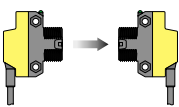
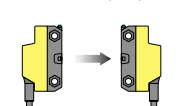
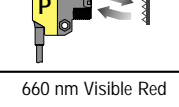
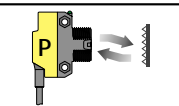
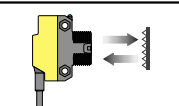
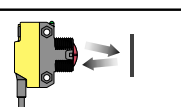
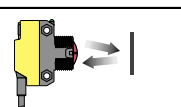
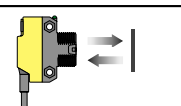
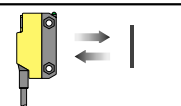
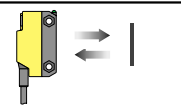


WORLD-BEAM Features



- Easily fits (or retrofits) almost any mounting situation
- Exceptional optical performance, comparable to larger “mini-style” or barrel sensors
- 10 to 30V dc operation, with complementary (SPDT) NPN or PNP outputs, depending on model
- Bright LED operating status indicators are visible from 360°
- Rugged sealed housing, protected circuitry
- Models available with or without 18 mm threaded “nose”
- All models less than 1 millisecond output response for excellent sensing repeatability
- Choose 2 m (6.5') or 9 m (30') cable or 150 mm (6") Pico-style pigtail quick-disconnect

WORLD-BEAM Models

Sensing Mode		Model*	Range	Output	
Opposed	940 nm Infrared Effective Beam: 13 mm (0.5") 	QS186E	20 m (66')	N/A	
		QS186EQ		NPN	
		QS18VN6R			
		QS18VN6RQ			
		QS18VP6R			
		QS18VP6RQ			
	940 nm Infrared Effective Beam: 13 mm (0.5") 	QS186EB	3 m (10')	N/A	
		QS186EBQ		NPN	
		QS18VN6RB			
		QS18VN6RBQ			
	QS18VP6RB	PNP			
	QS18VP6RBQ				
	QS18VP6RQ				
Polarized Retro	660 nm Visible Red 	QS18VN6LP	3.5 m (12')	NPN	
		QS18VN6LPQ		PNP	
		QS18VP6LP			
		QS18VP6LPQ			
Retro	660 nm Visible Red 	QS18VN6LV	6.5 m (21')	NPN	
		QS18VN6LVQ		PNP	
		QS18VP6LV			
		QS18VP6LVQ			
Convergent	660 nm Visible Red 	QS18VN6CV15	16 mm (0.63")	NPN	
		QS18VN6CV15Q		PNP	
		QS18VP6CV15			
		QS18VP6CV15Q			
	660 nm Visible Red 	QS18VN6CV45	43 mm (1.7")	NPN	
		QS18VN6CV45Q		PNP	
		QS18VP6CV45Q			
	Diffuse	940 nm Infrared 	QS18VN6D	450 mm (18")	NPN
			QS18VN6DQ		PNP
			QS18VP6DQ		
		QS18VN6DB	450 mm (18")	NPN	
		QS18VN6DBQ		PNP	
		QS18VP6DBQ			
Divergent	940 nm Infrared 	QS18VN6W	100 mm (4")	NPN	
		QS18VN6WQ		PNP	
		QS18VP6W			
		QS18VP6WQ			

