

VTE180-2F32444 V180

PHOTOELECTRIC SENSORS





Ordering information

Туре	part no.
VTE180-2F32444	6044025

Other models and accessories → www.sick.com/V180

Illustration may differ



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 83.8 mm
Housing design (light emission)	Cylindrical
Housing length	83.8 mm
Optical axis	Radial
Sensing range max.	1 mm 450 mm ¹⁾
Sensing range	1 mm 400 mm ¹⁾
Focus	Approx. 1.5°
Type of light	Visible red light
Light source	LED ²⁾
Light spot size (distance)	Ø 20 mm (400 mm)
Angle of dispersion	Approx. 1.5°
Wave length	645 nm
Adjustment	Potentiometer, 270° (Sensing range)

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

 $^{^{2)}}$ Average service life: 100,000 h at $\rm T_U$ = +25 °C.

Mechanics/electronics

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Supply voltage U _B	10 V DC 30 V DC ¹⁾
Ripple	± 10 % ²⁾
Current consumption	30 mA ³⁾
Switching output	PNP
Switching mode	Light switching
Signal voltage PNP HIGH/LOW	Approx. V _S – 1.8 V / 0 V
Output current I _{max.}	≤ 100 mA
Response time	\leq 0.5 ms $^{4)}$
Switching frequency	1,000 Hz ⁵⁾
Connection type	Connector M12, 3-pin
Circuit protection	A ⁶⁾ B ⁷⁾ D ⁸⁾
Protection class	III
Weight	47 g
Housing material	Metal, Nickel-plated brass and PC
Optics material	Plastic, PMMA
Enclosure rating	IP67
Ambient operating temperature	-25 °C +55 °C
Ambient temperature, storage	-40 °C +70 °C

 $^{^{1)}}$ Limit values when operated in short-circuit protected network: max. 8 A.

Safety-related parameters

MTTF _D	1,884 years
DC _{avg}	0 %

Certificates

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
cULus certificate	✓
Photobiological safety (DIN EN 62471) certificate	✓

Classifications

ECLASS 5.0	27270903
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 $^{^{2)}}$ May not fall below or exceed $\mbox{U}_{\mbox{\scriptsize V}}$ 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.

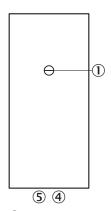
 $^{^{(8)}}$ D = outputs overcurrent and short-circuit protected.

VTE180-2F32444 | V180

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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



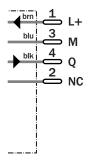
- 3 sensitivity control 270°
- 4 LED indicator orange: switching output active
- ⑤ LED indicator green

Connection type

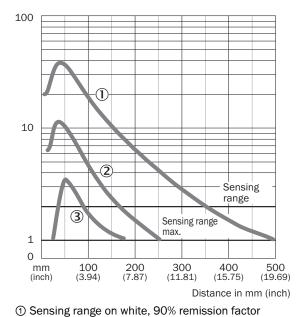


Connection diagram Cd-066

Connection diagram

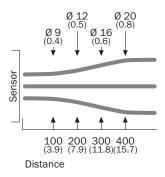


Characteristic curve VTE180-2, 500 mm, axial

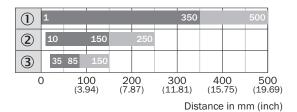


- ② Sensing range on gray, 18% remission factor
- 3 Sensing range on black, 6% remission factor

Light spot size VTE180-2, 400 mm, 500 mm



Sensing range diagram VTE180-2, 500 mm, axial



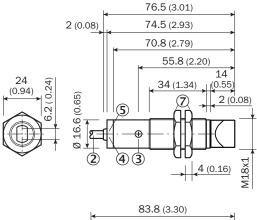
Sensing range Sensing range max.

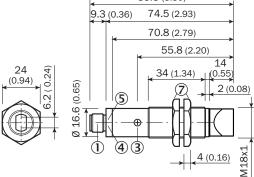
 $\textcircled{\scriptsize 1}$ Sensing range on white, 90% remission factor

 $\ensuremath{\text{\textcircled{2}}}$ Sensing range on gray, 18% remission factor

3 Sensing range on black, 6% remission factor

Dimensional drawing VTF180-2, VTE180-2, metal, radial





Dimensions in mm (inch)

- ① Connector M12, 3-pin / Connector M12, 3-pin
- ② Connection cable 2 m
- 3 sensitivity control: potentiometer 270°
- 4 LED indicator orange: switching output active
- \odot LED indicator green, stability indicator: LED lights continuously = light reception < 0.9/> 1.1; LED off = light reception > 0.9 / < 1.1
- 7 Metal housing, fastening nuts (2 x); width across 24

Recommended accessories

Other models and accessories → www.sick.com/V180

	Brief description	Туре	part no.
Mounting sys	tems		
40	 Description: Mounting bracket for M18 sensors Material: Steel Details: Steel, zinc coated Items supplied: Without mounting hardware Suitable for: GR18, V180-2, V18, W15, Z1, Z2 	BEF-WN-M18	5308446

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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."

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