

ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

Visit our website - *Click HERE*

S30 Sensors DC-Voltage Series

Quick Start Guide

Self-Contained, DC-Operated Sensors

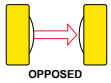
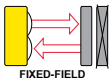
For additional technical information about this product, including complete instructions, dimensions, accessories, and specifications, see *http://www.bannerengineering.com* and search 121520.



WARNING: Not To Be Used for Personnel Protection

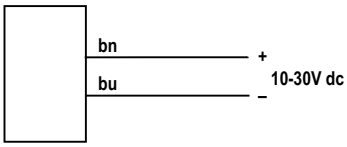
Never use this device as a sensing device for personnel protection. Doing so could lead to serious injury or death. This device does not include the self-checking redundant circuitry necessary to allow its use in personnel safety applications. A sensor failure or malfunction can cause either an energized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

Models

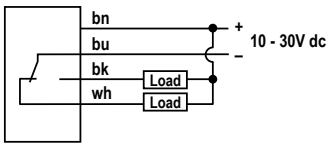
Sensing Mode	Model[1]	Output	Range	LED
 OPPOSED	S306E	—	60 m (196.8 ft)	Infrared, 950 nm
	S30SN6R	NPN		
	S30SP6R	PNP		
 POLAR RETRO	S30N6LP	NPN	6 m (19.7 ft)	Visible red, 680 nm
	S30SP6LP	PNP		
 FIXED-FIELD	S30SN6FF200	NPN	200 mm (7.9 in) cutoff	Infrared, 880 nm
	S30SP6FF200	PNP		
	S30SN6FF400	NPN	400 mm (15.7 in) cutoff	
	S30SP6FF400	PNP		
	S30SN6FF600	NPN	600 mm (23.6 in) cutoff	
	S30SP6FF600	PNP		

Wiring Diagrams

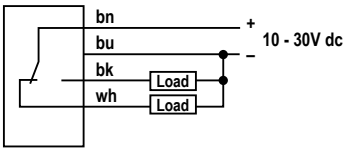
Cabled Emitters



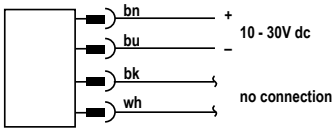
NPN (Sinking) Outputs Standard Hookup



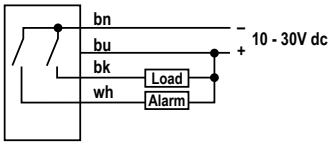
PNP (Sourcing) Outputs Standard Hookup



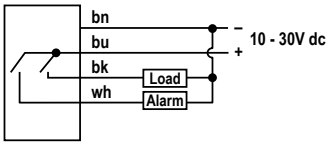
QD Emitters



NPN (Sinking) Outputs Alarm Hookup



PNP (Sourcing) Outputs Alarm Hookup



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

- 9 m (30 ft) cable: add suffix "W/30" (for example, S306E W/30).
- 4-pin Euro-style QD models: add suffix "Q" (for example, S306EQ). A model with a QD connector requires a mating cable.

Original Document
116157 Rev. A

30 December 2015

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

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

Specifications

Supply Voltage and Current
10 V dc to 30 V 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

Environmental Rating
Leakproof design rated NEMA 6P, DIN 40050 (IEC IP69K)

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

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
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 µA at 30 V dc
ON-state saturation voltage: < 1V at 10 mA dc; < 1.5 V 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 µs
Retro, Fixed-Field and Diffuse: 750 µs
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 1.5 times) in light condition

Connections
2 m (6.5 ft) or 9 m (29.5 ft) attached cable or 4-pin Euro-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

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.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP