



# WLG190T-N420

W190 Laser High Grade Glass

PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ

### Ordering information

Type	part no.
WLG190T-N420	6022826

Included in delivery: P250F (1)

Other models and accessories → [www.sick.com/W190\\_Laser\\_High\\_Grade\\_Glass](http://www.sick.com/W190_Laser_High_Grade_Glass)

### Detailed technical data

#### Features

<b>Functional principle</b>	Photoelectric retro-reflective sensor
<b>Functional principle detail</b>	Autocollimation
<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>	0.01 m ... 5.5 m <sup>1)</sup>
<b>Type of light</b>	Visible red light
<b>Light source</b>	Laser
<b>Light spot size (distance)</b>	Ø 15 mm (1 m)
<b>Laser class</b>	2
<b>Adjustment</b>	Menu-controlled Single teach-in button Teach-in
<b>Display</b>	Sender power, reflectivity, switching threshold, distance, mode
<b>Special feature</b>	Detecting transparent objects

<sup>1)</sup> Reflector P250F.

#### 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>
<b>Switching output</b>	NPN

<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> Programmable.

<sup>6)</sup> With light/dark ratio 1:1.

<sup>7)</sup> A =  $V_S$  connections reverse-polarity protected.

<sup>8)</sup> D = outputs overcurrent and short-circuit protected.

<sup>9)</sup> Reference voltage: 50 V DC.

<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>	0.7 ms <sup>4)</sup> 2 ms <sup>5)</sup> 5 ms
<b>Switching frequency</b>	700 Hz <sup>6)</sup> 200 Hz <sup>5)</sup> 100 Hz
<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>7)</sup> D <sup>8)</sup>
<b>Protection class</b>	III <sup>9)</sup>
<b>Weight</b>	120 g
<b>Polarisation filter</b>	✓
<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>Items supplied</b>	Reflector P250F
<b>Special feature</b>	Detecting transparent objects
<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) Programmable.

6) With light/dark ratio 1:1.

7) A =  $V_S$  connections reverse-polarity protected.

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

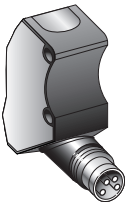
9) Reference voltage: 50 V DC.

## Classifications

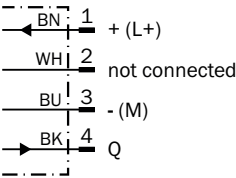
<b>ECLASS 5.0</b>	27270902
<b>ECLASS 5.1.4</b>	27270902
<b>ECLASS 6.0</b>	27270902
<b>ECLASS 6.2</b>	27270902
<b>ECLASS 7.0</b>	27270902
<b>ECLASS 8.0</b>	27270902
<b>ECLASS 8.1</b>	27270902

<b>ECLASS 9.0</b>	27270902
<b>ECLASS 10.0</b>	27270902
<b>ECLASS 11.0</b>	27270902
<b>ECLASS 12.0</b>	27270902
<b>ETIM 5.0</b>	EC002717
<b>ETIM 6.0</b>	EC002717
<b>ETIM 7.0</b>	EC002717
<b>ETIM 8.0</b>	EC002717
<b>UNSPSC 16.0901</b>	39121528

