

Series 9000

Intrinsically Safe



For other sensing modes refer to the Intrinsically Safe Series 5000 photoelectric sensor. Information on the Series 897H intrinsic safety barriers may be found on page R2–214.

Features

- Intrinsically safe to North American standards
- Transmitted beam sensing mode
- Compatible with Series 897H intrinsic safety barriers
- 30mm harsh duty package
- Fast response time
- Variety of connection types

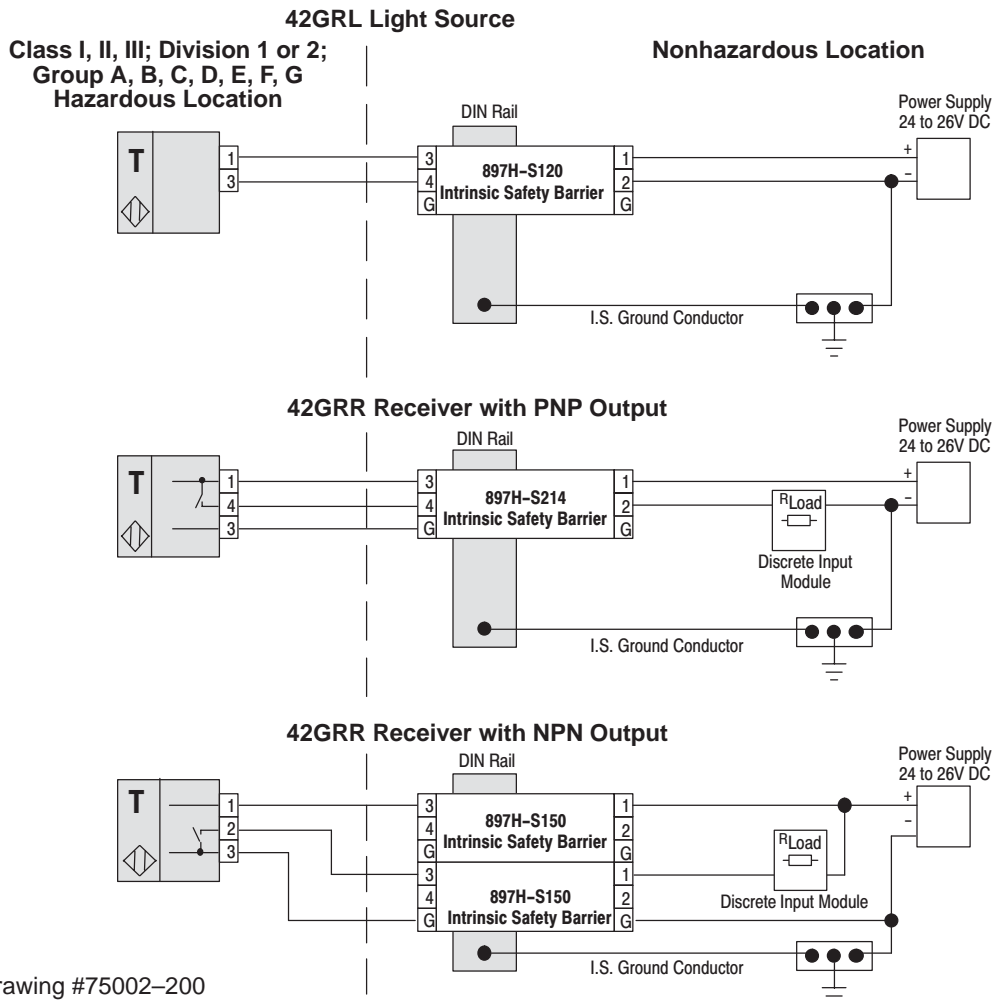
General Specifications

| | |
|------------------------------|----------------------------------------------------------------------------------------------------|
| Light Source | Infrared LED (880nm) |
| Unit Protection | Overload, short circuit, reverse polarity, false pulse |
| Supply Voltage | 13 to 30V DC |
| Current Consumption | 25mA maximum |
| Output Type | Both NPN and PNP |
| Output Mode | Light/dark operate selectable |
| Output Rating | 8.5mA (PNP) 15mA (NPN) |
| Max Leakage Current | 10µA |
| Response Time | 10ms maximum |
| Housing Material | Valox® |
| Lens Material | Acrylic |
| LED Indicators | See User Interface below |
| Connection Types | 2m 300V cable, 4-pin DC micro QD, 4-pin DC mini QD |
| Supplied Accessories | #129–130 mounting kit |
| Optional Accessories | Series 897H intrinsic safety barriers—see page R2–214, mounting brackets, cordsets—see page R1–132 |
| Operating Environment | NEMA 3, 4X, 6P, 12, 13 (IP67) 1200psi washdown |
| 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 | –20°C to +70°C (–4°F to +158°F) |
| Relative Humidity | 5...95% |
| Approvals | FM approved, CSA approved, CE marked for all applicable directives |

