



## WLL80

The smart solution for challenging detection tasks

**SICK**  
Sensor Intelligence.

## Advantages



## User-friendly parameterization right on the device

The WLL80 can be set easily and directly on the sensor thanks to its sharp OLED display. The menu offers intuitive operation using the pushbutton located on the side of the display. This means the fiber optic amplifier can be re-parameterized on site and easily adapted to the respective conditions. The menu is available in English, German, Chinese, Japanese and Korean, which makes it possible to correctly control the device in the different language areas.



**Convenient:** employees can adjust the sensor settings directly in the system and receive visual feedback by means of the display and status LEDs.



**Practical:** the display makes direct process monitoring at the sensor possible.



**Multilingual:** the menu is available in German, English, Chinese, Japanese and Korean.



**The OLED display ensures user-friendly operation of the WLL80 and enables quick and easy adjustment to changing conditions on site.**



## State-of-the-art communication interfaces for single or bus use

The WLL80 has a modern IO-Link interface for communication. This reduces the required cabling and allows for efficient bidirectional exchange between sensor and plant system. This allows for automatic parameterization and continuous monitoring of the WLL80 in real time. The fiber optic amplifier can be used as a single sensor or bus configurations. The bus interface makes it possible for several sensors to be networked via an Ethernet-based bus protocol using the WI180C communication gateway. The integrated anti-interference logic prevents mutual interference between the sensors.



Fast remote parameterization: predefined settings can be transmitted to the WLL80 via IO-Link.



Real-time monitoring: the process data of the WLL80 can be monitored continuously for safe operation and minimal downtime.



Parallel use: several fiber optic amplifiers can be networked in one application via internal bus communication – without interfering with each other.



**Thanks to the state-of-the-art IO-Link technology, quick parameterization, sensor data in real time and simple troubleshooting significantly reduce the time and effort needed for installation and maintenance of the WLL80.**



## Wide range of functions for maximum flexibility in use

The WLL80 can be used as a through-beam photoelectric sensor or photoelectric proximity sensor. For maximum operational safety, mechanical elements indicate whether the fibers in the amplifier are correctly fastened. The intelligent sensor features a number of Smart Tasks that ensure high efficiency and the best possible quality of detection results. Predefined parameter configurations for specific applications – so-called jobs – ensure reliable detection of fast, small or transparent objects as well as precise edge detection. The sensor data can also be used for predictive maintenance and IoT functions.



**Continuous threshold adaptation (CTA):** contamination of the fibers is automatically compensated. The sensor can thus detect even transparent foils or other challenging objects for an especially long time without requiring maintenance.



**Sender power control (SPC):** thanks to monitoring of the transmitting power and corresponding readjustment, the WLL80 automatically keeps the emitted light signal at a certain level throughout its entire service life, ensuring consistently high detection performance.



**Diagnostic functions:** The use of sensor data allows for monitoring, control and adjustment of the sensor before a failure occurs and stops production.



**Intelligent and powerful – the WLL80 ensures consistently high-quality detection results with Smart Tasks and useful diagnostic functions.**



## Technical data overview

### Detection principle

Depending on the optical fiber cable used

## Product description

With the WLL80 opto-electronic fiber optic amplifier, SICK is creating a new generation of amplifiers for the flexible integration of fiber optics in confined spaces. The intelligent WLL80 features IO-Link and can make processes even more efficient with various Smart Tasks. Thanks to IP54, it is protected from dust and spray water during operation. Continuous threshold adaptation ensures good performance in the long term with minimal maintenance requirements. In addition to a fast response time and high detection range, it is characterized by flexible and user-friendly parameterization via the OLED display or IO-Link. Whether as a single or bus version, the WLL80 is suitable for a wide range of applications thanks to its extensive fiber optics portfolio.

## At a glance

- Response time up to 16  $\mu$ s
- Sensing range up to 20 m (through-beam system); up to 1.4 m (proximity system)
- IP54 enclosure rating
- OLED display with text display in various languages
- Stand-alone version with IO-Link
- Diagnostic functions and Smart Tasks
- Adjustable hysteresis and continuous threshold adaptation
- Bus version available

## Your benefits

- Quick and reliable object detection
- Easy monitoring and optimal communication thanks to IO-Link interface and Smart Tasks
- Reliable detection of transparent objects thanks to continuous threshold adaptation
- High-precision leading edge detection due to short response times of up to 16  $\mu$ s and precisely adjustable hysteresis
- User-friendly parameterization via OLED display menu
- Quick and easy mounting
- Can be used anywhere thanks to extensive fiber optics portfolio

