



DATA SHEET

WTB190TL-P460

W190 Laser High Grade
Photoelectric sensors

SICK

Sensor Intelligence



Illustration may differ

PHOTOELECTRIC SENSORS

WTB190TL-P460

ORDERING INFORMATION

Type	part no.
WTB190TL-P460	6026546

Further device versions and accessories at www.sick.com/W190_Laser_High_Grade

DETAILED TECHNICAL DATA

FEATURES

Functional principle	Photoelectric proximity sensor
Functional principle detail	Background suppression, Foreground suppression
Dimensions (W x H x D)	15 mm x 44.4 mm x 30 mm
Housing design (light emission)	Rectangular
Sensing range max.	100 mm ... 270 mm ¹⁾
Type of light	Visible red light
Light source	Laser
Light spot size (distance)	Ø 1.5 mm (200 mm)
Laser class	2
Adjustment	Menu-controlled Single teach-in button Teach-in
Display	Switching threshold, distance, mode

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

MECHANICS/ELECTRONICS

Supply voltage	10 V DC ... 30 V DC ¹⁾
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¹⁾ Limit values.
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⁾ D = outputs overcurrent and short-circuit protected.
⁸⁾ Reference voltage: 50 V DC.

Ripple	$\pm 10\%$ ²⁾
Current consumption	40 mA ³⁾
Switching output	PNP
Switching mode	Light/dark switching
Switching mode selector	Programmable
Output current I_{max}	≤ 100 mA
Response time	1.5 ms ⁴⁾
Switching frequency	300 Hz ⁵⁾
Time functions	Programmable Programmable: 0 ... 10 s
Delay time	Nor: normal mode Ond: On delay mode, reactivation delay OFd: Off-delay mode, release delay OnE: One Shot Mode, ONE SHOT
Connection type	Male connector M8, 4-pin
Circuit protection	A ⁶⁾ D ⁷⁾
Protection class	III ⁸⁾
Weight	120 g
Housing material	Plastic, ABS
Optics material	Plastic, PMMA
Tightening torque, max.	0.5 Nm
Enclosure rating	IP67
Ambient operating temperature	-10 °C ... +40 °C
Ambient temperature, storage	-20 °C ... +60 °C

¹⁾ Limit values.

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³⁾ Without load.

⁴⁾ Signal transit time with resistive load.

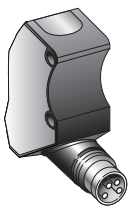
⁵⁾ With light/dark ratio 1:1.

⁶⁾ A = V_s connections reverse-polarity protected.

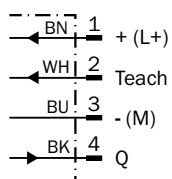
⁷⁾ D = outputs overcurrent and short-circuit protected.

⁸⁾ Reference voltage: 50 V DC.

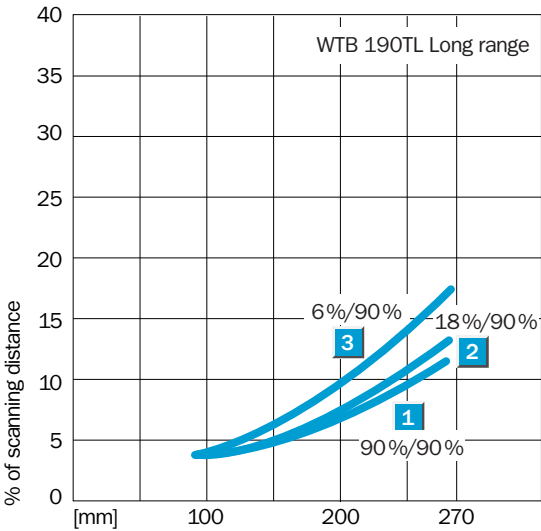
CONNECTION TYPE



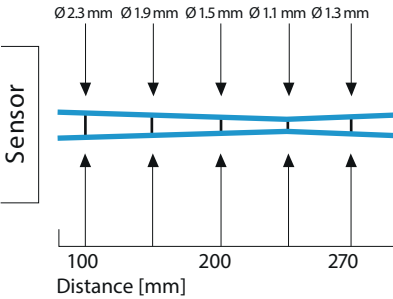
CONNECTION DIAGRAM CD-092



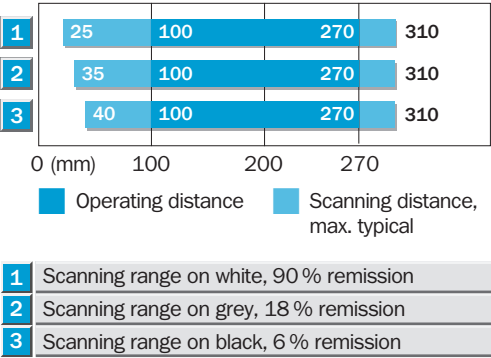
CHARACTERISTIC CURVE



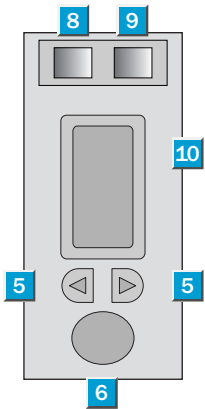
LIGHT SPOT SIZE



SENSING RANGE DIAGRAM

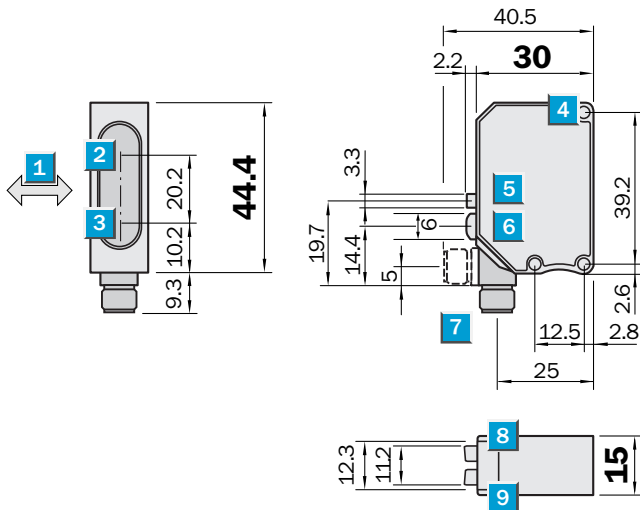


ADJUSTMENTS



- ⑤ +/- button; select mode button
- ⑥ Teach-in button
- ⑧ Status indicator LED, green: Laser on
- ⑨ LED indicator yellow;
- ⑨ lights continuously: output aktiv
- ⑨ no light: output inactive
- ⑨ blinks slowly: shot circuit detected
- ⑩ Numerical Display

DIMENSIONAL DRAWING



Dimensions in mm (inch)

- ① Standard direction of the material being detected
- ② Center of optical axis, receiver
- ③ Center of optical axis, sender
- ⑦ Connector M8, 4-pin, 90° rotatable or cable 2 m, 4-wire

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/6026546



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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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