User Interface

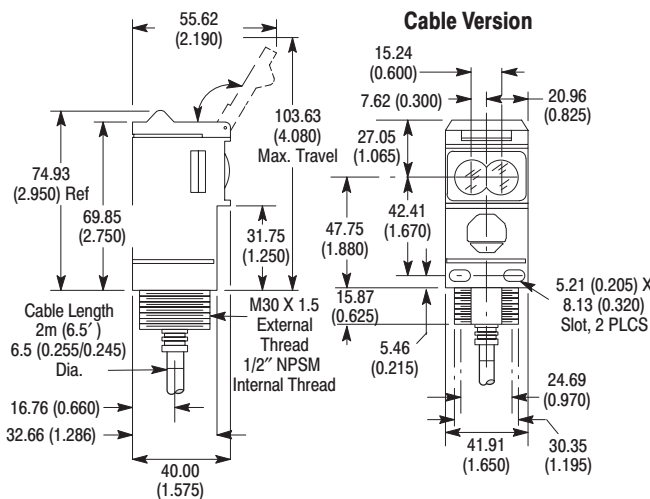
| Label | Color | State | Status |
|------------|--------|----------|----------------------------|
| Output | Green | OFF | Sensor output de-activated |
| | | ON | Sensor output activated |
| Margin/SCP | Red | OFF | Margin <2.5 |
| | | ON | Margin >2.5 |
| | | Flashing | Output SCP active |
| Power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

Wiring Diagrams

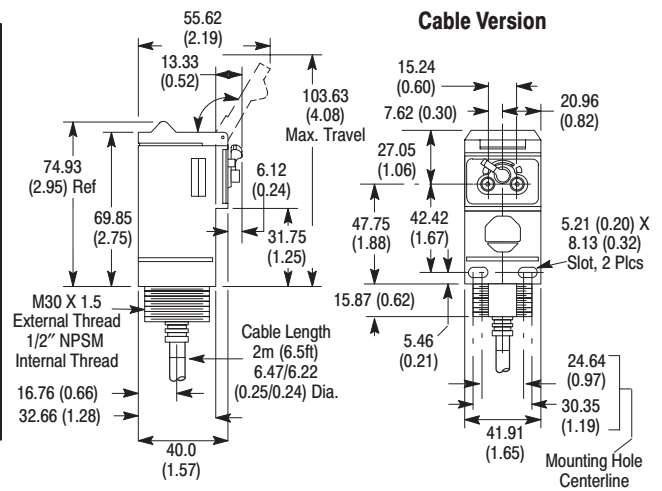


Control Drawing #75002-200

Dimensions—mm (inches)
 All Versions Except Fiber Optic



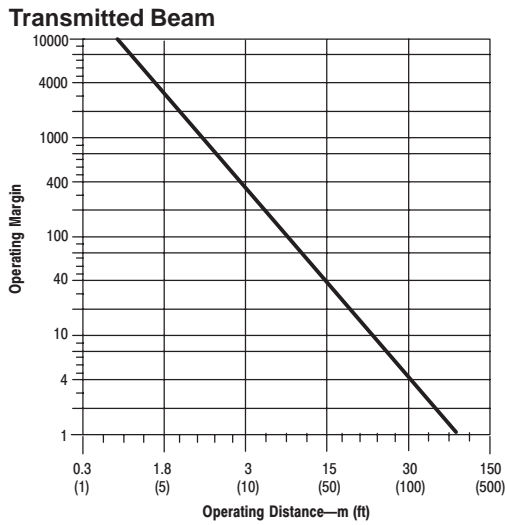
Fiber Optic



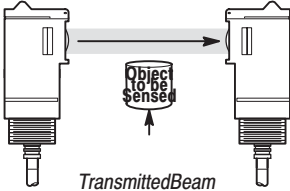
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Typical Response Curve



Product Selection

| Sensing Mode | Operating Voltage Supply Current | Sensing Distance | Output Energized | Output Type Capacity Response Time | Connection Type | Catalog Number |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|------------------------------------|-----------------------|------------------------------------------|--------------------|----------------|
| Light Sources | 14 to 30V DC 16mA | 25.4mm (2in) to 106m (350ft) | — | — | 2m 300V cable | 42GRL-9540 |
| | | | | | 4-pin micro | 42GRL-9540-QD |
| | | | | | 4-pin mini | 42GRL-9540-QD1 |
| Receivers | | | | | | |
|  <p>Field of View: 1.5° Receiver Emitter LED: Infrared 880nm</p> | 13 to 30V DC 25mA | 25.4mm (2in) to 106m (350ft) | Light/Dark Operate | PNP/8.5mA NPN/15mA 10ms max. | 2m 300V cable | 42GRR-9500 |
| | | | | | 4-pin micro | 42GRR-9500-QD |
| | | | | | 4-pin mini | 42GRR-9500-QD1 |

Cordsets and Accessories

| Description | Catalog Number |
|---------------------------------------|----------------|
| 1.8m (6ft) 4-pin, Mini QD Cordset | 889N-F4AF-6F ❶ |
| 2m (6.5ft) 4-pin, DC Micro QD Cordset | 889D-F4AC-2 ❶ |
| Mounting Bracket | 60-2439 |

❶ Intrinsically Safe wiring labels 897H-L1 or 897H-L2 must be applied every 7.6m (25ft).