



# GLL170-N332S07

## GLL170

FIBER-OPTIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



Ordering information

| Type           | part no. |
|----------------|----------|
| GLL170-N332S07 | 6072273  |

Other models and accessories → [www.sick.com/GLL170](http://www.sick.com/GLL170)

Detailed technical data

Features

|                                    |                        |                                                                                                           |
|------------------------------------|------------------------|-----------------------------------------------------------------------------------------------------------|
| <b>Device type</b>                 |                        | Fiber-optic amplifier                                                                                     |
| <b>Device type detail</b>          |                        | Stand-alone                                                                                               |
| <b>Functional principle detail</b> |                        | Depending on the optical fiber cable used                                                                 |
| <b>Sensing range max.</b>          |                        | Depending on the optical fiber cable used                                                                 |
| <b>Emitted beam</b>                |                        |                                                                                                           |
|                                    | Light source           | LED <sup>1)</sup>                                                                                         |
|                                    | 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            | 632 nm                                                                                                    |
|                                    | Average service life   | 100,000 h at T <sub>a</sub> = +25 °C                                                                      |
| <b>Adjustment</b>                  |                        |                                                                                                           |
|                                    | Potentiometer          | For setting the sensing range/for setting the switching mode/for adjusting the switch-off delay           |
| <b>Display</b>                     |                        |                                                                                                           |
|                                    | LED green              | Operating indicatorStatic on: power onDimmed in the range +/- 10 % of the switching threshold             |
|                                    | LED yellow             | Status of digital outputPermanently on: Switching output activePermanently off: Digital output not active |
| <b>Special features</b>            |                        | Reduced sender power                                                                                      |

<sup>1)</sup> Average service life: 100,000 h at T<sub>U</sub> = +25 °C.

Safety-related parameters

|                         |           |
|-------------------------|-----------|
| <b>MTTF<sub>D</sub></b> | 760 years |
|-------------------------|-----------|

|                                     |          |
|-------------------------------------|----------|
| <b>DC<sub>avg</sub></b>             | 0 %      |
| <b>T<sub>M</sub> (mission time)</b> | 20 years |

## Electronics

|                                       |                                                    |
|---------------------------------------|----------------------------------------------------|
| <b>Supply voltage U<sub>B</sub></b>   | 10 V DC ... 30 V DC <sup>1)</sup>                  |
| <b>Ripple</b>                         | ≤ 10 % <sup>2)</sup>                               |
| <b>Current consumption</b>            | ≤ 30 mA <sup>3)</sup>                              |
| <b>Protection class</b>               | III                                                |
| <b>Digital output</b>                 |                                                    |
| Number                                | 1                                                  |
| Type                                  | NPN <sup>4)</sup>                                  |
| Switching mode                        | Light/dark switching                               |
| Signal voltage PNP HIGH/LOW           | Approx. U <sub>B</sub> -1.5 V / 0 V                |
| Signal voltage NPN HIGH/LOW           | Approx. U <sub>B</sub> / < 1.5 V                   |
| Output current I <sub>max.</sub>      | ≤ 100 mA                                           |
| Circuit protection outputs            | Reverse polarity protected                         |
|                                       | Overcurrent protected                              |
|                                       | Short-circuit protected                            |
| Response time                         | ≤ 250 μs                                           |
| Switching frequency                   | 2 kHz                                              |
| Time functions                        | Without time delay, off delay                      |
| Delay time                            | Selectable via rotary switch, 0 ms ... 40 ms       |
| <b>Pin/Wire assignment</b>            |                                                    |
| Function of pin 4/black (BK)          | Digital output, received light → Output Q1 HIGH    |
| Function of pin 4/black (BK) – detail | The pin 4 function of the sensor can be configured |

<sup>1)</sup> Limit values.

<sup>2)</sup> May not fall below or exceed U<sub>y</sub> tolerances.

<sup>3)</sup> Without load.

<sup>4)</sup> Selectable via rotary switch.

