

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	Model*	Sensing Mode	Output Type
QS186E	20 m (66') Opposed	Emitter	QS18VN6DB	450 mm (18") Diffuse	NPN
QS18VN6R		NPN	QS18VP6DB		PNP
QS18VP6R		PNP			
QS186EB	3 m (10') Opposed	Emitter	QS18VN6W	100 mm (4") Divergent Diffuse	NPN
QS18VN6RB		NPN	QS18VP6W		PNP
QS18VP6RB		PNP			
QS18VN6LP	3.5 m (12') Polarized Retro	NPN	QS18VN6FF50	50 mm (2") Fixed-Field	NPN
QS18VP6LP		PNP	QS18VP6FF50		PNP
			QS18VN6FF100	100 mm (4") Fixed-Field	NPN
			QS18VP6FF100		PNP
QS18VN6LV	6.5 m (21') Non-Polarized Retro	NPN	QS18VN6FP	220 mm (8.7") Individual (Opposed) 60 mm (2.4") Bifurcated (Diffuse)	NPN
QS18VP6LV		PNP	QS18VP6FP		PNP
QS18VN6CV15	16 mm (0.63") Convergent	NPN			
QS18VP6CV15		PNP			
QS18VN6CV45	43 mm (1.7") Convergent	NPN	QS18VN6F	500 mm (20") Individual (Opposed) 38 mm (1.5") Bifurcated (Diffuse)	NPN
QS18VP6CV45		PNP	QS18VP6F		PNP
QS18VN6D	450 mm (18") Diffuse	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**)

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**)



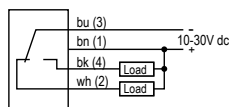
WARNING: Not To Be Used for Personnel Protection

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.

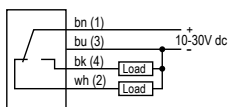
Wiring

QS18 Sensors with NPN (Sinking) Outputs

Cable and QD hookups are functionally identical.

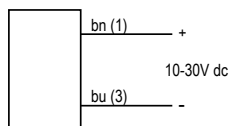


QS18 Sensors with PNP (Sourcing) Outputs

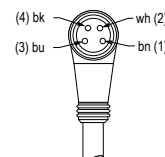


QS18 Emitters

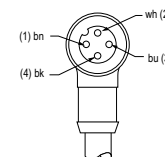
QD wh and bk wires are unused.



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



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



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

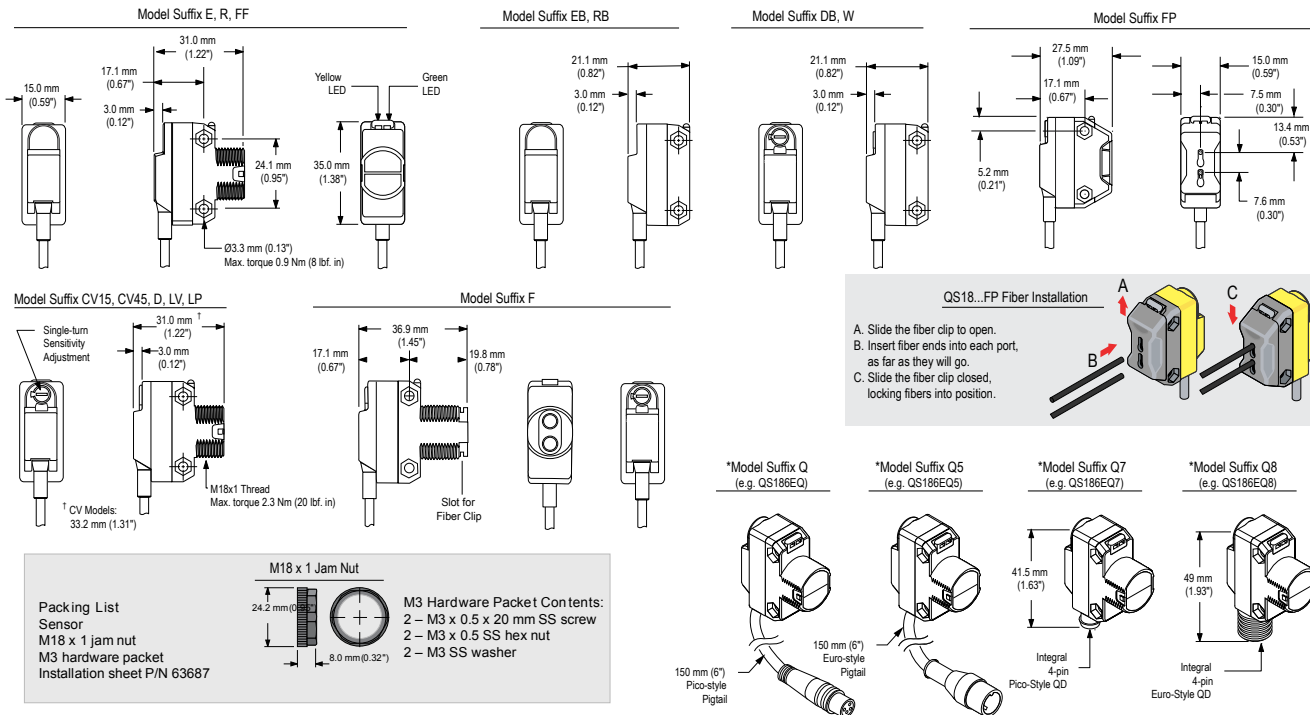
Temperature: -20° to +70° C (-4° to +158° F)

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

Certifications



Dimensions



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