



## Photoelectric slot sensor

### GL121-RT/32/40a/98a



- Optimized for the detection of small parts
- High switching frequency
- Multiple device installation possible, no mutual interference (no cross-talk)
- Sensitivity adjuster and light-on/dark-on changeover switch as standard features of this series
- Visible red light
- Degree of protection IP67
- cULus approval
- Diecast zinc housing, powder coated

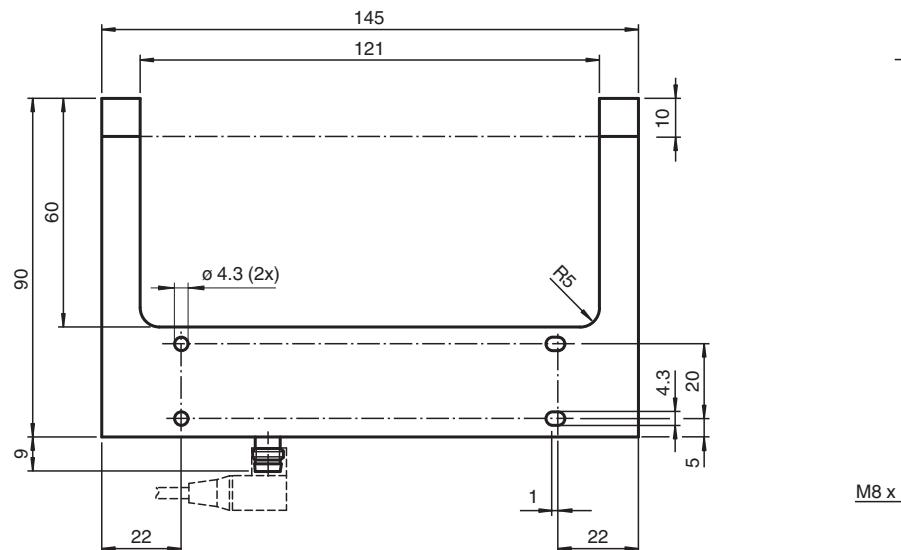
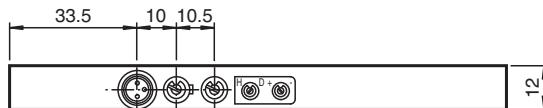
Photoelectric slot sensor, zinc pressure diecast housing, 121 mm slot width, red light, light/dark on, sensitivity adjuster, DC version, PNP output, 3 pin M8 plug



#### Function

Photoelectric slot sensors offer vast installation benefits thanks to their housing design. When it comes to operation, these new generation devices boast features such as high resolution, high repeatability, automatic signal threshold adjustment, ambient light resistance, and detection of and/or light transmission through transparent objects. Cross-talk protection enables parallel installation of devices despite extremely high switching frequency. These characteristics guarantee reliable detection of small parts, from 0.3 mm, across the entire detection range, even in very fast moving applications.

#### Dimensions

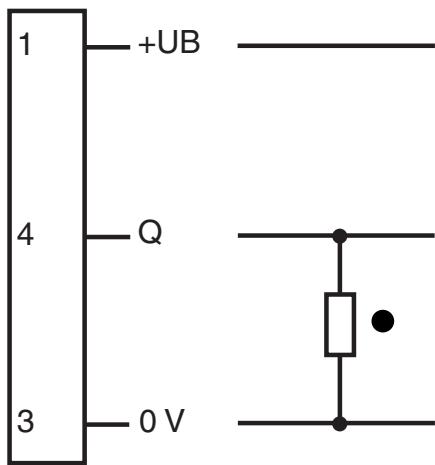


## Technical Data

General specifications		
Light source	LED	
Light type	modulated visible red light	
Tests	EN 60947-5-2	
Target size	0.3 mm	
Slot width	121 mm	
Slot depth	60 mm	
Ambient light limit	100000 Lux	
Functional safety related parameters		
MTTF <sub>d</sub>	1290 a	
Mission Time (T <sub>M</sub> )	20 a	
Diagnostic Coverage (DC)	0 %	
Indicators/operating means		
Function indicator	LED red in connector	
Control elements	Sensitivity adjuster, light/dark switch	
Electrical specifications		
Operating voltage	U <sub>B</sub>	10 ... 30 V DC, class 2
Ripple		10 %
No-load supply current	I <sub>0</sub>	≤ 15 mA
Output		
Switching type	light/dark on	
Signal output	1 PNP, short-circuit protected, open collector	
Switching voltage	max. 30 V DC	
Switching current	max. 100 mA	
Repeat accuracy	0.05 mm	
Switching frequency	f	3 kHz
Response time	≤ 160 µs	
Conformity		
Product standard	EN 60947-5-2	
Approvals and certificates		
CE conformity	CE	
UL approval	cULus	
CCC approval	CCC approval / marking not required for products rated ≤36 V	
Ambient conditions		
Ambient temperature	-20 ... 60 °C (-4 ... 140 °F)	
Storage temperature	-20 ... 75 °C (-4 ... 167 °F)	
Mechanical specifications		
Degree of protection	IP67	
Connection	M8 connector, 3-pin	
Material		
Housing	powder coated diecast zinc	
Optical face	glass	
Mass	295 g	
Dimensions		
Height	145 mm	
Width	12 mm	
Length	90 mm	

## Connection Assignment

/98a



○ = Light on  
 ● = Dark on

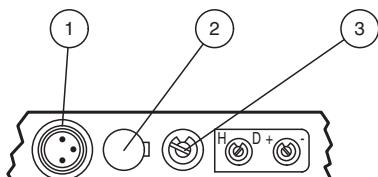
## Connection Assignment



Wire colors in accordance with EN 60947-5-2

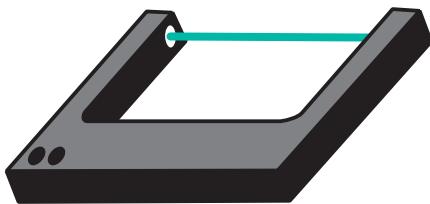
1	BN	(brown)
3	BU	(blue)
4	BK	(black)

## Assembly



1	Functional display	red
2	Light-/dark switch	
3	Sensitivity adjuster	

## Application



## Function Principle

Photoelectric slot sensors are photoelectric sensors that operate according to the thru-beam sensor principle. The transmitter sends signals directly to the receiver. If an object breaks the light beam, the switching element function is triggered. The special U-shaped design means the transmitter and receiver can be accommodated in one housing, which ensures high resistance to vibrations. In contrast to standard thru-beam sensors, photoelectric slot sensors have the added advantage of not requiring complex electrical installation, as only one device needs to be connected. Also, adjustment of the optical axes is not necessary.

## Application

- Small part detection, from object size 0.3 mm
- Can also be used for systems with strong vibrations
- Detection of small needles in transparent hollow needles
- Counting of small parts on conveyors
- Feed and correct separation verification
- Web edge control
- Elevator car position in elevators