



# VTE18L-4N324

V18 Laser

PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



Ordering information

Type	part no.
VTE18L-4N324	6027420

Other models and accessories → [www.sick.com/V18\\_Laser](http://www.sick.com/V18_Laser)

Detailed technical data

Features

Functional principle	Photoelectric proximity sensor
Functional principle detail	Energetic
Dimensions (W x H x D)	18 mm x 18 mm x 97.7 mm
Housing design (light emission)	Cylindrical
Housing length	97.7 mm
Thread diameter (housing)	M18 x 1
Optical axis	Axial
Sensing range max.	0 mm ... 400 mm <sup>1)</sup>
Sensing range	5 mm ... 300 mm
Type of light	Visible red light
Light source	Laser <sup>2)</sup>
Light spot size (distance)	Ø 8 mm (300 mm)
Wave length	650 nm
Laser class	1 (IEC 60825-1)
Laser power output	0.4 mW
Adjustment	Cable, Single teach-in button (Sensing range, Sensing range) <sup>3) 4)</sup>
Special feature	Focused optics
Special applications	Detecting small objects

<sup>1)</sup> Object with 90% remission (based on standard white, DIN 5033).

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

<sup>3)</sup> Electronically via control input C (0 V).

<sup>4)</sup> Manual, via teach-in button.

## 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>	30 mA <sup>3)</sup>
<b>Switching output</b>	NPN
<b>Switching mode</b>	Light/dark switching
<b>Switching mode selector</b>	Selectable via control input C
<b>Output current <math>I_{max}</math></b>	$\leq 100$ mA
<b>Response time</b>	$\leq 0.625$ ms <sup>4)</sup>
<b>Switching frequency</b>	800 Hz <sup>5)</sup>
<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>	60 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>Special feature</b>	Focused optics
<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  $U_V$  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.

## Certificates

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

## Classifications

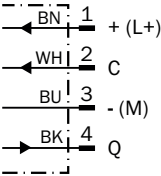
<b>ECLASS 5.0</b>	27270903
<b>ECLASS 5.1.4</b>	27270903
<b>ECLASS 6.0</b>	27270903
<b>ECLASS 6.2</b>	27270903
<b>ECLASS 7.0</b>	27270903

ECLASS 8.0	27270903
ECLASS 8.1	27270903
ECLASS 9.0	27270903
ECLASS 10.0	27270904
ECLASS 11.0	27270904
ECLASS 12.0	27270903
ETIM 5.0	EC001821
ETIM 6.0	EC001821
ETIM 7.0	EC002719
ETIM 8.0	EC002719
UNSPSC 16.0901	39121528

Connection type

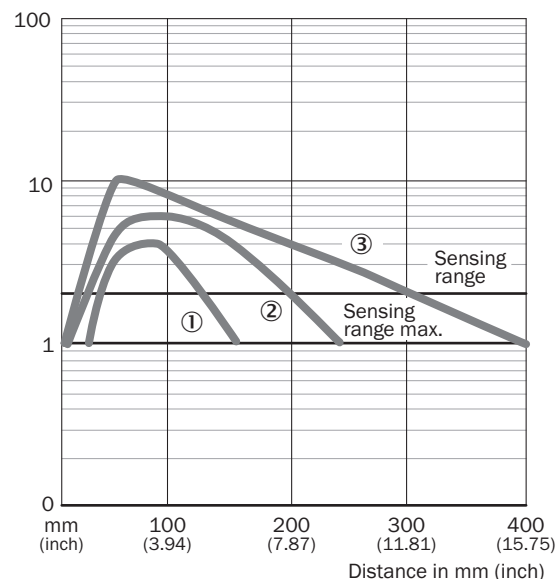


Connection diagram Cd-099



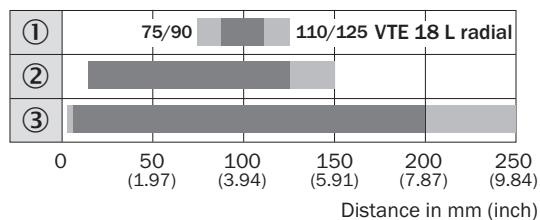
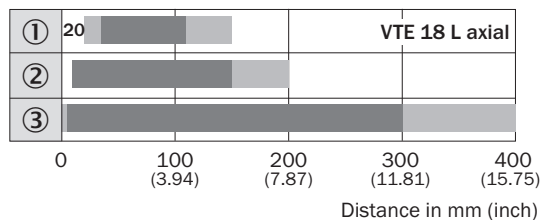
## Characteristic curve

Operating reserve



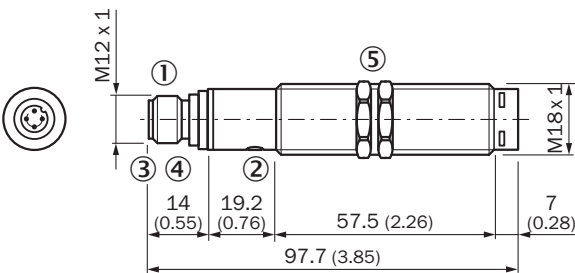
- ① Sensing range on black, 6% remission factor
- ② Sensing range on gray, 18% remission factor
- ③ Sensing range on white, 90% remission factor

## Sensing range diagram VTE18L



- Sensing range      ■ Sensing range max.
- ① Sensing range on black, 6% remission factor
- ② Sensing range on gray, 18% remission factor
- ③ Sensing range on white, 90% remission factor

Dimensional drawing Axial





Dimensions in mm (inch)

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

Recommended accessories

Other models and accessories → [www.sick.com/V18\\_Laser](http://www.sick.com/V18_Laser)

	Brief description	Type	part no.
connectors and cables			
	<ul style="list-style-type: none"><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>Description:</b> Sensor/actuator cable, unshielded</li><li>• <b>Application:</b> Zones with chemicals, Uncontaminated zones</li></ul>	YF2A14-050VB3XLEAX	2096235
	<ul style="list-style-type: none"><li>• <b>Connection type head A:</b> Male connector, M12, 4-pin, straight, A-coded</li><li>• <b>Description:</b> Unshielded</li><li>• <b>Connection systems:</b> Screw-type terminals</li><li>• <b>Permitted cross-section:</b> ≤ 0.75 mm²</li></ul>	STE-1204-G	6009932

## 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)