



**Model Number**

**GL5-F/28a/115**

Photoelectric slot sensor  
with fixed cable

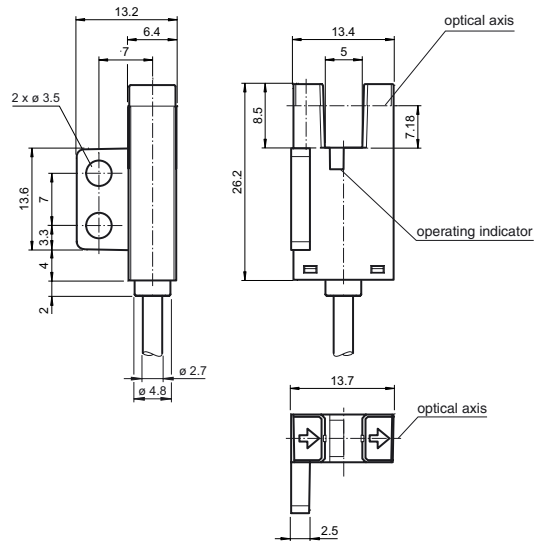
**Features**

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

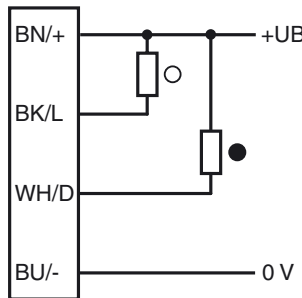
**Product information**

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.

**Dimensions**



**Electrical connection**



- = Light on
- = Dark on

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## 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 <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
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### 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 NPN 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 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	2 m PVC cable, 4 x 0.09 mm <sup>2</sup>
Material	
Housing	PBT
Mass	25 g
Tightening torque, fastening screws	0.6 Nm
Cable length	2 m

### Compliance with standards and directives

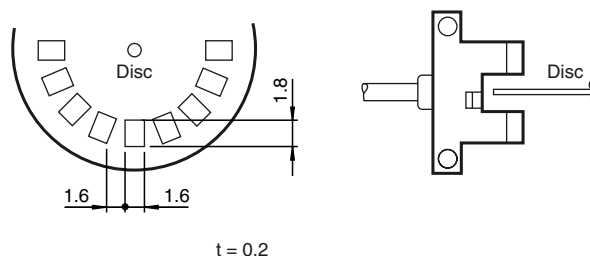
Directive conformity	
EMC Directive 2004/108/EC	EN 60947-5-2:2007+A1:2012
Standard conformity	
Standards	UL 60947-5-2

### 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