



WLL80

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	part no.
WLL80I-1HT6Y4DZA71Z1Z1	6083349

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		Stand-alone
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	Infrared light
Key LED figures	Normative reference	EN 62471:2008-09 IEC 62471:2006, modified
	LED risk group marking	Free group
	Wave length	1,450 nm
	Average service life	100,000 h at T _a = +25 °C
Adjustment	IO-Link	For configuring the sensor parameters and Smart Task functions
	Wire/pin	For deactivating the sender and executing the test logic/for setting the sensing range/for resetting the counter
	Display + operating buttons	For configuring the sensor parameters
Display	LED green	Operating indicatorStatic on: power onFlashing: IO-Link mode
	LED yellow 1	Status of received light beamStatic on: object presentStatic off: object not presentFlashing: Executing teach-in/teach-in error

Items supplied	LED yellow 2	Status of received light beamStatic on: object presentStatic off: object not presentFlashing: Executing teach-in/teach-in error
	Display	Display of sensor functionsMenu languages. German, English, Chinese, Korean, Japanese
		BEF-WLL180 mounting bracket

Safety-related parameters

MTTF _D	390.5 years
DC _{avg}	0%
T _M (mission time)	20 years

Communication interface

IO-Link		✓ , IO-Link V1.1
	Data transmission rate	COM3 (230.4 kbit/s)
	Cycle time	0.5 ms
	Process data length	32 Bit
	Process data structure	Bit 0 = switching signal Q _{L1}
		Bit 1 = switching signal Q _{L2}
		Bit 2 = detection signal Q _{int.1}
		Bit 3 = detection signal Q _{int.2}
		Bit 16 ... 31 = Current receiver level (live)
	Compatible master port type	A
	SIO mode support	Yes

Electronics

Supply voltage U _B		12 V DC ... 30 V DC ^{1) 2)}
Ripple		± 10 % ³⁾
Current consumption		≤ 50 mA ⁴⁾
Protection class		III
Digital output	Number	2 (individually adjustable)
	Type	Push-pull: PNP/NPN ⁵⁾
		PNP
		NPN: open collector
	Switching mode	Light/dark switching
	Signal voltage PNP HIGH/LOW	Approx. U _B -2.5 V / 0 V
	Signal voltage NPN HIGH/LOW	Approx. U _B / < 2.5 V
	Output current I _{max.}	≤ 100 mA
	Circuit protection outputs	Reverse polarity protected
		Overcurrent protected

¹⁾ Limit values.

²⁾ IO-Link mode: 18 VDC ... 30 VDC.

³⁾ May not fall below or exceed U_y tolerances.

⁴⁾ Without load.

⁵⁾ Selectable via menu.

⁶⁾ With light/dark ratio 1:1.

- 1) Limit values.
- 2) IO-Link mode: 18 VDC ... 30 VDC.
- 3) May not fall below or exceed U_V tolerances.
- 4) Without load.
- 5) Selectable via menu.
- 6) With light/dark ratio 1:1.

Housing		Rectangular
Dimensions (W x H x D)		10.5 mm x 33.2 mm x 79.9 mm
Connection		Cable, 4-wire, 2 m
Connection detail		
Deep-freeze property		Do not bend below 0 °C
Conductor size		0.18 mm²
Cable diameter		Ø 4 mm
Length of cable (L)		2 m
Material		
Housing		Plastic, PC

	Cable	Plastic, PVC
Weight		Approx. 75 g

Ambient data

Enclosure rating	IP54 (EN 60529)
Ambient operating temperature	-25 °C ... +55 °C
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

Smart Task

Smart Task name	Counter + debouncing
Logic function	Direct WINDOW Hysteresis
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

Diagnosis

Quality of run	Yes
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Certificates