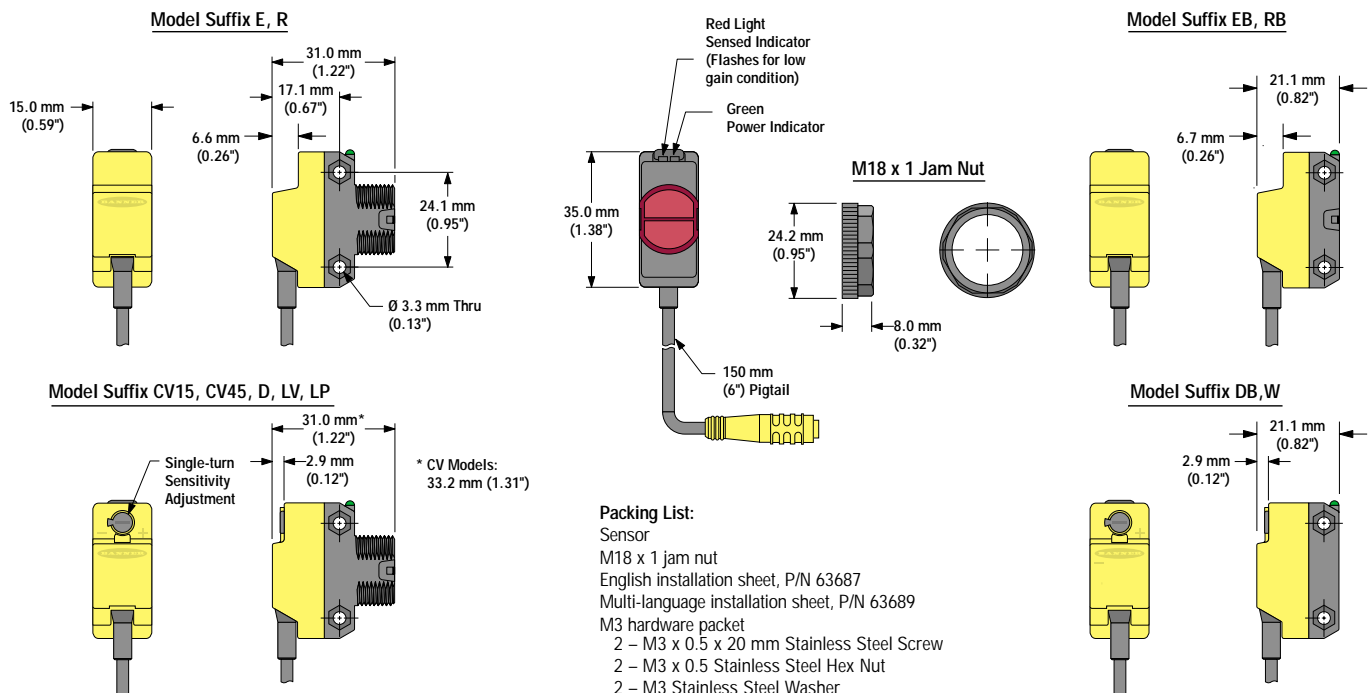
*Model numbers ending in “Q” have 150 mm (6") Pico-style QD. 30' cable models available by adding “W/30” to the model number of any cabled sensor (e.g., QS186E W/30).

