



WLL80P-RZZZZ1AEZZZZ1ZZ

WLL80

FIBER-OPTIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	part no.
WLL80P-RZZZ1AEZZZ1ZZ	6076721

Included in delivery: BEF-WLL180 (1)

Other models and accessories → www.sick.com/WLL80

Detailed technical data

Features

Device type	Fiber-optic amplifier	
Device type detail	Expansion unit	
Functional principle detail	Depending on the optical fiber cable used	
Sensing range max.	Depending on the optical fiber cable used	
Emitted beam	Light source	LED
	Type of light	Visible red light
Key LED figures		
Normative reference	EN 62471:2008-09 IEC 62471:2006, modified	
LED risk group marking	Free group	
Wave length	660 nm	
Average service life	100,000 h at $T_a = +25^\circ\text{C}$	
Display		
LED green	Operating indicatorStatic on: power on	
LED yellow 1	Status of switching output 1Permanently on: Switching output 1 activePermanently off: Switching output 1 not activeFlashing: Executing teach-in/teach-in error	
LED yellow 2	Status of switching output 2Permanently on: Switching output 2 activePermanently off: Switching output 2 not activeFlashing: Executing teach-in/teach-in error	
Items supplied	BEF-WLL180 mounting bracket	

Safety-related parameters

MTTF_D	345.3 years
DC_{avg}	0%
T_M (mission time)	20 years

Communication interface

Serial	✓
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Electronics

Supply voltage U_B	12 V DC ... 24 V DC ¹⁾
Ripple	$\pm 10\%$ ²⁾
Current consumption	$\leq 50\text{ mA}$ ³⁾
Protection class	III
Digital output	
Number	0
Switching mode	Light/dark switching
Response time	$\leq 16\text{ }\mu\text{s}$ ⁴⁾
	$\leq 70\text{ }\mu\text{s}$
	$\leq 250\text{ }\mu\text{s}$
	$\leq 500\text{ }\mu\text{s}$
	$\leq 1,000\text{ }\mu\text{s}$
	$\leq 2,000\text{ }\mu\text{s}$
	$\leq 8,000\text{ }\mu\text{s}$
Switching frequency	31.2 kHz ⁵⁾
	7.1 kHz
	2 kHz
	1 kHz
	500 Hz
	250 Hz
	62.5 Hz
Time functions	Switch-on delay, off delay, ON and OFF delay, Impulse (one shot), Switch-on delay and pulse, deactivated
Delay time	Adjustment via gateway, 0 ms ... 30,000 ms

¹⁾ Limit values.

²⁾ May not fall below or exceed U_V tolerances.

³⁾ Without load.

⁴⁾ In bus mode, the fastest response time is 22 μs .

⁵⁾ With a light/dark ratio of 1:1. In bus mode, the highest switching frequency is 22.7 kHz.

Mechanics

Housing	Rectangular
Dimensions (W x H x D)	10.5 mm x 33.2 mm x 79.9 mm
Connection	Internal bus connector
Material	
Housing	Plastic, PC
Cable	Plastic, PVC
Weight	Approx. 23 g

Ambient data

Enclosure rating	IP54 (EN 60529)
Ambient operating temperature	-25 °C ... +55 °C ¹⁾
Ambient temperature, storage	-40 °C ... +70 °C
Typ. Ambient light immunity	Artificial light: ≤ 3,000 lx Sunlight: ≤ 10,000 lx
Shock resistance	50 g, 11 ms (3 positive and 3 negative shocks along X, Y, Z axes, 18 total shocks (EN60068-2-27))
Vibration resistance	10 Hz ... 55 Hz (Amplitude 1 mm, 3 x 30 min (EN60068-2-6))
Air humidity	35 % ... 85 %, relative humidity (no condensation)
Electromagnetic compatibility (EMC)	EN 60947-5-2

¹⁾ In bus mode, the temperature range is restricted (I_{max.} 20 mA): -25 °C ... +45 °C.

