

Specifications

Supply Voltage

10 to 30 V dc (10% maximum ripple) at less than 15 mA, exclusive of load

Sensing Beam

Visible red LED, 650 nm

Laser Characteristics

Wavelength: 650 nm visible red Class 1 laser

Pulse Width: 7 microseconds

Rep Rate: 130 microseconds

Average Output Power: 0.065 mW

Supply Protection Circuitry

Protected against reverse polarity and transient voltages

Output Configuration

Solid-state complementary (SPDT): NPN or PNP (current sinking or sourcing), depending on model;

Rating: 100 mA maximum each output at 25 °C

Off-state leakage current:

NPN: less than 200 µA @ 30 V dc (See Application Note 1)

PNP: less than 10 µA @ 30 V dc

ON-state saturation voltage:

NPN: less than 1.6 V @ 100 mA

PNP: less than 3.0 V @ 100 mA

Output Protection Circuitry

Protected against false pulse on power-up and continuous overload or short circuit of outputs

Output Response

NOTE: 200 millisecond delay on power-up; outputs do not conduct during this time

700 microseconds ON/OFF

Repeatability

130 microseconds

Sensing Hysteresis

12% of range typical

Adjustments

Single-turn sensitivity (Gain) adjustment potentiometer

Indicators

2 LED indicators on sensor top:

Green solid: Power ON

Amber solid: Light sensed

Amber flashing: Marginal excess gain (1 to 1.5x excess gain)

Construction

ABS housing, acrylic lens cover, 3 mm mounting hardware included

Connections

2 m (6.5 ft) 4-wire PVC cable, 9 m (30 ft) 4-wire PVC cable, 4-pin Pico-style or Euro-style QD, 4-pin Pico-style or Euro-style 150 mm (6 in) pigtail QD, depending on model

Operating Conditions

Relative Humidity: 90% @ 50 °C (non-condensing)

Temperature: -10 °C to 50 °C (14 °F to 122 °F)

Laser Classification

Class 1 laser product; Complies with IEC 60825-1:2001 and 21 CFR 1040.10, except for deviations pursuant to Laser Notice 50, dated 7-26-01

Application Notes

NPN off-state leakage current is < 200 µA for load resistances > 3 kΩ or optically isolated loads. For load current of 100 mA, leakage is < 1% of load current.

Certifications



Description of Laser Classes

Class 1 Lasers

Class 1 lasers are lasers that are safe under reasonably foreseeable conditions of operation, including the use of optical instruments for intrabeam viewing.

Reference IEC 60825-1:2001, Section 8.2.

Class 1 Laser Characteristics: See Specifications.



CAUTION: Do Not Disassemble for Repair

This device contains no user-serviceable components. Do not attempt to disassemble for repair. Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure. A defective unit must be returned to the manufacturer.

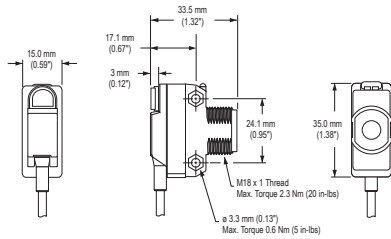


For Safe Laser Use (Class 1 or Class 2):

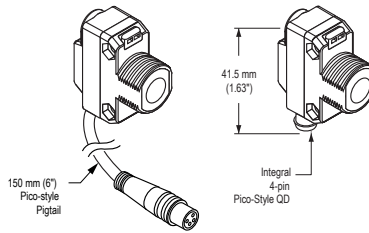
- Do not stare at the laser.
- Do not point the laser at a person's eye.
- Mount open laser beam paths either above or below eye level, where practical.
- Terminate the beam emitted by the laser product at the end of its useful path.

Dimensions

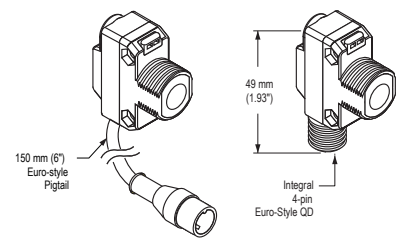
Cabled Models



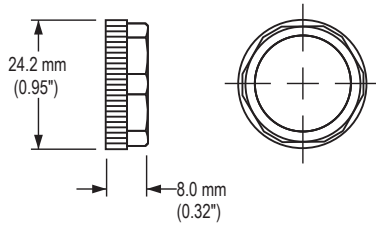
Pico-Style QD Models



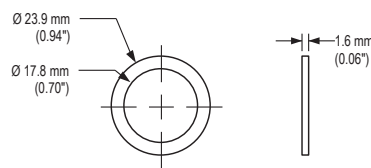
Euro-Style QD Models



Locknut (included with all models)



Washer (included with all models)

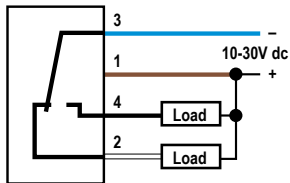


M3 Hardware Packet Contents:

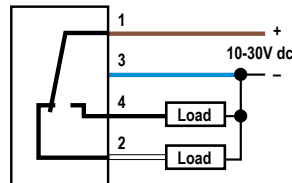
- 2 – M3 x 0.5 x 20 mm SS Screw
- 2 – M3 x 0.5 SS Hex Nut
- 2 – M3 SS Washer

Wiring Diagrams

NPN (Sinking) Outputs



PNP (Sourcing) Outputs



Wiring Key

- 1 = Brown
- 2 = White
- 3 = Blue
- 4 = Black