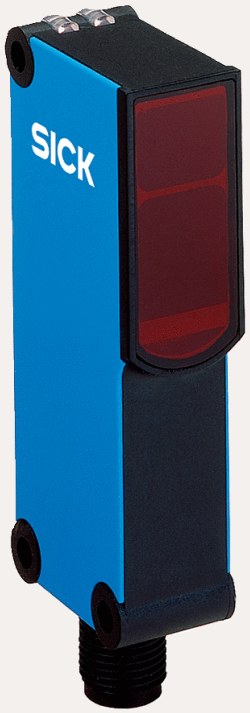
SICK.COM



DATA SHEET

WL18-3P630S04

W18-3
Photoelectric sensors

SICK Sensor Intelligence

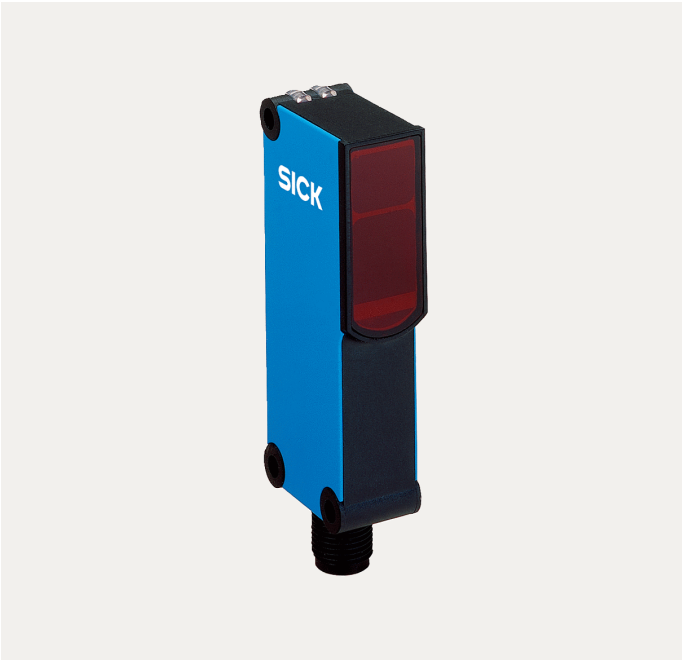


Illustration may differ

PHOTOELECTRIC SENSORS

WL18-3P630S04

ORDERING INFORMATION

Type	part no.
WL18-3P630S04	1041928

Further device versions and accessories at www.sick.com/W18-3

DETAILED TECHNICAL DATA

FEATURES

Functional principle	Photoelectric retro-reflective sensor
Functional principle detail	Without reflector minimum distance (autocollimation/coaxial optics)
Dimensions (W x H x D)	17.6 mm x 75.5 mm x 33.5 mm
Housing design (light emission)	Rectangular
Sensing range max.	0 m ... 7 m [1]
Sensing range	0 m ... 5 m [1]
Focus	1.8°
Type of light	Visible red light
Light source	LED [2]
Light spot size (distance)	Ø 40 mm (2 m)
Angle of dispersion	1.8°
Wave length	645 nm
Adjustment	Potentiometer, 1 turn
Special features	Heightened vibration resistance

[1] Reflector PL80A.

[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	< 5 V_{pp} [2]
Current consumption	40 mA [3]
Switching output	PNP
Switching mode	Light/dark switching
Output current $I_{max.}$	≤ 100 mA
Response time	< 500 µs [4]
Switching frequency	1,000 Hz [5]
Connection type	Cubic connector, 6-pin
Circuit protection	A [6] C [7] D [8]
Weight	70 g
Polarizing filter	✓
Housing material	Plastic, ABS
Optics material	Plastic, PMMA
Enclosure rating	IP65
Test input sender off	TE to 0 V
Test input	✓
Ambient operating temperature	–40 °C ... +60 °C
Ambient temperature, storage	–40 °C ... +75 °C
UL File No.	NRKH.E181493 & NRKH7.E181493

[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.

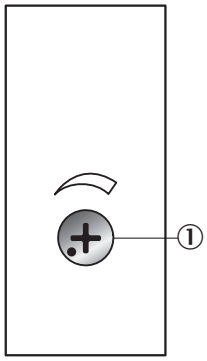
[7] C = interference suppression.