WORLD-BEAM™ QS18

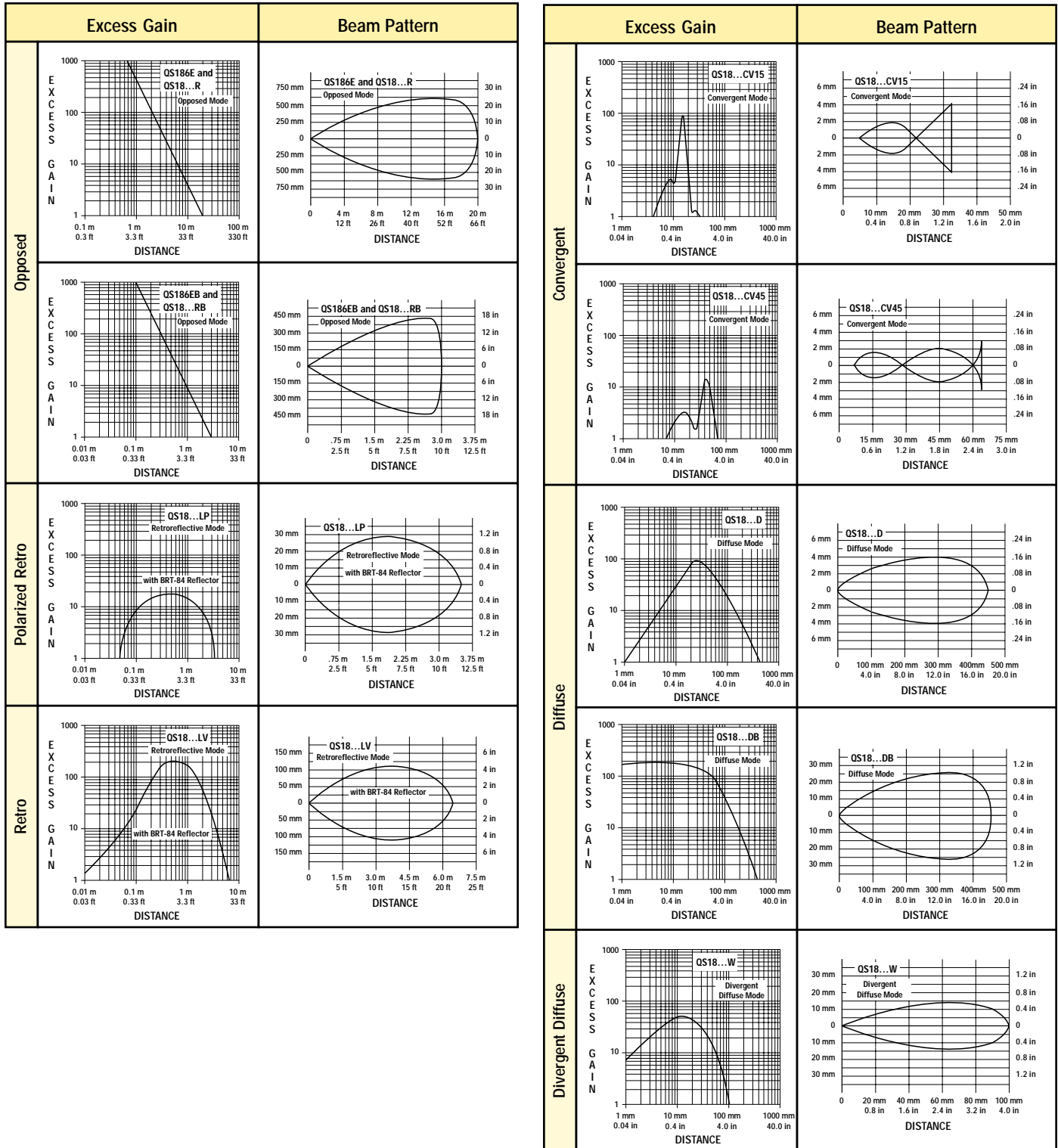
WORLD-BEAM Specifications

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

WORLD-BEAM Dimensions and Features



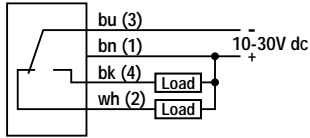
WORLD-BEAM Performance Curves



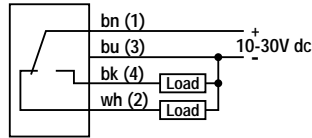
WORLD-BEAM™ QS18

WORLD-BEAM Hookups

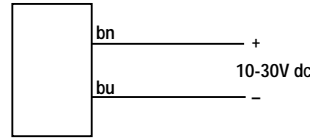
QS18 Sensors with NPN (Sinking) Outputs



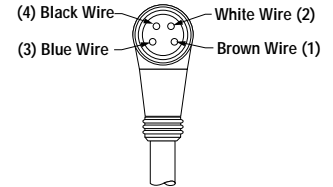
QS18 Sensors with PNP (Sourcing) Outputs



QS18 Emitters



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



Pico-Style Quick-Disconnect Cables

Style	Model	Length	Dimensions
4-Pin Straight	PKG4-2	2 m (6.5')	

Retroreflective Targets

See the Accessories section of your current Banner Photoelectric Sensors catalog for complete information.

NOTE: Polarized sensors require corner cube type retroreflective targets only.

Mounting Brackets

<p>SMB18A</p> <ul style="list-style-type: none"> • 12-gauge, stainless steel • Right-angle mounting bracket 	<p>SMB312S</p> <ul style="list-style-type: none"> • Stainless steel 2-axis, side mounting bracket
<p>* Use 4 mm (#8) screws to mount bracket. Drill screw holes 24.2 mm (0.95") apart.</p> <p>Refer to your current Banner Photoelectrics catalog for more mounting bracket options</p>	

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.