Data sheet

# VSE18L-4N324

V18

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

Illustration may differ

## Ordering information

| Type | part no. |
|---|---|
| VSE18L-4N324 | 6027933 |

Other models and accessories ➜ www.sick.com/V18

## Detailed technical data

### Features

| | |
|---|---|
| **Functional principle** | Through-beam photoelectric sensor |
| **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 m ... 60 m |
| **Sensing range** | 0 m ... 50 m |
| **Focus** | 0.06° |
| **Type of light** | Visible red light |
| **Light source** | Laser [1] |
| **Light spot size (distance)** | Ø 40 mm (50 m) |
| **Angle of dispersion** | 0.06° |
| **Wave length** | 650 nm |
| **Laser class** | 1 (IEC 60825-1) [2] |
| **Laser power output** | 0.4 mW |
| **Adjustment** | Potentiometer, 270° (Sensitivity) |
| **Special applications** | Detecting small objects |

[1] Average service life: 100,000 h at $T_U$ = +25 °C.

[2] Do not intentionally look into the laser beam. Never point the laser beam at people's eyes.

## Mechanics/electronics

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

[1] Limit values.
[2] May not fall below or exceed $U_V$ tolerances.
[3] Without load.
[4] Signal transit time with resistive load.
[5] With light/dark ratio 1:1.
[6] A = $V_S$ connections reverse-polarity protected.
[7] B = inputs and output reverse-polarity protected.
[8] C = interference suppression.
[9] D = outputs overcurrent and short-circuit protected.

## Certificates

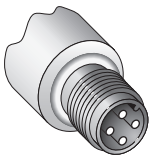
| | |
|---|---|
| **EU declaration of conformity** | ✓ |
| **China RoHS** | ✓ |
| **cULus certificate** | ✓ |

## Classifications

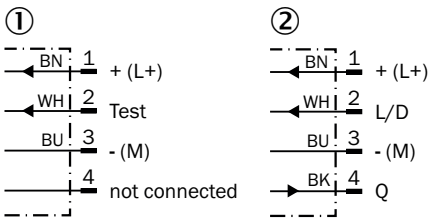
| | |
|---|---|
| **ECLASS 5.0** | 27270901 |
| **ECLASS 5.1.4** | 27270901 |
| **ECLASS 6.0** | 27270901 |
| **ECLASS 6.2** | 27270901 |

| | |
|---|---|
| **ECLASS 7.0** | 27270901 |
| **ECLASS 8.0** | 27270901 |
| **ECLASS 8.1** | 27270901 |
| **ECLASS 9.0** | 27270901 |
| **ECLASS 10.0** | 27270901 |
| **ECLASS 11.0** | 27270901 |
| **ECLASS 12.0** | 27270901 |
| **ETIM 5.0** | EC002716 |
| **ETIM 6.0** | EC002716 |
| **ETIM 7.0** | EC002716 |
| **ETIM 8.0** | EC002716 |
| **UNSPSC 16.0901** | 39121528 |

