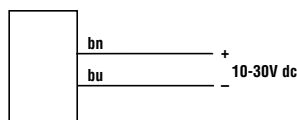
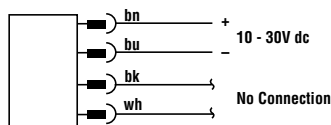




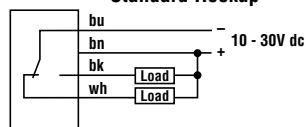
Cabled Emitters



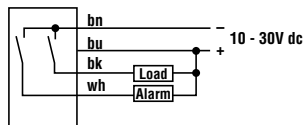
QD Emitters



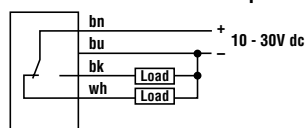
NPN (Sinking) Outputs Standard Hookup



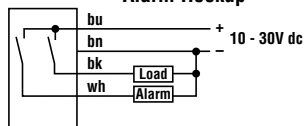
Alarm Hookup



PNP (Sourcing) Outputs Standard Hookup



Alarm Hookup



NOTE: QD hookups are functionally identical.

Sensing Mode	Range	LED	Output	Model *
Opposed	20 m (66')	Infrared 950 nm	–	S186E
			NPN	S18SN6R
			PNP	S18SP6R
Retro-reflective†	2 m (79")	Infrared 950 nm	NPN	S18SN6L
			PNP	S18SP6L
Polarized Retro-reflective†	2 m (79")	Visible Red 680 nm	NPN	S18SN6LP
			PNP	S18SP6LP
Diffuse	100 mm (4")	Infrared 880 nm	NPN	S18SN6D
	300 mm (12")		PNP	S18SP6D
	300 mm (12")		NPN	S18SN6DL
	300 mm (12")		PNP	S18SP6DL
Fixed Field	25 mm (1") cutoff	Infrared 880 nm	NPN	S18SN6FF25
	50 mm (2") cutoff		PNP	S18SP6FF25
	100 mm (4") cutoff		NPN	S18SN6FF50
	100 mm (4") cutoff		PNP	S18SP6FF50
	100 mm (4") cutoff		NPN	S18SN6FF100
	100 mm (4") cutoff		PNP	S18SP6FF100

* Standard 2 m (6.5') cable models are listed.

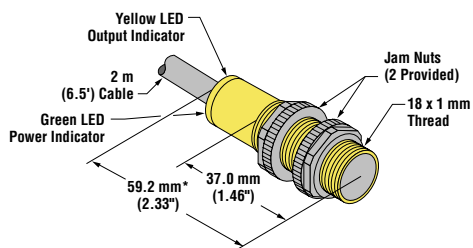
• 9 m (30') cable: add suffix "W/30" (e.g., **S186E W/30**).

• 4-pin Euro-style QD models: add suffix "Q" (e.g., **S186EQ**). A model with a QD connector requires a mating cable.

† Use polarized models when shiny objects will be sensed.

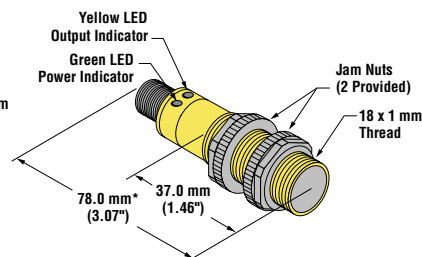
Dimensions

Cabled Models



*Polarized retro and fixed-field models = 65.0 mm (2.56")

QD Models



*Polarized retro and fixed-field models = 83.8 mm (3.30")



S18 Sensors – dc-Voltage Series

Specifications

Supply Voltage and Current (exclusive of load current): 10 to 30V dc (10% max. ripple); supply current (exclusive of load current):

Emitters, Non-Polarized Retro, Diffuse: 25 mA

Receivers: 20 mA

Polarized Retroreflective: 30 mA

Fixed-Field: 35 mA

Supply Protection Circuitry

Protected against reverse polarity and transient voltages

Output Configuration

SPDT solid-state dc switch; Choose NPN (current sinking) or PNP (current sourcing) models

Light Operate: N.O. output conducts when sensor sees its own (or the emitter's) modulated light

Dark Operate: N.C. output conducts when the sensor sees dark; the N.C. (normally closed) output may be wired as a normally open marginal signal alarm output, depending upon hookup to power supply (U.S. patent 5087838)

Output Rating

150 mA maximum (each) in standard hookup. When wired for alarm output, the total load may not exceed 150 mA.

OFF-state leakage current: < 1 microamp @ 30V dc

ON-state saturation voltage: < 1V at 10 mA dc; < 1.5V at 150 mA dc

Output Protection Circuitry

Protected against false pulse on power-up and continuous overload or short circuit of outputs

Output Response Time

Opposed mode: 3 ms ON, 1.5 ms OFF

Retro, Fixed-Field and Diffuse: 3 ms ON and OFF

NOTE: 100 ms delay on power-up; outputs do not conduct during this time.

Repeatability

Opposed mode: 375 μ s

Retro, Fixed-Field and Diffuse: 750 μ s

Repeatability and response are independent of signal strength.

Indicators

Two LEDs (Green and Yellow)

Green ON steady: power to sensor is ON

Green flashing: output is overloaded

Yellow ON steady: N.O. output is conducting

Yellow flashing: excess gain marginal (1 to 1.5x) in light condition

Construction

PBT polyester housing; polycarbonate (opposed mode) or acrylic lens

Environmental Rating

Leakproof design rated NEMA 6P, DIN 40050 (IP69K)

Connections

2 m (6.5') or 9 m (30') attached cable, or 4-pin Euro-style quick-disconnect fitting

Operating Conditions

Temperature: -40° to +70°C (-40° to +158°F)

Maximum relative humidity: 90% at 50°C (non-condensing)

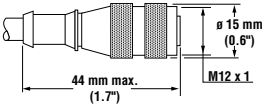
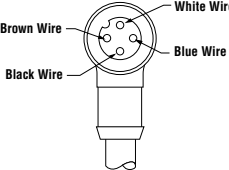
Vibration and Mechanical Shock

All models meet Mil. Std. 202F requirements. Method 201A (Vibration; frequency 10 to 60 Hz, max., double amplitude 0.06" acceleration 10G). Method 213B conditions H&I (Shock: 75G with unit operating; 100G for non-operation)

Certifications



Quick-Disconnect (QD) Cables

Style	Model	Length	Dimensions	Pin-Out
4-pin Euro-style Straight	MQDC-406 MQDC-415 MQDC-430	2 m (6.5') 5 m (15') 9 m (30')		
4-pin Euro-style Right-angle	MQDC-406RA MQDC-415RA MQDC-430RA	2 m (6.5') 5 m (15') 9 m (30')	