

WORLD-BEAM QS18®



Miniature self-contained photoelectric sensors in universal-mount housing

For the latest technical information about this product, including specifications, dimensions, and wiring, see www.BannerEngineering.com

Models

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

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

Model*	Sensing Mode	Output Type
QS18VN6DB	450 mm (18") Diffuse	NPN
QS18VP6DB		PNP
QS18VN6W	100 mm (4") Divergent Diffuse	NPN
QS18VP6W		PNP
QS18VN6FF50	50 mm (2") Fixed-Field	NPN
QS18VP6FF50		PNP
QS18VN6FF100	100 mm (4") Fixed-Field	NPN
QS18VP6FF100		PNP
QS18VN6FP	220 mm (8.7") Individu-al (Opposed) 60 mm (2.4") Bifurcated (Dif-fuse) Range specified using 1.5 mm plastic fiber op-tics	NPN
QS18VP6FP		PNP
QS18VN6F	500 mm (20") Individual (Opposed) 38 mm (1.5") Bifurcated (Dif-fuse) Range specified using 3.2 mm plastic fiber op-tics	NPN
QS18VP6F		PNP

QD Models:

4-pin integral Euro-style QD: add suffix **Q8** (e.g., **QS186EQ8**)

4-pin 150 mm (6") Euro-style pigtail QD: add suffix **Q5** (e.g., **QS186EQ5**)

4-pin integral Pico-style pigtail QD: add suffix **Q7** (e.g., **QS186EQ7**)

4-pin 150 mm (6") Pico-style pigtail QD: add suffix **Q** (e.g., **QS186EQ**)



WARNING: Not To Be Used for Personnel Protection

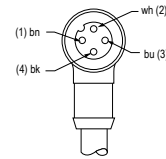
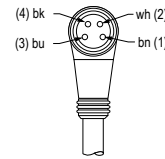
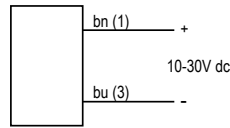
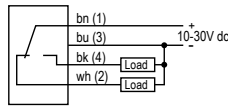
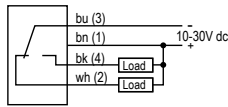
Never use this product as a sensing device for personnel protection. Doing so could lead to serious injury or death. This product does NOT include the self-checking redundant circuitry necessary to allow its use in personnel safety applications. A sensor failure or malfunction can cause either an energized or de-energized sensor output condition.

Wiring

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)
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Cable and QD hookups are functionally identical.

QD wh and bk wires are unused.



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

Glass Fiber Optic, Opposed and Diffuse mode models: 940 nm infra-red;
Plastic Fiber Optic, Retroreflective, Convergent and FF 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:

FF Mode - less than 200 μ A @ 30V dc

All others - less than 50 μ A @ 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

FF Mode: 850 microseconds ON/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

FF Mode: 160 microseconds

All others: 150 microseconds

Adjustments

Glass Fiber Optic, Plastic Fiber Optic, Convergent, Diffuse, and Retro-reflective mode models (only): Single-turn sensitivity (Gain) adjustment potentiometer

Indicators

2 LED indicators:

Green steady: Power ON

Green flashing: Output overloaded

Yellow* steady: Light sensed

Yellow* flashing: Marginal excess gain (1.0 to 1.5x excess gain)

NOTE: Prior to date code 0223, the output indicator was red.

Construction

ABS housing, rated IEC IP67; NEMA 6; UL Type 1

Connections

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

Operating Conditions

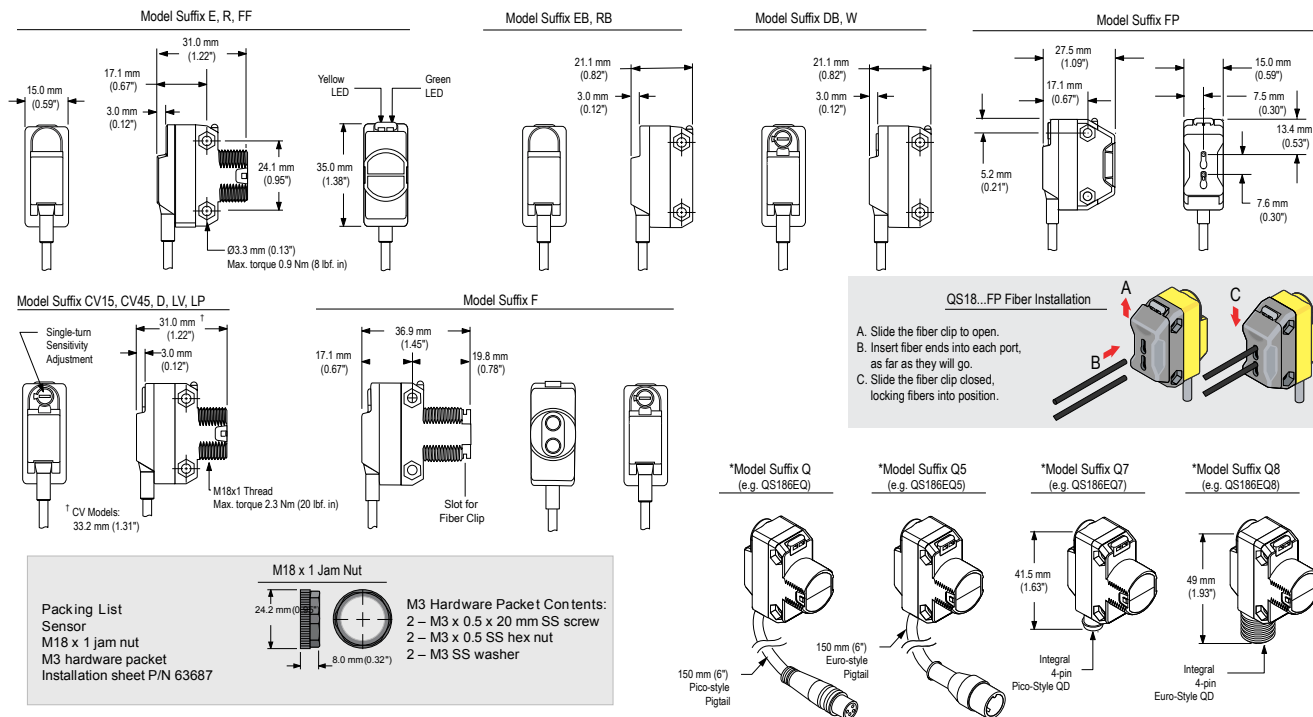
Temperature: -20° to +70° C (-4° to +158° F)

Relative Humidity: 90% @ 50° C (non-condensing)

Certifications



Dimensions



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