Photoelectric slot sensor

GL121-RT/30/40a/98a

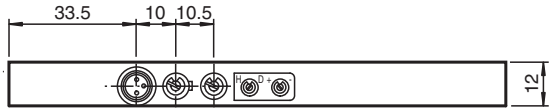
- Optimized for the detection of small parts
- High switching frequency
- Multiple device installation possible, no mutual interference (no cross-talk)
- Sensitivity adjuster and light-on/dark-on changeover switch as standard features of this series
- Visible red light
- Degree of protection IP67
- cULus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

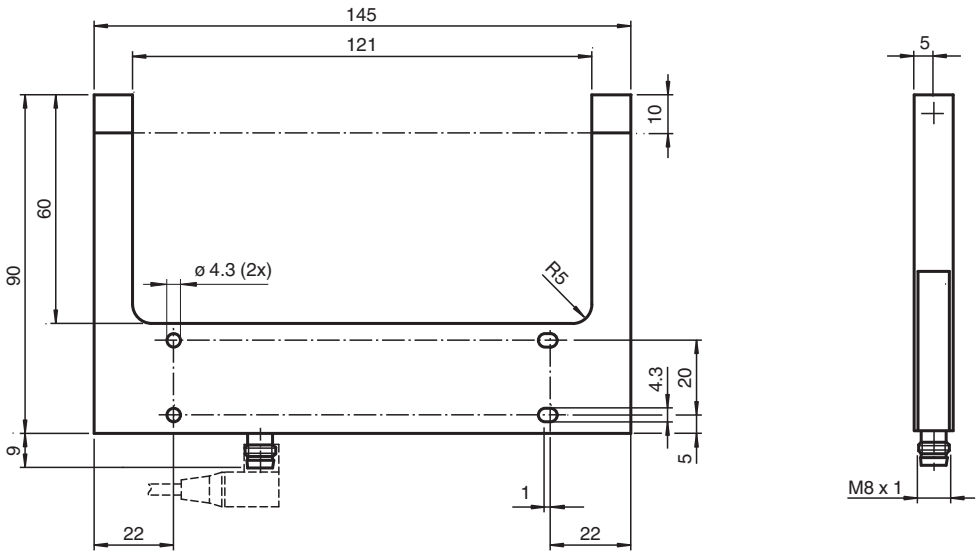
Photoelectric slot sensor, zinc pressure diecast housing, 121 mm slot width, red light, light/dark on, sensitivity adjuster, DC version, NPN output, 3-pin M8 plug

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





Release date: 2023-05-09 Date of issue: 2023-05-09 Filename: 201770_eng.pdf

Technical Data

General specifications		
Light source		LED
Light type		modulated visible red light
Target size		0.3 mm
Slot width		121 mm
Slot depth		60 mm
Ambient light limit		100000 Lux
Functional safety related parameters		
$MTTF_d$		1290 a
Mission Time (T_M)		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_B	10 ... 30 V DC
Ripple		10 %
No-load supply current	I_0	≤ 15 mA
Output		
Switching type		light/dark on
Signal output		1 NPN, 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 Listed, Class 2 Power Source, Type 1 enclosure
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

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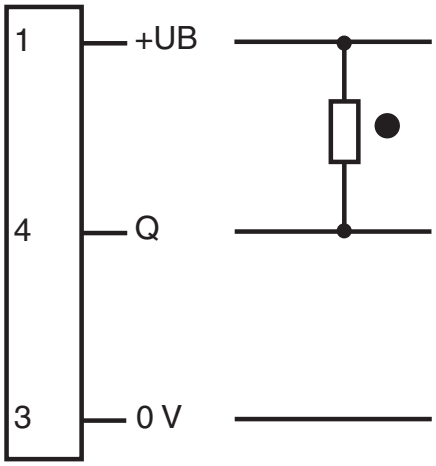
Connection Assignment



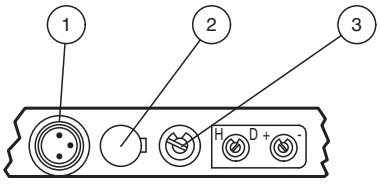
○ = Light on
● = Dark on

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	

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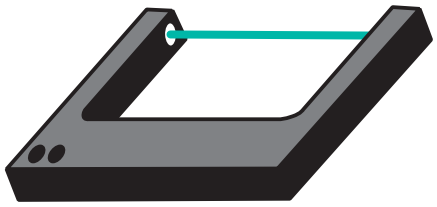
Application



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.

Accessories

	**V3-WM-2M-PUR**	Female cordset single-ended M8 angled A-coded, 3-pin, PUR cable grey

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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

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