



Quick Start Guide

Self-Contained, Photoelectric Sensors in Universal-Style Housing

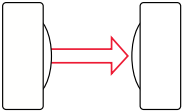
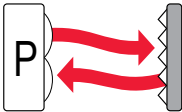
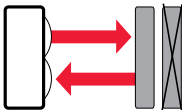
For complete technical information about this product, including installation instructions, application requirements and guidelines, technical specifications, and accessories, go to www.bannerengineering.com and search 119166.



WARNING:

- Do not use this device for personnel protection
- Using this device for personnel protection could result in serious injury or death.
- This device does not include the self-checking redundant circuitry necessary to allow its use in personnel safety applications. A device failure or malfunction can cause either an energized (on) or de-energized (off) output condition.

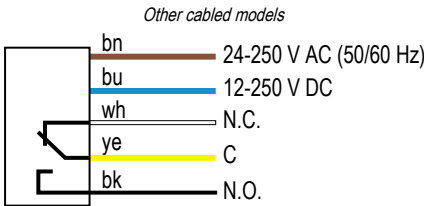
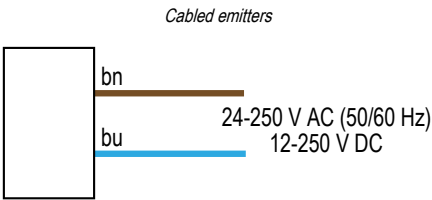
Models

Sensing Mode	Model	Range	LED	Output
 OPPOSED	QS303E Emitter	60 m (200 ft)	Infrared, 875 nm Effective Beam: 18 mm (0.7 in)	-
	QS30VR3R Receiver	60 m (200 ft)	-	SPDT
 POLAR RETRO	QS30VR3LP	8 m (26 ft) ⁽¹⁾	Visible red, 630 nm	
 FIXED-FIELD	QS30VR3FF200	200 mm (7.9 in)	Visible red, 680 nm	
	QS30VR3FF400	400 mm (15.7 in)		
	QS30VR3FF600	600 mm (23.6 in)		

Standard 2 m (6.5 ft) cable models are listed.

- To order the 9 m (30 ft) integral cable model, add the suffix "W/30" (for example, QS303E W/30).
- To order the 150 mm (6 in) cable with the 5-pin 1/2 in-20UNF (1/2-in Dual Key) quick disconnect connector model, add "QPMA" (for example, QS303EQPMA).

Wiring



Cable and QPMA connections are functionally identical.

Specifications

Supply Voltage Universal Voltage: 24 V to 250 V AC (50 Hz/60 Hz) or 12 V to 250 V DC (1.0 watt maximum)	Supply Protection Circuitry Protected against transient voltages	Output Configuration SPDT (Single-Pole Double-Throw) electromechanical relay output (all models except emitters)
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⁽¹⁾ Range is measured using a model BRT-84 retroreflector.

Output Rating

Max. Switching Power (resistive load): 150 W, 1250 VA
 Max. Switching Voltage (resistive load): 250 V AC; 125 V DC
 Max. Switching Current (resistive load): 5 A at 250 V AC; 5 A at 30 V DC derated to 200 mA at 125 V DC
 Min. Voltage and Current: 5 V DC, 10 mA
 Mechanical life of relay: 50 million operations
 Electrical life of relay at full resistive load: 100,000 operations

Output Response

15 milliseconds ON and OFF

NOTE: 100 millisecond delay on power-up; output does not conduct during this time.

Cutoff Point Tolerance

Fixed-Field Only: ± 5% of nominal cutoff distance

Operating Conditions

Temperature: -20 °C to +70 °C (-4 °F to +158 °F)
 95% at +50 °C maximum relative humidity (non-condensing)

Indicators

Two LEDs (Green and Amber) on top of sensor
Green ON: power to sensors is ON
Amber ON: light sensed
Amber flashing: excess gain marginal (1 to 1.5 times) in light condition
 Large, oval LED indicator on sensor back (except emitters)
Amber ON: normally open output is conducting

Construction

ABS housing, acrylic lens cover

Connections

2 m (6.5 in) or 9 m (30 in) 5-wire PVC cable

Environmental Rating

IP67

Certifications


 Banner Engineering BV
 Park Lane, Culliganlaan 2F bus 3
 1831 Diegem, BELGIUM


 Turck Banner LTD Blenheim House
 Blenheim Court
 Wickford, Essex SS11 8YT
 GREAT BRITAIN



Required Overcurrent Protection

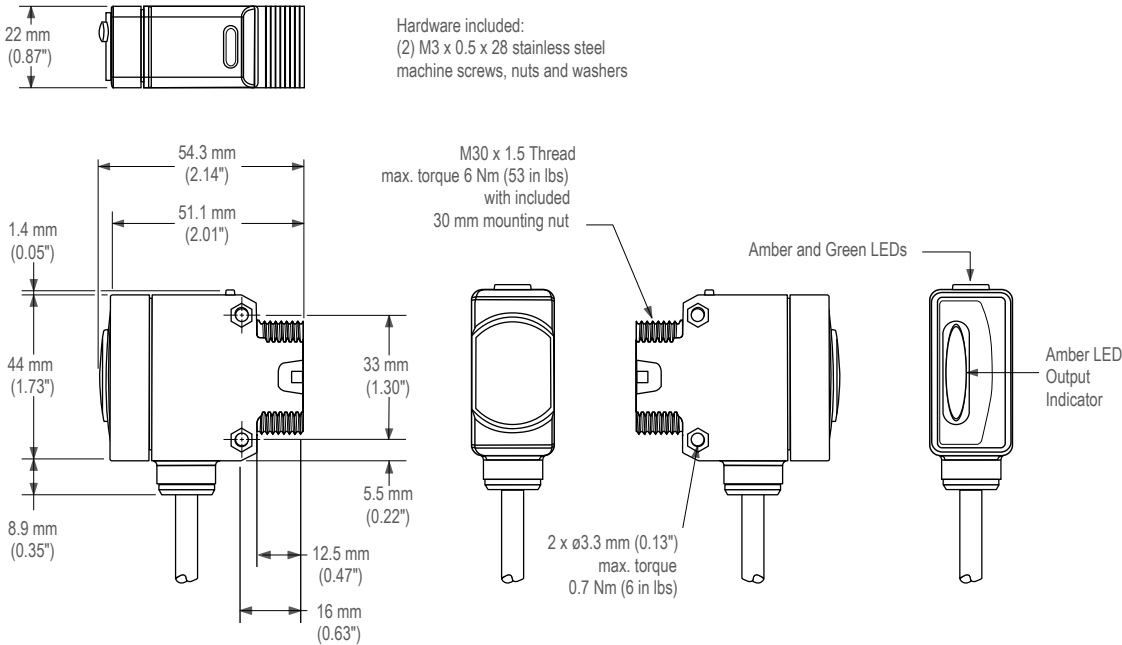


WARNING: Electrical connections must be made by qualified personnel in accordance with local and national electrical codes and regulations.

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

Dimensions



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For patent information, see www.bannerengineering.com/patents.

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