VTE180-2F32489

V180

PHOTOELECTRIC SENSORS

SICK
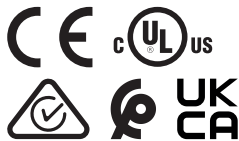Sensor Intelligence.

VTE180-2F32489 | V180

PHOTOELECTRIC SENSORS

Illustration may differ

Ordering information

Type	part no.
VTE180-2F32489	6044029

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

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 ... 900 mm [1]
Sensing range	1 mm ... 650 mm [1]
Focus	Approx. 1.2°
Type of light	Visible red light
Light source	LED [2]
Light spot size (distance)	Ø 30 mm (800 mm)
Angle of dispersion	Approx. 1.2°
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 T_U = +25 °C.

Mechanics/electronics

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	≤ 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	18 g
Housing material	Plastic, PBT/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.

[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] D = outputs overcurrent and short-circuit protected.

Safety-related parameters

$MTTF_D$	1,982 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

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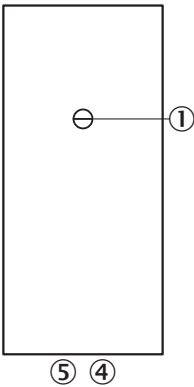
③ sensitivity control 270°
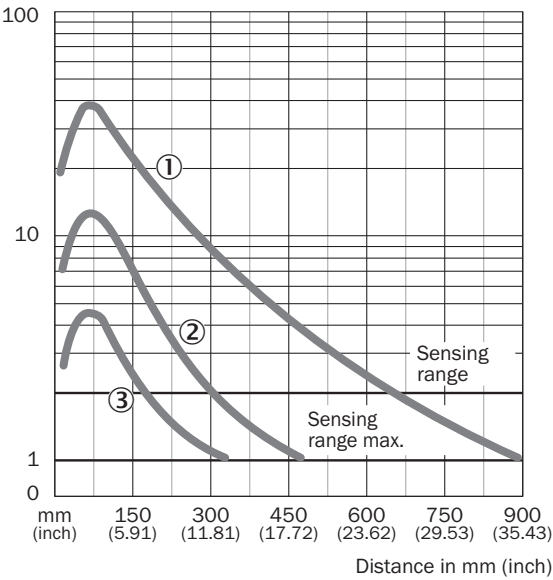④ LED indicator orange: switching output active
⑤ LED indicator green

Connection type

Connection diagram Cd-066

BN	1	+ (L+)
WH	2	not connected
BU	3	- (M)
BK	4	Q
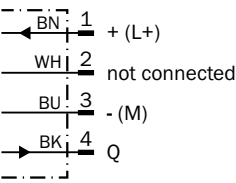
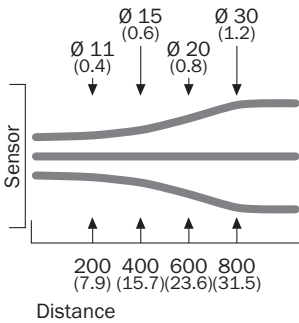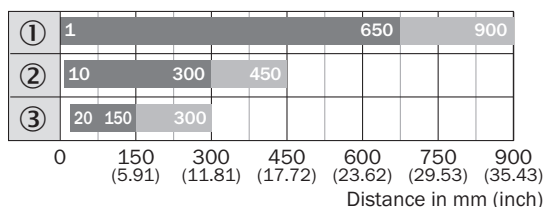## Characteristic curve VTE180-2, 900 mm, radial

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

Light spot size VTE180-2, 900 mm, 1.100 mm

Sensing range diagram VTE180-2, 900 mm, radial

①	1			650		900
②	10	300	450			
③	20 150	300				

0   150 (5.91)   300 (11.81)   450 (17.72)   600 (23.62)   750 (29.53)   900 (35.43)
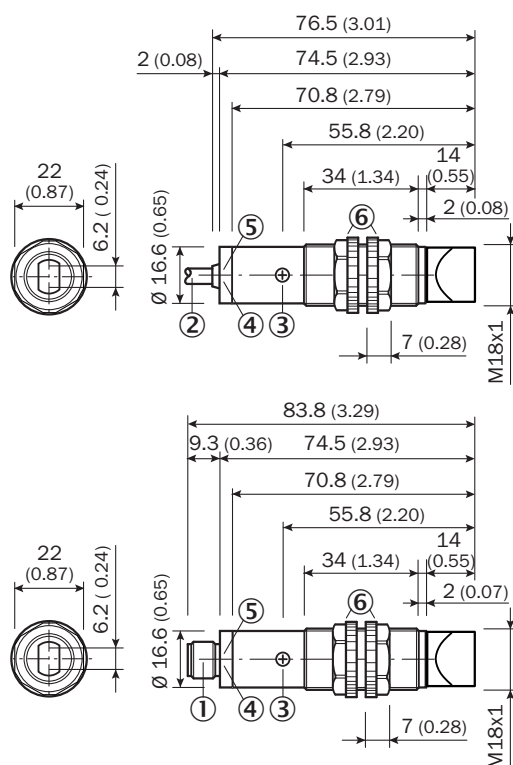Distance in mm (inch)

■ Sensing range   ■ Sensing range max.

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

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

Dimensions in mm (inch)
① Connector M12
② Connection cable 2 m
③ sensitivity control: potentiometer 270°
④ LED indicator orange: switching output active
⑤ LED indicator green, stability indicator: LED lights continuously = light reception < 0.9/> 1.1; LED off = light reception > 0.9 / < 1.1
⑥ fastening nuts (2 x); A/F 22, PC

Recommended accessories

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

Brief description		Type	part no.
Mounting systems			
	• **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

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**

SICK AG | Waldkirch | Germany | www.sick.com

SICK
Sensor Intelligence.