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

SAFETY-RELATED PARAMETERS

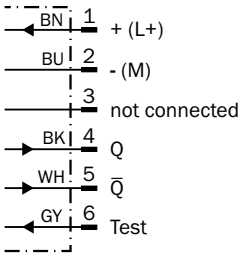
$MTTF_D$	1,759 years
DC_{avg}	0 %

ADJUSTMENTS POTENTIOMETER

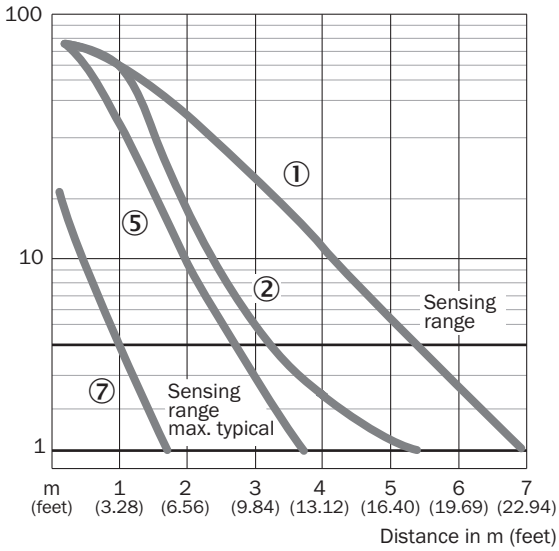


① setting of the sensing range: potentiometer, 4 revolutions

CONNECTION DIAGRAM CD-178

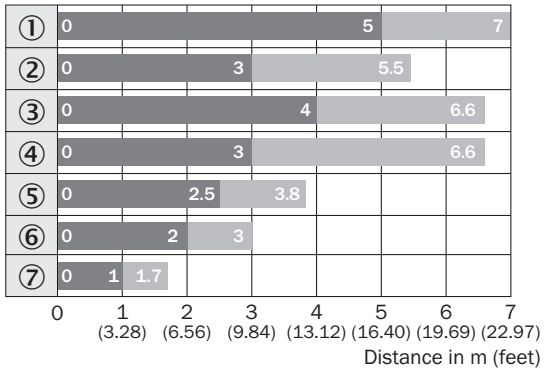


CHARACTERISTIC CURVE WL18-3, WL18-3 EX



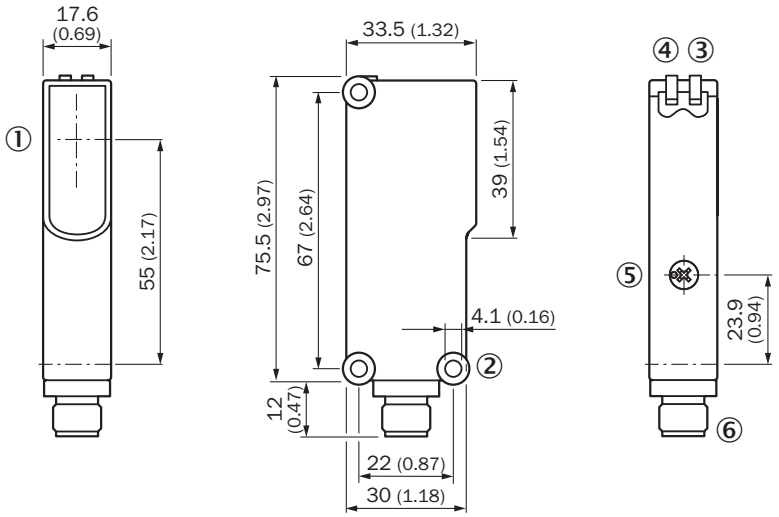
① Reflector PL80A
② Reflector C110A
⑤ Reflector PL30A
⑦ Reflective tape Diamond Grade

SENSING RANGE DIAGRAM WL18-3, WL18-3 EX



① Reflector PL80A
② Reflector C110A
③ Reflector PL50A
④ Reflector PL40A
⑤ Reflector PL30A
⑥ Reflector PL20A
⑦ Reflective tape Diamond Grade

DIMENSIONAL DRAWING



Dimensions in mm (inch)
① Center of optical axis
② Mounting hole ø 4.1 mm
③ LED indicator yellow: Status of received light beam
④ LED indicator green: Supply voltage active
⑤ Sensitivity control, potentiometer 270° on WE
⑥ 4-pin M12 male connector or 2 m cable or 6-pin cubic connector

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/1041928

SICK AG
WALDKIRCH
GERMANY
SICK.COM

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

SICK

Sensor Intelligence