## Mechanics

|                               |                           |
|-------------------------------|---------------------------|
| <b>Housing</b>                | Rectangular               |
| <b>Dimensions (W x H x D)</b> | 10 mm x 31.7 mm x 72.5 mm |
| <b>Connection</b>             | Cable, 3-wire             |
| <b>Connection detail</b>      |                           |
| Deep-freeze property          | Do not bend below 0 °C    |
| Conductor size                | 0.2 mm <sup>2</sup>       |
| Cable diameter                | Ø 3.8 mm                  |
| Length of cable (L)           | 2 m                       |
| <b>Material</b>               |                           |
| Housing                       | Plastic, PC/POM           |
| Cable                         | Plastic, PVC              |
| <b>Weight</b>                 | 63 g                      |

|                                                       |        |
|-------------------------------------------------------|--------|
| <b>Maximum tightening torque of the fixing screws</b> | 0.5 Nm |
|-------------------------------------------------------|--------|

#### Ambient data

|                                            |                                                                                                   |
|--------------------------------------------|---------------------------------------------------------------------------------------------------|
| <b>Enclosure rating</b>                    | IP66 (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: ≤ 5,000 lx<br>Sunlight: ≤ 60,000 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 % ... 95 %, relative humidity (no condensation)                                                |
| <b>Electromagnetic compatibility (EMC)</b> | EN 60947-5-2                                                                                      |
| <b>UL File No.</b>                         | NRKH2.E300503 & NRKH8.E300503                                                                     |
| <b>RoHS certificate</b>                    | ✓                                                                                                 |

#### Smart Task

|                       |                                                                   |
|-----------------------|-------------------------------------------------------------------|
| <b>Timer function</b> | Deactivated<br>Switch-on delay<br>Off delay<br>Impulse (one shot) |
|-----------------------|-------------------------------------------------------------------|

#### Certificates

|                                           |   |
|-------------------------------------------|---|
| <b>EU declaration of conformity</b>       | ✓ |
| <b>UK declaration of conformity</b>       | ✓ |
| <b>ACMA declaration of conformity</b>     | ✓ |
| <b>Moroccan declaration of conformity</b> | ✓ |
| <b>China-RoHS</b>                         | ✓ |
| <b>cRUus certificate</b>                  | ✓ |

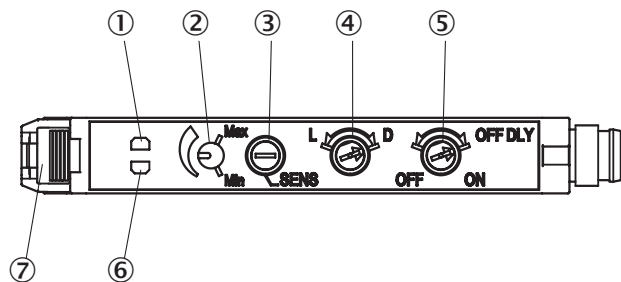
#### Classifications

|                     |          |
|---------------------|----------|
| <b>ECLASS 5.0</b>   | 27270905 |
| <b>ECLASS 5.1.4</b> | 27270905 |
| <b>ECLASS 6.0</b>   | 27270905 |
| <b>ECLASS 6.2</b>   | 27270905 |
| <b>ECLASS 7.0</b>   | 27270905 |
| <b>ECLASS 8.0</b>   | 27270905 |
| <b>ECLASS 8.1</b>   | 27270905 |
| <b>ECLASS 9.0</b>   | 27270905 |
| <b>ECLASS 10.0</b>  | 27270905 |
| <b>ECLASS 11.0</b>  | 27270905 |
| <b>ECLASS 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 |

