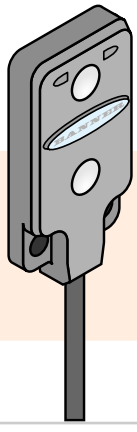
VS2 Convergent Mode Sensor

Features

- Extremely low profile self-contained miniature sensor
- Visible red sensing beam
- 10 V DC to 30 V DC supply voltage
- NPN or PNP output, depending on the model
- 15 mm or 30 mm convergent point, depending on the model
- Available in dark-operate or light-operate models



WARNING:

- **Do not use this device for personnel protection**
- Using this device for personnel protection could result in serious injury or death.
- This device does not include the self-checking redundant circuitry necessary to allow its use in personnel safety applications. A device failure or malfunction can cause either an energized (on) or de-energized (off) output condition.

Models

Models with a 2 m unterminated cable	Models with a 3-pin M8 QD	Output Type	Range	Supply Voltage
VS2AN5CV15	VS2AN5CV15Q	NPN Light Operate	15 mm (0.6 inch) ±5 mm	10 V DC to 30 V DC
	VS2RN5CV15Q	NPN Dark Operate		
VS2AP5CV15	VS2AP5CV15Q	PNP Light Operate		
VS2RP5CV15	VS2RP5CV15Q	PNP Dark Operate		
VS2AN5CV30	VS2AN5CV30Q	NPN Light Operate	30 mm (1.2 inch) ±10 mm	
VS2RN5CV30		NPN Dark Operate		
VS2AP5CV30	VS2AP5CV30Q	PNP Light Operate		
	VS2RP5CV30Q	PNP Dark Operate		

Models with a quick disconnect require a mating cordset.

In light operate (LO) mode, the output is ON when the target returns the same or more light to the sensor and OFF when the sensor detects less light than the configured/taught target.In dark operate (DO) mode, the output is ON when the target returns less light to the sensor than the configured target and OFF when the sensor detects more light than the configured/taught target. In **convergent** sensing modes, light operate means the output is on when the object is present and within the sensing range. Dark operate means the output is on when no target is detected.

The following models are no longer available for order but are still covered by the information in this document.

- VS2RN5CV15
- VS2RN5CV30Q
- VS2RP5CV30

Overview

VS2 Series miniature self-contained sensors are designed for precision sensing in small areas previously accessible only to remote or fiber optic models. Typical applications include mounting inside vibrating feeders and electronic component handling equipment.

Original Instructions
18-Aug-26

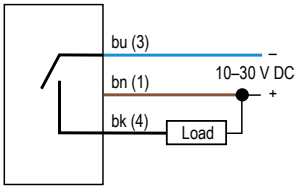
© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

65411
p/n: 65411 Rev. D

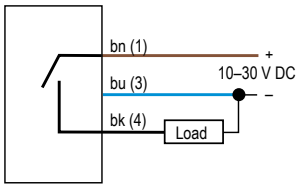
ПРОМЭЛЕКТРОНИКА/ sales@prom-elec.com

Wiring

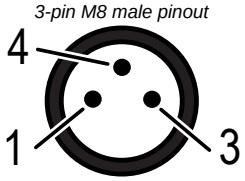
NPN



PNP



3-pin M8 male pinout



Specifications

Supply Voltage and Current

10 V DC to 30 V DC (10% max. ripple) at less than 25 mA (exclusive of load)

Supply Protection Circuitry

Protected against reverse polarity and transient voltages

Output Configuration

SPST solid-state switch

Choose NPN or PNP models

Choose light operate or dark operate models

Output Rating

50 mA maximum

Off-state leakage current: < 1 microamp at 24 V DC

On-state saturation voltage: < 0.25 V at 10 mA DC; < 0.5 V at 50 mA DC

Output Protection Circuitry

Protected against output short-circuit, continuous overload, and false pulse on power-up

Overload trip point ≥ 100 mA

Output Response Time

1 millisecond ON and OFF

> **NOTE:** 150 millisecond delay maximum on power-up: output does not conduct during this time

Repeatability

160 microseconds

Indicators

Two LEDs: Green and Amber

Green on = Power to sensor is on

Green flashing = Output overload

Amber on = Light is sensed

Construction

Black ABS housing with acrylic lens

Connections

2 m (6.5 in) PVC integral cable: three #28 ga stranded conductors with PE insulation; 150 mm (6 in) PVC-jacketed cable with a 3-pin M8 male quick-disconnect connector. Quick-disconnect cables are ordered separately.

Environmental Rating

IP67

Operating Conditions

–20 °C to +55 °C (–4 °F to +131°F)

80% at +50 °C maximum relative humidity (non-condensing)

Vibration and Mechanical Shock

Vibration: All models meet IEC 60068-2-6, IEC 60947-5-2, UL491 Section 40, MIL-STD-202F Method 201A; 10 to 60 Hz, 0.5 mm peak to peak

Shock: All models meet IEC 60068-2-27, IEC 60947-5-2; 30g peak acceleration, 11 millisecond pulse duration, half-sine wave pulse shape

