



DATA SHEET

WTV18-2P420S02

W18-2
Photoelectric sensors

SICK

Sensor Intelligence



WTV18-2P420S02

Type	part no.
WTV18-2P420S02	1047134

Further device versions and accessories at www.sick.com/W18-2

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

¹⁹ Object with 90% remission (based on standard white, DIN 5033).

2) Object with 6 % remission.

3) Average service life: 100,000 h at $T_{II} = +25\text{ }^{\circ}\text{C}$.

MECHANICS/ELECTRONICS

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

³⁾ Without load.

⁴⁾ Signal transit time with resistive load.

⁵⁾ With light/dark ratio 1:1.

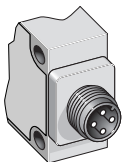
⁶⁾ A = V_s connections reverse-polarity protected.

⁷⁾ C = interference suppression.

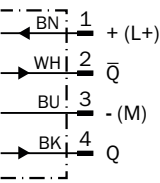
⁸⁾ D = outputs overcurrent and short-circuit protected.

SAFETY-RELATED PARAMETERS

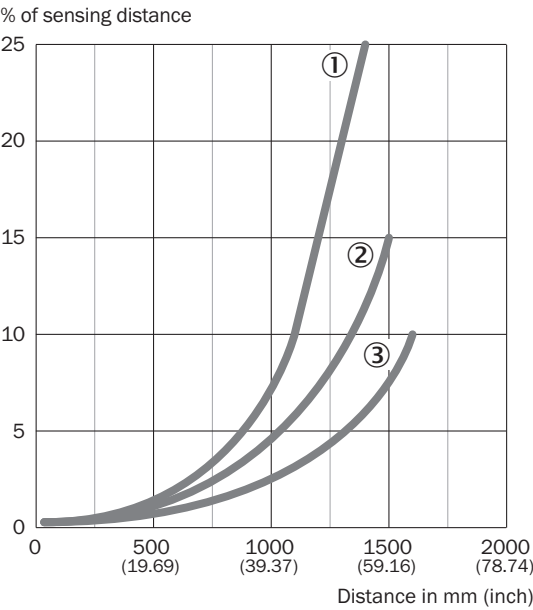
MTTF _D	700 years
DC _{avg}	0 %

CONNECTION TYPE

CONNECTION DIAGRAM CD-083

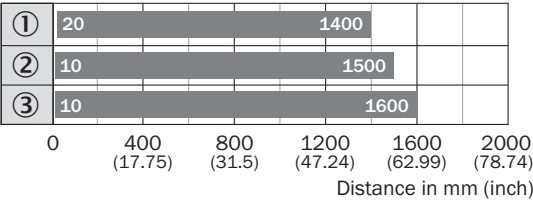


CHARACTERISTIC CURVE



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

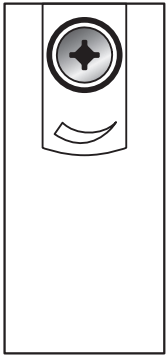
SENSING RANGE DIAGRAM



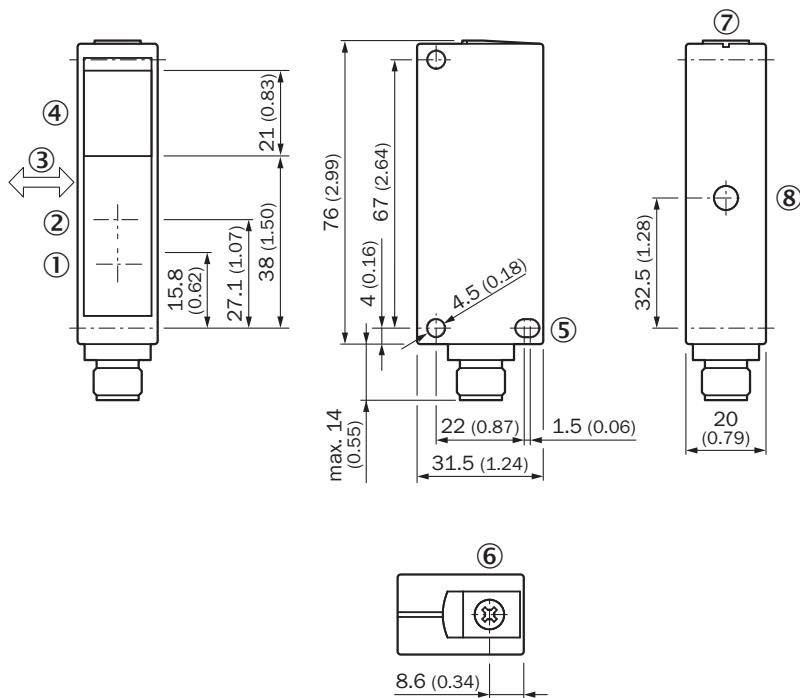
■ Sensing range

- ① sensing range on black, 6% remission
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- 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, Ø 4.5 mm
- ⑥ Adjustment of sensing range
- ⑦ Alignment sight
- ⑧ function indicator

Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at www.sick.com/1047134



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SICK AT A GLANCE

SICK is a leading global technology company for intelligent sensors and integrated solutions in industrial automation. Our technologies set benchmarks, making your industrial processes more efficient, safer and more sustainable – both in logistics and manufacturing operations.

SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnerships with our customers are more than just a promise: Together, we optimize productivity, improve quality, protect health and safety, and help build a sustainable future. All with empathy and trust.

Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

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