



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

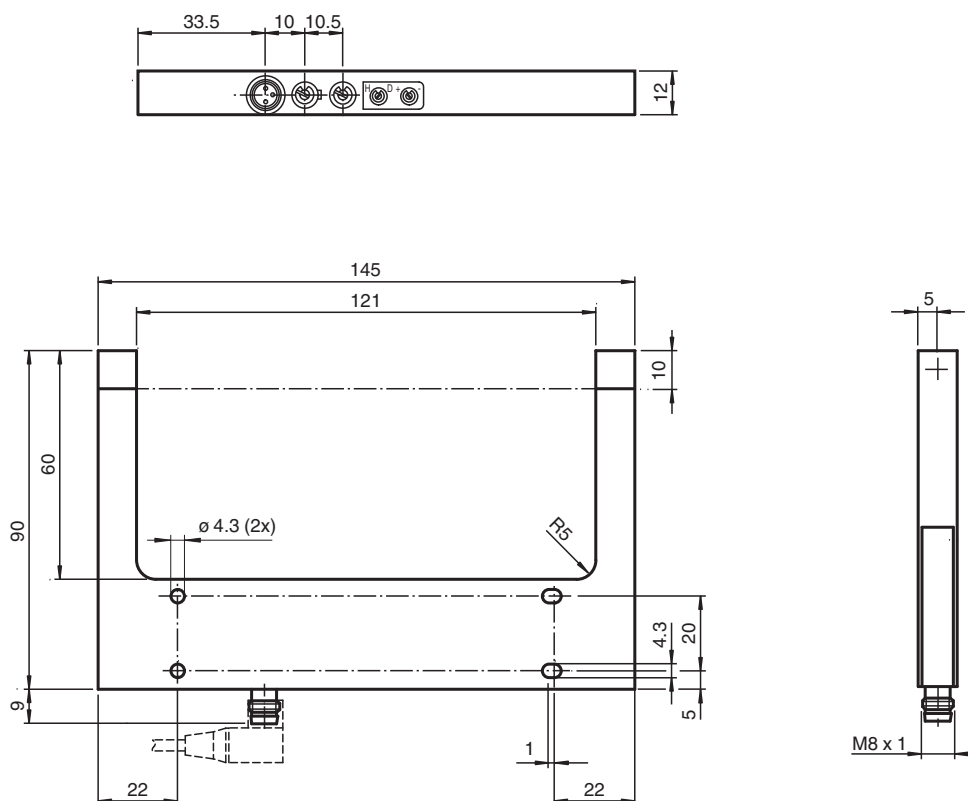
Photoelectric slot sensor, zinc pressure diecast housing, 121 mm slot width, red light, light/dark on, sensitivity adjuster, DC version, NPN output, 3-pin M8 plug



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: 2022-02-07 Date of issue: 2022-02-07 Filename: 201770_eng.pdf

Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

Pepperl+Fuchs Group
www.pepperl-fuchs.com

USA: +1 330 486 0001
fa-info@us.pepperl-fuchs.com

Germany: +49 621 776 1111
fa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091
fa-info@sg.pepperl-fuchs.com

PEPPERL+FUCHS

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
EAC conformity	TR CU 020/2011
UL approval	cULus Listed, Class 2 Power Source, Type 1 enclosure
CCC approval	CCC approval / marking not required for products rated ≤36 V

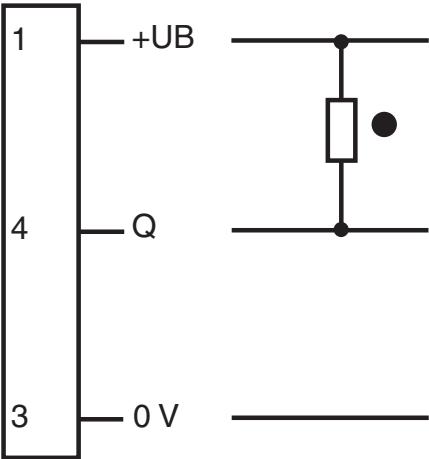
Ambient conditions

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

Connection Assignment



○ = Light on
● = Dark on

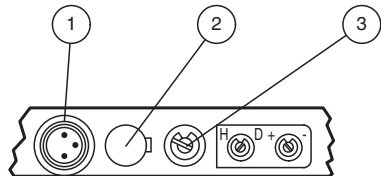
Connection Assignment



Wire colors in accordance with EN 60947-5-2

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

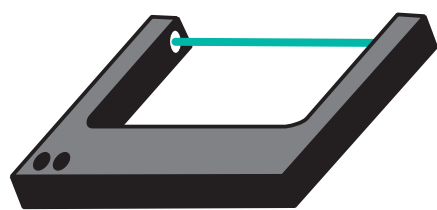
Assembly



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

Release date: 2022-02-07 Date of issue: 2022-02-07 Filename: 201770_eng.pdf

Application



Accessories

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

Release date: 2022-02-07 Date of issue: 2022-02-07 Filename: 201770_eng.pdf

Operating 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