

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

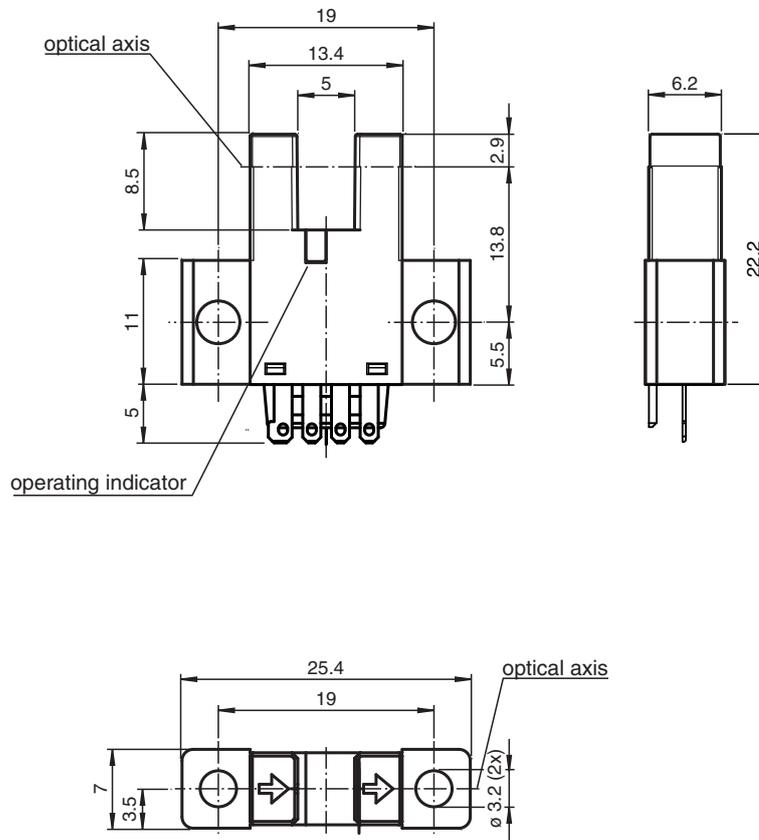
Miniature photoelectric slot sensor for the detection of small parts, U design, fork width 5 mm, infrared light, NPN outputs, flat connector



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



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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 _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

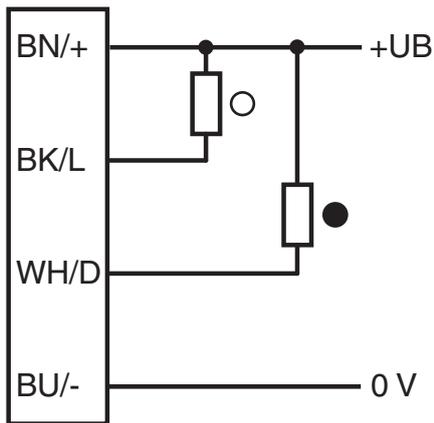
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Connection Assignment



○ = Light on
● = Dark on

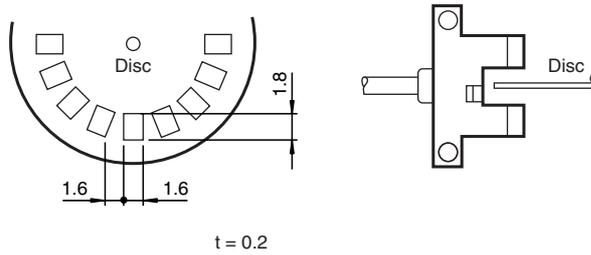
Accessories

	<p>CBL SET GL5</p>	<p>Connection cable for GL5 series</p>
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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