

# T30 Sensors - DC-Voltage Series

Self-Contained, DC-Operated Sensors

For complete technical information about this product, including dimensions, accessories, and specifications, see [www.bannerengineering.com](http://www.bannerengineering.com) and search 121524



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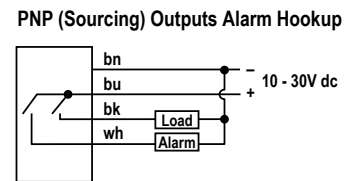
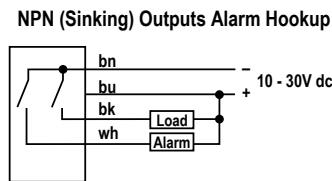
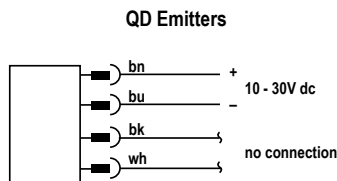
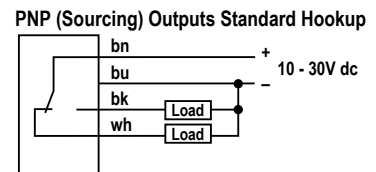
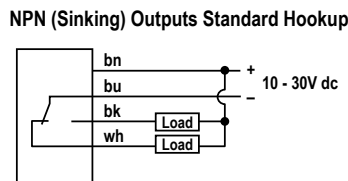
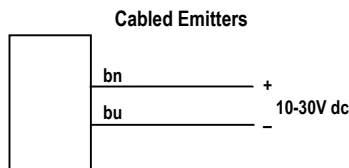


**WARNING: Not To Be Used for Personnel Protection**  
 Never use this device as a sensing device for personnel protection. Doing so could lead to serious injury or death. This device does NOT include the self-checking redundant circuitry necessary to allow its use in personnel safety applications. A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

## Models

Sensing Mode	Model <sup>1</sup>	Output	Range	LED
 OPPOSED	T306E	-	60 m (200 ft)	Infrared, 950 nm
	T30SN6R	NPN		
	T30SP6R	PNP		
 POLAR RETRO	T30SN6LP	NPN	6 m (20 ft)	Visible Red, 680 nm
	T30SP6LP	PNP		
 FIXED-FIELD	T30SN6FF200	NPN	200 mm (8 in) cutoff	Infrared, 880 nm
	T30SP6FF200	PNP		
	T30SN6FF400	NPN	400 mm (16 in) cutoff	
	T30SP6FF400	PNP		
	T30SN6FF600	NPN	600 mm (24 in) cutoff	
	T30SP6FF600	PNP		

## Hookups



**NOTE:** Cabled hookups are shown. QD hookups are functionally identical.

<sup>1</sup> Standard 2 m (6.5 ft) cable models are listed. To order 9 m (30 ft) cable: add suffix **W/30** (for example, T306EW/30). To order 4-pin Euro-style QD models: add suffix **Q** (for example, T306EQ). A model with a QD connector requires a mating cable.



## Specifications

### Supply Voltage and Current

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

**Emitters, Non-Polarized, Retro:** 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; NPN (current sinking) or PNP (current sourcing) outputs, depending on model

**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. output may be wired as a normally open marginal signal alarm output, depending upon hookup to power supply

### 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  $\mu$ A at 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  $\mu$ s

**Retro, Fixed-Field and Diffuse:** 750  $\mu$ 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 ft) or 9 m (30 ft) attached cable or 4-pin Euro-style quick-disconnect fitting

### Operating Conditions

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

**Humidity:** 90% at +50° C maximum relative humidity (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 in acceleration 10G). Method 213B conditions H&I (Shock: 75G with unit operating; 100G for non-operation)

### Certifications



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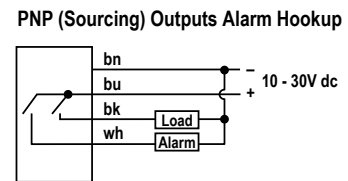
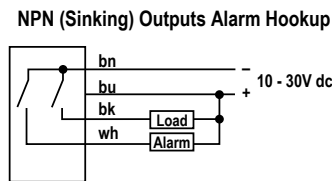
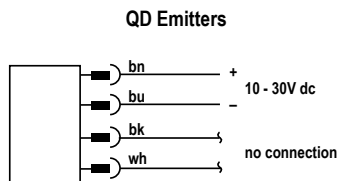
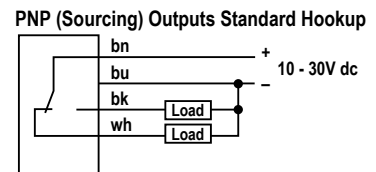
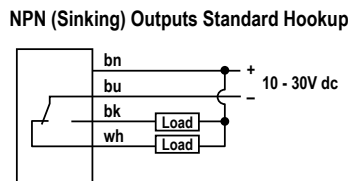
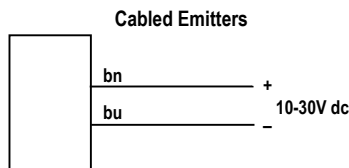


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