



## Features

- Bright, visible red (640 nm) light source
- 10 to 30V dc operation
- Solid-state, bipolar outputs: one current sourcing (PNP) and one current sinking (NPN)
- Light Operate (L.O.) or Dark Operate (D.O.), depending on model
- Models available with PFA chemical-resistant jacket (1200 psi washdown rated) for use in harsh environments (see page 2).
- Standard models available with 4-wire, 2 m (6.5') or 9 m (30') cable or 150 mm (6") pigtail with Pico-style M8 threaded connector
- Compact 8 mm (0.31") housing mounts almost anywhere
- Crosstalk-avoidance circuitry for multiple-sensor applications
- LED status indicators for Power ON, Output Overload, Signal Received, and Marginal Signal

## Standard Models


Sensing Mode		Model*	Range	Output	Sensing Mode		Model*	Range	Output
Opposed	640 nm Visible Red	Q126E	2 m (6.5')	N/A	Fixed-Field	Performance based on use of 90% reflectance white test card.			
	Effective Beam: 5.7 mm (0.22")	Q12AB6R		Bipolar L.O.		640 nm Visible Red	Q12AB6FF15	15 mm (0.6") cutoff;	Bipolar L.O.
		Q12RB6R		Bipolar D.O.			Q12RB6FF15	10 mm (0.4") focus	Bipolar D.O.
Polarized Retro	640 nm Visible Red	Q12AB6LP	1 m† (40")	Bipolar L.O.			Q12AB6FF30	30 mm (1.2") cutoff;	Bipolar L.O.
		Q12RB6LP		Bipolar D.O.			Q12RB6FF30	16 mm (0.63") focus	Bipolar D.O.
Retro	640 nm Visible Red	Q12AB6LV	1.5 m† (59")	Bipolar L.O.			Q12AB6FF50	50 mm (2") cutoff;	Bipolar L.O.
		Q12RB6LV		Bipolar D.O.	Q12RB6FF50		16 mm (0.63") focus	Bipolar D.O.	

\*Only standard 2 m (6.5') cable models are listed. For 9 m (30') cable, add suffix "W/30" to the model number (e.g., Q126E W/30).

QD models: For 4-pin 150 mm (6") pigtail with threaded Pico-style M8 connector, add suffix "Q" (e.g. Q126EQ).

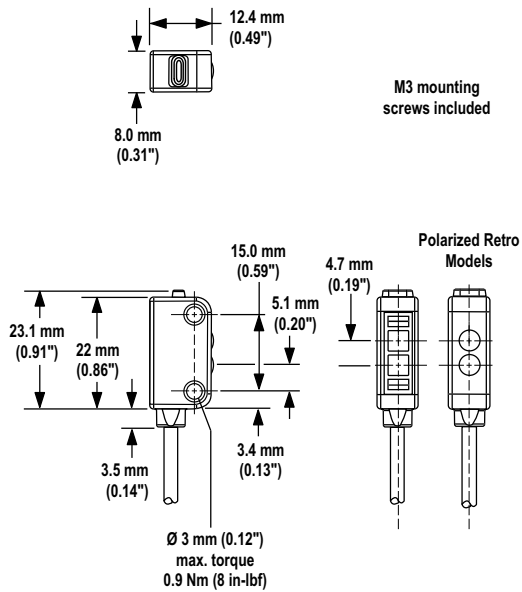
†Retroreflective range is specified using one model BRT-60X40C retroreflector. Actual sensing range may be more or less than specified, depending upon efficiency and reflective area of the retroreflector(s) used.

