



**VL18-4N3140V**

V18V

**CYLINDRICAL PHOTOELECTRIC SENSORS**

**SICK**  
Sensor Intelligence.



### Ordering information

Type	Part no.
VL18-4N3140V	6035496

Other models and accessories → [www.sick.com/V18V](http://www.sick.com/V18V)

Illustration may differ



### Detailed technical data

#### Features

<b>Functional principle</b>	Photoelectric retro-reflective sensor
<b>Functional principle detail</b>	Dual lens
<b>Dimensions (W x H x D)</b>	18 mm x 18 mm x 83 mm
<b>Housing design (light emission)</b>	Cylindrical
<b>Housing length</b>	83 mm
<b>Thread diameter (housing)</b>	M18 x 1
<b>Optical axis</b>	Axial
<b>Sensing range max.</b>	0.1 m ... 5 m <sup>1)</sup>
<b>Sensing range</b>	0.1 m ... 4.5 m <sup>1)</sup>
<b>Focus</b>	2.5°
<b>Type of light</b>	Visible red light
<b>Light source</b>	LED <sup>2)</sup>
<b>Light spot size (distance)</b>	Ø 200 mm (4.5 m)
<b>Angle of dispersion</b>	2.5°
<b>Wave length</b>	660 nm
<b>Adjustment</b>	None
<b>Special applications</b>	Hygienic and washdown zones

<sup>1)</sup> Reflector PL80A.

<sup>2)</sup> Average service life: 100,000 h at T<sub>J</sub> = +25 °C.

## Mechanics/electronics

<b>Supply voltage</b>	10 V DC ... 30 V DC <sup>1)</sup>
<b>Ripple</b>	± 10 % <sup>2)</sup>
<b>Current consumption</b>	35 mA <sup>3)</sup>
<b>Switching output</b>	NPN <sup>4)</sup>
<b>Switching mode</b>	Light/dark switching <sup>4)</sup>
<b>Switching mode selector</b>	Selectable via L/D control cable
<b>Signal voltage NPN HIGH/LOW</b>	Approx. VS / < 2.0 V
<b>Output current I<sub>max</sub></b>	≤ 100 mA
<b>Response time</b>	≤ 1 ms <sup>5)</sup>
<b>Switching frequency</b>	500 Hz <sup>6)</sup>
<b>Connection type</b>	Male connector M12, 4-pin <sup>7)</sup>
<b>Circuit protection</b>	A <sup>8)</sup> B <sup>9)</sup> C <sup>10)</sup> D <sup>11)</sup>
<b>Protection class</b>	III
<b>Weight</b>	120 g
<b>Polarisation filter</b>	✓
<b>Housing material</b>	Stainless steel, Stainless steel V4A (1.4404, 316L)
<b>Optics material</b>	Plastic, Plan, PPS (Grilamid)
<b>Enclosure rating</b>	IP67 IP68 IP69K <sup>12)</sup>
<b>Ambient operating temperature</b>	-25 °C ... +80 °C
<b>Ambient temperature, storage</b>	-40 °C ... +80 °C
<b>UL File No.</b>	FDA, UL No. NRKH.E181493 & cUL No. NRKH7.E181493

<sup>1)</sup> Limit values.

<sup>2)</sup> May not exceed or fall below U<sub>v</sub> tolerances.

<sup>3)</sup> Without load, at VS 30 V DC.

<sup>4)</sup> Control wire open: dark switching D.ON.

<sup>5)</sup> Signal transit time with resistive load.

<sup>6)</sup> With light/dark ratio 1:1.

<sup>7)</sup> With gold plated contact pins, PPS with FDA certificate.

<sup>8)</sup> A = V<sub>S</sub> connections reverse-polarity protected.

<sup>9)</sup> B = interference suppression.

<sup>10)</sup> D = outputs overcurrent and short-circuit protected.

<sup>11)</sup> D = inputs and output reverse-polarity protected.

<sup>12)</sup> With correct mounted IP69K connector.

