

T18 Sensors - DC Voltage Series



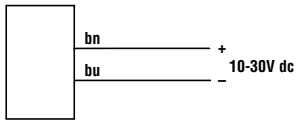
Self-contained, dc-operated sensors

Additional information on this product is immediately available online at www.bannerengineering.com/116163

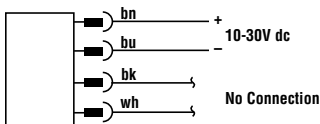
View or download additional information, including excess gain curves, beam patterns and accessories.
For further assistance, contact a Banner Engineering Applications Engineer at (763) 544-3164 or (888) 373-6767.



Cabled Emitters

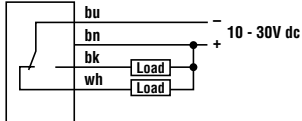


QD Emitters

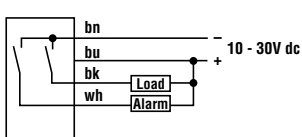


NPN (Sinking) Outputs

Standard Hookup

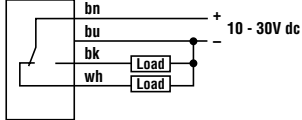


Alarm Hookup

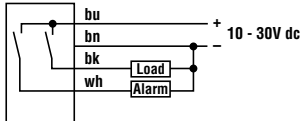


PNP (Sourcing) Outputs

Standard Hookup



Alarm Hookup



NOTE: QD hookups are functionally identical.

Sensing Mode	Range	LED	Output	Model*
Opposed	20 m (66')	Infrared 950 nm	-	T186E
			NPN	T18SN6R
			PNP	T18SP6R
			NPN	T18SN6L
Retro-reflective with Gain control	2 m (79")†	Visible Red 680 nm	PNP	T18SP6L
Polarized Retro-reflective			NPN	T18SN6LP
			PNP	T18SP6LP
			NPN	T18SN6D
Diffuse with Gain control	500 mm (20")	Infrared 880 nm	PNP	T18SP6D
Fixed Field	25 mm (1") cutoff		NPN	T18SN6FF25
	50 mm (2") cutoff		PNP	T18SP6FF25
	100 mm (4") cutoff		NPN	T18SN6FF50
			PNP	T18SP6FF50
			NPN	T18SN6FF100
		PNP	T18SP6FF100	

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

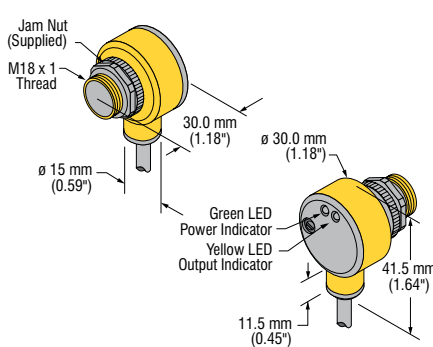
• **9 m (30') cable:** add suffix "W/30" (e.g., T186E W/30).

• **4-pin Euro-style QD models:** add suffix "Q" (e.g., T186EQ). A model with a QD connector requires a mating cable.

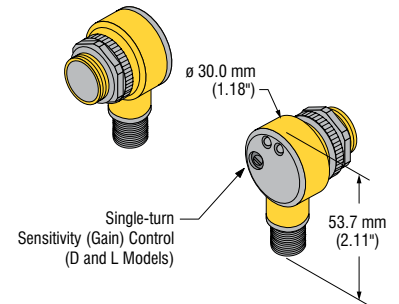
† Use polarized models when shiny objects will be sensed.

Dimensions

Cabled Models



QD Models



⚠ WARNING . . . Not To Be Used for Personnel Protection

Never use these products for personnel protection. Doing so could lead to serious injury or death. These devices do NOT include the self-checking redundant circuitry necessary to allow their use in personnel safety applications. A device failure or malfunction can cause either an energized or de-energized output condition. Consult your current Banner Safety Products catalog for safety products that meet OSHA, ANSI, and IEC standards for personnel protection.

T18 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.

Adjustments

Non-polarized retro and diffuse models (only) have a single-turn rear-panel sensitivity control (turn clockwise to increase gain).

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')		



more sensors, more solutions

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