



WTV18-2P420S02

W18-2

SMALL PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ

Ordering information

Type	Part no.
WTV18-2P420S02	1047134

Other models and accessories → www.sick.com/W18-2

Detailed technical data

Features

Functional principle	Photoelectric proximity sensor
Functional principle detail	Background suppression
Dimensions (W x H x D)	20 mm x 76 mm x 31.5 mm
Housing design (light emission)	Rectangular
Sensing range max.	10 mm ... 1,600 mm ¹⁾
Sensing range	300 mm ... 1,400 mm ²⁾
Type of light	Infrared light
Light source	LED ³⁾
Light spot size (distance)	Ø 8 mm (200 mm)
Wave length	880 nm
Adjustment	Potentiometer, 9 turns
Special features	V-optics

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

²⁾ Object with 6 % remission.

³⁾ Average service life: 100,000 h at T_J = +25 °C.

Mechanics/electronics

Supply voltage	10 V DC ... 30 V DC ¹⁾
Ripple	< 5 V _{pp} ²⁾
Current consumption	30 mA ³⁾
Switching output	PNP

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

²⁾ May not exceed or fall below 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⁾ C = interference suppression.

⁸⁾ D = outputs overcurrent and short-circuit protected.

Switching mode	Light/dark switching
Output current I_{max}	≤ 100 mA
Response time	< 2,000 μs ⁴⁾
Switching frequency	250 Hz ⁵⁾
Connection type	Male connector M12, 4-pin
Circuit protection	A ⁶⁾ C ⁷⁾ D ⁸⁾
Weight	60 g
Special device	✓
Housing material	Plastic, ABS
Optics material	Plastic, PMMA
Enclosure rating	IP67
Shock and vibration resistance	According to EN 60068
Ambient operating temperature	-40 °C ... +75 °C
Ambient temperature, storage	-25 °C ... +60 °C

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

2) May not exceed or fall below 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) C = interference suppression.

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

Safety-related parameters

MTTF_D	700 years
DC_{avg}	0 %

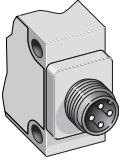
Classifications

eCl@ss 5.0	27270904
eCl@ss 5.1.4	27270904
eCl@ss 6.0	27270904
eCl@ss 6.2	27270904
eCl@ss 7.0	27270904
eCl@ss 8.0	27270904
eCl@ss 8.1	27270904
eCl@ss 9.0	27270904
eCl@ss 10.0	27270904
eCl@ss 11.0	27270904
eCl@ss 12.0	27270903
ETIM 5.0	EC002719
ETIM 6.0	EC002719
ETIM 7.0	EC002719
ETIM 8.0	EC002719

UNSPSC 16.0901

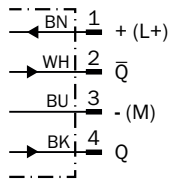
39121528

Connection type

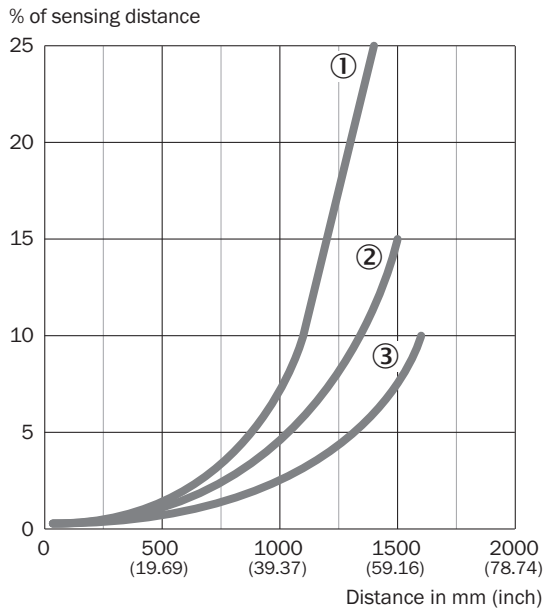


Connection diagram

Cd-083

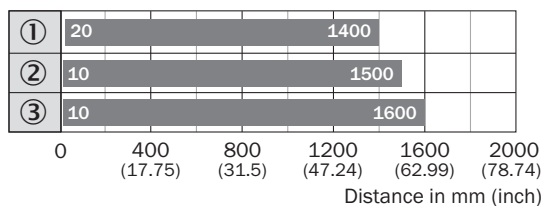


Characteristic curve



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

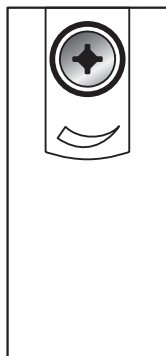
Sensing range diagram



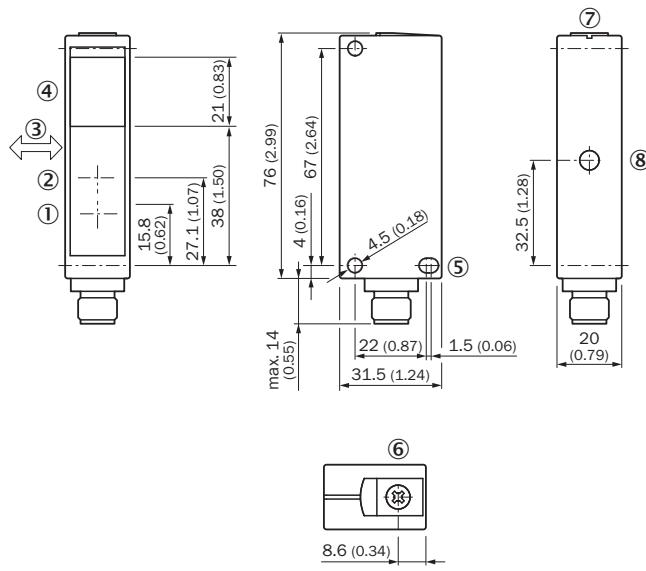
■ Sensing range

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

Adjustments





Dimensional drawing (Dimensions in mm (inch))



- ① Center of optical axis, sender
- ② Center of optical axis, sender
- ③ Standard direction of the material being detected
- ④ Receiving range
- ⑤ Mounting hole, \varnothing 4.5 mm
- ⑥ Adjustment of sensing range
- ⑦ Alignment sight
- ⑧ Function indicator

Recommended accessories

Other models and accessories → www.sick.com/W18-2

	Brief description	Type	Part no.
Plug connectors and cables			
	Head A: female connector, M12, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m	YF2A14-050VB3XLEAX	2096235
	Head A: male connector, M12, 4-pin, straight Cable: unshielded	STE-1204-G	6009932

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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.”

WORLDWIDE PRESENCE:

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