UNSPSC 16.0901

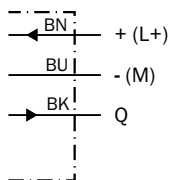
39121528

## Adjustments GLL170

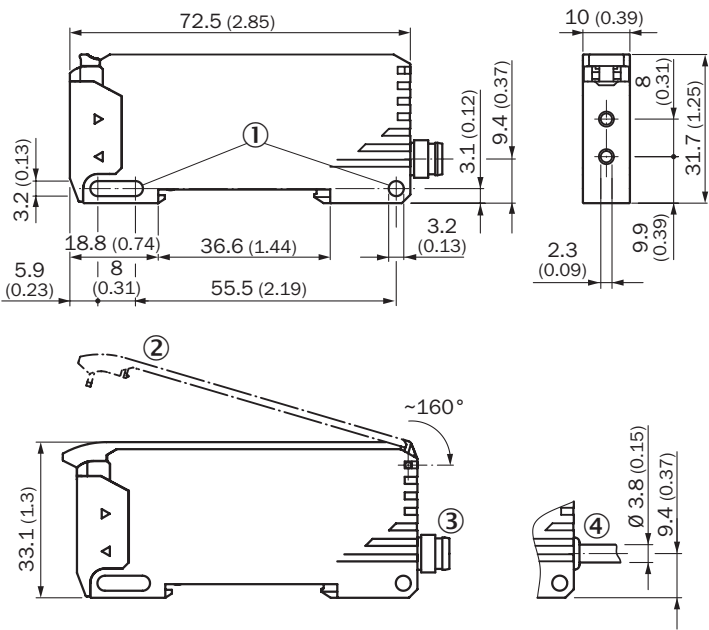


- ① LED indicator orange, lights up when switching output is active
- ② Sensitivity scale 230°
- ③ Sensitivity control: potentiometer, 8 turns
- ④ Selector switch: "L.ON" ( light switching) /"D.ON" ( dark switching)
- ⑤ OFF delay selector switch: "ON" (on)/"OFF" (off), 40 ms fixed
- ⑥ LED signal strength indicator green, lights up, when light received < 0.9 or > 1.1 (switching threshold = 1)
- ⑦ Locking the fiber-optic cables

## Connection diagram Cd-043



Dimensional drawing

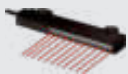


- Dimensions in mm (inch)  
 ① Mounting holes  
 ② protective hood (optional), opens approx. 160°  
 ③ Connector M8  
 ④ cable

Recommended accessories

Other models and accessories → [www.sick.com/GLL170](http://www.sick.com/GLL170)

|                                                                                     | Brief description                                                                                                                                                                                                                                                                                                             | Type       | part no. |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------|
| device protection and care                                                          |                                                                                                                                                                                                                                                                                                                               |            |          |
|  | <ul style="list-style-type: none"> <li><b>Description:</b> Protective Hood for GLL170, opens approx. 160°</li> <li><b>Usable for:</b> Fiber-optic sensors</li> </ul>                                                                                                                                                          | BF-GLL170  | 5336263  |
| Mounting systems                                                                    |                                                                                                                                                                                                                                                                                                                               |            |          |
|  | <ul style="list-style-type: none"> <li><b>Description:</b> Mounting bracket</li> <li><b>Material:</b> Steel</li> <li><b>Details:</b> Steel, zinc coated</li> <li><b>Items supplied:</b> Without mounting hardware</li> <li><b>Usable for:</b> Fiber-optic sensors</li> <li><b>Suitable for:</b> WLL180T, GLL170(T)</li> </ul> | BEF-WLL180 | 5325812  |

