



**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 OD, 4-pin Pico-style or Euro-style 150 mm (6 in) pigtail OD, 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 µA @ 30V dc  
Off-state Leakage Current (All others): less than 50 µA @ 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**

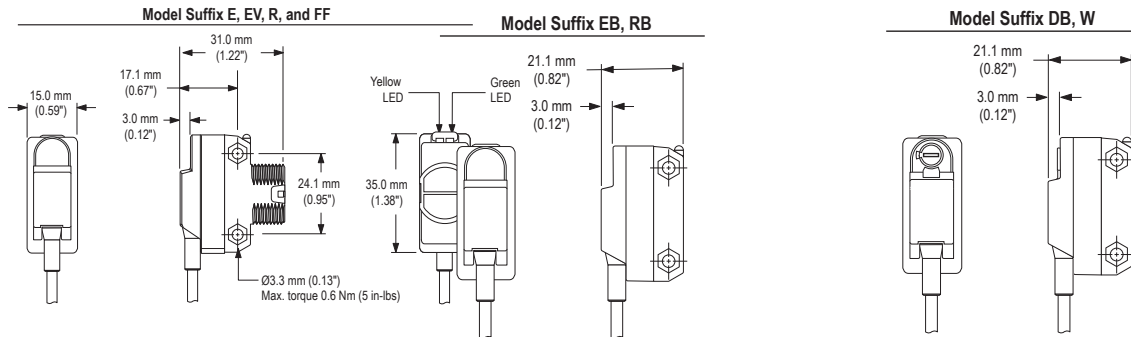
Temperature: -20 °C to 70 °C (-4 °F to 158 °F)  
Relative Humidity: 90% @ 50 °C (non-condensing)

**Certifications**

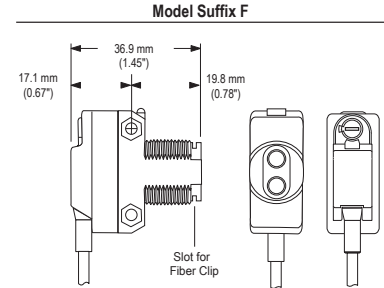
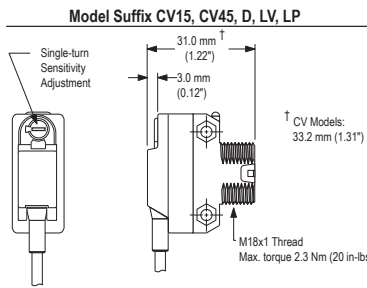
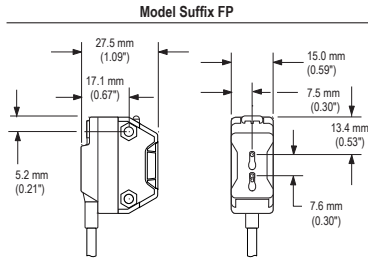


## Dimensions and Features

Models E, EV, R, and FF	Models EB and RB	Models DB and W
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Models FP                      Models CV15, CV45, D, LV, and LP                      Models F

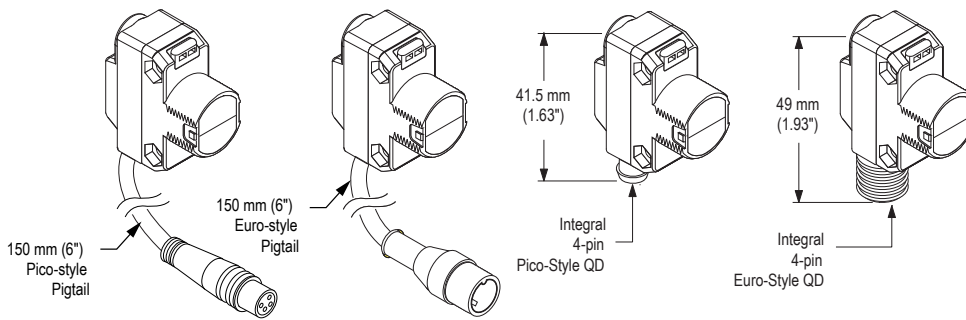


**Model Suffix Q**  
(e.g. QS186EQ)

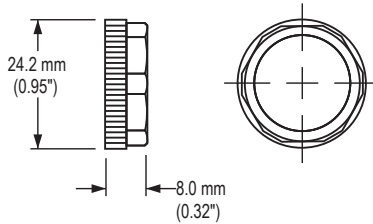
**Model Suffix Q5**  
(e.g. QS186EQ5)

**Model Suffix Q7**  
(e.g. QS186EQ7)

**Model Suffix Q8**  
(e.g. QS186EQ8)



**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**

