S30 Sensors AC-Voltage Series

Quick Start Guide

Self-Contained, AC-Operated Sensors

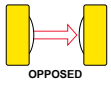
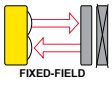
For additional technical information about this product, including complete instructions, dimensions, accessories, and specifications, see *http://www.bannerengineering.com* and search 121519.



WARNING: Not To Be Used for Personnel Protection

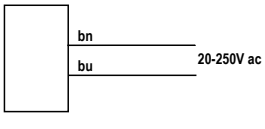
Never use this device as a sensing device for personnel protection. Doing so could lead to serious injury or death. This device does not include the self-checking redundant circuitry necessary to allow its use in personnel safety applications. A sensor failure or malfunction can cause either an energized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

Models

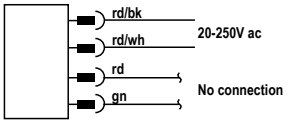
Sensing Mode	Model[1]	Output	Range	LED
 OPPOSED	S303E	—	60 m (196.8 ft)	Infrared, 950 nm
	S30AW3R	LO		
	S30RW3R	DO		
 POLAR RETRO	S30AW3LP	LO	6 m (19.7 ft)	Visible red, 680 nm
	S30RW3LP	DO		
 FIXED-FIELD	S30AW3FF200	LO	200 mm (7.9 in) cutoff	Infrared, 880 nm
	S30RW3FF200	DO		
	S30AW3FF400	LO	400 mm (15.7 in) cutoff	
	S30RW3FF400	DO		
	S30AW3FF600	LO	600 mm (23.6 in) cutoff	
	S30RW3FF600	DO		

Wiring Diagrams

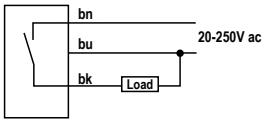
Cabled Emitters



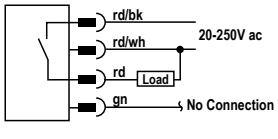
QD Emitters (4-pin Micro-Style)



All Other Cabled Models



All Other QD 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, S303E W/30).
- 4-pin Micro-style QD models: add suffix "Q1" (for example, S303EQ1). A model with a QD connector requires a mating cable.

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ПРОМЭЛЕКТРОНИКА/ sales@prom-elec.com

Specifications

Supply Voltage and Current
20 av V 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

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 *http://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 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 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 Yellow)
Green ON steady: power to sensor is ON
Yellow ON steady: sensor sees light
Yellow 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 40050 (IEC IP69K)

Connections
2 m (6.5 ft) attached cable, or 4-pin Micro-style quick-disconnect fitting

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 requirements. Method 201A (Vibration; frequency 10 Hz to 60 Hz, max., double amplitude 0.06 inch acceleration 10G). Method 213B conditions H&I. (Shock: 75G with unit operating; 100G for non-operation)

Certifications

c UL US LISTED

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