|                                                                                     | Brief description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Type     | part no. |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|
| fiber-optic sensors                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |          |          |
|    | <ul style="list-style-type: none"> <li>• <b>For fiber optic amplifiers:</b> WLL80, WLL180, GLL170(T), KTL180</li> <li>• <b>Functional principle:</b> Proximity system</li> <li>• <b>Fiber length:</b> 2,000 mm</li> <li>• <b>Thread diameter (housing):</b> M6</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>Included with delivery:</b> Mounting, 2 x M6 hexagon nut, 2 x washer, FC fiber cutter (5304141)</li> </ul>                                                 | LL3-DB01 | 5308074  |
|    | <ul style="list-style-type: none"> <li>• <b>For fiber optic amplifiers:</b> WLL80, WLL180, GLL170(T)</li> <li>• <b>Functional principle:</b> Proximity system</li> <li>• <b>Fiber length:</b> 2,000 mm</li> <li>• <b>Thread diameter (housing):</b> M3</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>Included with delivery:</b> Mounting, 2 x M3 hexagon nut, 2 x washer, adapter sleeves, BF-WLL160-13 (1.3 mm) adapter sleeves, FC fiber cutter (5304141)</li> </ul> | LL3-DT01 | 5308076  |
|    | <ul style="list-style-type: none"> <li>• <b>For fiber optic amplifiers:</b> WLL80, WLL180, GLL170(T), WLL24 Ex</li> <li>• <b>Functional principle:</b> Proximity system</li> <li>• <b>Fiber length:</b> 2,000 mm</li> <li>• <b>Thread diameter (housing):</b> M6</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>Included with delivery:</b> Mounting, 2 x M6 hexagon nut, 2 x washer, FC fiber cutter (5304141)</li> </ul>                                               | LL3-DB02 | 5308083  |
|    | <ul style="list-style-type: none"> <li>• <b>For fiber optic amplifiers:</b> WLL80, WLL180, GLL170(T), WLL24 Ex</li> <li>• <b>Functional principle:</b> Through-beam system</li> <li>• <b>Fiber length:</b> 2,000 mm</li> <li>• <b>Thread diameter (housing):</b> M4</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>Included with delivery:</b> Mounting, 4 x M4 hexagon nut, 4 x washer, FC fiber cutter (5304141)</li> </ul>                                            | LL3-TB01 | 5308050  |
|  | <ul style="list-style-type: none"> <li>• <b>For fiber optic amplifiers:</b> WLL80, WLL180, GLL170(T), WLL24 Ex</li> <li>• <b>Functional principle:</b> Proximity system</li> <li>• <b>Fiber length:</b> 2,000 mm</li> <li>• <b>Thread diameter (housing):</b> M6</li> <li>• <b>Fiber material:</b> Plastic</li> <li>• <b>Jacket material:</b> Plastic</li> <li>• <b>Fiber head material:</b> Plastic</li> <li>• <b>Included with delivery:</b> Mounting, 1 x M6 hexagon nut, FC fiber cutter (5304141)</li> </ul>                                                                   | LL3-DV05 | 5322549  |
|  | <ul style="list-style-type: none"> <li>• <b>For fiber optic amplifiers:</b> WLL80, WLL180, GLL170(T), WLL24 Ex</li> <li>• <b>Functional principle:</b> Through-beam system</li> <li>• <b>Fiber length:</b> 2,000 mm</li> <li>• <b>Thread diameter (housing):</b> M4</li> <li>• <b>Fiber material:</b> Plastic</li> <li>• <b>Jacket material:</b> Plastic</li> <li>• <b>Fiber head material:</b> Plastic</li> <li>• <b>Included with delivery:</b> Mounting, 2 x M4 hexagon nut, FC fiber cutter (5304141)</li> </ul>                                                                | LL3-TV05 | 5322546  |
|  | <ul style="list-style-type: none"> <li>• <b>For fiber optic amplifiers:</b> WLL80, WLL180, GLL170(T), WLL24 Ex</li> <li>• <b>Functional principle:</b> Through-beam system</li> <li>• <b>Fiber length:</b> 2,000 mm</li> <li>• <b>Optical fiber head array width:</b> 40 mm</li> <li>• <b>Fiber material:</b> Plastic</li> <li>• <b>Jacket material:</b> Plastic</li> <li>• <b>Fiber head material:</b> Plastic</li> <li>• <b>Included with delivery:</b> Mounting, 4 x M3 Phillips-head screw, FC fiber cutter (5304141), protective cladding for fiber head</li> </ul>            | LL3-TS40 | 5323971  |
|  | <ul style="list-style-type: none"> <li>• <b>For fiber optic amplifiers:</b> WLL80, WLL180, GLL170(T), WLL24 Ex</li> <li>• <b>Functional principle:</b> Through-beam system</li> <li>• <b>Fiber length:</b> 20,000 mm</li> <li>• <b>Thread diameter (housing):</b> M12</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>Included with delivery:</b> Mounting, 4 x M12 hexagon nut, FC fiber cutter (5304141), protective cladding for fiber head</li> </ul>                 | LL3-TX01 | 5324173  |
|  | <ul style="list-style-type: none"> <li>• <b>For fiber optic amplifiers:</b> WLL80, WLL180, GLL170(T)</li> <li>• <b>Functional principle:</b> Proximity system</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                            | LL3-DR11 | 5326000  |

