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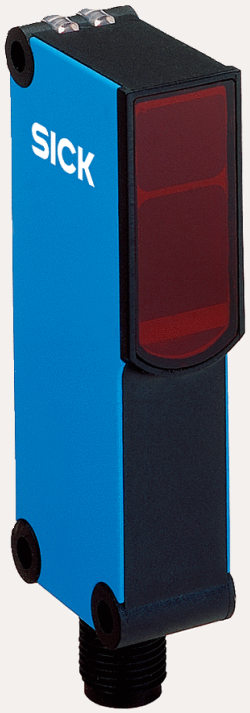


DATA SHEET

WT18-3P410

W18-3
Photoelectric sensors

SICK Sensor Intelligence

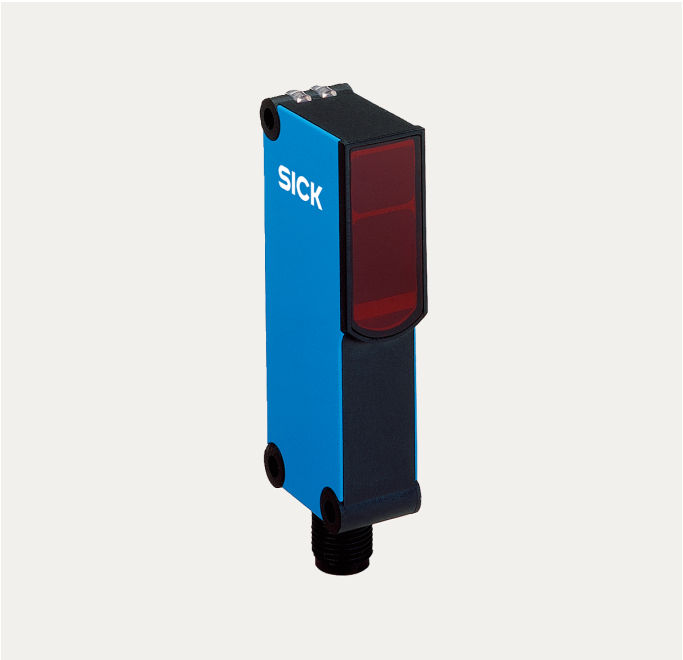


Illustration may differ

PHOTOELECTRIC SENSORS

WT18-3P410

ORDERING INFORMATION

Type	part no.
WT18-3P410	1025889

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

DETAILED TECHNICAL DATA

FEATURES

Functional principle	Photoelectric proximity sensor
Functional principle detail	Background suppression
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.	10 mm ... 700 mm [1]
Sensing range	50 mm ... 700 mm [1]
Type of light	Infrared light
Light source	LED [2]
Light spot size (distance)	Ø 20 mm (400 mm)
Wave length	870 nm
Adjustment	Potentiometer, 4 turns

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

[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	55 mA [3]
Switching output	PNP
Output function	Complementary
Switching mode	Light/dark switching
Output current $I_{max.}$	≤ 100 mA
Response time	< 700 µs [4]
Switching frequency	700 Hz [5]
Connection type	Male connector M12, 4-pin
Circuit protection	A [6] C [7] D [8]
Weight	40 g
Housing material	Plastic, ABS
Optics material	Plastic, PMMA
Enclosure rating	IP67
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.

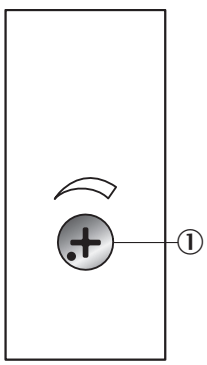
[7] C = interference suppression.

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

SAFETY-RELATED PARAMETERS

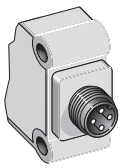
$MTTF_D$	724 years
DC_{avg}	0 %

ADJUSTMENTS POTENTIOMETER

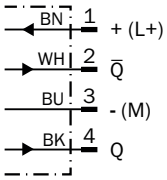


① setting of the sensing range: potentiometer, 4 revolutions

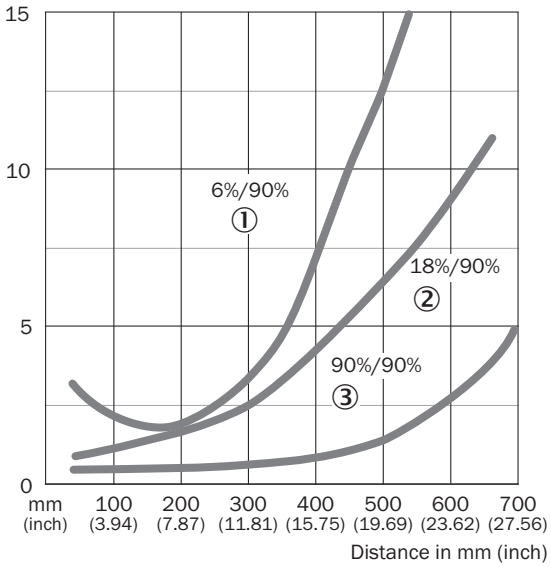
CONNECTION TYPE



CONNECTION DIAGRAM CD-083

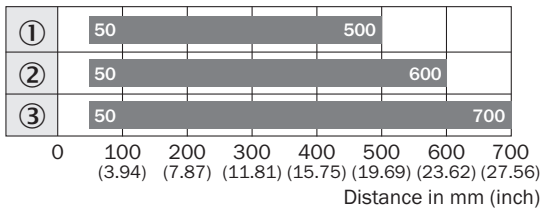


CHARACTERISTIC CURVE WT18-3, INFRARED, 700 MM



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

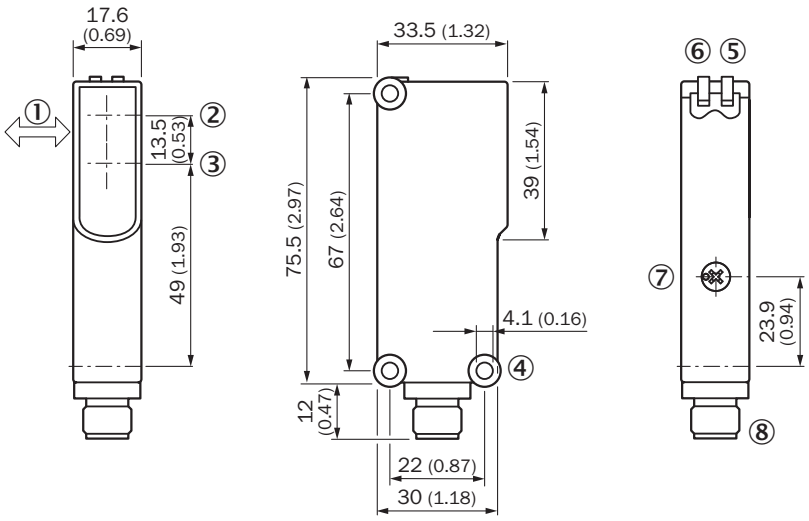
SENSING RANGE DIAGRAM WT18-3, INFRARED, 700 MM



Sensing range

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

DIMENSIONAL DRAWING WT18-3, POTENTIOMETER



Dimensions in mm (inch)
① Standard direction of the material being detected
② Center of optical axis, sender
③ Center of optical axis, receiver
④ Mounting hole ø 4.1 mm
⑤ LED indicator yellow: Status of received light beam
⑥ LED indicator green: Supply voltage active
⑦ setting of the sensing range: potentiometer, 4 revolutions
⑧ 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/1025889

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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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