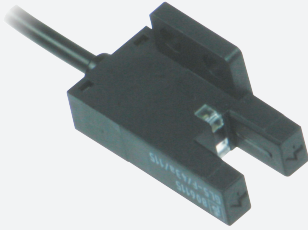


# Photoelectric slot sensor

## GL5-F/45a/59/115e



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

Miniature slot sensor for small part detection, F design, 5 mm slot width, infrared light, NPN output, dark on, 150 mm fixed cable with JST plug, 3-pin



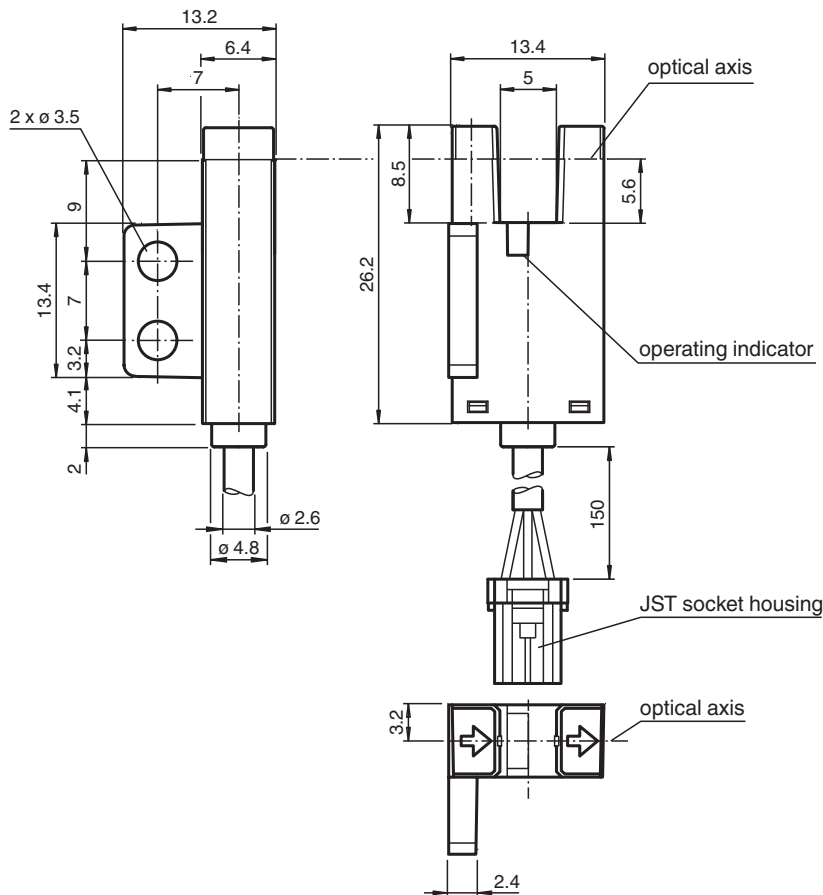
### Function

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.

### Application

- Detection of lead frames
- Detection of cam positions
- Detection of limit positions of moving objects
- Position detection of wafer cases

## Dimensions



## Technical Data

### General specifications

Light source	IRED
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	dark-on	
Signal output	1 NPN , 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

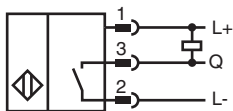
Release date: 2023-12-28 Date of issue: 2023-12-28 Filename: 816803\_eng.pdf

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

## Technical Data

Response time		40 $\mu$ s Light beam is not interrupted 80 $\mu$ s Light beam is interrupted
Repeat accuracy	R	0.03 mm
<b>Compliance with standards and directives</b>		
Directive conformity		
EMC Directive 2004/108/EC		EN 60947-5-2:2007+A1:2012
Standard conformity		
Standards		UL 60947-5-2
<b>Approvals and certificates</b>		
UL approval		cULus Recognized, Class 2 Power Source
CCC approval		CCC approval / marking not required for products rated $\leq 36$ V
<b>Ambient conditions</b>		
Ambient temperature		-25 ... 55 °C (-13 ... 131 °F)
Storage temperature		-30 ... 80 °C (-22 ... 176 °F)
Pollution degree		2
<b>Mechanical specifications</b>		
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
Dimensions		
Height		13.4 mm
Width		13.2 mm
Length		26.2 mm
Cable length		0.15 m

## Connection Assignment



## Connection

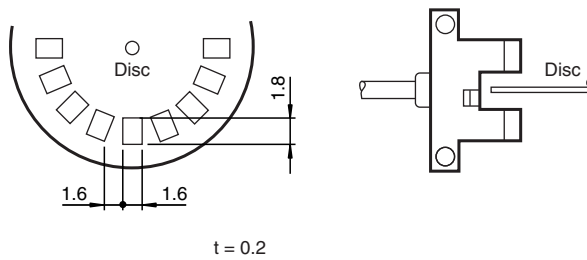


## Connection

Wire colors in accordance with EN 60947-5-2

1		BN	(brown)
2		BU	(blue)
3		BK	(black)

## Technical Features



### Response frequency

The response frequency is the value when the disc is rotated, see figure.