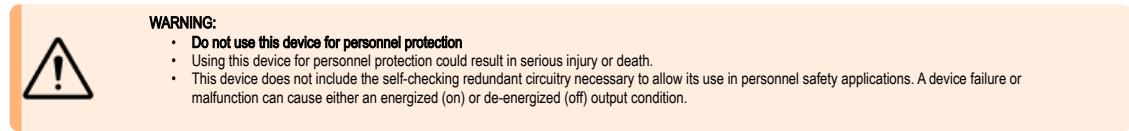
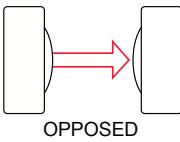
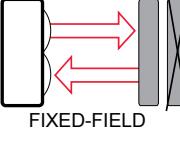


## Features

For complete technical information about this product, including installation instructions, application requirements and guidelines, technical specifications, and accessories, go to [www.bannerengineering.com](http://www.bannerengineering.com) and search 121523.



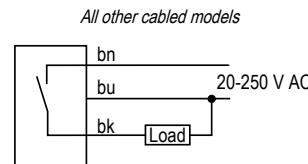
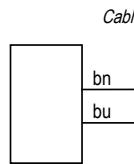
## Models

Sensing Mode	Model	Output	Range	LED
	T303E	-	60 m (200 ft)	Infrared, 950 nm
	T30AW3R	LO		
	T30RW3R	DO		
	T30AW3LP	LO	6 m (20 ft)	Visible red, 680 nm
	T30RW3LP	DO		
	T30AW3FF200	LO	200 mm (8 in) cutoff	Infrared, 880 nm
	T30RW3FF200	DO		
	T30AW3FF400	LO	400 mm (16 in) cutoff	
	T30RW3FF400	DO		
	T30AW3FF600	LO	600 mm (24 in) cutoff	
	T30RW3FF600	DO		

Standard 2 m (6.5 ft) cable models are listed.

- To order the 9 m (30 ft) cable model: add suffix "W/30" (for example, T303E W/30).
- To order the 4-pin Micro-style integral QD model: add suffix "Q1" (for example, T303EQ1).
- A model with a QD connector requires a mating cable.

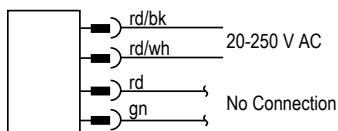
## Wiring Diagrams



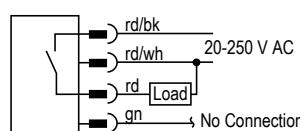
Continued on page 2

Continued from page 1

4-pin 1/2 in-20UNF (1/2-in Dual Key) quick disconnect emitters



All other 4-pin 1/2 in-20UNF (1/2-in Dual Key) quick disconnect models



4-pin 1/2 in-20UNF (1/2-in Dual Key) male pinout



Key:

- 1 - Red/black
- 2 - Red/white
- 3 - Red
- 4 - Green

## Specifications

### Supply Voltage and Current

20 V AC to 250 V AC (50 Hz to 60 Hz)

Average current: 20 mA

#### Peak current:

- 200 mA at 20 V AC
- 500 mA at 120 V AC
- 750 mA at 250 V AC

### Supply Protection Circuitry

Protected against transient voltages

### Output Protection Circuitry

Protected against false pulse on power-up

### Output Configuration

SPST solid-state AC switch; three-wire hookup; light operate or dark operate, depending on model

**Light Operate:** Output conducts when sensor sees its own (or the emitter's) modulated light**Dark Operate:** Output conducts when the sensor sees dark

### Output Rating

300 mA maximum (continuous)

**Fixed-Field models:** derate 5 mA/°C above +50 °C (+122 °F)**Inrush capability:** 1 amp for 20 ms, non-repetitive**OFF-state leakage current:** < 100 mA**ON-state saturation voltage:** 3 V at 300 mA AC; 2 V at 15 mA AC

