

**Model Number**

**GL5-F/43a/115**

Photoelectric slot sensor  
with fixed cable

**Features**

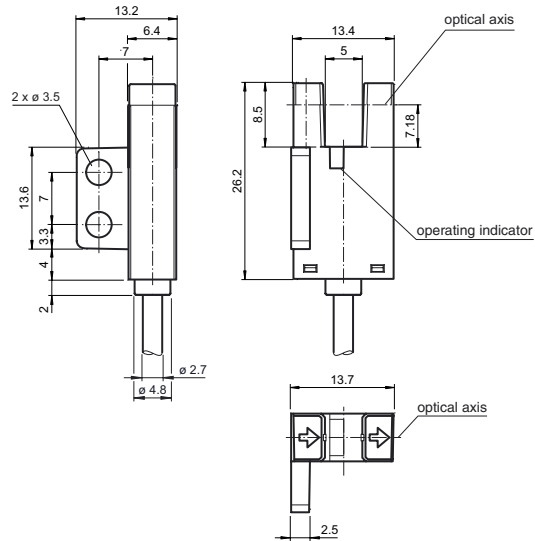
- Miniature design
- Optimized for the detection of small parts
- High switching frequency
- Simple and fast mounting
- Clearly visible LED functional display

**Product information**

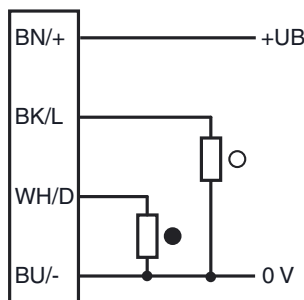
The GL5 miniature slot sensor compares a high optical performance in a small housing and is optimized to the requirements in semi-conductors industry for small part detection. A wide voltage range of 5 - 24 V DC and the fastest switching frequency of 5 kHz in its class stands for the quality of this sensor. The integrated aperture allows the small part detection with a minimum object size of 0.8 x 1.8 mm. The sensor offers antivalent npn or pnp outputs. Due to a variety of different housings and an optimized housing concept offers the sensor a maximum of freedom in a crowded mounting environment.

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**Dimensions**



**Electrical connection**



- = Light on
- = Dark on

## Technical data

### General specifications

|                     |                                    |
|---------------------|------------------------------------|
| Light source        | IREL                               |
| Light type          | Infrared, continuous light, 940 nm |
| Target size         | 0.8 x 1.8 mm                       |
| Fork width          | 5 mm                               |
| Ambient light limit | 1000 Lux                           |

### Functional safety related parameters

|                                |        |
|--------------------------------|--------|
| MTTF <sub>d</sub>              | 3760 a |
| Mission Time (T <sub>M</sub> ) | 20 a   |
| Diagnostic Coverage (DC)       | 0 %    |

### Indicators/operating means

|                  |   |
|------------------|---|
| Function display | red LED lights up when receiving the light beam |
|------------------|---|

### Electrical specifications

|                                |                |                        |
|--------------------------------|----------------|------------------------|
| Operating voltage              | U <sub>B</sub> | 5 ... 24 V DC, class 2 |
| No-load supply current         | I <sub>0</sub> | max. 20 mA             |
| Time delay before availability | t <sub>v</sub> | < 2 ms                 |

### Output

|                     |  |  |
|---------------------|--|--|
| Switching type      | light/dark on                              |  |
| Signal output       | 2 PNP complementary, overvoltage protected |  |
| Switching voltage   | max. 30 V DC                               |  |
| Switching current   | max. 50 mA, resistive load                 |  |
| Voltage drop        | U <sub>d</sub>                             | max. 0.2 V at 10 mA max. 0.6 V at 50 mA                                |
| Switching frequency | f  | max. 5 kHz   |
| Response time       |  | 40 μs Light beam is not interrupted<br>80 μs Light beam is interrupted |
| Repeat accuracy     | R  | 0.03 mm  |

### Ambient conditions

|                     |                                |
|---------------------|--------------------------------|
| Ambient temperature | -25 ... 55 °C (-13 ... 131 °F) |
| Storage temperature | -30 ... 80 °C (-22 ... 176 °F) |
| Pollution Degree    | 2                              |

### Mechanical specifications

|                   |   |
|-------------------|---|
| Protection degree | IP50                                    |
| Connection        | 2 m PVC cable, 4 x 0.09 mm <sup>2</sup> |
| Material          |   |
| Housing           | PBT                                     |
| Mass              | 25 g                                    |

### Compliance with standards and directives

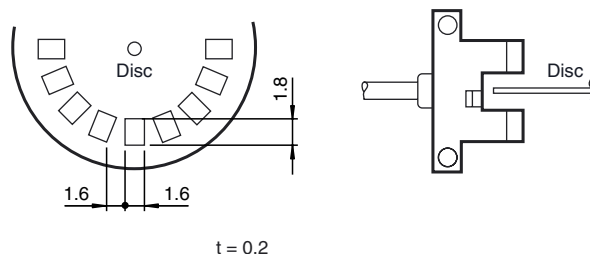
|                           |   |
|---------------------------|---|
| Directive conformity      |   |
| EMC Directive 2004/108/EC | EN 60947-5-2:2007                       |
| Standard conformity       |   |
| Product standard          | EN 60947-5-2:2007<br>IEC 60947-5-2:2007 |

### Approvals and certificates

|              |  |
|--------------|--|
| UL approval  | cULus Recognized, Class 2 Power Source   |
| CCC approval | Products with a maximum operating voltage of ≤36 V do not bear a CCC marking because they do not require approval. |

## Response frequency

The response frequency is the value when the disc, given in the figure below, is rotated.



## Applications

The GL5 is suited for applications in the semiconductor and electronic industrial environment.

Typical applications include:

1. Detection of lead frames
2. Detection of cam positions
3. Detection of limit positions of moving objects
4. Position detection of wafer cases