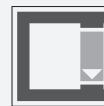


## Photoelectric slot sensor

### 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



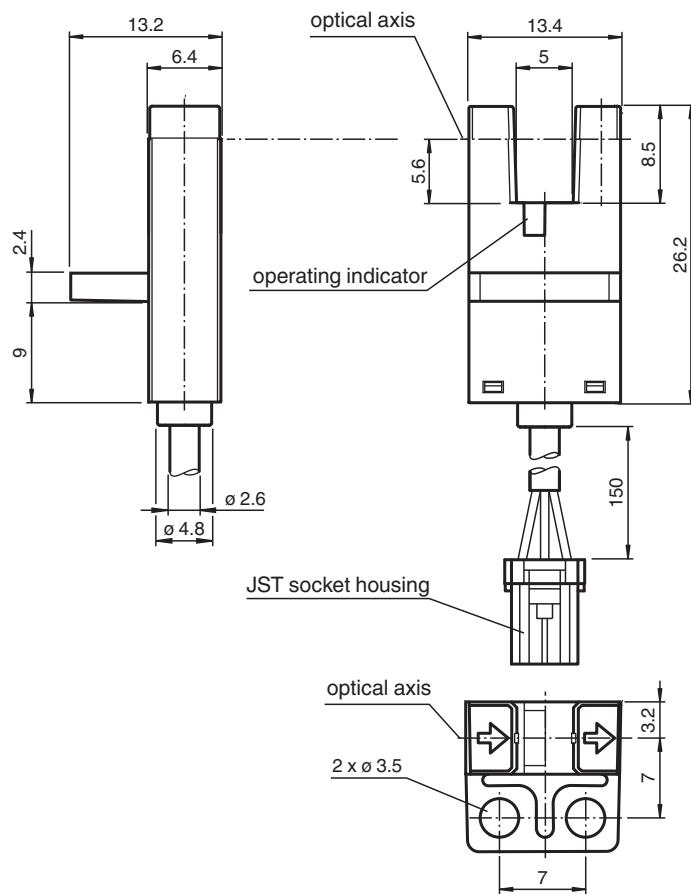
## Function

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

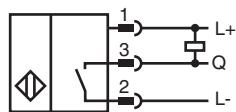
## Dimensions



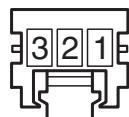
## Technical Data

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	
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	

## Connection Assignment



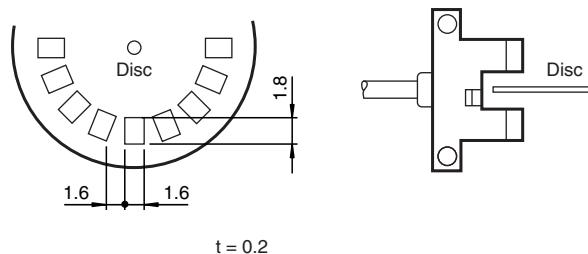
## Connection



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.