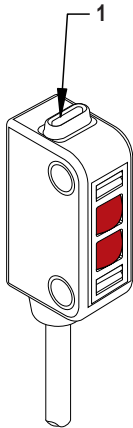


Indicator Features



- 1 - Amber and green LEDs
- Green on: power to sensor is on
 - Amber on: received signal
 - Amber flashing: marginal signal

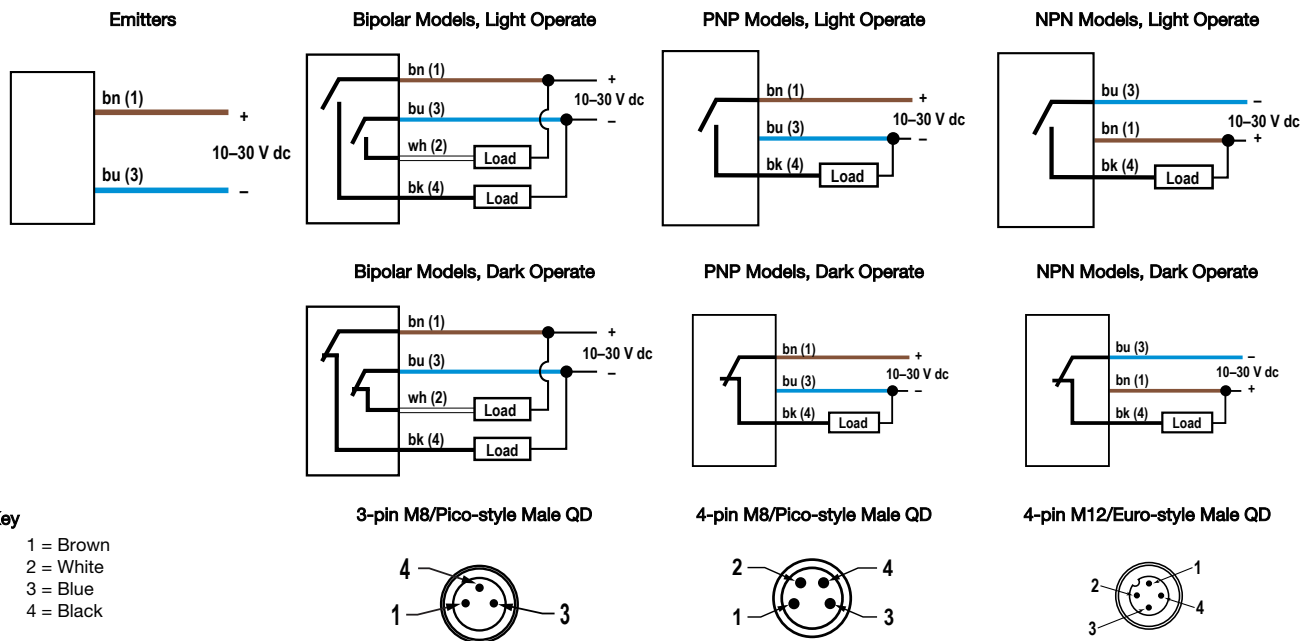
Chemical-Resistant models: LEDs are visible through translucent PFA jacket. Rated to 1200 psi washdown.

Wiring

Emitters have no connection to black and white.



CAUTION: Observe proper ESD precautions (grounding) when connecting QD models.



Specifications

Supply Voltage and Current

10 to 30 V dc (10% maximum ripple) at 20 mA maximum current

Sensing Beam

640 nm visible red

Supply Protection Circuitry

Protected against reverse polarity and transient voltages

Output Configuration

Bipolar (1 NPN and 1 PNP) solid-state output or Single output (PNP or NPN), LO or DO, depending on model

Repeatability

125 microseconds

Switching Frequency

Opposed Mode: 385 Hz
All Other Modes: 590 Hz

Output Protection Circuitry

Protected against false pulse on power-up, short-circuit protected

Output Response Time

Opposed Mode: 1.3 ms ON; 900 μs OFF
 All Other Modes: 850 μs ON/OFF
 NOTE: 120 ms delay on power-up; outputs do not conduct during this time.

