



VTE18-4P4240V

V18

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

| Type | part no. |
|---------------|----------|
| VTE18-4P4240V | 6035489 |

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

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 83 mm |
| Housing design (light emission) | Cylindrical |
| Housing length | 83 mm |
| Thread diameter (housing) | M18 x 1 |
| Optical axis | Axial |
| Sensing range max. | 0 mm ... 450 mm ¹⁾ |
| Sensing range | 5 mm ... 400 mm |
| Focus | Approx. 4.5° |
| Type of light | Infrared light |
| Light source | LED ²⁾ |
| Light spot size (distance) | Ø 60 mm (400 mm) |
| Angle of dispersion | Approx. 4.5° |
| Wave length | 880 nm |
| Adjustment | Single teach-in button (Sensing range) Manual, via Touch-Teach-in |
| Special applications | Hygienic and washdown zones |

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

²⁾ Average service life: 100,000 h at T_J = +25 °C.

Mechanics/electronics

| | |
|---|--|
| Supply voltage U_B | 10 V DC ... 30 V DC ¹⁾ |
| Ripple | $\pm 10\%$ ²⁾ |
| Current consumption | 35 mA ³⁾ |
| Switching output | PNP ⁴⁾ |
| Switching mode | Light/dark switching ⁴⁾ |
| Switching mode selector | Selectable via L/D control cable |
| Signal voltage PNP HIGH/LOW | Approx. $V_S - 2.0\text{ V} / 0\text{ V}$ |
| Output current I_{\max} | $\leq 100\text{ mA}$ |
| Response time | $\leq 1\text{ ms}$ ⁵⁾ |
| Switching frequency | 500 Hz ⁶⁾ |
| Connection type | Male connector M12, 4-pin ⁷⁾ |
| Circuit protection | A ⁸⁾ B ⁹⁾ C ¹⁰⁾ D ¹¹⁾ |
| Protection class | III |
| Weight | 120 g |
| Housing material | Metal, Stainless steel V4A (1.4404, 316L) |
| Optics material | Plastic, Plan, PPS (Grilamid) |
| Enclosure rating | IP67 IP68 IP69K ¹²⁾ |
| Ambient operating temperature | $-25\text{ °C} \dots +80\text{ °C}$ ¹³⁾ |
| Ambient temperature, storage | $-40\text{ °C} \dots +80\text{ °C}$ |
| UL File No. | FDA, UL No. NRKH.E181493 & cUL No. NRKH7.E181493 |

¹⁾ Limit values.

²⁾ May not fall below or exceed U_V tolerances.

³⁾ Without load, at $V_S 30\text{ V DC}$.

⁴⁾ Control wire open: dark switching D.ON.

⁵⁾ Signal transit time with resistive load.

⁶⁾ With light/dark ratio 1:1.

⁷⁾ With gold plated contact pins, PPS with FDA certificate.

⁸⁾ A = V_S connections reverse-polarity protected.

⁹⁾ B = interference suppression.

¹⁰⁾ D = outputs overcurrent and short-circuit protected.

¹¹⁾ D = inputs and output reverse-polarity protected.

¹²⁾ With correct mounted IP69K connector.

¹³⁾ $+100\text{ °C}$ at max 15 minutes.

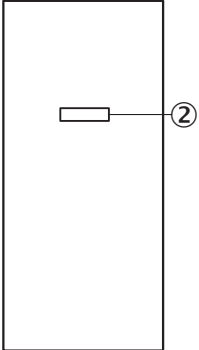
Certificates

| | |
|---|---|
| EU declaration of conformity | ✓ |
| UK declaration of conformity | ✓ |
| Moroccan declaration of conformity | ✓ |
| China RoHS | ✓ |
| cULus certificate | ✓ |

Classifications

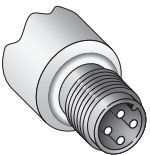
| | |
|-----------------------|----------|
| ECLASS 5.0 | 27270903 |
| ECLASS 5.1.4 | 27270903 |
| ECLASS 6.0 | 27270903 |
| ECLASS 6.2 | 27270903 |
| ECLASS 7.0 | 27270903 |
| ECLASS 8.0 | 27270903 |
| ECLASS 8.1 | 27270903 |
| ECLASS 9.0 | 27270903 |
| ECLASS 10.0 | 27270904 |
| ECLASS 11.0 | 27270904 |
| ECLASS 12.0 | 27270903 |
| ETIM 5.0 | EC001821 |
| ETIM 6.0 | EC001821 |
| ETIM 7.0 | EC002719 |
| ETIM 8.0 | EC002719 |
| UNSPSC 16.0901 | 39121528 |

