

Photoelectric slot sensor

GL5-U/28a/155



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

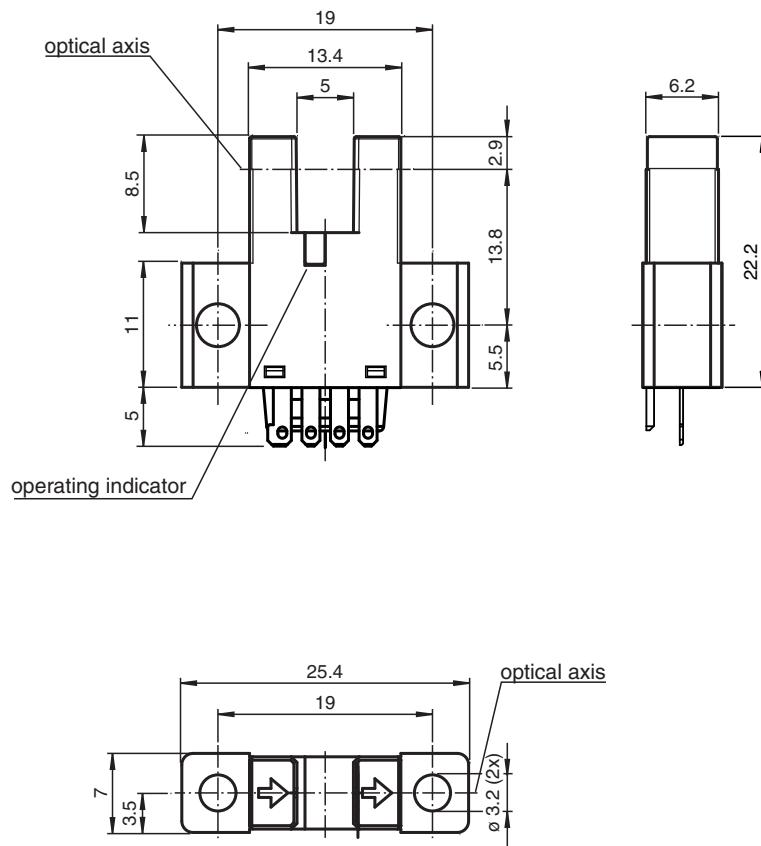
Miniature photoelectric slot sensor for the detection of small parts, U design, fork width 5 mm, infrared light, NPN outputs, flat connector



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.

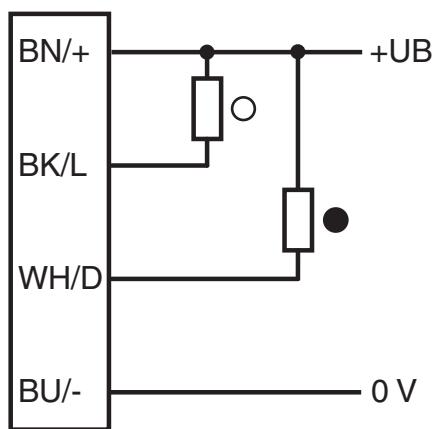
Dimensions



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 _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	
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	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 _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
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		
EAC conformity	TR CU 020/2011	
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	7 mm	
Housing height	25.4 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



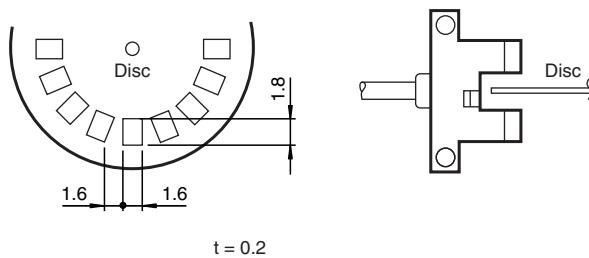
○ = Light on
● = Dark on

Accessories

	CBL SET GL5	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