Indicators

One Yellow and one Green LED (see Figure 1)

Construction

Polarized Retro Models: Thermoplastic elastomer housing with glass lens
 All Other Standard Models: Thermoplastic elastomer housing with polycarbonate lens
 Chemical-Resistant Models: Housing encased in PFA jacket; cable encased in 3/16 in O.D. PFA tubing

Connections

Standard Models: 2 m (6.5 ft) or 9 m (30 ft) attached PVC cable, or 150 mm (6 in) pigtail with M8 or M12 threaded connection, depending on the model ordered
 Chemical-Resistant Models: 2 m (6.5 ft) cable encased in 3/16 in O.D. PFA tubing

Environmental Rating

Standard Models: IEC IP67
 Chemical-Resistant Models: IEC IP67 (NEMA6) and PW12 1200 psi washdown per NEMA ICS5, Annex F-2002

Conditions

Operating Temperature: -20 °C to +55 °C (-4 °F to +131 °F)
 Storage Temperature: -30 °C to +75 °C (-22 °F to +167 °F)
 95% at +50 °C maximum relative humidity (non-condensing)

Certifications



(Chemical-resistant models are not UR/UL approved.)

Output Ratings

OFF-state leakage current:
 NPN: 10 μA
 PNP: 10 μA
 ON-state saturation voltage:
 NPN: 2 V at 50 mA
 PNP: 2 V at 50 mA

Vibration and Mechanical Shock

All models meet MIL-STD-202F, Method 201A (Vibration: 10 Hz to 60 Hz maximum, 0.06 inch (1.52 mm) double amplitude, 10G maximum acceleration) requirements. Also meets IEC 60947-5-2 (Shock: 30G 11 ms duration, half sine wave) requirements.

Required Overcurrent Protection



WARNING: Electrical connections must be made by qualified personnel in accordance with local and national electrical codes and regulations.

Overcurrent protection is required to be provided by end product application per the supplied table.
 Overcurrent protection may be provided with external fusing or via Current Limiting, Class 2 Power Supply.
 Supply wiring leads < 24 AWG shall not be spliced.
 For additional product support, go to www.bannerengineering.com.

Supply Wiring (AWG)	Required Overcurrent Protection (Amps)
20	5.0
22	3.0
24	2.0
26	1.0
28	0.8
30	0.5

Dimensions

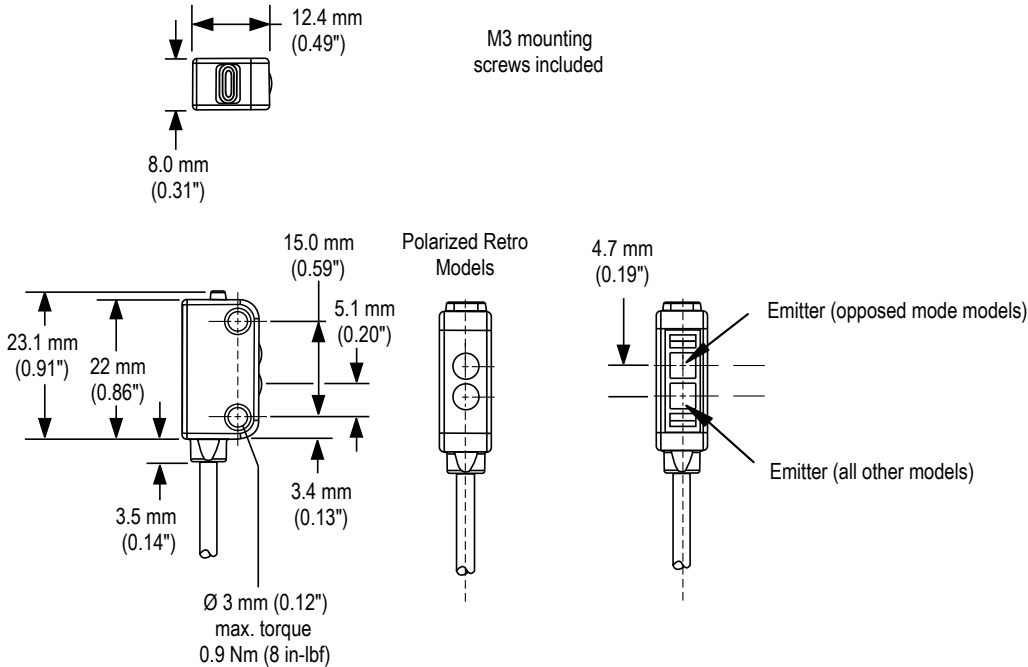


Figure 1. Standard Models