



# VSE18L-4P324

V18

PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

Type	part no.
VSE18L-4P324	6027931

Other models and accessories → [www.sick.com/V18](http://www.sick.com/V18)

### Detailed technical data

#### Features

<b>Functional principle</b>	Through-beam photoelectric sensor
<b>Dimensions (W x H x D)</b>	18 mm x 18 mm x 97.7 mm
<b>Housing design (light emission)</b>	Cylindrical
<b>Housing length</b>	97.7 mm
<b>Thread diameter (housing)</b>	M18 x 1
<b>Optical axis</b>	Axial
<b>Sensing range max.</b>	0 m ... 60 m
<b>Sensing range</b>	0 m ... 50 m
<b>Focus</b>	0.06°
<b>Type of light</b>	Visible red light
<b>Light source</b>	Laser <sup>1)</sup>
<b>Light spot size (distance)</b>	Ø 40 mm (50 m)
<b>Angle of dispersion</b>	0.06°
<b>Wave length</b>	650 nm
<b>Laser class</b>	1 (IEC 60825-1) <sup>2)</sup>
<b>Laser power output</b>	0.4 mW
<b>Adjustment</b>	Potentiometer, 270° (Sensitivity)
<b>Special applications</b>	Detecting small objects

<sup>1)</sup> Average service life: 100,000 h at T<sub>J</sub> = +25 °C.

<sup>2)</sup> Do not intentionally look into the laser beam. Never point the laser beam at people's eyes.

## Mechanics/electronics

<b>Supply voltage <math>U_B</math></b>	10 V DC ... 30 V DC <sup>1)</sup>
<b>Ripple</b>	$\pm 10\%$ <sup>2)</sup>
<b>Current consumption</b>	25 mA <sup>3)</sup>
<b>Switching output</b>	PNP
<b>Switching mode</b>	Light/dark switching
<b>Switching mode selector</b>	Selectable via L/D control cable
<b>Output current <math>I_{max}</math></b>	$\leq 100$ mA
<b>Response time</b>	$\leq 0.5$ ms <sup>4)</sup>
<b>Switching frequency</b>	1,000 Hz <sup>5)</sup>
<b>Angle of reception</b>	0.08°
<b>Connection type</b>	Male connector M12, 4-pin
<b>Circuit protection</b>	A <sup>6)</sup> B <sup>7)</sup> C <sup>8)</sup> D <sup>9)</sup>
<b>Protection class</b>	III
<b>Weight</b>	120 g
<b>Housing material</b>	Metal, Nickel-plated brass/PC
<b>Optics material</b>	Plastic, PC with protective glass pane
<b>Enclosure rating</b>	IP67
<b>Test input sender off</b>	TE to 0 V
<b>Ambient operating temperature</b>	-15 °C ... +55 °C
<b>Ambient temperature, storage</b>	-25 °C ... +70 °C
<b>UL File No.</b>	NRKH.E181493, CDRH-conform (0312012-00)

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

<sup>2)</sup> May not fall below or exceed  $U_y$  tolerances.

<sup>3)</sup> Without load.

<sup>4)</sup> Signal transit time with resistive load.

<sup>5)</sup> With light/dark ratio 1:1.

<sup>6)</sup> A =  $V_S$  connections reverse-polarity protected.

<sup>7)</sup> B = inputs and output reverse-polarity protected.

<sup>8)</sup> C = interference suppression.

<sup>9)</sup> D = outputs overcurrent and short-circuit protected.

## Safety-related parameters

<b>MTTF<sub>D</sub></b>	470 years
<b>DC<sub>avg</sub></b>	0 %

## Classifications

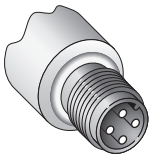
<b>ECLASS 5.0</b>	27270901
<b>ECLASS 5.1.4</b>	27270901
<b>ECLASS 6.0</b>	27270901
<b>ECLASS 6.2</b>	27270901
<b>ECLASS 7.0</b>	27270901

<b>ECLASS 8.0</b>	27270901
<b>ECLASS 8.1</b>	27270901
<b>ECLASS 9.0</b>	27270901
<b>ECLASS 10.0</b>	27270901
<b>ECLASS 11.0</b>	27270901
<b>ECLASS 12.0</b>	27270901
<b>ETIM 5.0</b>	EC002716
<b>ETIM 6.0</b>	EC002716
<b>ETIM 7.0</b>	EC002716
<b>ETIM 8.0</b>	EC002716
<b>UNSPSC 16.0901</b>	39121528

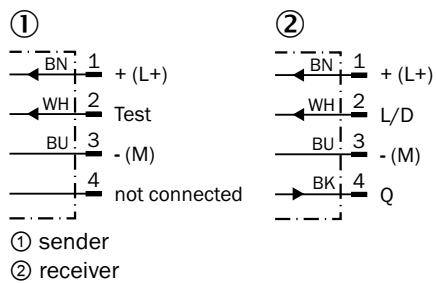
Certificates

<b>EU declaration of conformity</b>	✓
<b>China RoHS</b>	✓
<b>cULus certificate</b>	✓

