Data sheet

WLL190T-2M432

WLL190

FIBER-OPTIC SENSORS

SICK
Sensor Intelligence.

Illustration may differ

Ordering information

Type	part no.
WLL190T-2M432	6033290

Other models and accessories ➜ www.sick.com/WLL190

Detailed technical data

Features

Device type	Fiber-optic amplifier
Device type detail	Base unit [1]
Dimensions (W x H x D)	10.5 mm x 34.8 mm x 68.9 mm
Housing design (light emission)	Rectangular
Sensing range max.	0 m ... 4 m (Through-beam system) [2] [3]
Sensing range	0 mm ... 480 mm, Proximity system [4] [5] 0 ... 2 m, Through-beam system [6]
Focus	Approx. 65 ° [7]
Type of light	Visible red light
Light source	LED [8]
Angle of dispersion	Approx. 65 ° [7]
Wave length	650 nm
Adjustment	Menu-controlled Single teach-in button Cable
Indication	Display

[1] Up to 15 expansion units can be connected.
[2] Sensing range at response time 2 ms. Reduction at shorter response time (see LL3/ WLL190T-2 table).
[3] LL3-TB02 and tip adapter LL3-TA01.
[4] 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).
[5] LL3-DB01.
[6] LL3-TB01.
[7] See LL3 fiber-optic data.
[8] Average service life: 100,000 h at T_U = +25 °C.

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

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Mechanics/electronics

Supply voltage U_B	10 V DC ... 24 V DC [1]
Ripple	≤ 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	≤ 2 ms, ≤ 60 µs, ≤ 250 µs
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 mm²
Circuit protection	A [6] B [7] C [8] D [9]
Protection class	III
Weight	20 g
Housing material	Plastic, ABS/PC
Enclosure rating	IP50 [10]

[1] +- 10%.
[2] May not fall below or exceed U_V tolerances.
[3] Q_1, Q_2.
[4] Selectable Q2, external teach or counter reset.
[5] Do not bend below 0 °C.
[6] A = V_S 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).

Ambient operating temperature	–25 °C ... +55 °C [11]
Ambient temperature, storage	–40 °C ... +70 °C

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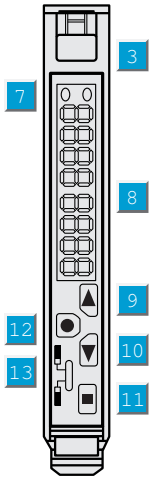
Certificates

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
Photobiological safety (DIN EN 62471) certificate	✓

Classifications

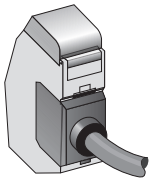
ECLASS 5.0	27270905
ECLASS 5.1.4	27270905
ECLASS 6.0	27270905
ECLASS 6.2	27270905
ECLASS 7.0	27270905
ECLASS 8.0	27270905
ECLASS 8.1	27270905
ECLASS 9.0	27270905
ECLASS 10.0	27270905
ECLASS 11.0	27270905
ECLASS 12.0	27270905
ETIM 5.0	EC002651
ETIM 6.0	EC002651
ETIM 7.0	EC002651
ETIM 8.0	EC002651
UNSPSC 16.0901	39121528

Adjustments

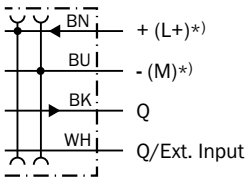


③ Locking the fiber-optic cables
⑦ LED indicator yellow;
⑦ lights continuously: output aktiv
⑦ no light: output inactive
⑦ blinks slowly: shot circuit detected
⑧ Numeric display 3-digit and 4-digit
⑨ step pushbutton > (manual switching threshold: higher/next function parameter)
⑩ step pushbutton < (manual switching threshold: lower/previous function parameter)
⑪ Teach-in button
⑫ Mode/Enter-button

Connection type

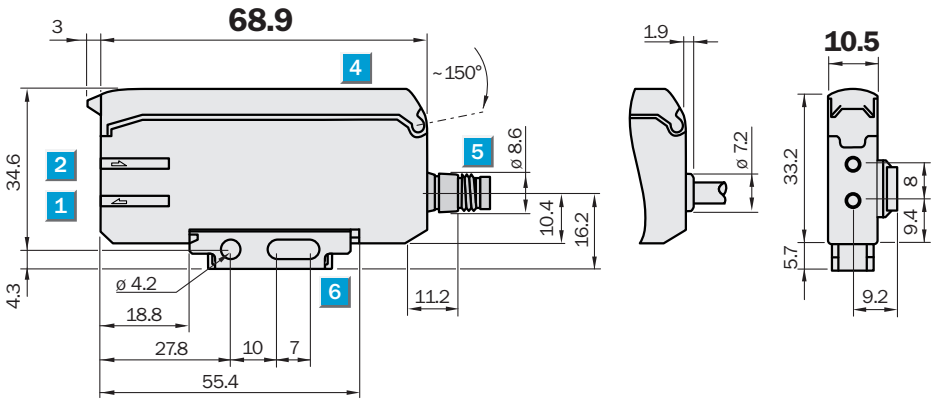


Connection diagram Cd-137



*) Only base unit

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/WLL190

	Brief description	Type	part no.
Mounting systems			
	• **Description:** Mounting bracket • **Material:** Steel • **Details:** Steel, zinc coated • **Items supplied:** Without mounting hardware • **Suitable for:** WLL170-2, WLL190-2	BEF-WLL170	5306574
	• **Description:** Rail end piece for block mounting • **Material:** Stainless steel • **Details:** Stainless steel • **Items supplied:** Mounting hardware included	BEF-EB01-W190	5313011

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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.

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