



# WTB190TL-P430

W190 Laser High Grade

SMALL PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

Type	Part no.
WTB190TL-P430	6026542

Other models and accessories → [www.sick.com/W190\\_Laser\\_High\\_Grade](http://www.sick.com/W190_Laser_High_Grade)

### Detailed technical data

#### Features

<b>Device type</b>	Photoelectric sensors
<b>Sensor/ detection principle</b>	Photoelectric proximity sensor, Background suppression Foreground suppression
<b>Dimensions (W x H x D)</b>	15 mm x 44.4 mm x 30 mm
<b>Housing design (light emission)</b>	Rectangular
<b>Sensing range max.</b>	40 mm ... 100 mm <sup>1)</sup>
<b>Type of light</b>	Visible red light
<b>Light source</b>	Laser
<b>Light spot size (distance)</b>	Ø 0.8 mm (80 mm)
<b>Laser class</b>	2
<b>Adjustment</b>	Menu-controlled Single teach-in button Teach-in
<b>Display</b>	Switching threshold, distance, mode

<sup>1)</sup> Object with 90 % reflectance (referred to standard white, DIN 5033).

#### Mechanics/electronics

<b>Supply voltage</b>	10 V DC ... 30 V DC <sup>1)</sup>
<b>Ripple</b>	± 10 % <sup>2)</sup>
<b>Current consumption</b>	40 mA <sup>3)</sup>

<sup>1)</sup> Limit values.

<sup>2)</sup> May not exceed or fall below  $U_V$  tolerances.

<sup>3)</sup> Without load.

<sup>4)</sup> Signal transit time with resistive load.

<sup>5)</sup> With light/dark ratio 1:1.

<sup>6)</sup> A =  $V_S$  connections reverse-polarity protected.

<sup>7)</sup> D = outputs overcurrent and short-circuit protected.

<sup>8)</sup> Reference voltage: 50 V DC.

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

### Safety-related parameters

<b>MTTF<sub>D</sub></b>	196 years
<b>DC<sub>avg</sub></b>	0 %

### Classifications

<b>ECl@ss 5.0</b>	27270904
<b>ECl@ss 5.1.4</b>	27270904
<b>ECl@ss 6.0</b>	27270904
<b>ECl@ss 6.2</b>	27270904
<b>ECl@ss 7.0</b>	27270904
<b>ECl@ss 8.0</b>	27270904
<b>ECl@ss 8.1</b>	27270904
<b>ECl@ss 9.0</b>	27270904
<b>ECl@ss 10.0</b>	27270904

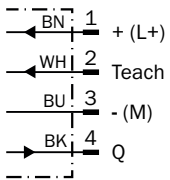
# WTB190TL-P430 | W190 Laser High Grade

## SMALL PHOTOELECTRIC SENSORS

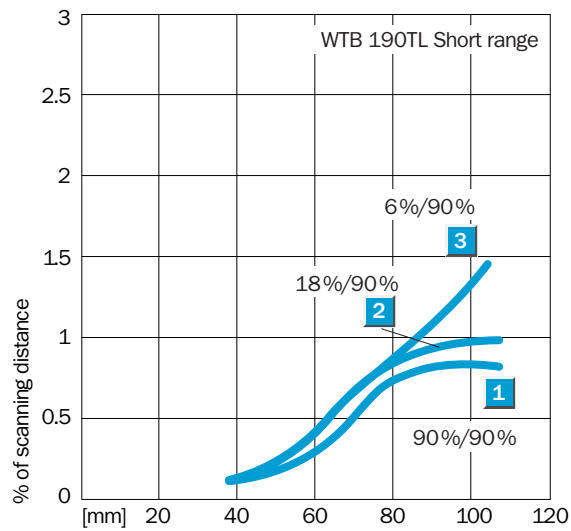
<b>ECI@ss 11.0</b>	27270904
<b>ETIM 5.0</b>	EC002719
<b>ETIM 6.0</b>	EC002719
<b>ETIM 7.0</b>	EC002719
<b>ETIM 8.0</b>	EC002719
<b>UNSPSC 16.0901</b>	39121528

### Connection diagram

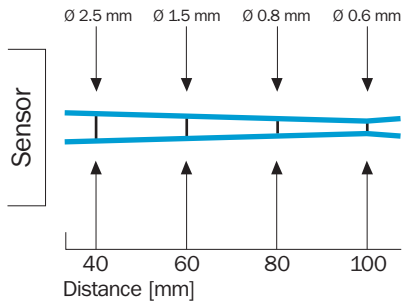
Cd-092



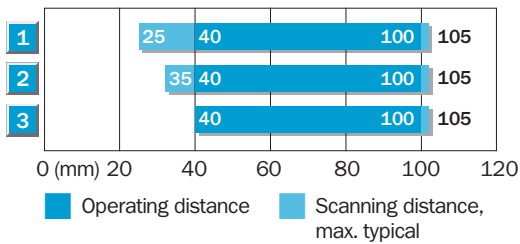
### Characteristic curve



### Light spot size

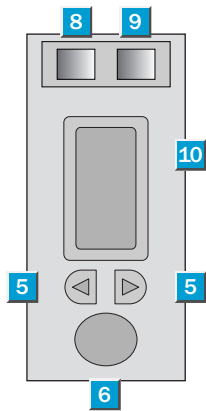


### Sensing range diagram



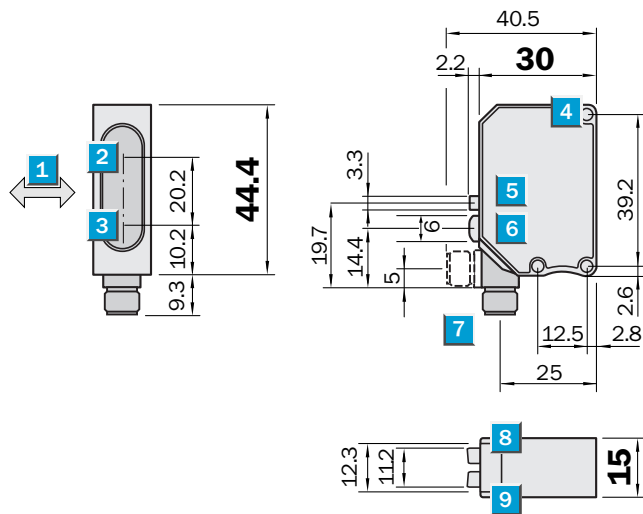
- 1 Scanning range on white, 90 % remission
- 2 Scanning range on grey, 18 % remission
- 3 Scanning range on black, 6 % remission

### Adjustments



- ⑤ +/- button; select mode button
- ⑥ Teach-in button
- ⑧ Status indicator LED, green: Laser on
- ⑨ LED indicator yellow; Lights continuously: output aktiv No light: output inactive 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](http://www.sick.com/W190_Laser_High_Grade)

	Brief description	Type	Part no.
<b>Mounting brackets and plates</b>			
	Mounting bracket, steel, zinc coated, mounting hardware included	BEF-W190	5311362
<b>Plug connectors and cables</b>			
	Head A: female connector, M8, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m	YF8U14-050VA3XLEAX	2095889
	Head A: male connector, M8, 4-pin, straight Head B: - Cable: unshielded	STE-0804-G	6037323

## SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

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.”

## WORLDWIDE PRESENCE:

Contacts and other locations –[www.sick.com](http://www.sick.com)