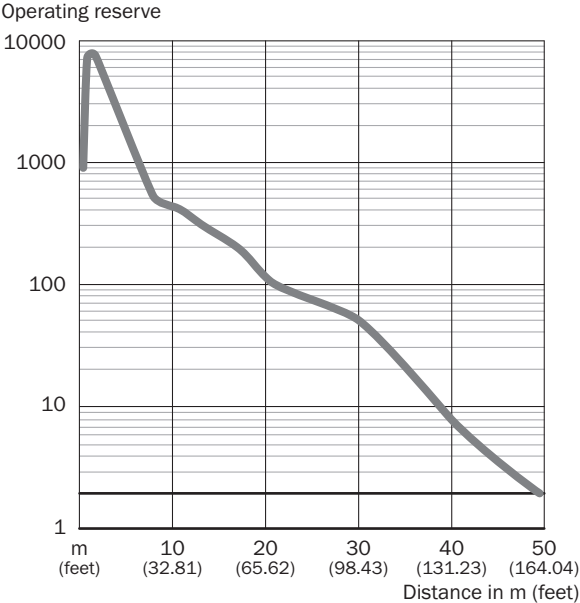
Connection type



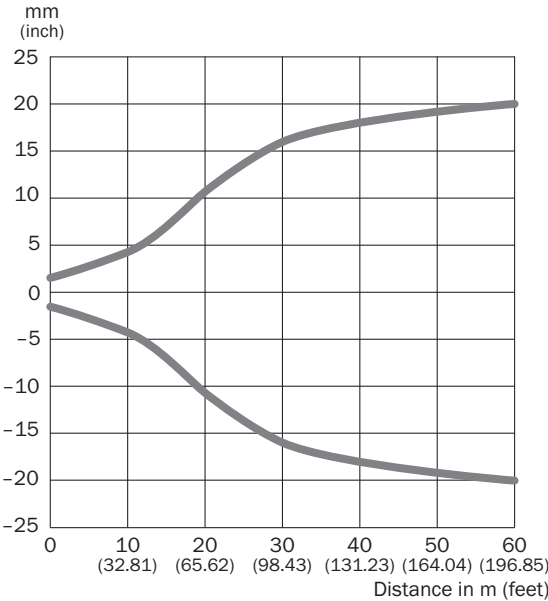
Connection diagram Cd-219



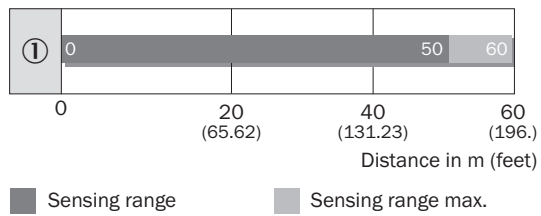
Characteristic curve



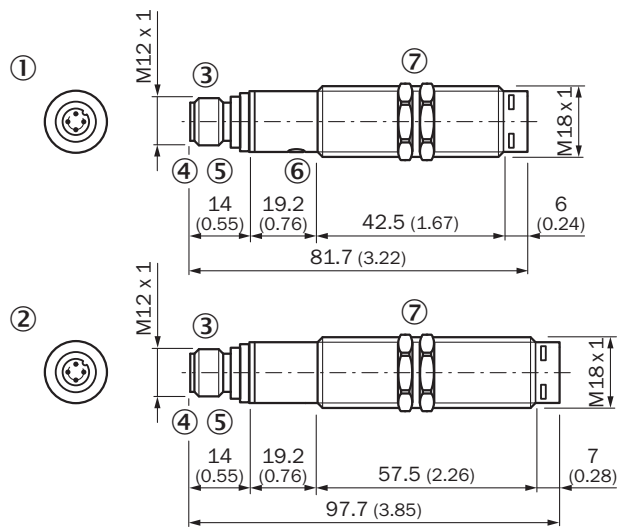
Light spot size VSE18L



Sensing range diagram VSE18L



Dimensional drawing Axial






Dimensions in mm (inch)

- ① sender
- ② receiver
- ③ M12 male device connector, 4-pin
- ④ Sensitivity setting: single teach-in button
- ⑤ green LED indicator:  $V_S$  supply voltage feed
- ⑥ Yellow LED indicator:
- ⑥ - lights continuously:
- ⑥ - reception signal > reserve factor 2
- ⑥ - blinks: Reception signal < reserve factor 2 but > switching threshold 1
- ⑦ fastening nuts (2 x); width across 24, metal
- ⑦ (included with delivery)

## Recommended accessories

Other models and accessories → [www.sick.com/V18](http://www.sick.com/V18)

	Brief description	Type	part no.
connectors and cables			
	<ul style="list-style-type: none"> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Connection type head A:</b> Female connector, M12, 4-pin, straight, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 5 m, 4-wire, PVC</li> <li><b>Application:</b> Uncontaminated zones, Zones with chemicals</li> </ul>	YF2A14-050VB3XLEAX	2096235
	<ul style="list-style-type: none"> <li><b>Description:</b> Unshielded</li> <li><b>Connection type head A:</b> Male connector, M12, 4-pin, straight, A-coded</li> <li><b>Connection systems:</b> Screw-type terminals</li> <li><b>Permitted cross-section:</b> ≤ 0.75 mm<sup>2</sup></li> </ul>	STE-1204-G	6009932
Mounting systems			
	<ul style="list-style-type: none"> <li><b>Description:</b> Mounting bracket for M18 sensors</li> <li><b>Material:</b> Steel</li> <li><b>Details:</b> Steel, zinc coated</li> <li><b>Items supplied:</b> Without mounting hardware</li> <li><b>Suitable for:</b> GR18, V180-2, V18, W15, Z1, Z2</li> </ul>	BEF-WN-M18	5308446

## 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)