Application Notes

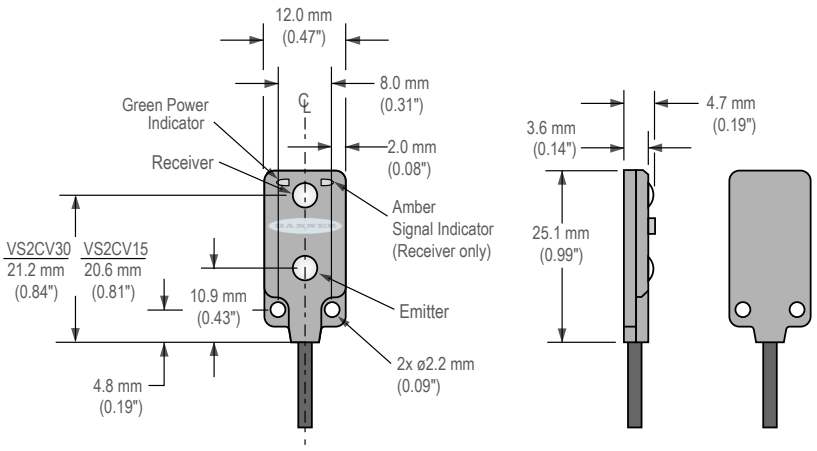
M2 stainless steel mounting hardware included. Optional mounting brackets are available.

Certifications

CE

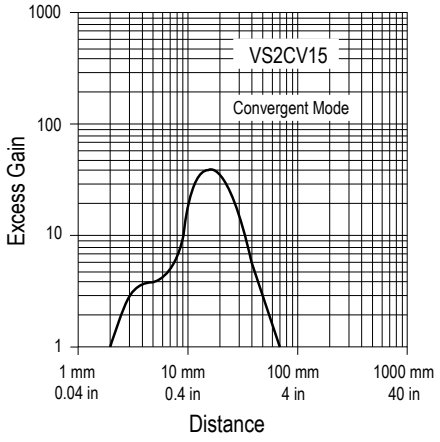
© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

Dimensions

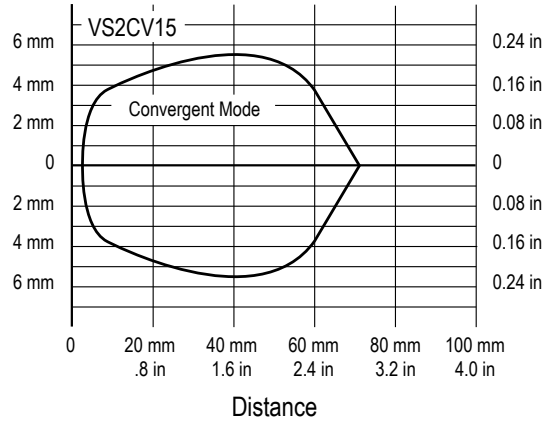


Performance Curves

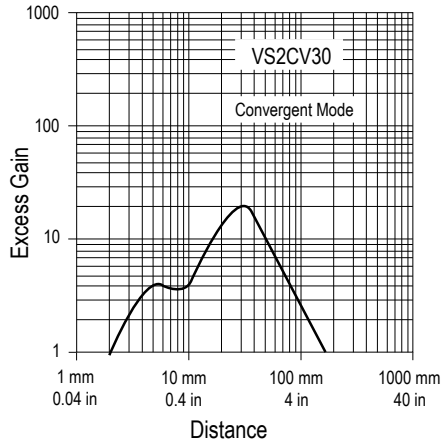
Excess gain - 15 mm models



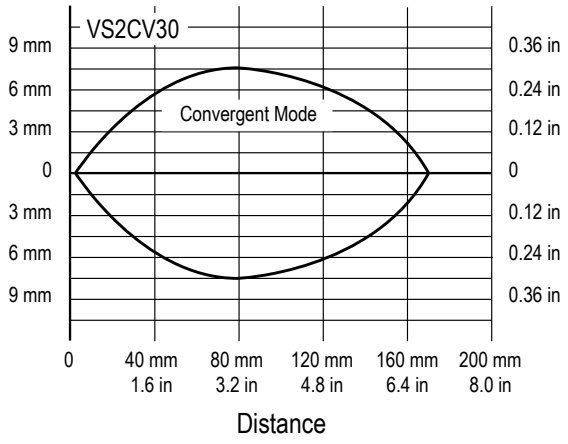
Beam pattern - 15 mm models



Excess gain curve - 30 mm models



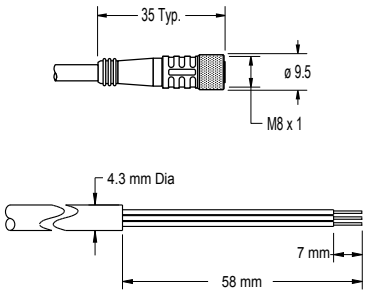
Beam pattern - 30 mm models



© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

Accessories

Quick-Disconnect Cables

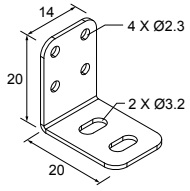
3-Pin Single-Ended M8 Female Cordsets			
Model	**Length**	**Dimensions**	**Pinout (Female)**
PKG3M-2	2 m (6.56 ft)		 1 = Brown 3 = Blue 4 = Black
PKG3M-4	4 m (13.12 ft)		
PKG3M-5	5 m (16.4 ft)		
PKG3M-7	7 m (22.96 ft)		
PKG3M-9	9 m (29.52 ft)		
PKG3M-10	10 m (32.81 ft)		

Brackets

SMBVS2RA

- Right-angle bracket
- Stainless steel
- CAD Files: DXF, PDF, IGS, STP

Hole center spacing: A = 80.0
Hole size: A = 3.2 x 6.0



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.

For patent information, see www.bannerengineering.com/patents.

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com