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DATA SHEET

WSE27-3F2431S04

W27
Photoelectric sensors

SICK Sensor Intelligence



Illustration may differ

PHOTOELECTRIC SENSORS

WSE27-3F2431S04

ORDERING INFORMATION

Type	part no.
WSE27-3F2431S04	1075138

Further device versions and accessories at www.sick.com/W27

DETAILED TECHNICAL DATA

FEATURES

Functional principle	Through-beam photoelectric sensor
Dimensions (W x H x D)	24.6 mm x 80.6 mm x 54 mm
Housing design (light emission)	Rectangular
Sensing range max.	0 m ... 30 m
Sensing range	0 m ... 22 m
Focus	Approx. 1.5°
Type of light	Visible red light
Light source	LED ¹⁾
Light spot size (distance)	Ø 600 mm (25 m)
Angle of dispersion	Approx. 1.5°
Adjustment	Potentiometer
Special features	Time delay: switch on delay of 30 ms or 70 ms Mounting holes with metal inside

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

MECHANICS/ELECTRONICS

Supply voltage U_g	10 V DC ... 30 V DC ¹⁾
Ripple	< 5 V _{pp} ²⁾
Power consumption, sender	≤ 35 mA ³⁾
Power consumption, receiver	≤ 20 mA ³⁾
Switching output	PNP
Output function	Complementary
Switching mode	Light/dark switching
Signal voltage PNP HIGH/LOW	> U_v - 2,5 V / ca. 0 V
Output current I_{max}	≤ 100 mA
Response time	≤ 200 μs ⁴⁾
Switching frequency	2,500 Hz ⁵⁾
Angle of reception	Approx. 3°
Time functions	Switch-on delay
Delay time	Adjustable via time control, ≤ 30 ms, 70 ms
Connection type	Male connector M12, 4-pin
Circuit protection	A ⁶⁾ B ⁷⁾ C ⁸⁾
Protection class	II ⁹⁾
Weight	200 g
Special device	✓
Housing material	Plastic, ABS
Optics material	Plastic, PMMA
Enclosure rating	IP66 IP67
Ambient operating temperature	-40 °C ... +60 °C
Ambient temperature, storage	-40 °C ... +75 °C
UL File No.	NRKH.E181493 & NRKH7.E181493
Part number of individual components	2080794 WE27-3F2431S04 2080795 WS27-3D2430S04

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_g connections reverse-polarity protected.

⁷⁾ B = inputs and output reverse-polarity protected.

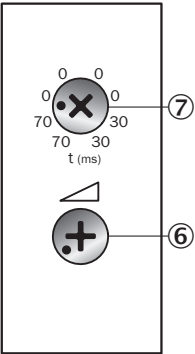
⁸⁾ C = interference suppression.

⁹⁾ Reference voltage: 50 V DC.

SAFETY-RELATED PARAMETERS

MTTF _D	630 years
DC _{avg}	0 %

ADJUSTMENTS

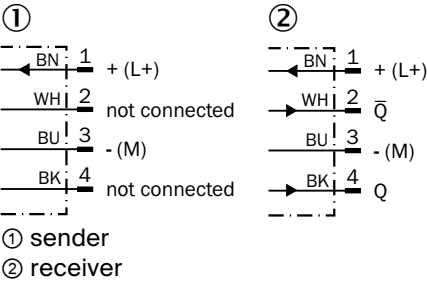


- ⑥ Sensitivity control: potentiometer
- ⑦ time delay selector switch

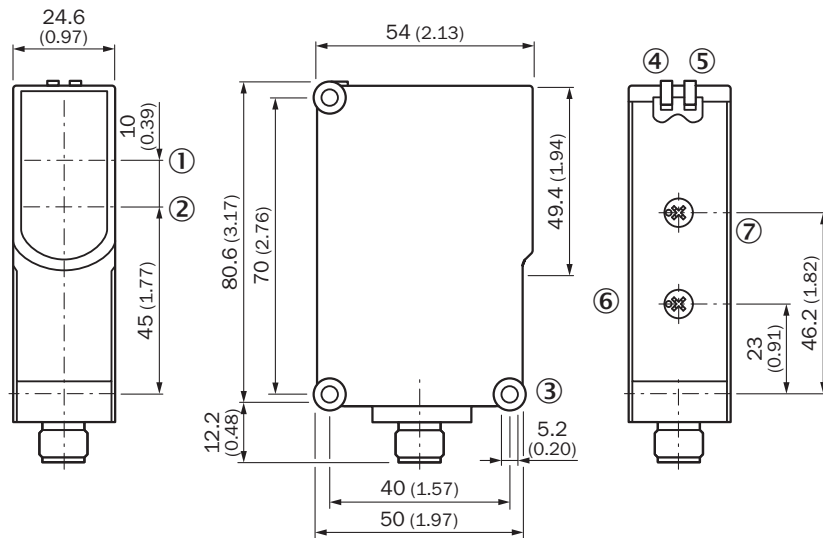
CONNECTION TYPE



CONNECTION DIAGRAM CD-085



DIMENSIONAL DRAWING



Dimensions in mm (inch)

- ① Optical axis, sender
- ② Optical axis, receiver
- ③ Mounting hole $\varnothing$ 5.2 mm
- ④ LED indicator green: Supply voltage active
- ⑤ LED indicator yellow: Status of received light beam
- ⑥ sensitivity control
- ⑦ Time control

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/1075138



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SICK AT A GLANCE

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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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