

WLL190T-2

## PRODUCT PORTFOLIO

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

Type	Part no.
WLL190T-2P434	6032553

Other models and accessories → [www.sick.com/WLL190T-2](http://www.sick.com/WLL190T-2)

### Detailed technical data

#### Features

<b>Device type</b>	Stand-alone
<b>Sensor/ detection principle</b>	Fiber-optic photoelectric sensor
<b>Dimensions (W x H x D)</b>	10.5 mm x 34.8 mm x 76.5 mm
<b>Housing design (light emission)</b>	Rectangular
<b>Sensing range max.</b>	0 m ... 4 m, Through-beam system <sup>1) 2)</sup>
<b>Sensing range</b>	0 mm ... 480 mm, Proximity system <sup>3) 4)</sup> 0 m ... 2 m, Through-beam system <sup>5)</sup>
<b>Focus</b>	<sup>6)</sup>
<b>Type of light</b>	Visible red light
<b>Light source</b>	LED <sup>7)</sup>
<b>Angle of dispersion</b>	Approx. 65° <sup>6)</sup>
<b>Wave length</b>	650 nm
<b>Adjustment</b>	Menu-controlled Single teach-in button Cable
<b>Time type</b>	Without time delay Off delay On delay One shot
<b>Delay time</b>	Programmable, 0 ms, 9,999 ms
<b>Indication</b>	Display

<sup>1)</sup> Sensing range at response time 2 ms. Reduction at shorter response time (see LL3/ WLL190T-2 table).

<sup>2)</sup> LL3-TB01 and LL3-TA01 tip adaptor.

<sup>3)</sup> Object with 90% remission (based on standard white DIN 5033). Sensing range with 2 ms response time. Reduction for shorter response time (see tables LL3/WL-L190T-2).

<sup>4)</sup> LL3-DB01.

<sup>5)</sup> LL3-TB01.

<sup>6)</sup> See LL3 fiber-optic data.

<sup>7)</sup> Average service life: 100,000 h at T<sub>J</sub> = +25 °C.

<b>Display</b>	LED status display / 2x 4-character digital dual displays, Set value (green indicator) and actual value (red indicator) are displayed simultaneously, display of parameters
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<sup>4)</sup> LL3-DB01.

<sup>5)</sup> LL3-TB01.

<sup>6)</sup> See LL3 fiber-optic data.

<sup>7)</sup> Average service life: 100,000 h at T<sub>U</sub> = +25 °C.

## Mechanics/electronics

<b>Supply voltage</b>	10 V DC ... 24 V DC <sup>1)</sup>
<b>Ripple</b>	≤ 10 % <sup>2)</sup>
<b>Power consumption</b>	≤ 50 mA
<b>Switching output</b>	PNP <sup>3) 4)</sup>
<b>Switching mode</b>	Light/dark switching <sup>3) 4)</sup>
<b>Switching mode selector</b>	Manually selectable
<b>Output current I<sub>max</sub></b>	≤ 100 mA
<b>Response time</b>	≤ 2 ms, ≤ 60 μs, ≤ 250 μs
<b>Switching frequency</b>	8,333 Hz 2,000 Hz 250 Hz
<b>Connection type</b>	Male connector M8, 4-pin
<b>Circuit protection</b>	A <sup>5)</sup> B <sup>6)</sup> C <sup>7)</sup> D <sup>8)</sup>
<b>Protection class</b>	III
<b>Weight</b>	25 g
<b>Housing material</b>	Plastic, ABS/PC
<b>Enclosure rating</b>	IP66 <sup>9)</sup>
<b>Ambient operating temperature</b>	-25 °C ... +55 °C <sup>10)</sup>
<b>Ambient storage temperature</b>	-40 °C ... +70 °C

<sup>1)</sup> +- 10%.

<sup>2)</sup> May not exceed or fall below U<sub>v</sub> tolerances.

<sup>3)</sup> Q1, Q2.

<sup>4)</sup> Selectable Q2, external teach or counter reset.

<sup>5)</sup> A = V<sub>S</sub> connections reverse-polarity protected.

<sup>6)</sup> B = inputs and output reverse-polarity protected.

<sup>7)</sup> C = interference suppression.

