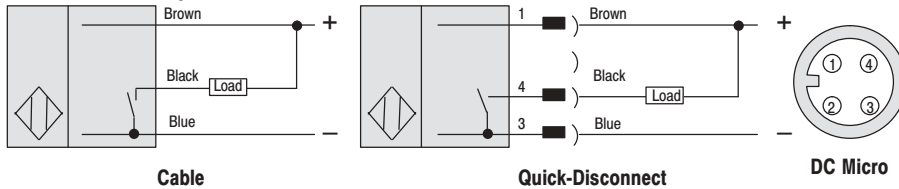
Label	Color	State	Status
Output	Red	OFF	Sensor output de-activated
		ON	Sensor output activated



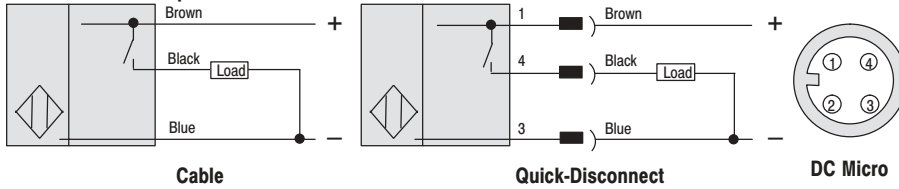
Wiring Diagrams

All Models with Output

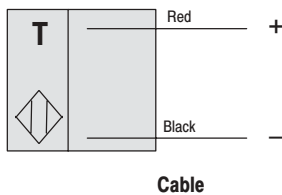
Models with NPN Output



Models with PNP Output



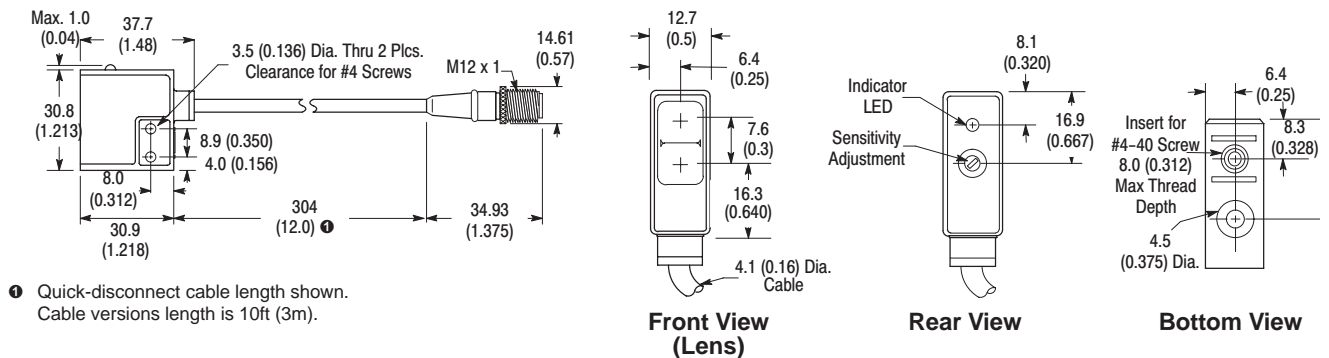
Transmitted Beam Source



Note: Details regarding connection of Allen-Bradley Series 7000 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.

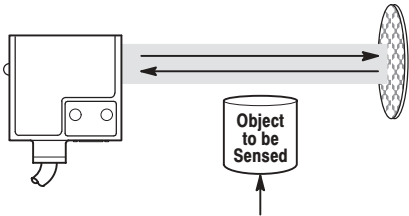
Dimensions—mm (inches)



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

Series 7000 LTD Retroreflective and Anti-Glare Retroreflective

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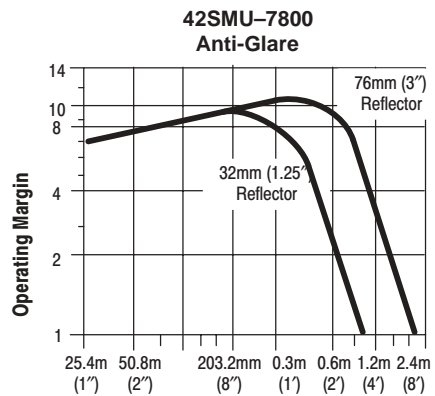


Anti-glare Retroreflective sensors provide some degree of protection against the false detection of targets. Other A-B photoelectric sensor families include Polarized Retroreflective versions which provide for even greater protection when very shiny targets must be reliably detected.

