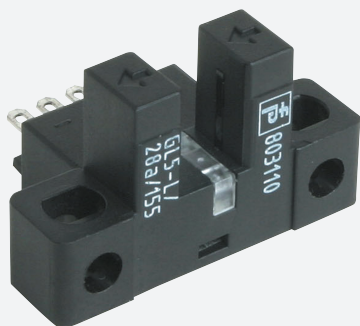




## Photoelectric slot sensor GL5-L/43a/155



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

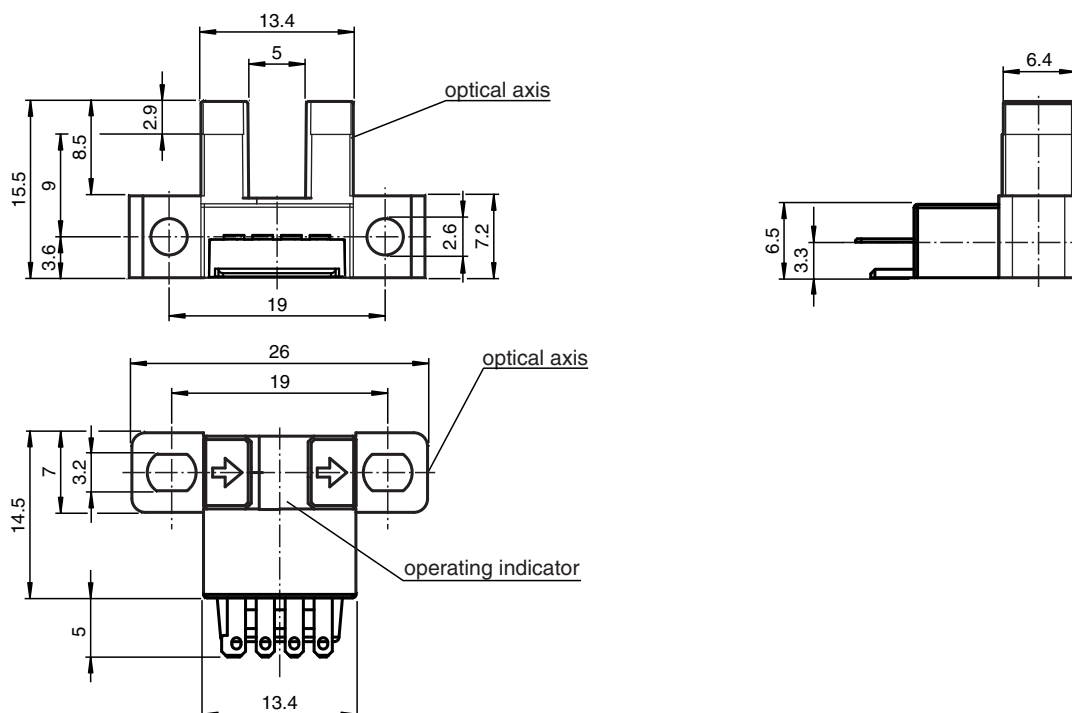
Miniature photoelectric slot sensor for the detection of small parts, L design, fork width 5 mm, infrared light, PNP outputs, flat connector



### Function

The GL5 miniature slot sensor compares a high optical performance in a small housing and is optimized to the requirements in semiconductors 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.

### Dimensions



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Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

Pepperl+Fuchs Group  
www.pepperl-fuchs.com

USA: +1 330 486 0001  
fa-info@us.pepperl-fuchs.com

Germany: +49 621 776 1111  
fa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091  
fa-info@sg.pepperl-fuchs.com

**PEPPERL+FUCHS**

## Technical Data

### General specifications

|                     |                                     |
|---------------------|-------------------------------------|
| Light source        | ARED                                |
| Light type          | Infrared, continuous light , 940 nm |
| Target size         | 0.8 x 1.8 mm                        |
| Slot width          | 5 mm                                |
| Slot depth          | 8.5 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 indicator | 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                                                                |

### Compliance with standards and directives

|                           |  |                           |
|---------------------------|--|---------------------------|
| Directive conformity      |  |                           |
| EMC Directive 2004/108/EC |  | EN 60947-5-2:2007+A1:2012 |
| Standard conformity       |  |                           |
| Standards                 |  | UL 60947-5-2              |

### Approvals and certificates

|              |                                                              |
|--------------|--------------------------------------------------------------|
| UL approval  | cULus Recognized, Class 2 Power Source                       |
| CCC approval | CCC approval / marking not required for products rated ≤36 V |

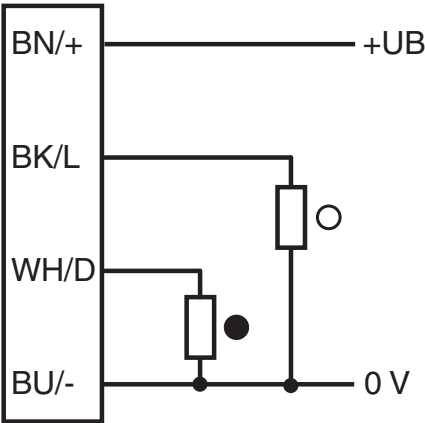
### Ambient conditions

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

### Mechanical specifications

|                                     |                      |
|-------------------------------------|----------------------|
| Housing width                       | 19.5 mm              |
| Housing height                      | 26 mm                |
| Degree of protection                | IP50                 |
| Connection                          | 4-pin flat connector |
| Material                            |                      |
| Housing                             | PBT                  |
| Mass                                | 3 g                  |
| Tightening torque, fastening screws | 0.6 Nm               |

Connection Assignment



O = Light on  
● = Dark on

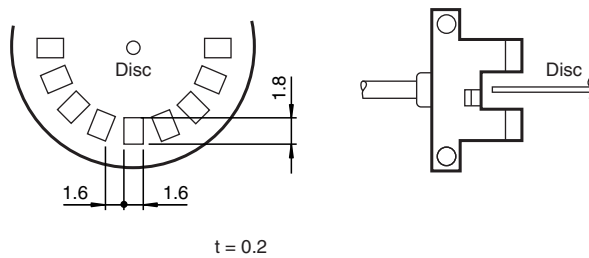
Accessories

|  |                    |                                 |
|--|--------------------|---------------------------------|
|  | <b>CBL SET GL5</b> | Connection cable for GL5 series |
|--|--------------------|---------------------------------|

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## 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