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

<sup>9)</sup> With correctly attached fibre-optic cable LL3 and closed protection hood.

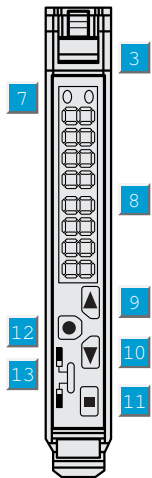
<sup>10)</sup> Operating temperature fluctuates according to number of devices connected: 4–8 devices: -25 °C ... +50 °C (output current 50 mA) / 9–16 devices: -25 °C ... +45 °C (output current 20 mA).

## Classifications

<b>ECl@ss 5.0</b>	27270905
<b>ECl@ss 5.1.4</b>	27270905

<b>ECI@ss 6.0</b>	27270905
<b>ECI@ss 6.2</b>	27270905
<b>ECI@ss 7.0</b>	27270905
<b>ECI@ss 8.0</b>	27270905
<b>ECI@ss 8.1</b>	27270905
<b>ECI@ss 9.0</b>	27270905
<b>ETIM 5.0</b>	EC002651
<b>ETIM 6.0</b>	EC002651
<b>UNSPSC 16.0901</b>	39121528

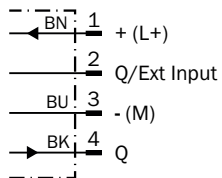
### Adjustments possible



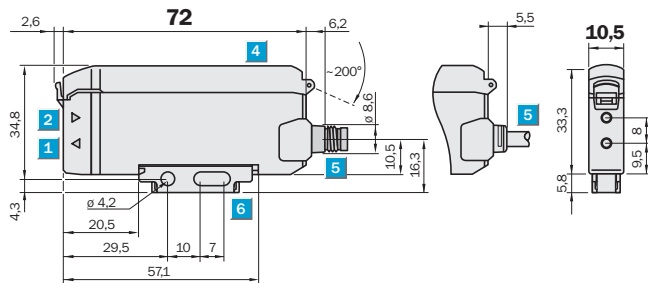
- ③ Locking the fiber-optic cables
- ⑦ Status indicator LED, yellow: Output active
- ⑧ Numeric display 3-digit and 4-digit
- ⑨ Step pushbutton > (manual switching threshold: higher/next function parameter)
- ⑩ Step pushbutton < (manual switching threshold: lower/previous function parameter)
- ⑪ Teach-in button
- ⑫ Mode/Enter-button
- ⑬ Operating mode selector switch: "SET" (active Teach-in switching threshold) / "RUN" (sensor mode and function parameter selection)

### Connection diagram

cd-133









## Dimensional drawing (Dimensions in mm (inch))





- ① Sender LED, installation of LL3 fibre-optic cable (sender fibre)
- ② Receiver, installation of LL3 fibre optic cable (receiver fibre)
- ③ Locking the fiber-optic cables
- ④ Protective hood opens approx. 180°
- ⑤ Connector M8 or 1-wire cable or 3-wire cable replaceable (cables not included with delivery)
- ⑥ Mounting bracket, included with delivery

## Recommended accessories

Other models and accessories → [www.sick.com/WLL190T-2](http://www.sick.com/WLL190T-2)

	Brief description	Type	Part no.
Mounting brackets and plates			
	Mounting bracket, steel, zinc coated, without mounting hardware	BEF-WLL170	5306574
Other mounting accessories			
	Rail end piece for block mounting, stainless steel, mounting hardware included	BEF-EB01-W190	5313011
	Cutter for fibers, supplied with LL3	FC	5304141
Plug connectors and cables			
	Head A: female connector, M8, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 2 m	YF8U14-020VA3XLEAX	2095888
	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: female connector, M8, 4-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 2 m	YG8U14-020VA3XLEAX	2095962
	Head A: female connector, M8, 4-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m	YG8U14-050VA3XLEAX	2095963
	Head A: female connector, M8, 4-pin, straight Head B: - Cable: unshielded	DOS-0804-G	6009974

	Brief description	Type	Part no.
	Head A: female connector, M8, 4-pin, angled Head B: - Cable: unshielded	DOS-0804-W	6009975
	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)