

**WORLD-BEAM Models**

Sensing Mode		Model	Output Type	Sensing Mode		Model	Output Type
20 m (66') Opposed		QS186E	Emitter		16 mm (0.63") Convergent	QS18VN6CV15	NPN
		QS186EQ				QS18VN6CV15Q	NPN
		QS18VN6R	NPN			QS18VP6CV15	PNP
		QS18VN6RQ				QS18VP6CV15Q	
		QS18VP6R	PNP		QS18VN6CV45	NPN	
QS18VP6RQ	QS18VN6CV45Q	PNP					
3 m (10') Opposed			QS186EB	Emitter		43 mm (1.7") Convergent	QS18VP6CV45
		QS186EBQ	QS18VN6D				NPN
		QS18VN6RB	NPN	QS18VN6DQ			PNP
		QS18VN6RBQ		QS18VP6D		PNP	
		QS18VP6RB	PNP	QS18VP6DQ			PNP
QS18VP6RBQ	QS18VN6DB	NPN					
3.5 m (12') Polarized Retro		QS18VN6LP	NPN		450 mm (18") Diffuse	QS18VN6DBQ	PNP
		QS18VN6LPQ				QS18VP6DB	
		QS18VP6LP	PNP		QS18VP6DBQ	PNP	
		QS18VP6LPQ			QS18VN6W		NPN
6.5 m (21') Non Polarized Retro		QS18VN6LV	NPN		100 mm (4") Divergent Diffuse	QS18VN6WQ	PNP
		QS18VN6LVQ				QS18VP6W	
		QS18VP6LV	PNP		QS18VP6WQ	PNP	
		QS18VP6LVQ					

**WORLD-BEAM Dimensions and Features**

**Model Suffix E, R, LP**

15.0 mm (0.59")  
6.6 mm (0.26")  
31.0 mm (1.22")  
17.1 mm (0.67")  
24.1 mm (0.95")  
35.0 mm (1.38")  
Ø 3.3 mm Thru (0.13")

**Model Suffix EB, RB**

21.1 mm (0.82")  
6.7 mm (0.26")

**M18 x 1 Jam Nut**

24.2 mm (0.95")  
8.0 mm (0.32")

**Model Suffix CV15, CV45, D, LV**

Single-turn Sensitivity Adjustment  
31.0 mm\* (1.22")  
2.9 mm (0.12")  
\* CV Models: 33.2 mm (1.31")

**Model Suffix DB,W**

21.1 mm (0.82")  
2.9 mm (0.12")

**Packing List:**  
Sensor  
M18 x 1 jam nut  
M3 hardware packet (see, below)  
English installation sheet, P/N 63687  
Multi-language installation sheet, P/N 63689

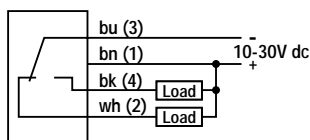
**Hardware Packet Contents:**  
2 - M3 x 0.5 x 20 mm Stainless Steel Screw  
2 - M3 x 0.5 Stainless Steel Hex Nut  
2 - M3 Stainless Steel Washer

## WORLD-BEAM Specifications

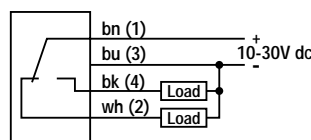
<b>Supply Voltage</b>	10 to 30V dc (10% maximum ripple) at less than 25 mA, exclusive of load; Protected against reverse polarity and transient voltages
<b>Light Source</b>	<b>Opposed</b> and <b>Diffuse</b> mode models: 940 nm infrared; <b>Retroreflective</b> and <b>Convergent</b> mode models: 660 nm visible red
<b>Output Configuration</b>	Solid-state complementary (SPDT): NPN or PNP (current sinking or sourcing), depending on model; <b>Rating:</b> 100 mA maximum each output at 25°C <b>Off-state leakage current:</b> less than 50 µA @ 30V dc <b>ON-state saturation voltage:</b> less than 1V @ 10 mA; less than 1.5V @ 100 mA Protected against false pulse on power-up and continuous overload or short circuit of outputs
<b>Output Response</b>	<b>Opposed Mode:</b> 750 microseconds ON; 375 microseconds OFF <b>All others:</b> 600 microseconds ON/OFF NOTE: 100 millisecond delay on power-up; outputs do not conduct during this time
<b>Repeatability</b>	<b>Opposed Mode:</b> 100 microseconds <b>All others:</b> 150 microseconds
<b>Adjustments</b>	<b>Convergent, diffuse, and non-polarized retroreflective</b> mode models (only): Single-turn sensitivity (GAIN) adjustment potentiometer
<b>Indicators</b>	2 LED indicators: <b>Green steady:</b> Power ON <b>Green flashing:</b> Output overloaded <b>Red steady:</b> Light sensed <b>Red flashing:</b> Marginal excess gain
<b>Construction</b>	Polycarbonate/ABS alloy housing, rated IEC IP67; NEMA 6
<b>Connections</b>	2 m (6.5') 4-wire PVC cable, 9 m (30') PVC cable, or 4-pin Pico-style 150 mm (6") pigtail QD, depending on model
<b>Operating Conditions</b>	<b>Temperature:</b> -20° to +70° C (-4° to + 158° F) <b>Relative Humidity:</b> 90% @ 50° C (non-condensing)

## WORLD-BEAM Hookups

**QS18 Sensors with NPN (Sinking) Outputs**

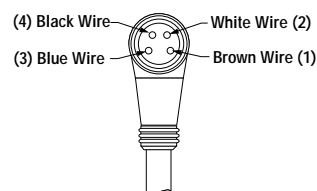


**QS18 Sensors with PNP (Sourcing) Outputs**

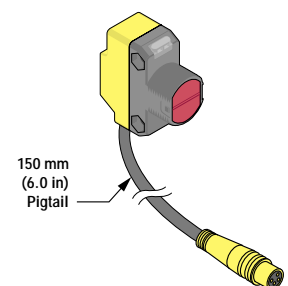


NOTE: 1) Opposed mode emitters have no output connections

**4-Pin Pico-Style Pin-out (Cable Connector Shown)**



**Quick-disconnect Option (Model suffix "Q")**



**WARRANTY:** Banner Engineering Corp. warrants its products to be free from defects for one year. Banner Engineering Corp. will repair or replace, free of charge, any product of its manufacture found to be defective at the time it is returned to the factory during the warranty period. This warranty does not cover damage or liability for the improper application of Banner products. This warranty is in lieu of any other warranty either expressed or implied.



### **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.