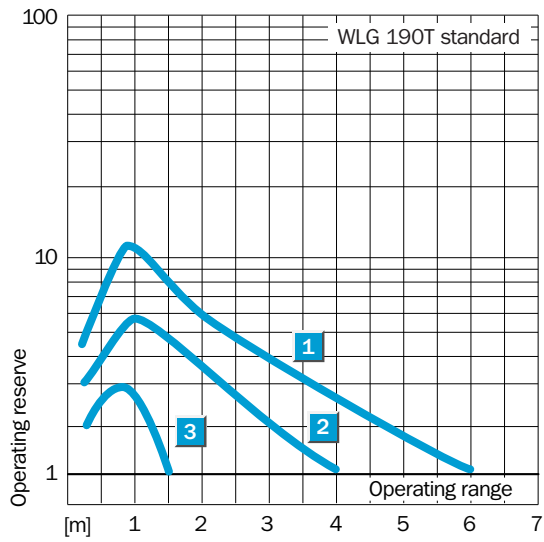
Connection type



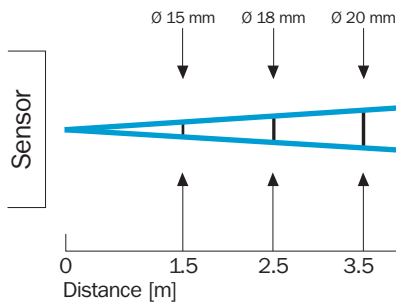
Connection diagram Cd-066



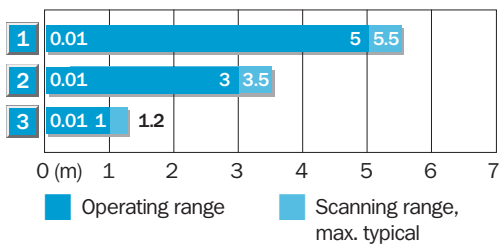
## Characteristic curve WLG190T, 5.5 m



## Light spot size WLG190T

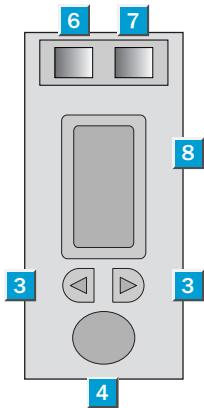


## Sensing range diagram WLG190T, 5.5 m



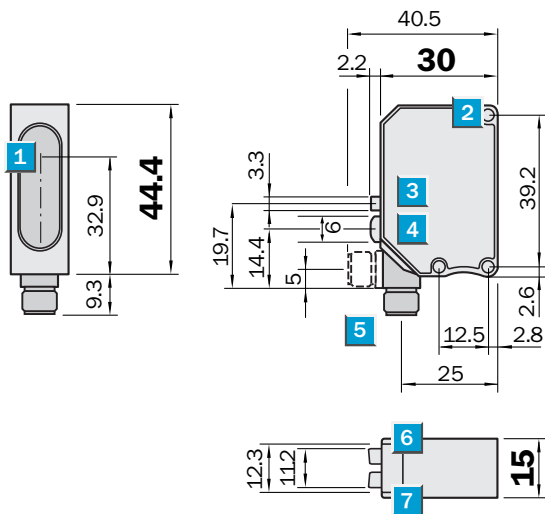
Reflector type	Operating range
1 P 250 F	0.01 ... 5 m
2 PL 20 F	0.01 ... 3 m
3 PL 10 F	0.01 ... 1 m

### Adjustments



- ③ +/- button; select mode button
- ④ Teach-in button
- ⑥ Status indicator LED, green: Laser on
- ⑦ Status indicator LED, yellow: Output active
- ⑧ Numerical Display

### Dimensional drawing



Dimensions in mm (inch)

- ① Center of optical axis
- ② Mounting hole,  $\varnothing$  approx. 3.1 mm
- ③ +/- button; select mode button
- ④ Teach-in button
- ⑤ Connector M8, 4-pin, 90° rotatable or cable 2 m, 4-wire
- ⑥ Status indicator LED, green: Laser on
- ⑦ Status indicator LED, yellow: Output active

### Recommended accessories

Other models and accessories → [www.sick.com/W190\\_Laser\\_High\\_Grade\\_Glass](http://www.sick.com/W190_Laser_High_Grade_Glass)

	Brief description	Type	part no.
reflectors and optics			
	<ul style="list-style-type: none"> <li><b>Description:</b> Rectangular, screw connection</li> <li><b>Dimensions:</b> 51 mm 61 mm</li> <li><b>Ambient operating temperature:</b> -30 °C ... +65 °C</li> </ul>	P250	5304812
	<ul style="list-style-type: none"> <li><b>Description:</b> Fine triple reflector, screw connection, suitable for laser sensors</li> <li><b>Dimensions:</b> 52 mm 62 mm</li> <li><b>Ambient operating temperature:</b> -30 °C ... +65 °C</li> </ul>	P250F	5308843
Mounting systems			
	<ul style="list-style-type: none"> <li><b>Description:</b> Universal mounting bracket for reflectors</li> <li><b>Dimensions (W x H x L):</b> 85 mm x 90 mm x 35 mm</li> <li><b>Material:</b> Steel</li> <li><b>Details:</b> Steel, zinc coated</li> <li><b>Suitable for:</b> C110A, P250, PL20, PL30A, PL40A, PL80A</li> </ul>	BEF-WN-REFX	2064574
	<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.”

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