QD Cordsets and Accessories

Description	Catalog/Page Number
DC Micro QD Cordset, 4-pin, 2m	889D-F4AC-2
Other Cordsets Available	7-1
Mounting Assemblies	1-375
76mm (3in) Diameter with Center Mount Hole	92-39
32mm (1.25in) Diameter	92-47

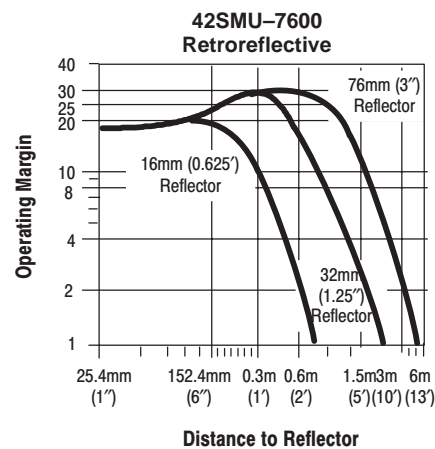
Typical Response Curve



Specifications

Field of View	5°
Emitter LED	Visible red 660nm

Distance to Reflector



Product Selection for Retroreflective Sensors

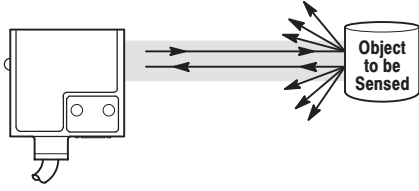
Operating Voltage Supply Current	Sensing Distance	Output Energized	Output Type Capacity Response Time	Max Leakage Current	Connection Type	Catalog Number
10-30V DC 30mA	50mm (2in) to 3.6m (12.0ft)	Light	NPN 100mA 1ms	10µA	3m cable	42SMU-7600
					4-pin DC micro QD	42SMU-7600-QD
					3m cable	42SMU-7601
					4-pin DC micro QD	42SMU-7601-QD

Product Selection for Antiglare Retroreflective Sensors

Operating Voltage Supply Current	Sensing Distance	Output Energized	Output Type Capacity Response Time	Max Leakage Current	Connection Type	Catalog Number
10-30V DC 20mA	50mm (2in) to 2.0m (6.6ft)	Light	NPN 100mA 1ms	10µA	3m cable	42SMU-7800
					4-pin DC micro QD	42SMU-7800-QD
					3m cable	42SMU-7801
					4-pin DC micro QD	42SMU-7801-QD

AB Parts

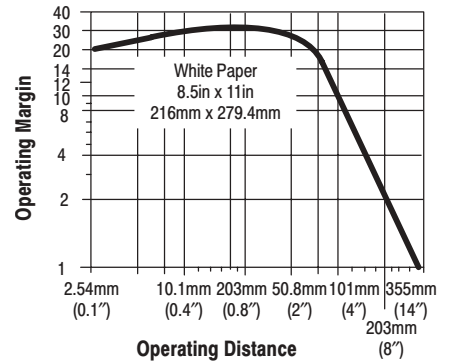
PHOTOSWITCH® Photoelectric Sensors
Series 7000 LTD Standard Diffuse
 Miniature Rectangular Style



QD Cordsets and Accessories

Description	Catalog/Page Number
DC Micro QD Cordset, 4-pin, 2m	889D-F4AC-2
Other Cordsets Available	7-1
Mounting Assemblies	1-375

Typical Response Curve



Specifications

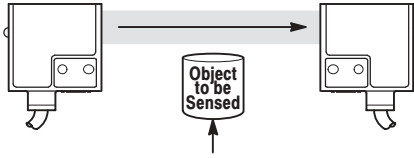
Field of View	6°
Emitter LED	Infrared 880nm

Product Selection

Operating Voltage Supply Current	Sensing Distance	Output Energized	Output Type Capacity Response Time	Max Leakage Current	Connection Type	Catalog Number
10-30V DC 30mA	5mm (0.2in) to 210mm (8.5in)	Light	NPN 100mA 1ms PNP 100mA 1ms	10µA	3m cable	42SMP-7600
					4-pin DC micro QD	42SMP-7600-QD
					3m cable	42SMP-7601
					4-pin DC micro QD	42SMP-7601-QD

Series 7000 LTD Transmitted Beam

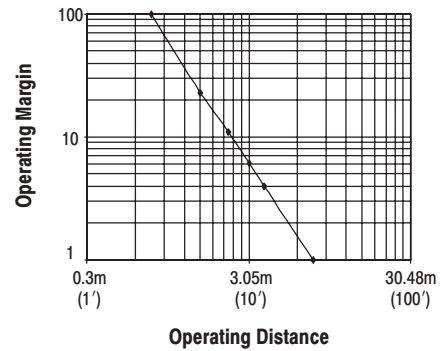
Miniature Rectangular Style



Specifications

Field of View	8°
Emitter LED	950nm (37.4in)

Typical Response Curve



Product Selection for Light Source

Operating Voltage Supply Current	Sensing Distance	Field of View	Output Type/Capacity Response Time	Max Leakage Current	Connection Type	Catalog Number
11-27V DC 25mA	10mm (0.39in) to 6.4m (21ft)	3°	Infrared	—	3m cable	42SML-7600-3

Product Selection for Receivers to Use With Infrared Light Sources

Operating Voltage Supply Current	Output Energized	Field of View	Output Type/Capacity Response Time	Max Leakage Current	Connection Type	Catalog Number
11-27V DC 25mA	Light Operate	8°	NPN 100mA 1ms	10µA	3m cable	42SMR-7600-3

AB Parts