WORLD-BEAM® QS30 – DC Voltage

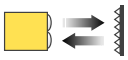
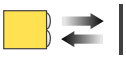
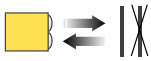
Compact, self-contained photoelectric sensors in universal-style housing

Installation Guide

Additional information on this product is immediately available online at **www.bannerengineering.com/119165**

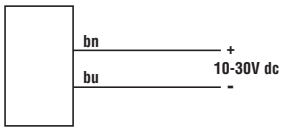
View or download additional information, including excess gain curves, beam patterns and accessories.
For further assistance, contact a Banner Engineering Applications Engineer at (763) 544-3164 or (888) 373-6767.



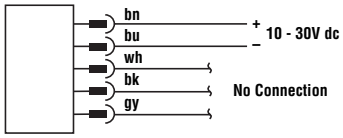
Sensing Mode		Range	Output	Model*
875 nm Infrared Effective Beam: 18 mm (0.7") 	**Opposed**	60 m (200')	–	**QS30E**
			Bipolar NPN/PNP	**QS30R**
630 nm Visible Red 	**Retroreflective**	12 m (40')†		**QS30LV**
630 nm Visible Red 	**Polarized Retro-reflective**	8 m (26')†		**QS30LP**
940 nm Infrared 	**Diffuse**	1 m (3.3')		**QS30D**
680 nm Visible Red 	**Fixed-Field**	200 mm (8")		**QS30FF200**
		400 mm (16")		**QS30FF400**
		600 mm (24")		**QS30FF600**

*Only standard 2 m (6.5') cable models are listed. For 9 m (30') integral cable, add suffix **"W/30"** to the model number (e.g., **QS30E W/30**).
QD models: For 5-pin integral Euro-style QD, add suffix "**Q**" (e.g., **QS30EQ**).
† Range is specified using a model **BRT-84** retroreflector.

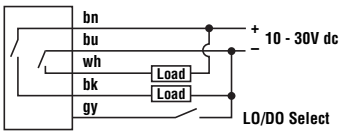
Cabled Emitters



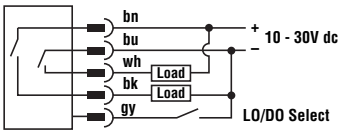
QD Emitters (5-pin Euro-Style)



All Other Cabled Models

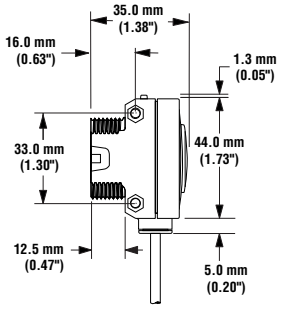


All Other QD Models (5-pin Euro-Style)

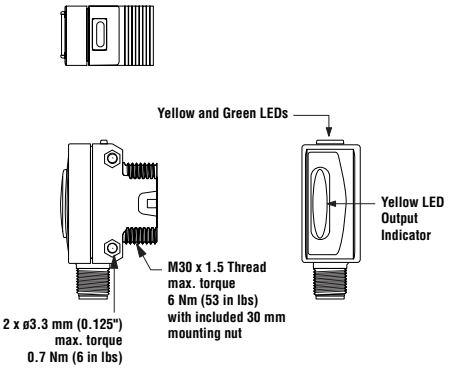


Dimensions

Cabled Models



QD Models



WARNING . . . Not To Be Used for Personnel Protection

Never use these products as sensing devices for personnel protection. Doing so could lead to serious injury or death. These sensors do NOT include the self-checking redundant circuitry necessary to allow their use in personnel safety applications. A sensor failure or malfunction can cause either an energized or de-energized sensor output condition. Consult your current Banner Safety Products catalog for safety products which meet OSHA, ANSI and IEC standards for personnel protection.

WORLD BEAM® QS30 – DC Voltage

Specifications

Supply Voltage and Current
10 to 30V dc (10% maximum ripple) at less than 40 mA, exclusive of load

Supply Protection Circuitry
Protected against reverse polarity and transient voltages

Output Configuration
Bipolar: One current sourcing and one current sinking
Rating: 100 mA maximum each output at 25°C
Off-state leakage current: NPN: less than 200 µA
PNP: less than 10 µA
ON-state saturation voltage: NPN: less than 1.6V @ 100 mA
PNP: less than 2.0V @ 100 mA
Protected against false pulse on power-up and continuous overload or short circuit of outputs

Output Response Time
Opposed Mode: 5 milliseconds ON and OFF
All others: 2 milliseconds
NOTE: 100 millisecond delay on power-up; outputs do not conduct during this time

Repeatability
Opposed Mode: not applicable
All others: 500 microseconds

Cutoff Point Tolerance
Fixed-Field only: ±5% of nominal cutoff distance

Indicators
2 LED indicators on sensor top:
Green ON steady: Power ON
Green flashing: Output overloaded (except receivers)
Yellow ON steady: Light sensed
Yellow flashing: Marginal excess gain (1.0 to 1.5x excess gain)
Large oval LED indicator on sensor back (except emitters):
Yellow ON steady: Output conducting

Adjustments
Diffuse, Retroreflective, and Polarized Retroreflective mode models:
Single-turn Sensitivity (Gain) adjustment potentiometer
All models: Selectable Light/Dark Operate is achieved via the gray wire, as described below.
Opposed, Retroreflective, and Polarized Retroreflective models:
Light Operate - Low (0 to 3V)*
Dark Operate - High (open or 5 to 30V)*
Diffuse and Fixed-Field models:
Light Operate - High (open or 5 to 30V)*
Dark Operate - Low (0 to 3V)*
* Input impedance 10 kΩ

Construction
ABS housing, rated IEC IP67; NEMA 6; Acrylic lens cover
3 mm mounting hardware included

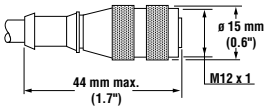
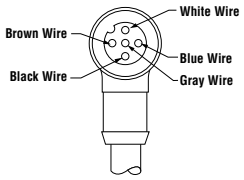
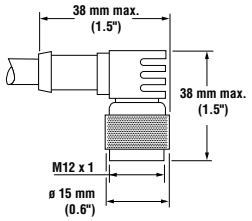
Connections
2 m (6.5') or 9 m (30') 5-wire PVC cable, or 5-pin Euro-style integral QD connector

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

Vibration and Mechanical Shock
All models meet Mil. Std. 202F requirements method 201A (vibration: 10 to 60 Hz max., double amplitude 0.06", maximum acceleration 10G). Also meets IEC 947-5-2; 30G 11 ms duration, half sine wave.

Certifications
CE

Quick-Disconnect (QD) Cables

Style	Model	Length	Dimensions	Pin-Out
5-pin Euro-style straight	**MQDC1-506** **MQDC1-515** **MQDC1-530**	2 m (6.5') 5 m (15') 9 m (30')		
5-pin Euro-style right-angle	**MQDC1-506RA** **MQDC1-515RA** **MQDC1-530RA**	2 m (6.5') 5 m (15') 9 m (30')		

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