



WLL80P-22TGY1DMZZZZ1Z1

WLL80

FIBER-OPTIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

| Type | Part no. |
|------------------------|----------|
| WLL80P-22TGY1DMZZZZ1Z1 | 6076715 |

Included in delivery: BEF-WLL180 (1)

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

Detailed technical data

Features

| | |
|------------------------------------|--|
| Device type | Fiber-optic sensors |
| Device type detail | Base unit |
| Functional principle detail | Depends on the fiber 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 °C |
| Adjustment | |
| Display + operating buttons | For configuring the sensor parameters |
| Indication | |
| 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 |
| Items supplied | BEF-WLL180 mounting bracket |
| Display | Display |

Safety-related parameters

| | |
|-------------------------------------|-------------|
| MTTF_D | 311.3 years |
| DC_{avg} | 0% |
| T_M (mission time) | 20 years |

Communication interface

| | |
|---------------|---|
| Serial | ✓ |
|---------------|---|

Electrical data

| | |
|---------------------------------------|---|
| Supply voltage U_B | 12 V DC ... 24 V DC ¹⁾ |
| Ripple | ± 10 % |
| Current consumption | ≤ 50 mA |
| Protection class | III |
| Digital output | |
| Number | 2 (individually adjustable) |
| Type | Push-pull: PNP/NPN ²⁾ PNP NPN: open collector |
| 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 Short-circuit protected |
| Response time | ≤ 16 μs ³⁾ ≤ 70 μs ≤ 250 μs ≤ 500 μs ≤ 1,000 μs ≤ 2,000 μs ≤ 8,000 μs |
| Switching frequency | 31.2 kHz 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 / via gateway, 0 ms ... 30,000 ms |
| Pin/Wire assignment | |
| Function of pin 4/black (BK) | Switching output, object present → Q1 output HIGH |
| Function of pin 2/white (WH) | Switching output, object present → Q _{L2} output HIGH |
| Function of pin 2/white (WH) – detail | The pin 2 function of the sensor can be configured |

¹⁾ Limit values.

²⁾ Selectable via menu.

³⁾ In bus mode, the fastest response time is 22 μs.

Mechanical data

| | |
|-------------------------------|-----------------------------|
| Housing | Rectangular |
| Dimensions (W x H x D) | 10.5 mm x 33.2 mm x 79.9 mm |
| Connection | Male connector M8, 4-pin |
| Material | |
| | Housing Plastic, PC |
| Weight | Approx. 24 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

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

Diagnosis

| | |
|-----------------------|-----|
| Quality of run | Yes |
|-----------------------|-----|

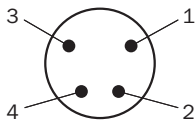
Classifications

| | |
|---------------------|----------|
| eCl@ss 5.0 | 27270905 |
| eCl@ss 5.1.4 | 27270905 |
| eCl@ss 6.0 | 27270905 |
| eCl@ss 6.2 | 27270905 |
| eCl@ss 7.0 | 27270905 |
| eCl@ss 8.0 | 27270905 |
| eCl@ss 8.1 | 27270905 |
| eCl@ss 9.0 | 27270905 |
| eCl@ss 10.0 | 27270905 |
| eCl@ss 11.0 | 27270905 |
| eCl@ss 12.0 | 27270905 |
| ETIM 5.0 | EC002651 |
| ETIM 6.0 | EC002651 |

| | |
|-----------------------|----------|
| ETIM 7.0 | EC002651 |
| ETIM 8.0 | EC002651 |
| UNSPSC 16.0901 | 39121528 |

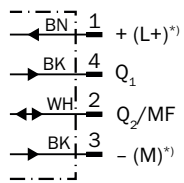
Connection type

Male connector M8, 4-pin



Connection diagram

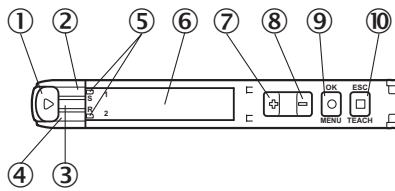
Cd-528



*) Only base unit

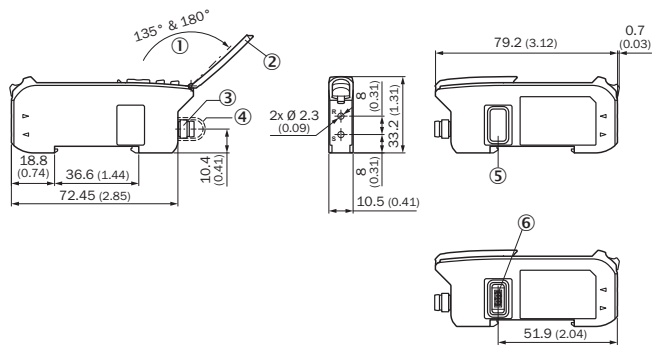
Adjustments

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
- ④ Connection cap
- ⑤ Side cover
- ⑥ Female connector for bus module

Recommended accessories

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

| | Brief description | Type | Part no. |
|---|--|----------|------------|
| Others | | | |
|  | 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 | | On request |
|  | 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 | | On request |
|  | 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 | | On request |
| Fibers | | | |
| | LL3-DB01 | LL3-DB01 | 5308074 |
| | LL3-DT01 | 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