Adjustments



② Sensing range adjustment: Touch-Teach-In

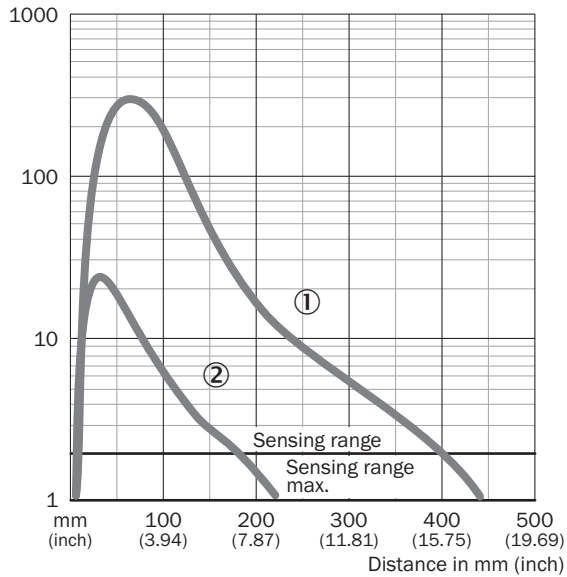
Connection type



Connection diagram Cd-087

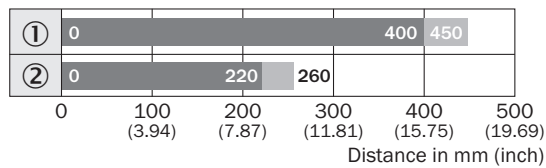


Characteristic curve VTE18V, 450 mm



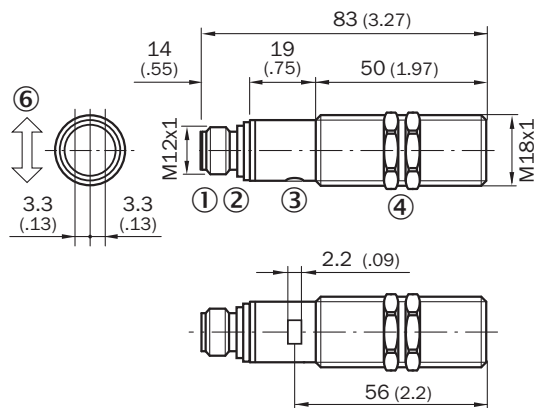
- ① Sensing range on white, 90% remission factor
- ② Sensing range on gray, 18% remission factor

Sensing range diagram VTE18V, 450 mm



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

Dimensional drawing VTF18V, VTE18V







Dimensions in mm (inch)

- ① M12 male device connector, 4-pin
- ② Sensing range adjustment: Touch-Teach-In
- ③ Status indicator LED, green: signaling Touch-Teach-in
- 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, stainless steel

Recommended accessories

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

| | Brief description | Type | part no. |
|---|--|-----------------|----------|
| connectors and cables | | | |
|  | <ul style="list-style-type: none"> • Description: Sensor/actuator cable, unshielded • Connection type head A: Female connector, M12, 4-pin, straight • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 5 m, 4-wire, PVC • Connection systems: Flying leads • Note: 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) • Application: Uncontaminated zones, Hygienic and washdown zones, Zones with chemicals | DOL-1204-G05MNI | 6052615 |
|  | <ul style="list-style-type: none"> • Description: Sensor/actuator cable, unshielded • Connection type head A: Female connector, M12, 4-pin, straight • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 5 m, 4-wire, PP • Connection systems: Flying leads • Note: This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked., Resistant against lactic acid & hydrogen peroxide (H2O2) • Application: Hygienic and washdown zones, Drag chain operation, Robot, cold bending resistant, seawater resistant | DOL-1204-G05MRN | 6058476 |

| | Brief description | Type | part no. |
|---|---|--------------|----------|
| Mounting systems | | | |
|  | <ul style="list-style-type: none"> Description: Mounting bracket for M18 sensors Material: Stainless steel Details: Stainless steel Items supplied: Without mounting hardware | BEF-WN-M18N | 5320947 |
|  | <ul style="list-style-type: none"> Description: Plate N11N for universal clamp bracket Material: Stainless steel Details: Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp) Items supplied: Universal clamp (5322627), mounting hardware Usable for: DeltaPac, Glare, WTD20E | BEF-KHS-N11N | 2071081 |

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:

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