

**WARNING: Not To Be Used for Personnel Protection**

Never use this device as a sensing device for personnel protection. Doing so could lead to serious injury or death. This device does not include the self-checking redundant circuitry necessary to allow its use in personnel safety applications. A sensor failure or malfunction can cause either an energized or de-energized sensor output condition.

Specifications

Supply Voltage

- 10 to 30 V dc (10% maximum ripple) at less than 25 mA, exclusive of load;
- Protected against reverse polarity and transient voltages

Repeatability

- Opposed Mode: 100 microseconds
- FF Mode: 160 microseconds
- All others: 150 microseconds

Adjustments

- Glass Fiber Optic, Plastic Fiber Optic, Convergent, Diffuse, and Retroreflective mode models (only): Single-turn sensitivity (Gain) adjustment potentiometer

Indicators

- 2 LED indicators on sensor top:
- Green solid: Power on
- Amber solid: Light sensed
- Green flashing: Output overloaded
- Amber flashing: Marginal excess gain (1 to 1.5x excess gain)
- Prior to date code 0223, the output indicator was red.

Construction

- ABS housing
- 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

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 (FF Mode): less than 200 μ A @ 30V dc
- Off-state Leakage Current (All others): less than 50 μ A @ 30V dc
- ON-state Saturation Voltage: less than 1 V @ 10 mA; less than 1.5 V @ 100 mA
- Protected against false pulse on power-up and continuous overload or short circuit of outputs

Output Response

- Opposed Mode: 750 microseconds ON; 375 microseconds OFF
- FF Mode: 850 microseconds ON/OFF
- All others: 600 microseconds ON/OFF
- NOTE: 100 millisecond delay on power-up; outputs do not conduct during this time

Environmental

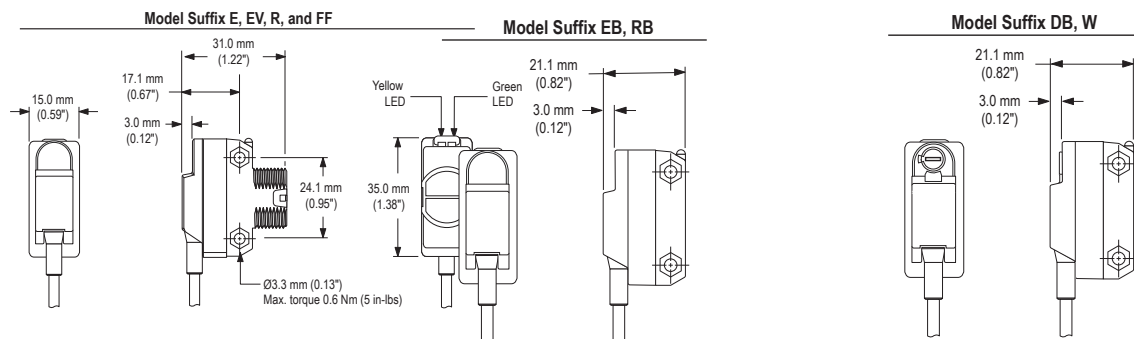
- IEC IP67; NEMA 6

Operating Conditions

- Temperature: -20 °C to 70 °C (-4 °F to 158 °F)
- Relative Humidity: 90% @ 50 °C (non-condensing)

Certifications

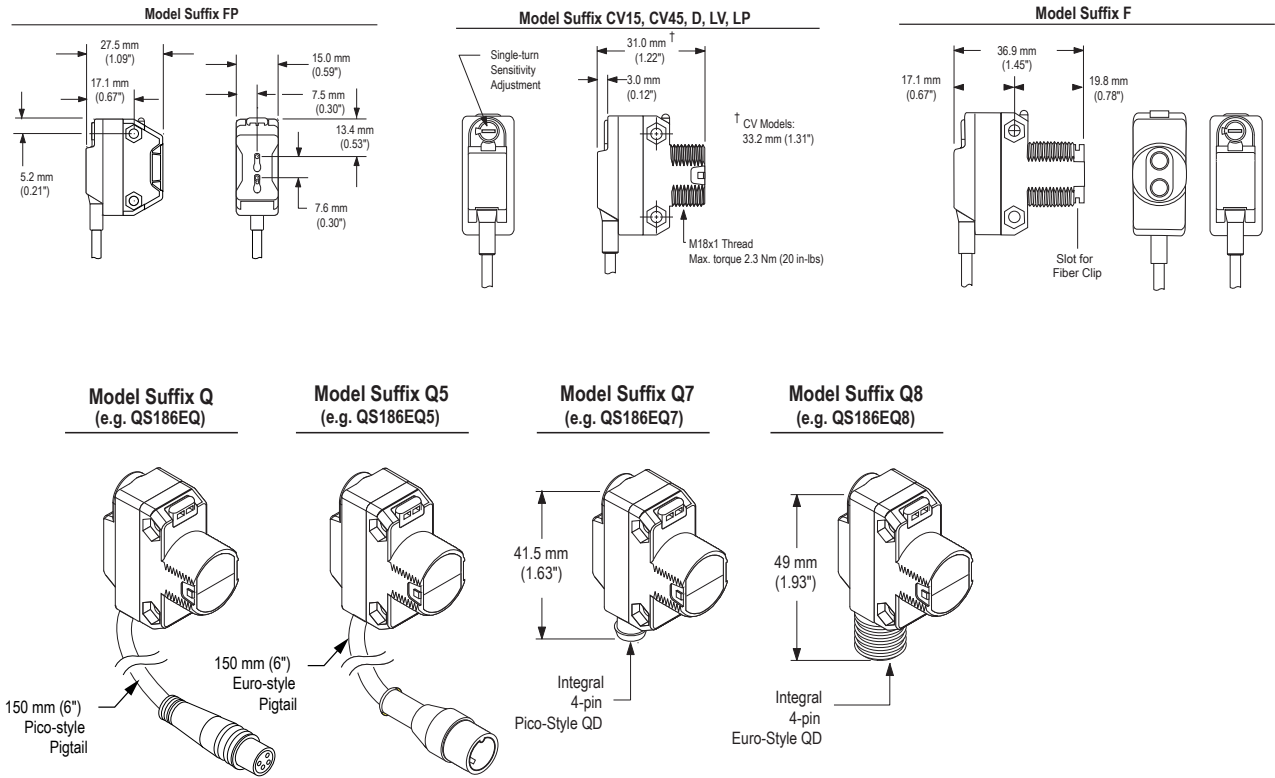
Dimensions and Features

Models E, EV, R, and FF**Models EB and RB****Models DB and W**

Models FP

Models CV15, CV45, D, LV, and LP

Models F



M18 x 1 Jam Nut

M3 hardware packet contents:

- 2 - M3 x 0.5 x 20 mm stainless steel screw
- 2 - M3 x 0.5 stainless steel hex nut
- 2 - M3 stainless steel washer

Packing List

- Sensor
- M18 x 1 jam nut
- M3 hardware packet
- Installation sheet, p/n 63687

Performance Curves

