

# Photoelectric slot sensor



## GL5-R/28a/155



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

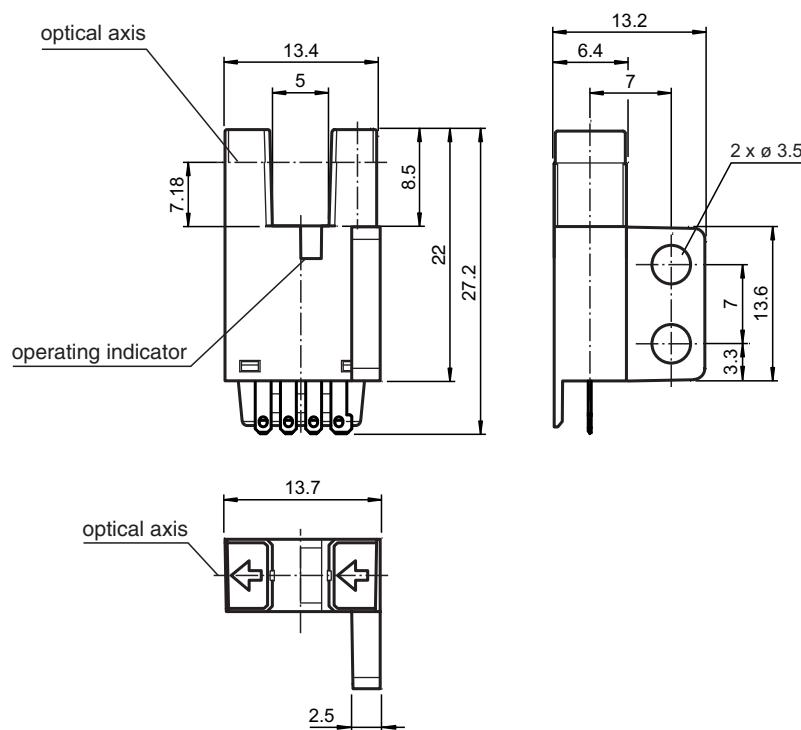
Miniature photoelectric slot sensor for the detection of small parts, R design, fork width 5 mm, infrared light, NPN outputs, flat connector



### 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.

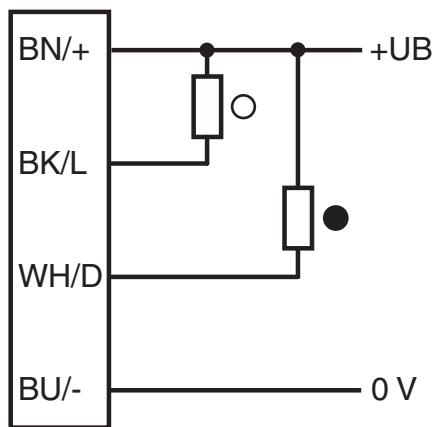
### Dimensions



## 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	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
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		
Housing width	13.2 mm	
Housing height	13.4 mm	
Degree of protection	IP50	
Connection	4-pin flat connector	
Material		
Housing	PBT	
Mass	3 g	
Tightening torque, fastening screws	0.6 Nm	

## Connection Assignment



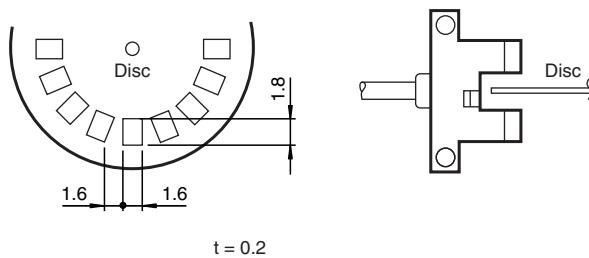
○ = Light on  
● = Dark on

## Accessories

	<b>CBL SET GL5</b>	Connection cable for GL5 series
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## 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