



## VS2

### Economical, High-Quality Miniature Sensors

Ultra-thin VS2 miniature sensors are suited to work well in confined areas while providing high performance.

- Offers flat-front mounting or optional bracket
- Reliable sensing without adjustments
- Models available in opposed or convergent modes
- Cordsets and brackets see page 239

#### Opposed VS2, 10-30 V DC

➔ Visible Red LED ➔ Infrared LED

Sensing Mode	Range	Connection	Output Type	Models NPN†	Models †PNP
 OPPOSED	Optimum up to 600 mm, 1.2 m max.	2 m 3-Pin Pico Pigtail QD	—	VS25EV Emitter	
		2 m 3-Pin Pico Pigtail QD	LO	VS2AN5R VS2AN5RQ	VS2AP5R VS2AP5RQ
		2 m 3-Pin Pico Pigtail QD	DO	VS2RN5R VS2RN5RQ	VS2RP5R VS2RP5RQ
		2 m 3-Pin Pico Pigtail QD	—	VS25E Emitter	
 OPPOSED	3.0 m	2 m 3-Pin Pico Pigtail QD	—	VS25EQ Emitter	
		2 m 3-Pin Pico Pigtail QD	LO	VS2AN5R VS2AN5RQ	VS2AP5R VS2AP5RQ
		2 m 3-Pin Pico Pigtail QD	DO	VS2RN5R VS2RN5RQ	VS2RP5R VS2RP5RQ
		2 m 3-Pin Pico Pigtail QD	—	VS25E Emitter	

#### Convergent VS2, 10-30 V DC

➔ Visible Red LED

Sensing Mode	Range	Connection	Output Type	Models NPN†	Models †PNP
 CONVERGENT	15 mm ±5 mm	2 m 3-Pin Pico Pigtail QD	LO	VS2AN5CV15 VS2AN5CV15Q	VS2AP5CV15 VS2AP5CV15Q
		2 m 3-Pin Pico Pigtail QD	DO	VS2RN5CV15 VS2RN5CV15Q	VS2RP5CV15 VS2RP5CV15Q
		2 m 3-Pin Pico Pigtail QD	LO	VS2AN5CV30 VS2AN5CV30Q	VS2AP5CV30 VS2AP5CV30Q
		2 m 3-Pin Pico Pigtail QD	DO	VS2RN5CV30 VS2RN5CV30Q	VS2RP5CV30 VS2RP5CV30Q

For more specifications see page 240.



**Connection options:** A model with a QD requires a mating cordset (see page 239).

For 9 m cable, add suffix **W/30** to the 2 m model number (example, **VS2RP5R W/30**).


† Opposed-mode models also sold as pairs. Contact factory for more information 1-888-373-6767.

Cordsets

Pico QD (for Q models)

See page 902

Length	Threaded 4-Pin	
	Straight	Right-Angle
2.00 m	PKG3M-2	PKW3M-2
5.00 m	PKG3M-5	PKW3M-5
7.00 m	PKG3M-7	—
9.00 m	PKG3M-9	PKW3M-9
10.0 m	PKG3M-10	—

 Additional cordset information available. See page 902.

Brackets

VS2

See page 862

SMBVS2RA

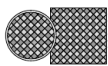


Additional brackets and information available. See page 852.