### Output Response

**Time Opposed mode:** 16 ms ON, 8 ms OFF**Other models:** 16 ms ON and OFF

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

### Repeatability

**Opposed mode:** 2 ms**Other models:** 4 ms

Repeatability and response are independent of signal strength

### Indicators

Two LEDs (Green and Amber)

**Green ON steady:** power to sensor is ON**Amber ON steady:** sensor sees light**Amber flashing:** excess gain marginal (1 to 1.5 times) in light condition

### Construction

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

### Environmental Rating

Leakproof design rated IP69K per ISO 20653

### Connections

2 m (6.5 ft) integral PVC-jacketed cable, or Integral 4-pin 1/2 in. 20UNF quick-disconnect connector

### Operating Conditions

**Temperature:** -40 °C to +70 °C (-40 °F to +158 °F)**Humidity:** 90% at +50 °C maximum relative humidity (non-condensing)

### Vibration and Mechanical Shock

All models meet MIL-STD-202F, Method 201A (Vibration: 10 Hz to 60 Hz maximum, 0.06 inch (1.52 mm) double amplitude, 10G acceleration) requirements. Method 213B conditions H&amp;L. (Shock: 75G with device operating; 100G for non-operation)

### Certifications

Banner Engineering BV  
Park Lane, Culliganlaan 2F bus 3  
1831 Diegem, BELGIUMTurck Banner LTD Blenheim House  
Blenheim Court  
Wickford, Essex SS11 8YT  
GREAT BRITAIN

### Required Overcurrent Protection



**WARNING:** Electrical connections must be made by qualified personnel in accordance with local and national electrical codes and regulations.

Overcurrent protection is required to be provided by end product application per the supplied table.

Overcurrent protection may be provided with external fusing or via Current Limiting, Class 2 Power Supply.

Supply wiring leads &lt; 24 AWG shall not be spliced.

For additional product support, go to [www.bannerengineering.com](http://www.bannerengineering.com).

Supply Wiring (AWG)	Required Overcurrent Protection (A)	Supply Wiring (AWG)	Required Overcurrent Protection (A)
20	5.0	26	1.0
22	3.0	28	0.8
24	2.0	30	0.5

## Banner Engineering Corp Limited Warranty

Banner Engineering Corp. warrants its products to be free from defects in material and workmanship for one year following the date of shipment. Banner Engineering Corp. will repair or replace, free of charge, any product of its manufacture which, at the time it is returned to the factory, is found to have been defective during the warranty period. This warranty does not cover damage or liability for misuse, abuse, or the improper application or installation of the Banner product.

**THIS LIMITED WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES WHETHER EXPRESS OR IMPLIED (INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE), AND WHETHER ARISING UNDER COURSE OF PERFORMANCE, COURSE OF DEALING OR TRADE USAGE.**This Warranty is exclusive and limited to repair or, at the discretion of Banner Engineering Corp., replacement. **IN NO EVENT SHALL BANNER ENGINEERING CORP. BE LIABLE TO BUYER OR ANY OTHER PERSON OR ENTITY FOR ANY EXTRA COSTS, EXPENSES, LOSSES, LOSS OF PROFITS, OR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES RESULTING FROM ANY PRODUCT DEFECT OR FROM THE USE OR INABILITY TO USE THE PRODUCT, WHETHER ARISING IN CONTRACT OR WARRANTY, STATUTE, TORT, STRICT LIABILITY, NEGLIGENCE, OR OTHERWISE.**Banner Engineering Corp. reserves the right to change, modify or improve the design of the product without assuming any obligations or liabilities relating to any product previously manufactured by Banner Engineering Corp. Any misuse, abuse, or improper application or installation of this product or use of the product for personal protection applications when the product is identified as not intended for such purposes will void the product warranty. Any modifications to this product without prior express approval by Banner Engineering Corp will void the product warranties. All specifications published in this document are subject to change; Banner reserves the right to modify product specifications or update documentation at any time. Specifications and product information in English supersede that which is provided in any other language. For the most recent version of any documentation, refer to: [www.bannerengineering.com](http://www.bannerengineering.com).For patent information, see [www.bannerengineering.com/patents](http://www.bannerengineering.com/patents).