## Ordering information

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

- **Device type:** Fiber-optic amplifier
- **Device type detail:** Base unit
- **Functional principle detail:** Depending on the optical fiber cable used
- **Switching mode:** Light/dark switching
- **Light source:** LED
- **Housing:** rectangular

| Switching output                                | Type of light     | Connection type                                | Type                   | Part no. |
|-------------------------------------------------|-------------------|------------------------------------------------|------------------------|----------|
| –                                               | Visible red light | Internal bus connector                         | WLL80P-RZZZZ1DMZZZZ1ZZ | 6076712  |
| Push-pull: PNP/NPN,<br>PNP, NPN: open collector | Infrared light    | Male connector M8, 4-pin                       | WLL80I-22TGY3DMZZZZ1Z1 | 6082782  |
|                                                 |                   |                                                | WLL80I-22TGY4DMZZZZ1Z1 | 6084825  |
|                                                 | Visible red light | Cable with special PCB connector, 6-pin, 1.5 m | WLL80P-XXXGY1DMS05Z1Z1 | 6089825  |
|                                                 |                   | Cable, 4-wire, 2 m                             | WLL80P-1HTGY1DMZZZZ1Z1 | 6076714  |
|                                                 |                   | Cable, 5-wire, 2 m                             | WLL80P-1IU2Y1DMZZZZ1Z1 | 6076717  |
|                                                 |                   | Male connector M8, 4-pin                       | WLL80P-22TGY1DMZZZZ1Z1 | 6076715  |

- **Device type:** Fiber-optic amplifier
- **Device type detail:** expansion unit
- **Functional principle detail:** Depending on the optical fiber cable used
- **Switching mode:** Light/dark switching
- **Light source:** LED
- **Housing:** rectangular

| Switching output                                | Type of light     | Connection type                                | Type                   | Part no. |
|-------------------------------------------------|-------------------|------------------------------------------------|------------------------|----------|
| –                                               | Visible red light | Internal bus connector                         | WLL80P-RZZZZ1AEZZZZ1ZZ | 6076721  |
|                                                 |                   |                                                | WLL80P-RZZZZ1DEZZZZ1ZZ | 6076713  |
| Push-pull: PNP/NPN,<br>PNP, NPN: open collector | Infrared light    | Male connector M8, 4-pin                       | WLL80I-22TGY3DEZZZZ1Z1 | 6082783  |
|                                                 |                   |                                                | WLL80I-22TGY4DEZZZZ1Z1 | 6084826  |
|                                                 | Visible red light | Cable with special PCB connector, 6-pin, 1.5 m | WLL80P-XXXGY1XES04Z1Z1 | 6089824  |
|                                                 |                   | Cable, 2-wire, 2 m                             | WLL80P-1FTGY1DEZZZZ1Z1 | 6076718  |
|                                                 |                   | Cable, 3-wire, 2 m                             | WLL80P-1GU2Y1DEZZZZ1Z1 | 6076720  |
|                                                 |                   | Male connector M8, 4-pin                       | WLL80P-22TGY1DEZZZZ1Z1 | 6076719  |

- **Device type:** Fiber-optic amplifier
- **Device type detail:** Stand-alone
- **Functional principle detail:** Depending on the optical fiber cable used
- **Switching output:** push-pull: PNP/NPN, PNP, NPN: open collector
- **Light source:** LED
- **Housing:** rectangular

| Switching mode | Type of light     | Connection type            | Type                   | Part no. |
|----------------|-------------------|----------------------------|------------------------|----------|
| –              | Visible red light | Cable with MOLEX-connector | WLL80P-XXXXX1DZS02Z1Z1 | 6083495  |
|                |                   | Cable, 5-wire, 2 m         | WLL80P-1IUXY1XZS03Z1Z1 | 6089262  |

| Switching mode       | Type of light     | Connection type                     | Type                   | Part no. |
|----------------------|-------------------|-------------------------------------|------------------------|----------|
| Light/dark switching | Infrared light    | Cable, 4-wire, 2 m                  | WLL80I-1HT6Y3DZA71Z1Z1 | 6083351  |
|                      |                   |                                     | WLL80I-1HT6Y4DZA71Z1Z1 | 6083349  |
|                      |                   | Male connector M8, 4-pin            | WLL80I-22T6Y3DZA71Z1Z1 | 6082784  |
|                      |                   |                                     | WLL80I-22T6Y4DZA71Z1Z1 | 6083350  |
|                      | Visible red light | Cable with plug, M12, 4-pin, 300 mm | WLL80P-XXT6Y1DZA71Z1Z1 | 6092548  |
|                      |                   | Cable, 4-wire, 2 m                  | WLL80P-1HT6Y1DZA71Z1Z1 | 6076722  |
|                      |                   | Cable, 5-wire, 2 m                  | WLL80P-1IU2Y1DZZZZZ1Z1 | 6076716  |
|                      |                   |                                     | WLL80P-1IUIY1DZZZZZ1Z1 | 6076726  |
|                      |                   | Male connector M8, 4-pin            | WLL80P-22T6Y1DZA71Z1Z1 | 6076723  |
|                      |                   |                                     | WLL80P-22T6Y2DZA71Z1Z1 | 6084904  |
|                      |                   |                                     | WLL80P-22THY1DZZZZZ1Z1 | 6076725  |
|                      |                   |                                     | WLL80P-22THY1XZS01Z1Z1 | 6083598  |

## 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)