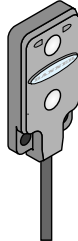


Datasheet

Low Profile Miniature Self-Contained Sensors



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



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

Model ¹	Output Type	Range	Supply Voltage
VS2AN5CV15	NPN Light Operate	15 mm (0.6 inch) ±5 mm	10 V dc to 30 V dc
VS2RN5CV15	NPN Dark Operate		
VS2AP5CV15	PNP Light Operate		
VS2RP5CV15	PNP Dark Operate		
VS2AN5CV30	NPN Light Operate	30 mm (1.2 inch) ±10 mm	
VS2RN5CV30	NPN Dark Operate		
VS2AP5CV30	PNP Light Operate		
VS2RP5CV30	PNP Dark Operate		

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.

¹ Integral 2 m (6.5 ft) unterminated cable models are listed.

- To order the 3-pin M8/Pico-style integral quick disconnect model, add the suffix "Q" to the model number. For example, VS2AN5CV15Q.
- Models with a quick disconnect require a mating cordset.



Wiring Diagrams



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 \geq 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 cable with a 3-pin M8/Pico-style male quick disconnect (QD). Quick disconnect cables are ordered separately.

Environmental Rating
 IEC IP67; NEMA 6

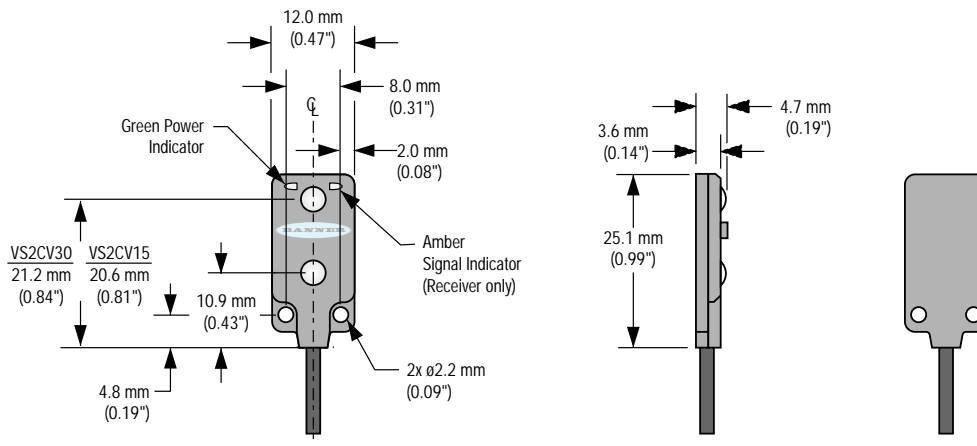
Operating Conditions
 -20 °C to +55 °C (-4 °F to +131°F)
 80% at +50 °C maximum relative humidity (non-condensing)

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.

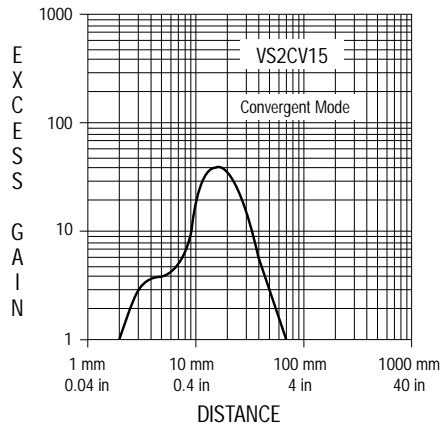


Dimensions

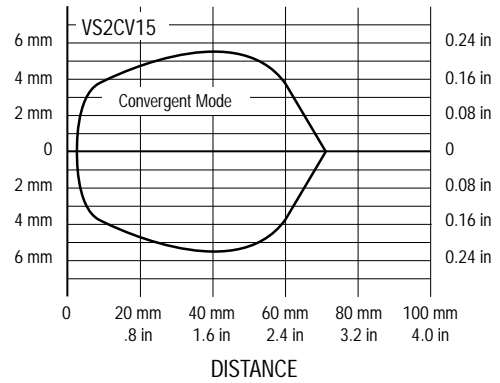


Performance Curves

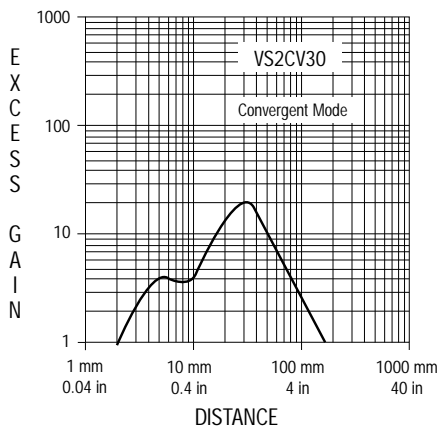
Excess Gain Curve — 15 mm Models



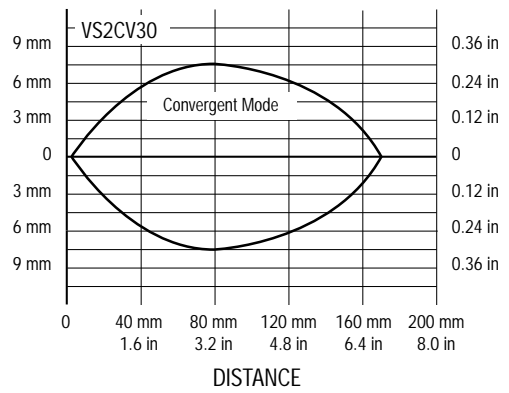
Beam Pattern — 15 mm Models



Excess Gain Curve — 30 mm Models



Beam Pattern — 30 mm Models



Accessories

Quick-Disconnect Cables

3-Pin Threaded M8/Pico-Style Cordsets				
Model	Length	Style	Dimensions	Pinout (Female)
PKG3M-2	2 m (6.56 ft)	Straight		<p>1 = Brown 3 = Blue 4 = Black</p>
PKG3M-5	5 m (16.40 ft)			
PKG3M-7	7 m (22.97 ft)			
PKG3M-9	9 m (29.53 ft)			
PKG3M-10	10 m (32.81 ft)			

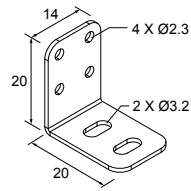
Brackets

SMBVS2RA

- Right-angle bracket
- Stainless steel

Hole center spacing: A = 80.0

Hole size: A = 3.2 x 6.0



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