T30 Sensors AC-Voltage Series

Quick Start Guide

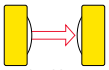
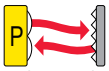
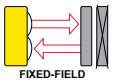
Self-Contained, AC-Operated Sensors

For complete technical information about this product, including installation instructions, application requirements and guidelines, EU Declaration of Conformity, technical specifications, and accessories, see *www.bannerengineering.com* and search 121523.

WARNING: Not To Be Used for Personnel Protection

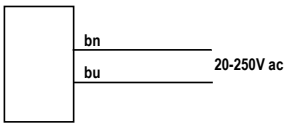
Never use this device as a sensing device for personnel protection. Doing so could lead to serious injury or death. This device does not include the self-checking redundant circuitry necessary to allow its use in personnel safety applications. A sensor failure or malfunction can cause either an energized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

Models

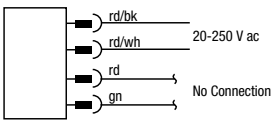
Sensing Mode	Model[1]	Output	Range	LED
 OPPOSED	T303E	-	60 m (200 ft)	Infrared, 950 nm
	T30AW3R	LO		
	T30RW3R	DO		
 POLAR RETRO	T30AW3LP	LO	6 m (20 ft)	Visible red, 680 nm
	T30RW3LP	DO		
 FIXED-FIELD	T30AW3FF200	LO	200 mm (8 in) cutoff	Infrared, 880 nm
	T30RW3FF200	DO		
	T30AW3FF400	LO	400 mm (16 in) cutoff	
	T30RW3FF400	DO		
	T30AW3FF600	LO	600 mm (24 in) cutoff	
	T30RW3FF600	DO		

Wiring Diagrams

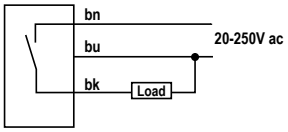
Cabled Emitters



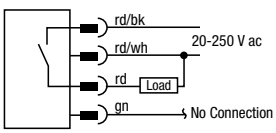
Quick Disconnect Emitters (4-pin Micro-Style)



All Other Cabled Models



All Other Quick Disconnect Models (4-pin Micro-Style)



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

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

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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 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

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 < 24 AWG shall not be spliced.
For additional product support, go to *www.bannerengineering.com*.

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

Output Protection Circuitry
Protected against false pulse on power-up

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 NEMA 6P, DIN IP69K

Connections
2 m (6.5 ft) integral PVC cable, or Integral 4-pin Micro-style quick disconnect

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&I. (Shock: 75G with unit operating; 100G for non-operation)

Certifications

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