



DATA SHEET

WLL190T-2P432

WLL190
Fiber-optic sensors



Illustration may differ

FIBER-OPTIC SENSORS

WLL190T-2P432

ORDERING INFORMATION

Type	part no.
WLL190T-2P432	6032551

Further device versions and accessories at www.sick.com/WLL190



DETAILED TECHNICAL DATA

FEATURES

Device type	Fiber-optic amplifier
Device type detail	Stand-alone
Dimensions (W x H x D)	10.5 mm x 34.8 mm x 76.5 mm
Housing design (light emission)	Rectangular
Sensing range max.	0 m ... 4 m (Through-beam system) ^{1) 2)}
Sensing range	0 mm ... 480 mm, Proximity system ^{3) 4)} 0 ... 2 m, Through-beam system ⁵⁾
Focus	Approx. 65° ⁶⁾
Type of light	Visible red light
Light source	LED ⁷⁾
Angle of dispersion	Approx. 65° ⁶⁾
Wave length	650 nm
Adjustment	Menu-controlled Single teach-in button Cable
Indication	Display
Display	LED status display / 2x 4-character digital dual displays, Set value (green indicator) and actual value (red indicator) are displayed simultaneously, display of parameters

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

²⁾ LL3-TB01 and LL3-TA01 tip adaptor.

³⁾ Object with 90% remission (based on standard white DIN 5033). Sensing range at 2 ms response time. Reduced at shorter response times (see LL3 / WLL190T-2 tables).

⁴⁾ LL3-DB01.

⁵⁾ LL3-TB01.

⁶⁾ See LL3 fiber-optic data.

⁷⁾ Average service life: 100,000 h at T_u = +25 °C.

MECHANICS/ELECTRONICS

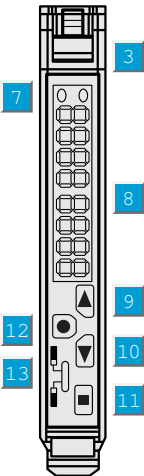
Supply voltage U_g	10 V DC ... 24 V DC ¹⁾
Ripple	$\leq 10\%$ ²⁾
Current consumption	50 mA
Switching output	PNP ^{3) 4)}
Switching mode	Light/dark switching ^{3) 4)}
Switching mode selector	Manually selectable
Response time	$\leq 2\text{ ms}$, $\leq 60\text{ }\mu\text{s}$, $\leq 250\text{ }\mu\text{s}$
Switching frequency	8,333 Hz, 2,000 Hz, 250 Hz
Time functions	Without time delay Off delay Switch-on delay One shot
Delay time	Programmable, 0 ms ... 9,999 ms
Connection type	Cable, 4-wire, 2 m ⁵⁾
Cable material	Plastic, PVC
Conductor cross section	0.2 mm ²
Circuit protection	A ⁶⁾ B ⁷⁾ C ⁸⁾ D ⁹⁾
Protection class	III
Weight	20 g
Housing material	Plastic, ABS/PC
Enclosure rating	IP66 ¹⁰⁾
Ambient operating temperature	-25 °C ... +55 °C ¹¹⁾
Ambient temperature, storage	-40 °C ... +70 °C

¹⁾ $\pm 10\%$.²⁾ May not fall below or exceed U_g tolerances.³⁾ Q_1 , Q_2 .⁴⁾ Selectable Q2, external teach or counter reset.⁵⁾ Do not bend below 0 °C.⁶⁾ A = V_g connections reverse-polarity protected.⁷⁾ B = inputs and output reverse-polarity protected.⁸⁾ C = interference suppression.⁹⁾ D = outputs overcurrent and short-circuit protected.¹⁰⁾ With correctly attached fibre-optic cable LL3 and closed protection hood.¹¹⁾ 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).**CERTIFICATES**

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
China Compulsory Product Certification (CCC) ex-empt	✓

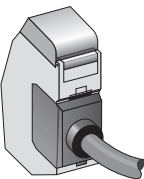
Photobiological safety (DIN EN 62471) certificate	✓
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ADJUSTMENTS

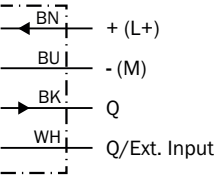


- ③ Locking the fiber-optic cables
- ⑦ Status indicator LED, yellow: Output active
- ⑧ Numeric display 3-digit and 4-digit
- ⑨ step pushbutton > (manual switching threshold: higher/next function parameter)
- ⑩ step pushbutton < (manual switching threshold: lower/previous function parameter)
- ⑪ Teach-in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

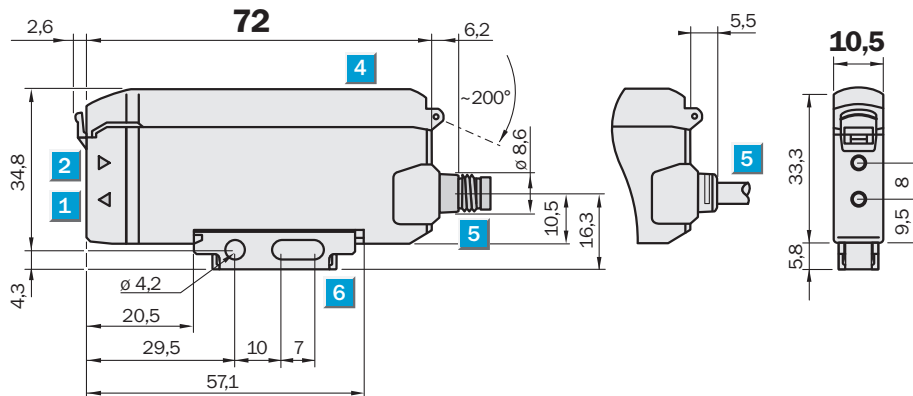
CONNECTION TYPE



CONNECTION DIAGRAM CD-135



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

Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at www.sick.com/6032551



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