

# Photoelectric slot sensor

## GL5-J/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, J design, 5 mm slot width, infrared light, NPN output, dark on, 150 mm fixed cable with JST plug, 3-pin



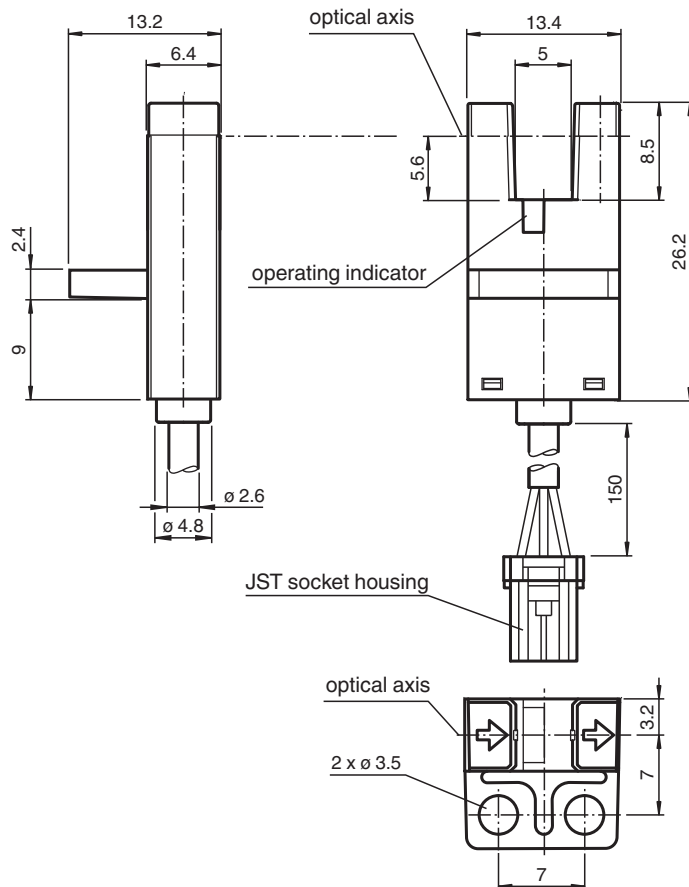
### Function

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



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

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## Technical Data

General specifications			
Light source			IRE D
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			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
Response time			40 μs Light beam is not interrupted 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			
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

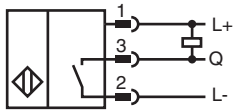
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## Connection Assignment



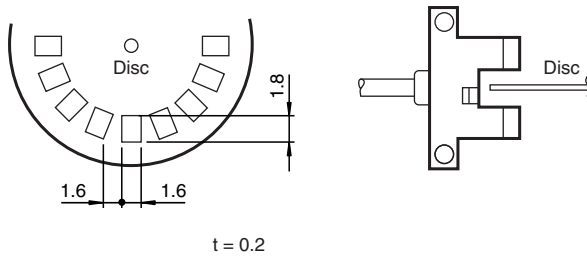
## Connection



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.

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