|                                                                                   | Brief description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Type     | part no. |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|
|  | <ul style="list-style-type: none"> <li><b>Fiber length:</b> 2,000 mm</li> <li><b>Smooth sleeve diameter:</b> 3 mm</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>Included with delivery:</b> Adapter sleeves, 1 x BF-WLL160-10 (1.0 mm) adapter sleeve, 1 x BF-WLL160-13 (1.3 mm) adapter sleeve, FC fiber cutter (5304141)</li> </ul>                                                                   |          |          |
|                                                                                   | <ul style="list-style-type: none"> <li><b>For fiber optic amplifiers:</b> WLL80, WLL180, GLL170(T), WLL24 Ex, KTL180</li> <li><b>Functional principle:</b> Proximity system</li> <li><b>Fiber length:</b> 2,000 mm</li> <li><b>Fiber material:</b> Plastic</li> <li><b>Jacket material:</b> Plastic</li> <li><b>Fiber head material:</b> Plastic</li> <li><b>Included with delivery:</b> Adapter sleeves, BF-WLL160-10 (1.0 mm) adapter sleeves, FC fiber cutter (5304141)</li> </ul>                       | LL3-DC38 | 5322472  |
|  | <ul style="list-style-type: none"> <li><b>For fiber optic amplifiers:</b> WLL80, WLL180, GLL170(T)</li> <li><b>Functional principle:</b> Through-beam system</li> <li><b>Fiber length:</b> 2,000 mm</li> <li><b>Thread diameter (housing):</b> M4</li> <li><b>Fiber material:</b> Glass</li> <li><b>Jacket material:</b> Stainless steel</li> <li><b>Fiber head material:</b> Brass</li> </ul>                                                                                                              | LL3-TH08 | 5325978  |
|  | <ul style="list-style-type: none"> <li><b>For fiber optic amplifiers:</b> WLL80, WLL180, GLL170(T), WLL24 Ex</li> <li><b>Functional principle:</b> Through-beam system</li> <li><b>Fiber length:</b> 2,000 mm</li> <li><b>Smooth sleeve diameter:</b> 6 mm</li> <li><b>Fiber material:</b> Plastic</li> <li><b>Jacket material:</b> Chemical-resistant plastic</li> <li><b>Fiber head material:</b> Chemical-resistant plastic</li> <li><b>Included with delivery:</b> FC fiber cutter (5304141)</li> </ul> | LL3-TY01 | 5308066  |

### connectors and cables

|                                                                                     |                                                                                                                                                                                                                                                                                                                      |            |         |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|---------|
|   | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M8, 3-pin, straight, A-coded</li> <li><b>Description:</b> Unshielded</li> <li><b>Connection systems:</b> Screw-type terminals</li> <li><b>Permitted cross-section:</b> 0.14 mm<sup>2</sup> ... 0.5 mm<sup>2</sup></li> </ul> | DOS-0803-G | 7902077 |
|  | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M8, 3-pin, angled, A-coded</li> <li><b>Description:</b> Unshielded</li> <li><b>Connection systems:</b> Solder connection</li> <li><b>Permitted cross-section:</b> ≤ 0.25 mm<sup>2</sup></li> </ul>                           | DOS-0803-W | 7902078 |
|  | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Male connector, M8, 3-pin, straight, A-coded</li> <li><b>Description:</b> Unshielded</li> <li><b>Connection systems:</b> Screw-type terminals</li> <li><b>Permitted cross-section:</b> 0.14 mm<sup>2</sup> ... 0.5 mm<sup>2</sup></li> </ul>   | STE-0803-G | 6037322 |

## 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)