



WLL180T-N474

WLL180

FIBER-OPTIC AMPLIFIER

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	Part no.
WLL180T-N474	6039619

Included in delivery: BEF-WLL180 (1)

Other models and accessories → www.sick.com/WLL180

Detailed technical data

Features

Device type	Fiber-optic amplifier
Device type detail	Stand-alone
Dimensions (W x H x D)	10.5 mm x 34.6 mm x 71.9 mm
Housing design (light emission)	Rectangular
Sensing range max.	0 mm ... 1,000 mm (Through-beam system) ^{1) 2)}
Sensing range	0 mm ... 400 mm, Proximity system ^{3) 4)} 0 m ... 850 mm, Through-beam system ^{1) 2)}
Focus	Approx. 65° ⁵⁾
Type of light	Infrared light
Light source	LED ⁶⁾
Angle of dispersion	Approx. 65° ⁵⁾
Wave length	1,450 nm
Adjustment	Menu-controlled Single teach-in button Cable
Indication	7-segment
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
Special features	Glass fibers necessary

¹⁾ Sensing range with 8 ms response time. Reduction with shorter response time (see tables LL3/WLL180T).

²⁾ LL3-TW01.

³⁾ Object with 90% remission (based on standard white DIN 5033). Sensing range at 8 ms response time. Reduced at shorter response times (see LL3 / WLL180T tables).

⁴⁾ LL3-DW01.

⁵⁾ See LL3 fiber-optic data.

⁶⁾ Average service life: 100,000 h at T_J = +25 °C.

Mechanics/electronics

Supply voltage U_B	12 V DC ... 24 V DC ¹⁾
Ripple	$\leq 10\%$ ²⁾
Current consumption	50 mA ³⁾
Switching output	NPN
Number of switching outputs	1
Switching mode	Light/dark switching
Switching mode selector	Manually selectable
Response time	$\leq 16\ \mu\text{s}$, $\leq 70\ \mu\text{s}$, $\leq 250\ \mu\text{s}$, $\leq 2,000\ \mu\text{s}$, $\leq 8,000\ \mu\text{s}$ ⁴⁾
Switching frequency	31.2 kHz, 7.1 kHz, 2 kHz, 250 Hz, 62.5 Hz
Time functions	Without time delayoff delayswitch-on delayON and OFF delayone shot
Delay time	Programmable, 0 ms ... 9,999 ms
Input	Multifunctional input MF
Connection type	Male connector M8, 4-pin
Circuit protection	A ⁵⁾ B ⁶⁾ C ⁷⁾ D ⁸⁾
Protection class	III
Weight	20 g
Housing material	Plastic, ABS/PC
Enclosure rating	IP50 ⁹⁾
Items supplied	BEF-WLL180 mounting bracket
Ambient operating temperature	-25 °C ... +55 °C
Ambient temperature, storage	-40 °C ... +70 °C
UL File No.	NRKH.E300503 & NRKH7.E300503

1) +/- 10%.

2) May not fall below or exceed U_y tolerances.

3) Without load.

4) Selectable.

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) With correctly attached fibre-optic cable LL3 and closed protection hood.

Safety-related parameters

MTTF_D	320 years
DC_{avg}	0 %

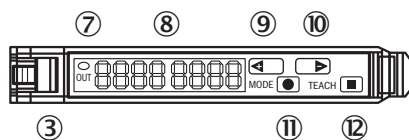
Classifications

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

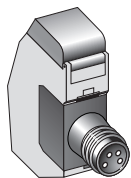
Adjustments

WLL180



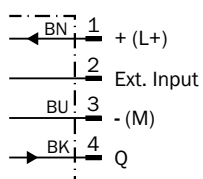
- ③ Locking the fiber-optic cables
- ⑦ LED indicator orange, lights up when switching output is active
- ⑧ Numeric display 2 x 4-digit; green: switching threshold, operating mode; red: actual value, Teach-in and function parameter
- ⑨ Step pushbutton > (manual switching threshold: higher/next function parameter)
- ⑩ Step pushbutton < (manual switching threshold: lower/previous function parameter)
- ⑪ Mode/Enter-button
- ⑫ Teach-in button

Connection type



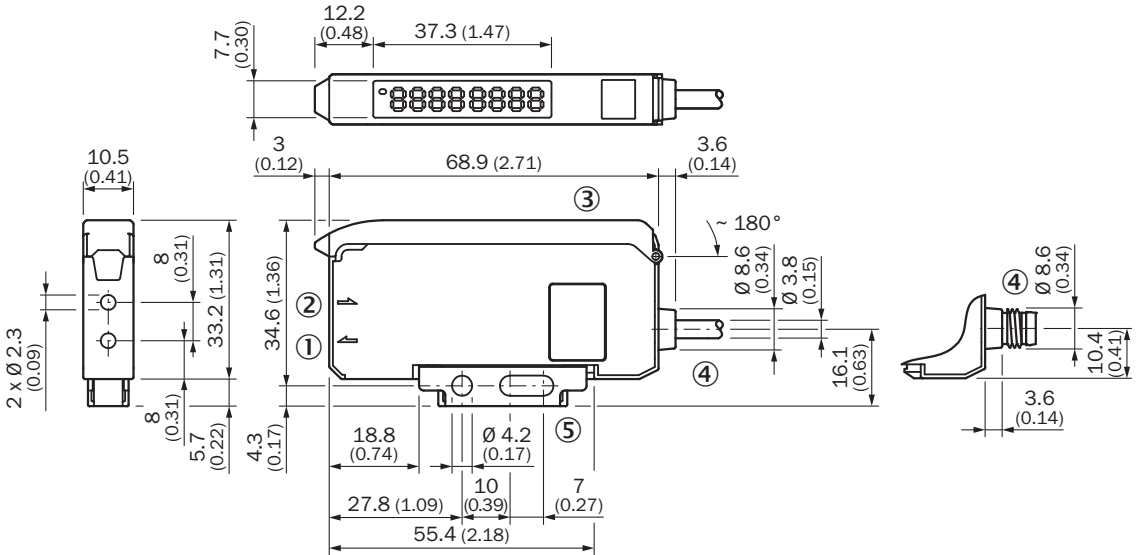
Connection diagram

Cd-134



Dimensional drawing (Dimensions in mm (inch))

Stand-alone




- ① Sender LED, installation of LL3 fibre-optic cable (sender fibre)
- ② Receiver, installation of LL3 fibre optic cable (receiver fibre)
- ③ Protective hood opens approx. 180°
- ④ Connection
- ⑤ Mounting bracket, included with delivery

Recommended accessories

Other models and accessories → www.sick.com/WLL180

	Brief description	Type	Part no.
Others			
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M8, 4-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 2 m, 4-wire, PVC • Description: Sensor/actuator cable, unshielded • Application: Zones with chemicals 	YF8U14-020VA3XLEAX	2095888
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M8, 4-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 5 m, 4-wire, PVC • Description: Sensor/actuator cable, unshielded • Application: Zones with chemicals 	YF8U14-050VA3XLEAX	2095889
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M8, 4-pin, angled, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 2 m, 4-wire, PVC • Description: Sensor/actuator cable, unshielded • Application: Zones with chemicals 	YG8U14-020VA3XLEAX	2095962

	Brief description	Type	Part no.
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M8, 4-pin, angled, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 5 m, 4-wire, PVC • Description: Sensor/actuator cable, unshielded • Application: Zones with chemicals 	YG8U14-050VA3XLEAX	2095963
Fibers			
	LL3-TH08	LL3-TH08	5325978

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