

**WORLD-BEAM QS18 Models**

Sensing Mode	Model*	Output Type
20 m (66') Opposed	QS186E	Emitter
	QS18VN6R	NPN
	QS18VP6R	PNP
3 m (10') Opposed	QS186EB	Emitter
	QS18VN6RB	NPN
	QS18VP6RB	PNP
3.5 m (12') Polarized Retro	QS18VN6LP	NPN
	QS18VP6LP	PNP
6.5 m (21') Non-Polarized Retro	QS18VN6LV	NPN
	QS18VP6LV	PNP
16 mm (0.63") Convergent	QS18VN6CV15	NPN
	QS18VP6CV15	PNP
43 mm (1.7") Convergent	QS18VN6CV45	NPN
	QS18VP6CV45	PNP
450 mm (18") Diffuse	QS18VN6D	NPN
	QS18VP6D	PNP
450 mm (18") Diffuse	QS18VN6DB	NPN
	QS18VP6DB	PNP

Sensing Mode	Model*	Output Type
100 mm (4") Divergent Diffuse	QS18VN6W	NPN
	QS18VP6W	PNP
50 mm (2") Fixed-Field	QS18VN6FF50	NPN
	QS18VP6FF50	PNP
100 mm (4") Fixed-Field	QS18VN6FF100	NPN
	QS18VP6FF100	PNP
220 mm (8.7") Individual (Opposed)	QS18VN6FP	NPN
	QS18VP6FP	PNP
60 mm (2.4") Bifurcated (Diffuse)	QS18VN6F	NPN
	QS18VP6F	PNP
500 mm (20") Individual (Opposed)	QS18VN6F	NPN
	QS18VP6F	PNP
38 mm (1.5") Bifurcated (Diffuse)	QS18VN6F	NPN
	QS18VP6F	PNP

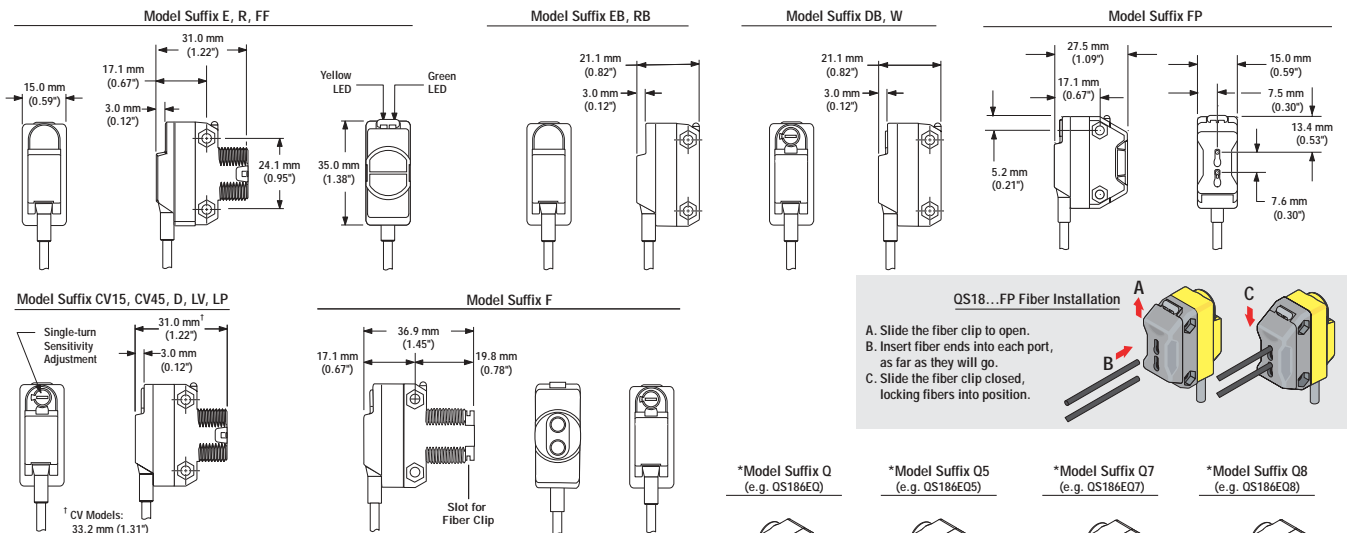
\* Only standard 2 m (6.5') cable models are listed. For 9 m (30') cable, add suffix "W/30" to the model number (e.g., QS186E W/30)

**QD models:**

- 4-pin integral Euro-style QD: add suffix "Q8" (e.g., QS186EQ8).
- 4-pin 150 mm (6") Euro-style pigtail: add suffix "Q5" (e.g., QS186EQ5).
- 4-pin integral Pico-style QD: add suffix "Q7" (e.g., QS186EQ7).
- 4-pin 150 mm (6") Pico-style pigtail: add suffix "Q" (e.g., QS186EQ).




**Dimensions and Features**



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

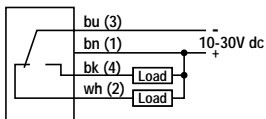
**M3 Hardware Packet Contents:**  
2 - M3 x 0.5 x 20 mm SS Screw  
2 - M3 x 0.5 SS Hex Nut  
2 - M3 SS Washer

## Specifications

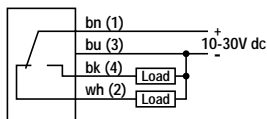
<b>Supply Voltage</b>	10 to 30V dc (10% maximum ripple) at less than 25 mA, exclusive of load; Protected against reverse polarity and transient voltages
<b>Light Source</b>	<b>Glass Fiber Optic, Opposed and Diffuse mode models:</b> 940 nm infrared; <b>Plastic Fiber Optic, Retroreflective, Convergent and FF mode models:</b> 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: FF Mode:</b> less than 200 µA @ 30V dc <b>All others:</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>FF Mode:</b> 800 microseconds ON/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>FF Mode:</b> 200 microseconds <b>All others:</b> 150 microseconds
<b>Adjustments</b>	<b>Glass Fiber Optic, Plastic Fiber Optic, Convergent, Diffuse, and Retroreflective mode models (only):</b> 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>Yellow* steady:</b> Light sensed <b>Yellow* flashing:</b> Marginal excess gain (1.0 to 1.5x excess gain) <b>*NOTE:</b> Prior to date code 0223, the output indicator was red.
<b>Construction</b>	ABS housing, rated IEC IP67; NEMA 6
<b>Connections</b>	2 m (6.5') 4-wire PVC cable      4-pin Pico-style QD      4-pin Euro-style QD 9 m (30') 4-wire PVC cable      4-pin Pico-style 150 mm (6") pigtail QD      4-pin Euro-style 150 mm (6") pigtail QD
<b>Operating Conditions</b>	<b>Temperature:</b> -20° to +70° C (-4° to +158° F) <b>Relative Humidity:</b> 90% @ 50° C (non-condensing)
<b>Certifications</b>	

## Hookups

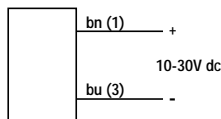
QS18 Sensors with NPN (Sinking) Outputs



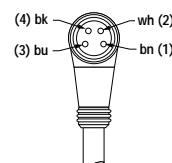
QS18 Sensors with PNP (Sourcing) Outputs



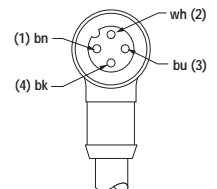
QS18 Emitters



4-Pin Pico-Style Pin-Out (Cable Connector Shown)



4-Pin Euro-Style Pin-Out (Cable Connector Shown)



Cable and QD hookups are functionally identical.

QD wh and bk wires are unused.

**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.