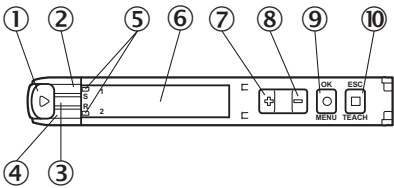
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China-RoHS	✓
cULus certificate	✓
IO-Link	✓
Photobiological safety (DIN EN 62471) certificate	✓

Classifications

ECLASS 5.0	27270905
ECLASS 5.1.4	27270905
ECLASS 6.0	27270905

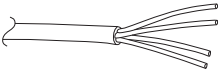
ECLASS 6.2	27270905
ECLASS 7.0	27270905
ECLASS 8.0	27270905
ECLASS 8.1	27270905
ECLASS 9.0	27270905
ECLASS 10.0	27270905
ECLASS 11.0	27270905
ECLASS 12.0	27270905
ETIM 5.0	EC002651
ETIM 6.0	EC002651
ETIM 7.0	EC002651
ETIM 8.0	EC002651
UNSPSC 16.0901	39121528

display and adjustment elements

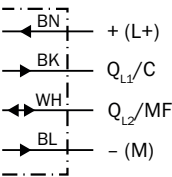


- ① Fiber optic interlock
- ② LED yellow 1
- ③ LED green
- ④ LED yellow 2
- ⑤ Indicator for correctly inserted fibers
- ⑥ Display
- ⑦ (+) button
- ⑧ (-) pushbutton
- ⑨ Menu/OK pushbutton
- ⑩ Teach-in/escape pushbutton

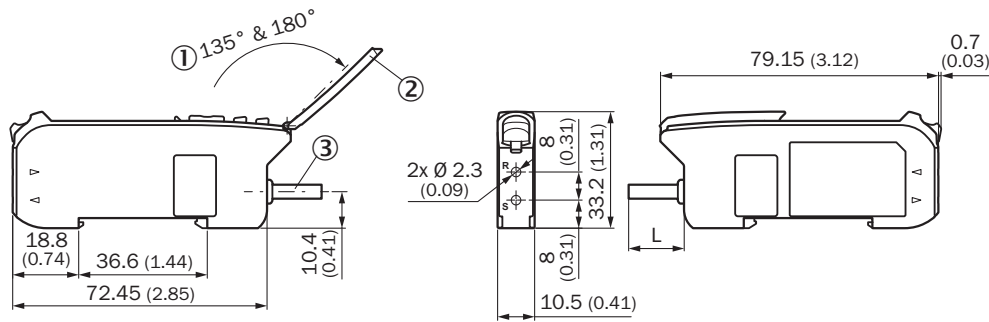
Connection type Cable, 4-wire



Connection diagram Cd-530



Dimensional drawing



Dimensions in mm (inch)

- ① aperture angle
- ② Hinged cover for the pushbuttons
- ③ Connection

Recommended accessories

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

	Brief description	Type	part no.
fiber-optic sensors			
	• For fiber optic amplifiers: WLL80, WLL180, GLL170(T) • Functional principle: Through-beam system • Fiber length: 1,000 mm • Thread diameter (housing): M4 • Fiber material: Glass • Jacket material: Stainless steel • Fiber head material: Stainless steel • Included with delivery: Mounting, 4 x M4 hexagon nut, 2 x washer	LL3-TW01	5315233
	• For fiber optic amplifiers: WLL80, WLL180, GLL170(T) • Functional principle: Proximity system • Fiber length: 1,000 mm • Thread diameter (housing): M6 • Fiber material: Glass • Jacket material: Stainless steel • Fiber head material: Stainless steel • Included with delivery: Mounting, 2 x M6 hexagon nut, 1 x washer	LL3-DW01	5315234
	• For fiber optic amplifiers: WLL80, WLL180, GLL170(T) • Functional principle: Through-beam system • Fiber length: 2,000 mm • Thread diameter (housing): M4 • Fiber material: Glass • Jacket material: Stainless steel • Fiber head material: Brass	LL3-TH08	5325978

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