## Classifications

<b>eCl@ss 5.0</b>	27270902
<b>eCl@ss 5.1.4</b>	27270902
<b>eCl@ss 6.0</b>	27270902
<b>eCl@ss 6.2</b>	27270902

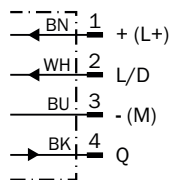
<b>eCl@ss 7.0</b>	27270902
<b>eCl@ss 8.0</b>	27270902
<b>eCl@ss 8.1</b>	27270902
<b>eCl@ss 9.0</b>	27270902
<b>eCl@ss 10.0</b>	27270902
<b>eCl@ss 11.0</b>	27270902
<b>eCl@ss 12.0</b>	27270902
<b>ETIM 5.0</b>	EC002717
<b>ETIM 6.0</b>	EC002717
<b>ETIM 7.0</b>	EC002717
<b>ETIM 8.0</b>	EC002717
<b>UNSPSC 16.0901</b>	39121528

### Connection type



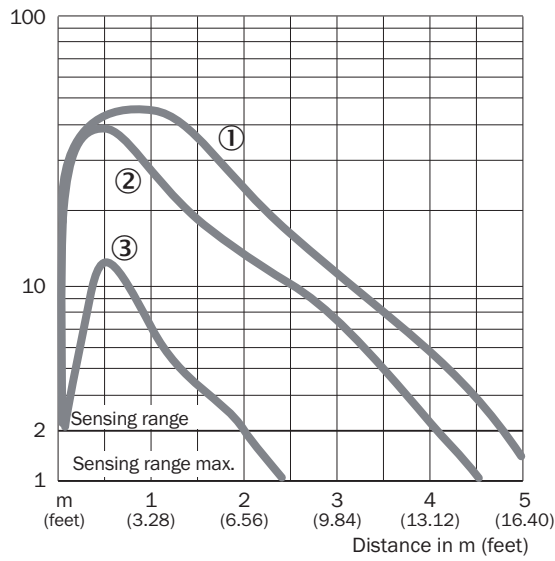
### Connection diagram

Cd-087



### Characteristic curve

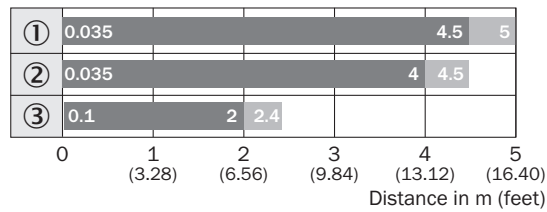
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- ① Reflector PL80A
- ② Reflector C110A
- ③ Reflector P250 CHEM

### Sensing range diagram

VL18V



■ Sensing range    ■ Sensing range max.

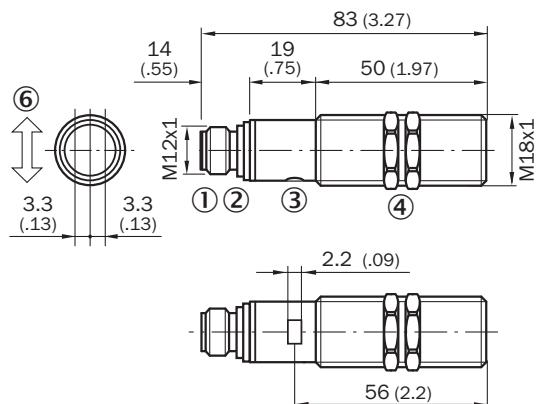
- ① Reflector PL80A
- ② Reflector C110A
- ③ Reflective tape Diamond Grade

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## CYLINDRICAL PHOTOELECTRIC SENSORS

### Dimensional drawing (Dimensions in mm (inch))




VL18V, VSE18V



- ① M12 male device connector, 4-pin
- ② Yellow LED indicator: - lights continuously: Reception signal > reserve factor 2 - blinks: Reception signal < reserve factor 2 but > switching threshold 1
- ③ Fastening nuts (2 x); width across 24, stainless steel

### Recommended accessories

Other models and accessories → [www.sick.com/V18V](http://www.sick.com/V18V)

	Brief description	Type	Part no.
<b>Mounting brackets and plates</b>			
	Universal mounting bracket for reflectors, steel, zinc coated	BEF-WN-REFX	2064574
<b>Plug connectors and cables</b>			
	Head A: female connector, M12, 4-pin, straight Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m This product is generally resistant to chemical cleaning agents (see ECOLAB). Please do not use cleaning agents of any other Kind., Not resistant against lactic acid & hydrogen peroxide (H2O2)	DOL-1204-G05MNI	6052615
<b>Reflectors</b>			
	Chemically resistant, screw connection, 52 mm x 62 mm, plastic, Screw-on, 2 hole mounting	P250 CHEM	5321097

## SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

## WORLDWIDE PRESENCE:

Contacts and other locations –[www.sick.com](http://www.sick.com)