Other Accessories

Reflectors

See page 932



Apertures

See page 958




Opposed Models  
Suffix E and R



Convergent Models  
Suffix C

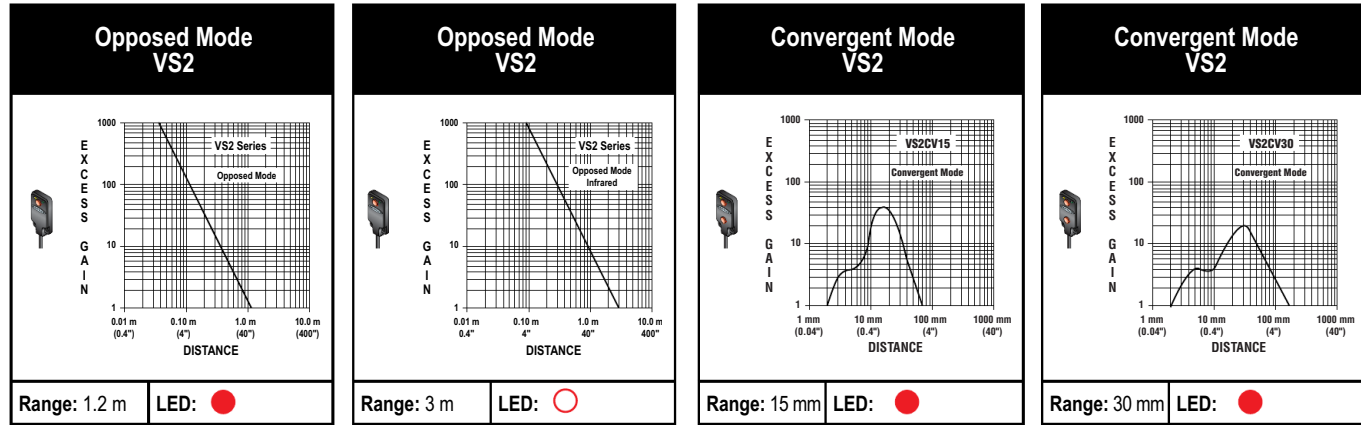
## VS2 Specifications

Supply Voltage and Current	10 to 30 V dc (10% max. ripple) <b>Emitter:</b> 25 mA (visible red); 30 mA (infrared) <b>Receiver (Convergent):</b> at less than 25 mA (exclusive of load)
Supply Protection Circuitry	Protected against reverse polarity and transient voltages
Output Configuration	Solid-state switch NPN (current sinking) or PNP (current sourcing), depending on model Light Operate (LO) or Dark Operate (DO), depending on model
Output Rating	50 mA max. <b>OFF-state leakage current:</b> less than 1 $\mu$ A at 24 V dc <b>ON-state saturation voltage:</b> less than 0.25 V at 10 mA dc; less than 0.5 V at 50 mA dc
Output Protection Circuitry	Protected against false pulse on power-up and continuous overload or short circuit of outputs Overload trip point $\geq$ 100 mA
Output Response Time	<b>Opposed:</b> 1 millisecond ON; 0.5 millisecond OFF <b>Convergent:</b> 1 millisecond ON; OFF
Delay at Power-up	Maximum 100 millisecond (opposed) and 150 millisecond (convergent); output does not conduct during this time
Repeatability	<b>Opposed:</b> 100 microseconds <b>Convergent:</b> 160 microseconds
Indicators	<b>Two LEDs:</b> <b>Solid Green:</b> power ON <b>Flashing Green:</b> output overload <b>Solid Yellow:</b> light sensed <b>Flashing Yellow(opposed mode only):</b> marginal excess gain
Construction	<b>Opposed:</b> Black ABS housing with clear MABS lens <b>Convergent:</b> Black ABS housing with acrylic lens
Environmental Rating	IEC IP67; NEMA 6
Connections	2 m or 9 m attached cable or 150 mm pigtail with 3-pin Pico-style quick-disconnect fitting. QD cordsets are ordered separately. See page 239.
Operating Conditions	<b>Temperature:</b> -20° to +55° C <b>Relative humidity:</b> 80% at 50° C (non-condensing)
Vibration and Mechanical Shock	<b>Vibration:</b> 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 <b>Shock:</b> 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 is included. Optional mounting brackets are available. See page 239.
Certifications	

## Excess Gain Curves

(Convergent mode performance based on 90% reflectance white test card)

● = Visible Red LED ○ = Infrared LED



## Beam Patterns

(Convergent mode performance based on 90% reflectance white test card)

● = Visible Red LED ○ = Infrared LED

