



# WTB190L-N430

W190 Laser Standard

PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ

### Ordering information

Type	part no.
WTB190L-N430	6026548

Other models and accessories → [www.sick.com/W190\\_Laser\\_Standard](http://www.sick.com/W190_Laser_Standard)

### Detailed technical data

#### Features

<b>Functional principle</b>	Photoelectric proximity sensor
<b>Functional principle detail</b>	Background 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 2 mm (80 mm)
<b>Laser class</b>	2
<b>Adjustment</b>	None

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

#### Mechanics/electronics

<b>Supply voltage <math>U_B</math></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>
<b>Switching output</b>	NPN
<b>Switching mode</b>	Light/dark switching
<b>Switching mode selector</b>	Selectable via light/dark rotary switch
<b>Output current <math>I_{max.}</math></b>	≤ 100 mA

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

<sup>2)</sup> May not fall below or exceed  $U_V$  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>Response time</b>	0.7 ms <sup>4)</sup>
<b>Switching frequency</b>	700 Hz <sup>5)</sup>
<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 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.

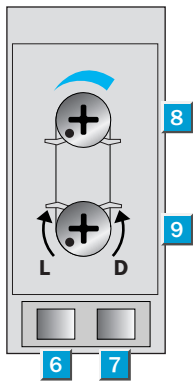
7) D = outputs overcurrent and short-circuit protected.

8) Reference voltage: 50 V DC.

## Classifications

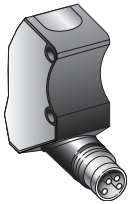
<b>ECLASS 5.0</b>	27270904
<b>ECLASS 5.1.4</b>	27270904
<b>ECLASS 6.0</b>	27270904
<b>ECLASS 6.2</b>	27270904
<b>ECLASS 7.0</b>	27270904
<b>ECLASS 8.0</b>	27270904
<b>ECLASS 8.1</b>	27270904
<b>ECLASS 9.0</b>	27270904
<b>ECLASS 10.0</b>	27270904
<b>ECLASS 11.0</b>	27270904
<b>ECLASS 12.0</b>	27270903
<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

### Adjustments

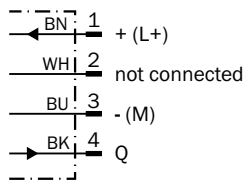


- ⑥ Status indicator LED, yellow: Output active
- ⑦ Status indicator LED, green: Laser on
- ⑧ Adjustment of sensing range
- ⑨ selector switch light/dark switching

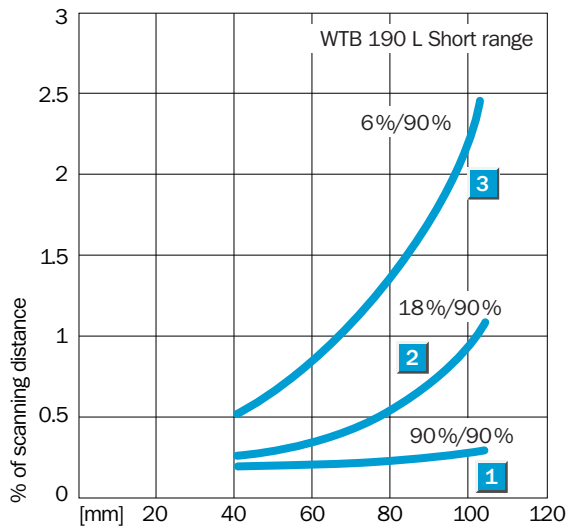
### Connection type



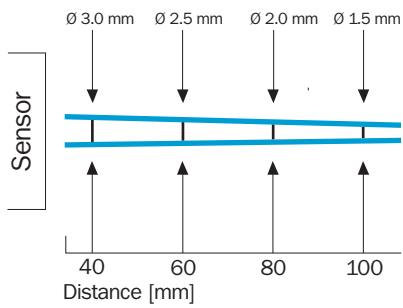
### Connection diagram Cd-066



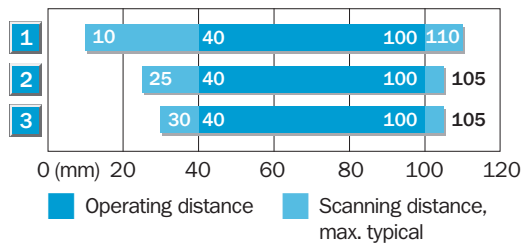
## Characteristic curve



## Light spot size

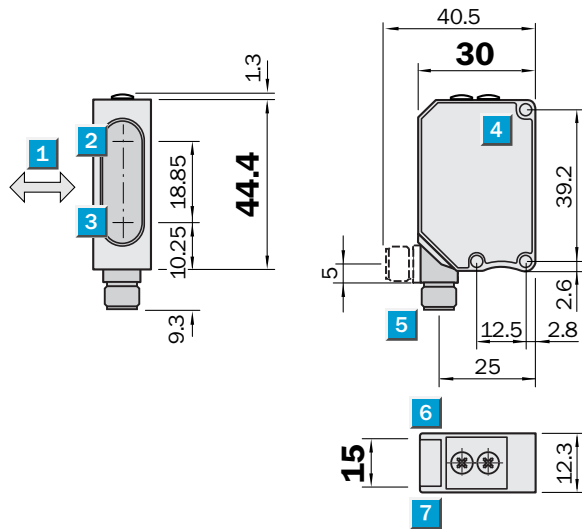


### Sensing range diagram



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

### Dimensional drawing








Dimensions in mm (inch)

- ① Center of optical axis
- ② Mounting hole,  $\varnothing$  approx. 3.1 mm
- ③ Connector 4-pin, M8, 90° rotatable or cable 2 m, 3-wire
- ④ Status indicator LED, yellow: Output active
- ⑤ Status indicator LED, green: Laser on
- ⑥ sensitivity control
- ⑦ selector switch light/dark switching

## Recommended accessories

Other models and accessories → [www.sick.com/W190\\_Laser\\_Standard](http://www.sick.com/W190_Laser_Standard)

	Brief description	Type	part no.
Mounting systems			
	<ul style="list-style-type: none"> <li><b>Description:</b> Mounting bracket</li> <li><b>Material:</b> Steel</li> <li><b>Details:</b> Steel, zinc coated</li> <li><b>Items supplied:</b> Mounting hardware included</li> </ul>	BEF-W190	5311362
	<ul style="list-style-type: none"> <li><b>Description:</b> Plate N11N for universal clamp bracket</li> <li><b>Material:</b> Stainless steel</li> <li><b>Details:</b> Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp)</li> <li><b>Items supplied:</b> Universal clamp (5322627), mounting hardware</li> <li><b>Usable for:</b> DeltaPac, Glare, WTD20E</li> </ul>	BEF-KHS-N11N	2071081
connectors and cables			
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M8, 4-pin, straight, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 5 m, 4-wire, PUR, halogen-free</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YF8U14-050UA3XLEAX	2094792
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M8, 4-pin, straight, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 5 m, 4-wire, PVC</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul>	YF8U14-050VA3XLEAX	2095889
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Male connector, M8, 4-pin, straight, A-coded</li> <li><b>Description:</b> Unshielded</li> <li><b>Connection systems:</b> Screw-type terminals</li> <li><b>Permitted cross-section:</b> 0.14 mm² ... 0.5 mm²</li> </ul>	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)