



Model Number

GL5-F/45a/59/115e

Photoelectric slot sensor

150 mm fixed cable with JST plug, 3-pin

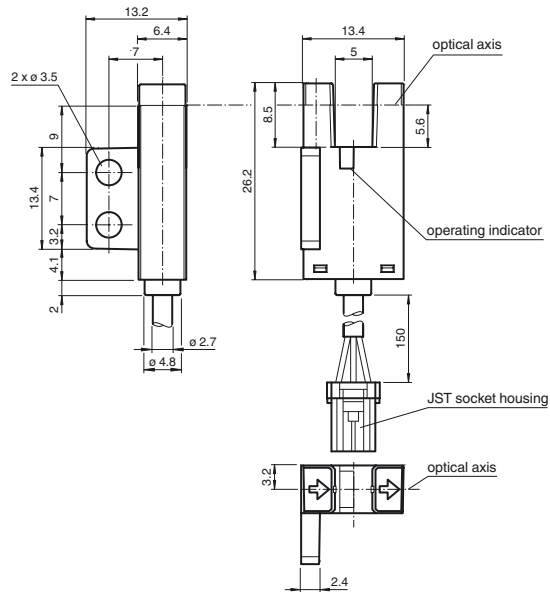
Features

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

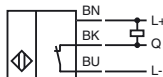
Product information

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.

Dimensions



Electrical connection



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
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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

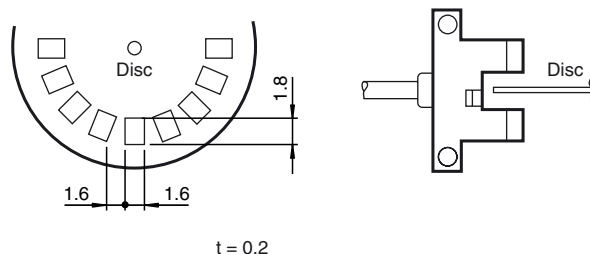
Directive conformity	
EMC Directive 2004/108/EC	EN 60947-5-2:2007+A1:2012
Standard conformity	
Standards	UL 60947-5-2

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