



Fiber-optic sensors
WLL190T-2, Fiber-optic photoelectric sensor

WLL190T-2E333



Model Name > [WLL190T-2E333](#)
Part No. > [6032570](#)



Illustration may differ

At a glance

- Sensing range up to 4 m, sensing distance up to 480 mm
- Two separately adjustable channels
- Alarm output
- Optional analog output
- Integrated counter
- Bus-compatible with anti-interference
- 2 x 4-digit display
- Red and green LED emitter

Your benefits

- Two channels can be configured independently of one another, simplifying installation
- Simple commissioning and product changeover via external teach-in
- Bus communication saves space and money, reduces wiring and eliminates interference caused by fiber-optic heads mounted close to one another
- Easy monitoring of process parameters
- Time delays can be adjusted individually to suit the application
- APC for (Automatic Power Correction) long-term, stable detection
- Alarm output for reliable detection in adverse conditions, ensuring high process reliability



Features

Device type:	Expansion unit
Dimensions (W x H x D):	10.5 mm x 34.8 mm x 68.9 mm
Sensing range max.::	0 m ... 4 m, through-beam system ^{1) 2)}
Sensing range:::	Ø)... 2 m, through-beam system, 0 mm ... 480 mm, proximity system ^{3) 4)}
Light source:	LED ⁶⁾
Type of light:	Visible red light
Wave length:	650 nm
Sensitivity adjustment:	Teach-in button
Adjustment of operating distance:	Teach-in button
Teach-in:	Menu-controlled
Time type:	Without time delay time delay off switch on delay one shot

Delay time:	Programmable: 0 ... 9,999 ms
Indication:	Display
Sensor/detection principle:	Fiber-optic photoelectric sensor
Angle of dispersion:	Ca. 65 °
Housing design (light emission):	Rectangular
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-TB02 and tip adapter LL3-TA01 ³⁾ Objects to be sensed with 90% reflectivity (based on DIN 5033 white standard). Sensing range with 2 ms response time. Reduction with shorter response time (see tables LL3/WLL190T-2) ⁴⁾ LL3-DB01 ⁵⁾ LL3-TB01 ⁶⁾ Average service life of 100,000 h at T_A = +25 °C

Mechanics/electronics

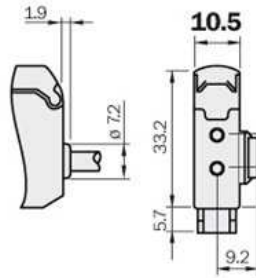
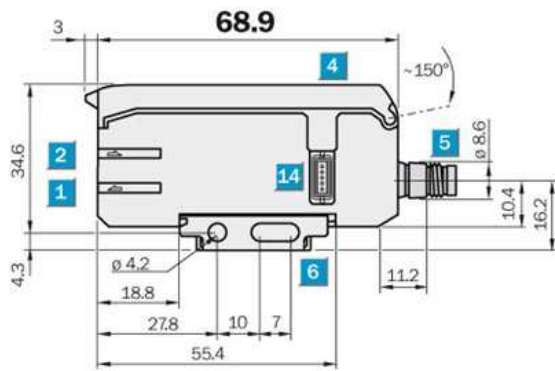
Enclosure rating:	IP 50 ¹⁾
Supply voltage:	10 V DC ... 24 V DC ²⁾
Residual ripple:	≤ 10 % ³⁾
Power consumption:	≤ 50 mA
Output type:	NPN, Light/dark-switching, manually selectable, open collector ⁴⁾
Output current I _{max.} :	≤ 100 mA
Response time:	≤ 2 ms ≤ 60 μs ≤ 250 μs
Switching frequency:	8,333 Hz 2,000 Hz 250 Hz
Electrical connection:	Connector M8, 3-pin
Protection class:	III
Circuit protection:::	A, B, C, D ^{5) 6) 7) 8)}
Special device:	0
Housing material:	ABS/PC
Ambient temperature operation:	-25 °C ... 55 °C ⁹⁾
Ambient storage temperature:	-40 °C ... 70 °C
Weight:	25 g

Q; See LL3 fiber-optic data;

¹⁾ With correctly attached fibre-optic cable LL3 and closed protection hood ²⁾ +/- 10% ³⁾ May not exceed or fall short of V_S tolerances ⁴⁾ Q ⁵⁾ A = V_S connections reverse-polarity protected ⁶⁾ B = inputs and output reverse-polarity protected ⁷⁾ C = interference suppression ⁸⁾ D = outputs overcurrent and short-circuit protected ⁹⁾

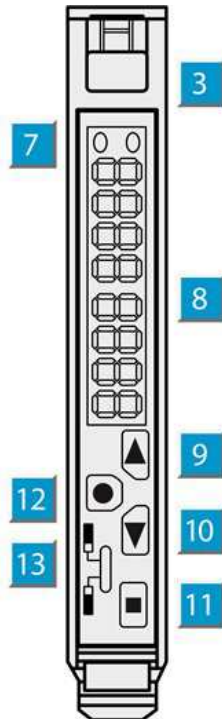
Operating temperature fluctuates according to number of devices connected: 4-8 devices: -25 °C ... +50 °C (output current 50 mA)/9-16 devices: -25 °C ... +45 °C (output current 20 mA)