Specifications

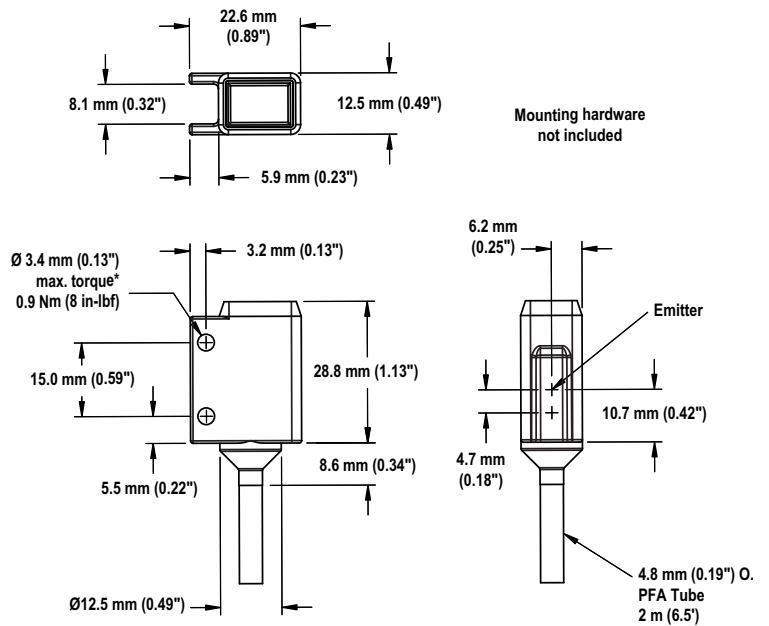
<b>Sensing Beam</b>	640 nm visible red
<b>Supply Voltage and Current</b>	10 to 30V dc (10% max. ripple) @ 20 mA max current
<b>Supply Protection Circuitry</b>	Protected against reverse polarity and transient voltages
<b>Output Configuration</b>	Bipolar (1 NPN and 1 PNP) solid-state, L.O. or D.O. depending on model
<b>Output Ratings</b>	50 mA total across both outputs with overload and short circuit protection <b>OFF-state leakage current:</b> <b>ON-state saturation voltage:</b> <b>NPN:</b> 200 µA <b>NPN:</b> 1.25V @ 50 mA <b>PNP:</b> 10 µA <b>PNP:</b> 1.45V @ 50 mA
<b>Output Protection Circuitry</b>	Protected against false pulse on power-up, short-circuit protected
<b>Output Response Time</b>	<b>Opposed Mode:</b> 1.3 ms ON; 900 µs OFF <b>All Other Modes:</b> 700 µs ON/OFF NOTE: 120 ms delay on power-up; outputs do not conduct during this time.
<b>Repeatability</b>	175 microseconds
<b>Switching Frequency</b>	<b>Opposed Mode:</b> 385 Hz <b>All Other Modes:</b> 715 Hz
<b>Indicators</b>	One Yellow and one Green LED (see Figure 1)
<b>Construction</b>	<b>Polarized Retro Models:</b> Thermoplastic elastomer housing with glass lens <b>All Other Standard Models:</b> Thermoplastic elastomer housing with polycarbonate lens <b>Chemical-Resistant Models:</b> Housing encased in PFA jacket; cable encased in 3/16" O.D. PFA tubing
<b>Environmental Rating</b>	<b>Standard Models:</b> IEC IP67 <b>Chemical-Resistant Models:</b> IEC IP67 and 1200 PSI Washdown NEMA ICS 5, Annex F-2002
<b>Connections</b>	<b>Standard Models:</b> 2 m (6.5') or 9 m (30') attached PVC cable, or 150 mm (6") pigtail with M8 threaded connection <b>Chemical-Resistant Models:</b> 2 m (6.5') cable encased in 3/16" O.D. PFA tubing
<b>Operating Conditions</b>	<b>Operating temperature:</b> -20° to +55° C (-4° to +131° F) <b>Storage temperature:</b> -30° to +75° C (-22° to +167° F) <b>Relative humidity:</b> 90% max @ +50° C (+122° F) non-condensing
<b>Certifications</b>	

## Dimensions

### Standard Models



### Chemical-Resistant Models



\* When mounting by running a screw through both flanges without support between the flanges, the max. torque applied should be 0.1 Nm (1 in-lbf).