## Connection type

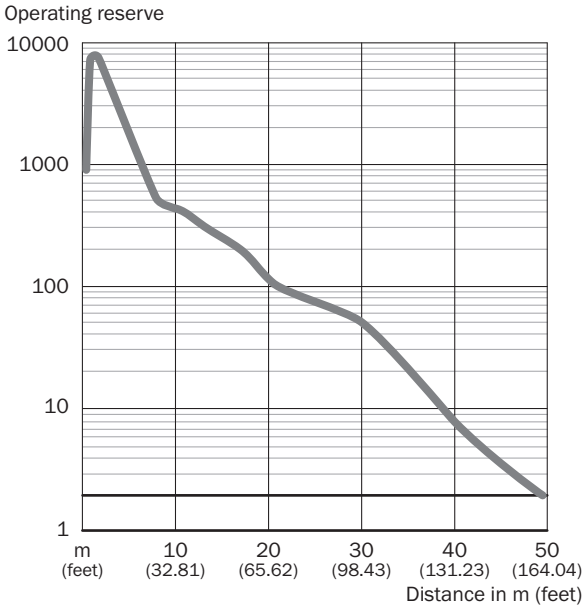


## Connection diagram Cd-219

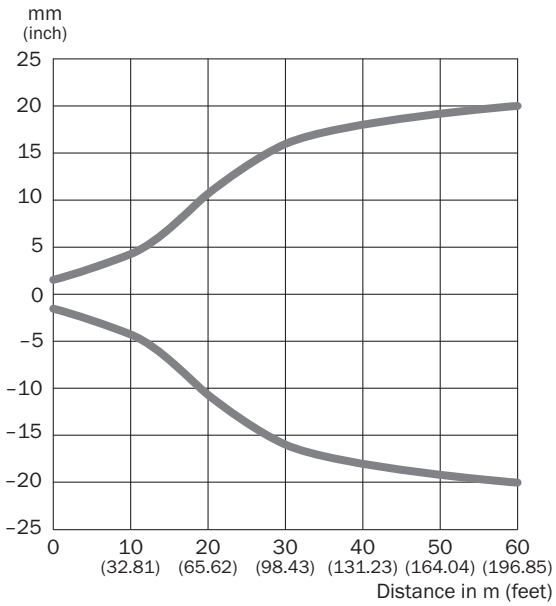



① sender
② receiver

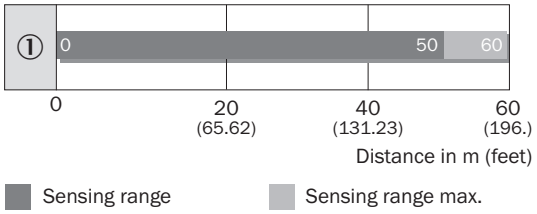
## Characteristic curve



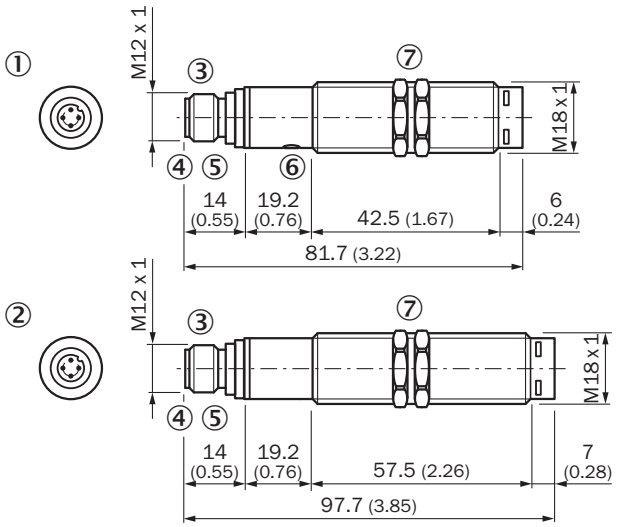

## Light spot size VSE18L



## 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

| | Brief description | Type | part no. |
|---|---|---|---|
| connectors and cables | | | |
| | • **Connection type head A:** Female connector, M12, 4-pin, straight, A-coded<br>• **Connection type head B:** Flying leads<br>• **Signal type:** Sensor/actuator cable<br>• **Cable:** 5 m, 4-wire, PVC<br>• **Description:** Sensor/actuator cable, unshielded<br>• **Application:** Zones with chemicals, Uncontaminated zones | YF2A14-050VB3XLEAX | 2096235 |
| | • **Connection type head A:** Male connector, M12, 4-pin, straight, A-coded<br>• **Description:** Unshielded<br>• **Connection systems:** Screw-type terminals<br>• **Permitted cross-section:** ≤ 0.75 mm² | STE-1204-G | 6009932 |
| Mounting systems | | | |
| | • **Description:** Mounting bracket for M18 sensors<br>• **Material:** Steel<br>• **Details:** Steel, zinc coated<br>• **Items supplied:** Without mounting hardware<br>• **Suitable for:** GR18, V180-2, V18, W15, Z1, Z2 | 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



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