Dimensional drawing



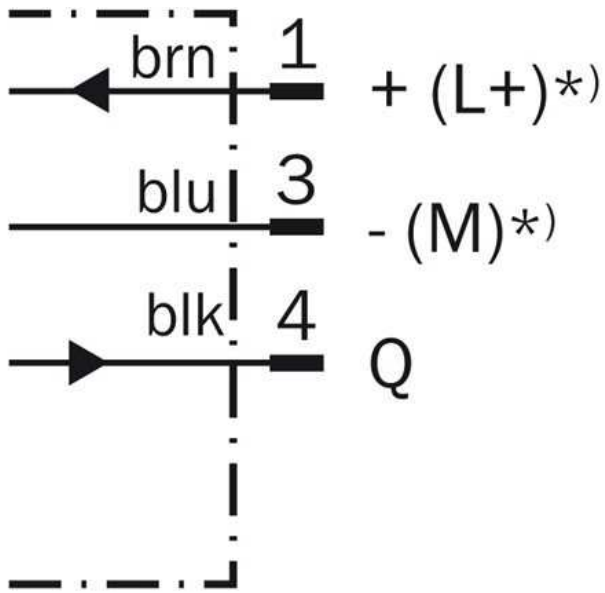
- |1| Sender LED, installation of LL3 fibre-optic cable (sender fibre)
- |2| Receiver, installation of LL3 fibre optic cable (receiver fibre)
- |3| Locking the fiber-optic cables
- |4| Protective hood, can be raised at both ends
- |5| Connector M8 or 1-wire cable or 3-wire cable replaceable (cables not included with delivery)
- |6| Mounting bracket, included

Adjustments possible



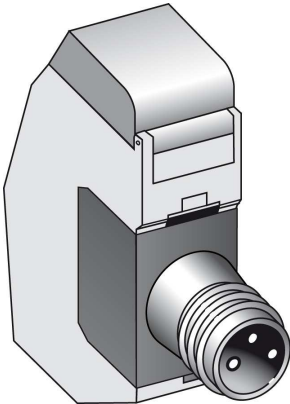
- |3| Locking the fiber-optic cables
- |7| LED indicator yellow; lights
continuously: output aktivno light;
output inactiveblinks slowly: shot circuit detected
- |8| Numeric display 3-digit and 4-digit
- |9| Step-button> (manual switching
threshold: higher; or next function parameter)
- |10| Step-button< (manual switching
threshold: lower; or previous function parameter)
- |11| Teach-in button
- |12| Mode/Enter-button

Connection diagram



*) Only base unit

Connection type



Australia

Phone +61 3 9457 0600
1800 33 48 02 – tollfree
E-Mail sales@sick.com.au

Belgium/Luxembourg

Phone +32 (0)2 466 55 66
E-Mail info@sick.be

Brasil

Phone +55 11 3215-4900
E-Mail marketing@sick.com.br

Canada

Phone +1 905 771 14 44
E-Mail information@sick.com

Česká republika

Phone +420 2 57 91 18 50
E-Mail sick@sick.cz

China

Phone +86 4000 121 000
E-Mail info.china@sick.net.cn
Phone +852-2153 6300
E-Mail ghk@sick.com.hk

Danmark

Phone +45 45 82 64 00
E-Mail sick@sick.dk

Deutschland

Phone +49 211 5301-301
E-Mail info@sick.de

España

Phone +34 93 480 31 00
E-Mail info@sick.es

France

Phone +33 1 64 62 35 00
E-Mail info@sick.fr

Great Britain

Phone +44 (0)1727 831121
E-Mail info@sick.co.uk

India

Phone +91-22-4033 8333
E-Mail info@sick-india.com

Israel

Phone +972-4-6881000
E-Mail info@sick-sensors.com

Italia

Phone +39 02 27 43 41
E-Mail info@sick.it

Japan

Phone +81 (0)3 5309 2112
E-Mail support@sick.jp

Magyarország

Phone +36 1 371 2680
E-Mail office@sick.hu

Nederland

Phone +31 (0)30 229 25 44
E-Mail info@sick.nl

Norge

Phone +47 67 81 50 00
E-Mail sick@sick.no

Österreich

Phone +43 (0)22 36 62 28 8-0
E-Mail office@sick.at

Polska

Phone +48 22 837 40 50
E-Mail info@sick.pl

România

Phone +40 356 171 120
E-Mail office@sick.ro

Russia

Phone +7-495-775-05-30
E-Mail info@sick.ru

Schweiz

Phone +41 41 619 29 39
E-Mail contact@sick.ch

Singapore

Phone +65 6744 3732
E-Mail sales.gsg@sick.com

Slovenija

Phone +386 (0)1-47 69 990
E-Mail office@sick.si

South Africa

Phone +27 11 472 3733
E-Mail info@sickautomation.co.za

South Korea

Phone +82 2 786 6321/4
E-Mail info@sickkorea.net

Suomi

Phone +358-9-25 15 800
E-Mail sick@sick.fi

Sverige

Phone +46 10 110 10 00
E-Mail info@sick.se

Taiwan

Phone +886 2 2375-6288
E-Mail sales@sick.com.tw

Türkiye

Phone +90 (216) 528 50 00
E-Mail info@sick.com.tr

United Arab Emirates

Phone +971 (0) 4 88 65 878
E-Mail info@sick.ae

USA/México

Phone +1(952) 941-6780
1 (800) 325-7425 – tollfree
E-Mail info@sickusa.com

More representatives and agencies
at www.sick.com