



WTB190TL-P460

W190 Laser High Grade

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ

Ordering information

Type	part no.
WTB190TL-P460	6026546

Other models and accessories → 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⁾
Ripple	± 10 % ²⁾
Current consumption	40 mA ³⁾
Switching output	PNP
Switching mode	Light/dark switching

¹⁾ Limit values.

²⁾ May not exceed or fall below 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⁾ D = outputs overcurrent and short-circuit protected.

⁸⁾ Reference voltage: 50 V DC.

Switching mode selector	Programmable
Output current I_{\max}	$\leq 100 \text{ mA}$
Response time	$1.5 \text{ ms}^{4)}$
Switching frequency	$300 \text{ Hz}^{5)}$
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	$-10 \text{ °C} \dots +40 \text{ °C}$
Ambient temperature, storage	$-20 \text{ °C} \dots +60 \text{ °C}$

1) Limit values.

2) May not exceed or fall below 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) D = outputs overcurrent and short-circuit protected.

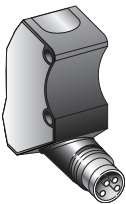
8) Reference voltage: 50 V DC.

Classifications

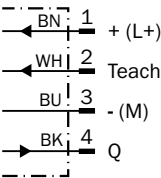
ECLASS 5.0	27270904
ECLASS 5.1.4	27270904
ECLASS 6.0	27270904
ECLASS 6.2	27270904
ECLASS 7.0	27270904
ECLASS 8.0	27270904
ECLASS 8.1	27270904
ECLASS 9.0	27270904
ECLASS 10.0	27270904
ECLASS 11.0	27270904
ECLASS 12.0	27270903
ETIM 5.0	EC002719
ETIM 6.0	EC002719
ETIM 7.0	EC002719

ETIM 8.0	EC002719
UNSPSC 16.0901	39121528

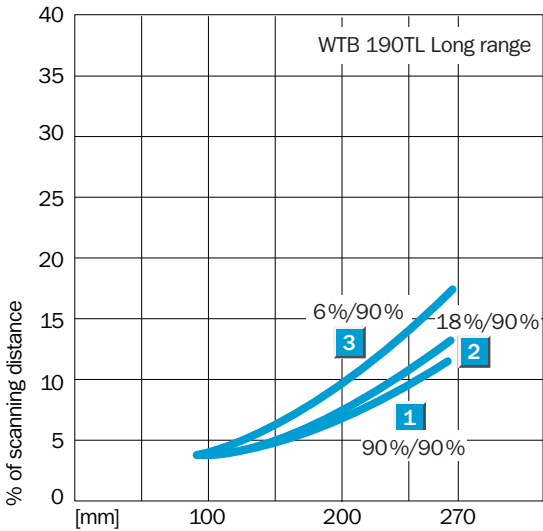
Connection type



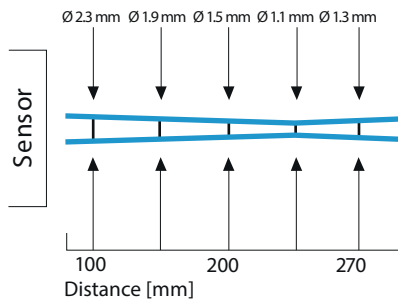
Connection diagram Cd-092



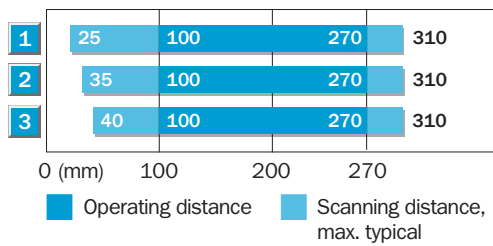
Characteristic curve



Light spot size

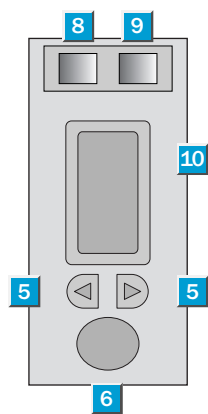


Sensing range diagram



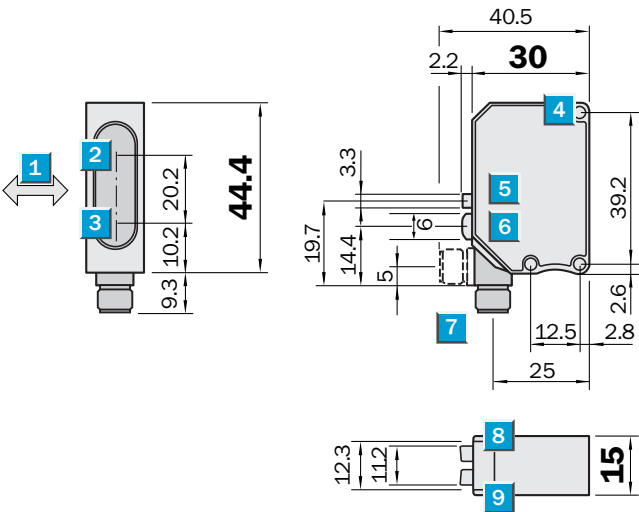
1	Scanning range on white, 90 % remission
2	Scanning range on grey, 18 % remission
3	Scanning range on black, 6 % remission

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

Recommended accessories

Other models and accessories → www.sick.com/W190_Laser_High_Grade

	Brief description	Type	part no.
Mounting systems			
	<ul style="list-style-type: none">• Description: Mounting bracket• Material: Steel• Details: Steel, zinc coated• Items supplied: Mounting hardware included	BEF-W190	5311362
	<ul style="list-style-type: none">• Description: Plate N11N for universal clamp bracket• Material: Stainless steel• Details: Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp)• Items supplied: Universal clamp (5322627), mounting hardware• Usable for: DeltaPac, Glare, WTD20E	BEF-KHS-N11N	2071081

	Brief description	Type	part no.
connectors and cables			
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M8, 4-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 5 m, 4-wire, PUR, halogen-free • Description: Sensor/actuator cable, unshielded • Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YF8U14-050UA3XLEAX	2094792
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M8, 4-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 5 m, 4-wire, PVC • Description: Sensor/actuator cable, unshielded • Application: Zones with chemicals, Uncontaminated zones 	YF8U14-050VA3XLEAX	2095889
	<ul style="list-style-type: none"> • Connection type head A: Male connector, M8, 4-pin, straight, A-coded • Description: Unshielded • Connection systems: Screw-type terminals • Permitted cross-section: 0.14 mm² ... 0.5 mm² 	STE-0804-G	6037323

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We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

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