



Model Number

GL5-Y/45a/59/115e

Photoelectric slot sensor
150 mm fixed cable with JST plug, 3-pin

Features

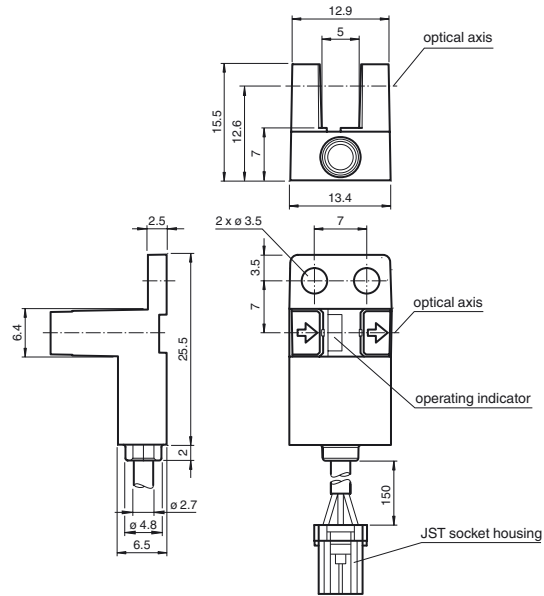
- Miniature design
- Optimized for the detection of small parts
- High switching frequency
- Simple and fast mounting
- Clearly visible LED functional display

Product information

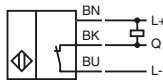
The GL5 miniature slot sensor compares a high optical performance in a small housing and is optimized to the requirements in semi-conductors industry for small part detection. A wide voltage range of 5 - 24 V DC and the fastest switching frequency of 5 kHz in its class stands for the quality of this 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.

Release date: 2017-02-24 10:26 Date of issue: 2017-02-24 816827_eng.xml

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 |
| Slot width | 5 mm |
| Slot depth | 8.5 mm |
| Ambient light limit | 1000 Lux |

Functional safety related parameters

| | |
|--------------------------------|--------|
| MTTF _d | 3760 a |
| Mission Time (T _M) | 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 _B | 5 ... 24 V DC, class 2 |
| No-load supply current | I ₀ | max. 20 mA |
| Time delay before availability | t _v | < 2 ms |

Output

| | | |
|---------------------|------------------------------|--|
| Switching type | dark on | |
| Signal output | 1 NPN, overvoltage protected | |
| Switching voltage | max. 30 V DC | |
| Switching current | max. 50 mA, resistive load | |
| Voltage drop | U _d | 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 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

| | |
|-------------------------------------|---------------------------------------|
| Degree of protection | IP50 |
| Connection | 0.15 m cable with 3-pin JST connector |
| Material | |
| Housing | PBT |
| Mass | 3 g |
| Tightening torque, fastening screws | 0.6 Nm |
| Cable length | 0.15 m |

Compliance with standards and directives

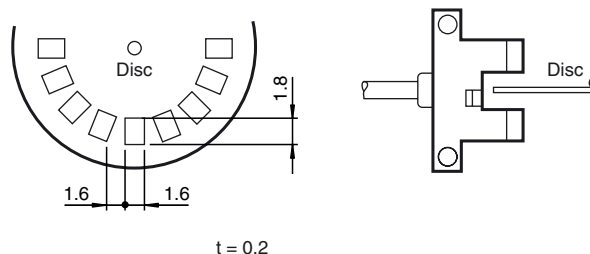
| | |
|---------------------------|---------------------------|
| Directive conformity | |
| EMC Directive 2004/108/EC | EN 60947-5-2:2007+A1:2012 |
| Standard conformity | |
| Standards | UL 60947-5-2 |

Approvals and certificates

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

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