

# 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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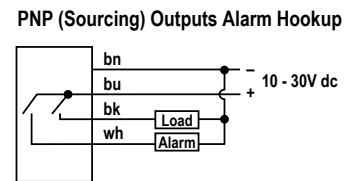
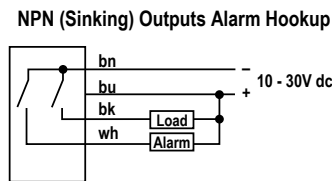
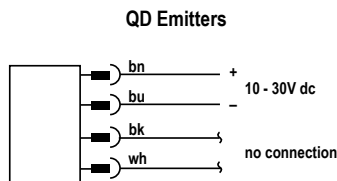
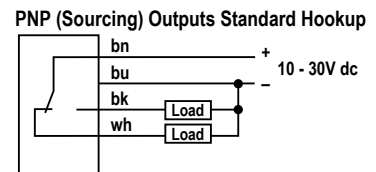
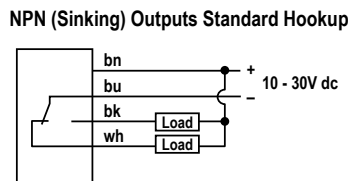
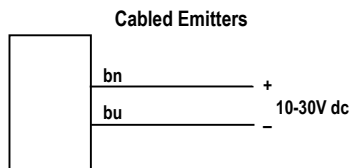


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 Never use this device as a sensing device for personnel protection. Doing so could lead to serious injury or death. This device does NOT include the self-checking redundant circuitry necessary to allow its use in personnel safety applications. A sensor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

## Models

| Sensing Mode    | Model <sup>1</sup> | Output | Range                 | LED                 |
|-----------------|--------------------|--------|-----------------------|---------------------|
| <br>OPPOSED     | T306E              | -      | 60 m (200 ft)         | Infrared, 950 nm    |
|                 | T30SN6R            | NPN    |                       |                     |
|                 | T30SP6R            | PNP    |                       |                     |
| <br>POLAR RETRO | T30SN6LP           | NPN    | 6 m (20 ft)           | Visible Red, 680 nm |
|                 | T30SP6LP           | PNP    |                       |                     |
| <br>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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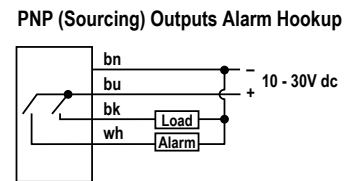
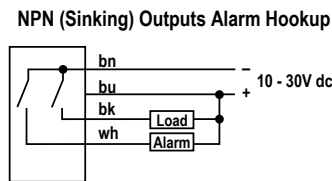
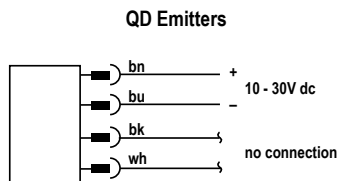
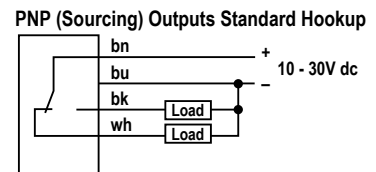
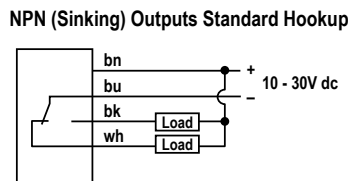
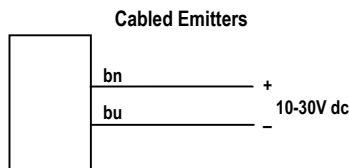


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