Smart Task

Smart Task name	Counter + debouncing
Timer function	Deactivated Switch-on delay Off delay ON and OFF delay Impulse (one shot) Switch-on delay and pulse
Inverter	Yes
Switching signal	
Switching signal Q _{L1}	Switching output
Switching signal Q _{L2}	Switching output

Certificates

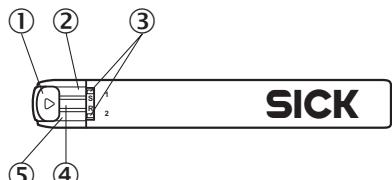
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China-RoHS	✓
cULus certificate	✓
Photobiological safety (DIN EN 62471) certificate	✓

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

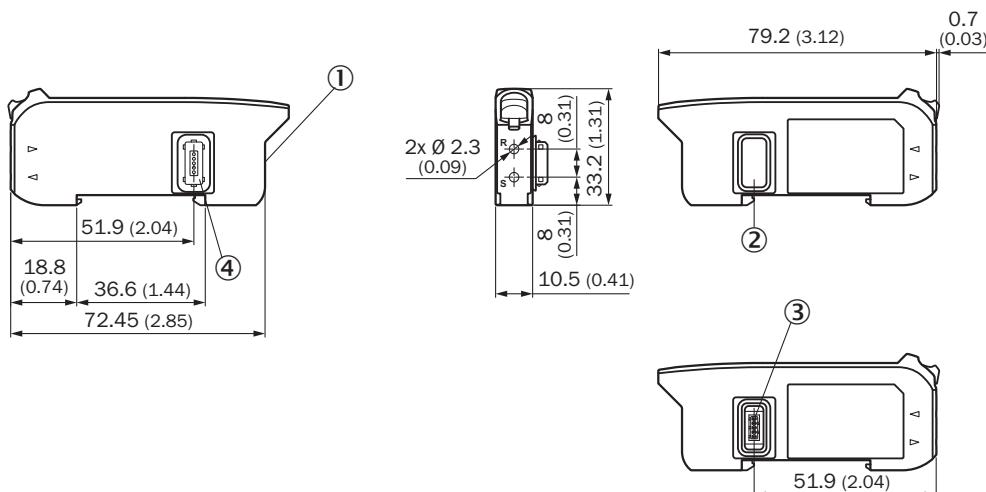
ECLASS 11.0	27270905
ECLASS 12.0	27270905
ETIM 5.0	EC002651
ETIM 6.0	EC002651
ETIM 7.0	EC002651
ETIM 8.0	EC002651
UNSPSC 16.0901	39121528

display and adjustment elements



- ① Fiber optic interlock
- ② LED yellow 1
- ③ LED green
- ④ LED yellow 2
- ⑤ Indicator for correctly inserted fibers

Dimensional drawing



Dimensions in mm (inch)

- ① without connection
- ② side cover
- ③ Female connector for bus module
- ④ Male connector for bus module

Recommended accessories

Other models and accessories → www.sick.com/WLL80

	Brief description	Type	part no.
integration modules and adapters			
	<ul style="list-style-type: none"> Description: EtherCAT coupler for WLL180T, KTL180 and AOD1. Features: EtherCAT; transmission rates of up to 100 Mbaud; M12 EtherCAT connection; M8 voltage supply connection, 4-pin; full read/write functionality for the process and service data of the connected sensors. See operating instructions for additional information and technical details 	WI180C-EC	6068089
	<ul style="list-style-type: none"> Description: IO-Link Smart Sensor Gateway for WLL180T, KTL180 and AOD1; Features: IO-Link; COM3; M8 connection, 4-pin; full read/write functionality for the process and service data of the connected sensors. See operating instructions for additional information and technical details 	WI180C-IOA00	6071650
	<ul style="list-style-type: none"> Description: PROFINET coupler for WLL180T, KTL180 and AOD1. Features: PROFINET IRT; transmission rates 10 Mbaud – 100 Mbaud; M12 PROFINET connection; M8 voltage supply connection, 4-pin; full read/write functionality for the process and service data of the connected sensors. See operating instructions for additional information and technical details 	WI180C-PN	6068088
fiber-optic sensors			
	<ul style="list-style-type: none"> For fiber optic amplifiers: WLL80, WLL180, GLL170(T) Functional principle: Proximity system Fiber length: 2,000 mm Thread diameter (housing): M3 Fiber material: Plastic Jacket material: Plastic Fiber head material: Stainless steel Included with delivery: Mounting, 2 x M3 hexagon nut, 2 x washer, adapter sleeves, BF-WLL160-13 (1.3 mm) adapter sleeves, FC fiber cutter (5304141) 	LL3-DT01	5308076

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