



VSE180-2P32434 V180

PHOTOELECTRIC SENSORS

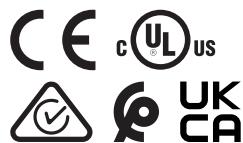
SICK
Sensor Intelligence.



Ordering information

Type	part no.
VSE180-2P32434	6044036

Illustration may differ

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

Detailed technical data

Features

Functional principle	Through-beam photoelectric sensor
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.	0 m ... 25 m
Sensing range	0 m ... 19 m
Focus	Approx. 5°
Type of light	Visible red light
Light source	LED ¹⁾
Light spot size (distance)	Ø 1,100 mm (20 m)
Angle of dispersion	Approx. 5°
Wave length	645 nm
Adjustment	Potentiometer, 270° (Sensitivity) ²⁾

¹⁾ Average service life: 100,000 h at $T_U = +25$ °C.²⁾ Receiver.

Mechanics/electronics

Supply voltage U_B	10 V DC ... 30 V DC ¹⁾
Ripple	± 10 % ²⁾
Power consumption, sender	≤ 20 mA ³⁾
Power consumption, receiver	≤ 15 mA ³⁾

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.

Switching output	PNP
Switching mode	Dark switching
Signal voltage PNP HIGH/LOW	Approx. $V_S - 1.8 \text{ V} / 0 \text{ V}$
Output current $I_{\max.}$	$\leq 100 \text{ mA}$
Response time	$\leq 0.5 \text{ ms}$ 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	94 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.

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	1,296 years
DC_{avg}	0 %

Certificates

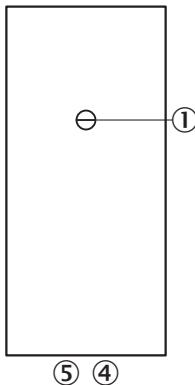
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China-RoHS	✓
cULus certificate	✓
Photobiological safety (DIN EN 62471) certificate	✓

Classifications

ECLASS 5.0	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

Adjustments



③ sensitivity control 270°

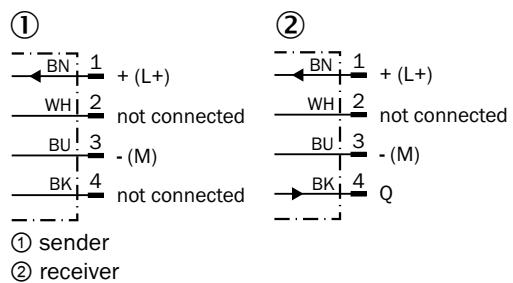
④ LED indicator orange: switching output active

⑤ LED indicator green

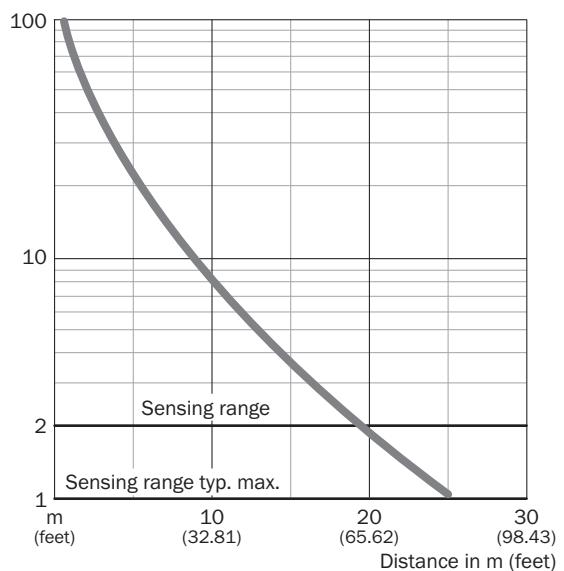
Connection type



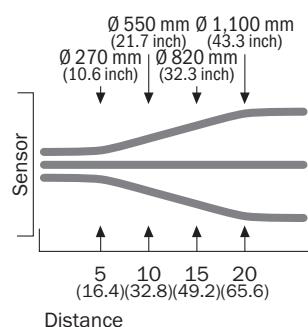
Connection diagram Cd-057



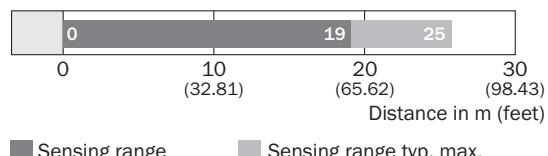
Characteristic curve VSE180-2, 25 m, radial



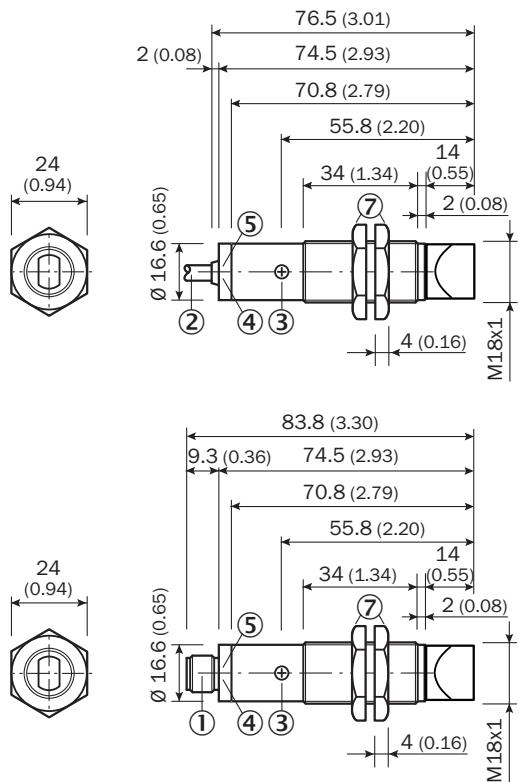
Light spot size VSE180-2, 25 m, radial



Sensing range diagram VSE180-2, 25 m, radial



Dimensional drawing VSE180-2, 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° (VE)
- ④ LED indicator orange: switching output active (only VE)
- ⑤ LED indicator green, stability indicator (only VE): 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

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