



# WLL80P-1IU2Y1DZZZZZ1Z1

## WLL80

FIBER-OPTIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

Type	Part no.
WLL80P-1IU2Y1DZZZZ1Z1	6076716

**Included in delivery:** BEF-WLL180 (1)

Other models and accessories → [www.sick.com/WLL80](http://www.sick.com/WLL80)

### Detailed technical data

#### Features

<b>Device type</b>	Fiber-optic sensors
<b>Device type detail</b>	Standalone system
<b>Functional principle detail</b>	Depends on the fiber used
<b>Emitted beam</b>	
Light source	LED
Type of light	Visible red light
<b>Key LED figures</b>	
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 <sub>a</sub> = +25 °C
<b>Adjustment</b>	
Display + operating buttons	For configuring the sensor parameters
<b>Indication</b>	
LED green	Operating indicator Static on: power on
LED yellow 1	Status of switching output 1 Permanently on: Switching output 1 active Permanently off: Switching output 1 not active Flashing: Executing teach-in/teach-in error
LED yellow 2	Status of switching output 2 Permanently on: Switching output 2 active Permanently off: Switching output 2 not active Flashing: Executing teach-in/teach-in error
Display	For configuring the sensor parameters
<b>Items supplied</b>	BEF-WLL180 mounting bracket
<b>Display</b>	Display

#### Safety-related parameters

<b>MTTF<sub>D</sub></b>	324.1 years
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<b>DC<sub>avg</sub></b>	0%
<b>T<sub>M</sub> (mission time)</b>	20 years

## Electrical data

<b>Supply voltage U<sub>B</sub></b>	12 V DC ... 30 V DC <sup>1)</sup>
<b>Ripple</b>	± 10 %
<b>Current consumption</b>	≤ 50 mA
<b>Protection class</b>	III
<b>Digital output</b>	
Number	2 (individually adjustable)
Type	Push-pull: PNP/NPN <sup>2)</sup> PNP NPN: open collector
Signal voltage PNP HIGH/LOW	Approx. U <sub>B</sub> -2.5 V / 0 V
Signal voltage NPN HIGH/LOW	Approx. U <sub>B</sub> / < 2.5 V
Output current I <sub>max</sub>	≤ 100 mA
Circuit protection outputs	Reverse polarity protected Overcurrent protected Short-circuit protected
Response time	≤ 16 μs ≤ 70 μs ≤ 250 μs ≤ 500 μs ≤ 1,000 μs ≤ 2,000 μs ≤ 8,000 μs
Switching frequency	31.2 kHz <sup>3)</sup> 7.1 kHz 2 kHz 1 kHz 500 Hz 250 Hz 62.5 Hz
Time functions	On delay Off delay ON and OFF delay Impulse (one shot) Switch-on delay and pulse Deactivated
Delay time	Adjustment via operating buttons, 0 ms ... 30,000 ms
<b>Digital input</b>	
Number	1
<b>Pin/Wire assignment</b>	
Function of pin 4/black (BK)	Switching output, object present → Q1 output HIGH
Function of pin 2/white (WH)	Teach-in input
Function of pin 2/white (WH) – detail	The pin 2 function of the sensor can be configured
Pin 5 function/gray (GY)	Switching output, object present → Q <sub>L2</sub> output HIGH
Pin 5 function/gray (GY) – detail	The pin 5 function of the sensor can be configured

1) Limit values.

2) Selectable via menu.

3) With light/dark ratio 1:1.

### Mechanical data

<b>Housing</b>	Rectangular
<b>Dimensions (W x H x D)</b>	10.5 mm x 33.2 mm x 79.9 mm
<b>Connection</b>	Cable, 5-wire, 2 m
<b>Connection detail</b>	
Deep-freeze property	Do not bend below 0 °C
Conductor size	0.18 mm <sup>2</sup>
Cable diameter	Ø 4 mm
Length of cable (L)	2 m
<b>Material</b>	
Housing	Plastic, PC
Cable	Plastic, PVC
<b>Weight</b>	Approx. 76 g

### Ambient data

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

### Smart Task

<b>Timer function</b>	Deactivated On delay Off delay ON and OFF delay Impulse (one shot) Switch-on delay and pulse
<b>Inverter</b>	Yes

### Diagnosis

<b>Quality of run</b>	Yes
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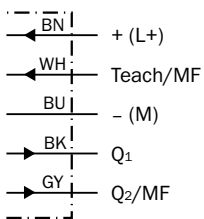
### Classifications

<b>eCl@ss 5.0</b>	27270905
<b>eCl@ss 5.1.4</b>	27270905
<b>eCl@ss 6.0</b>	27270905
<b>eCl@ss 6.2</b>	27270905
<b>eCl@ss 7.0</b>	27270905
<b>eCl@ss 8.0</b>	27270905
<b>eCl@ss 8.1</b>	27270905
<b>eCl@ss 9.0</b>	27270905
<b>eCl@ss 10.0</b>	27270905

<b>eCl@ss 11.0</b>	27270905
<b>eCl@ss 12.0</b>	27270905
<b>ETIM 5.0</b>	EC002651
<b>ETIM 6.0</b>	EC002651
<b>ETIM 7.0</b>	EC002651
<b>ETIM 8.0</b>	EC002651
<b>UNSPSC 16.0901</b>	39121528

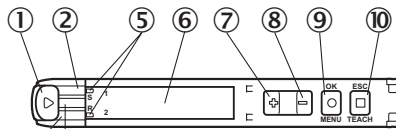
### Connection diagram

Cd-529



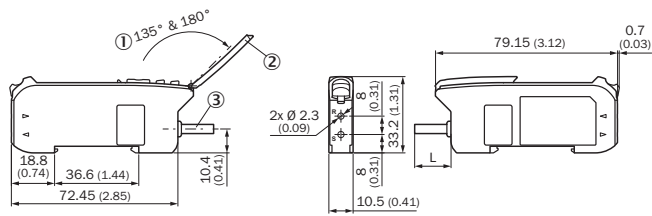
### Adjustments

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 (-) button
- ⑨ Menu/OK pushbutton
- ⑩ Teach-in/escape pushbutton

### 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](http://www.sick.com/WLL80)

Brief description	Type	Part no.
Fibers		
<ul style="list-style-type: none"> <li>• <b>For fiber-optic sensor:</b> GLL170(T), WLL180T, WLL24 Ex, KTL180, WLL80</li> <li>• <b>Functional principle:</b> Proximity system</li> <li>• <b>Fiber material:</b> Plastic</li> <li>• <b>Jacket material:</b> Plastic</li> <li>• <b>Fiber head material:</b> Stainless steel</li> <li>• <b>Thread diameter (housing):</b> M6</li> <li>• <b>Fiber length:</b> 2,000 mm</li> </ul>	LL3-DB01	5308074
<ul style="list-style-type: none"> <li>• <b>For fiber-optic sensor:</b> GLL170(T), WLL180T, WLL80</li> <li>• <b>Functional principle:</b> Proximity system</li> <li>• <b>Fiber material:</b> Plastic</li> <li>• <b>Jacket material:</b> Plastic</li> <li>• <b>Fiber head material:</b> Stainless steel</li> <li>• <b>Thread diameter (housing):</b> M3</li> <li>• <b>Fiber length:</b> 2,000 mm</li> </ul>	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](http://www.sick.com)