



Photoelectric slot sensor

GL220-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
- Sturdy aluminum housing

Photoelectric slot sensor, aluminum housing, 220 mm slot width, red light, light/dark on, sensitivity adjuster, DC version, NPN output, 3-pin M8 plug



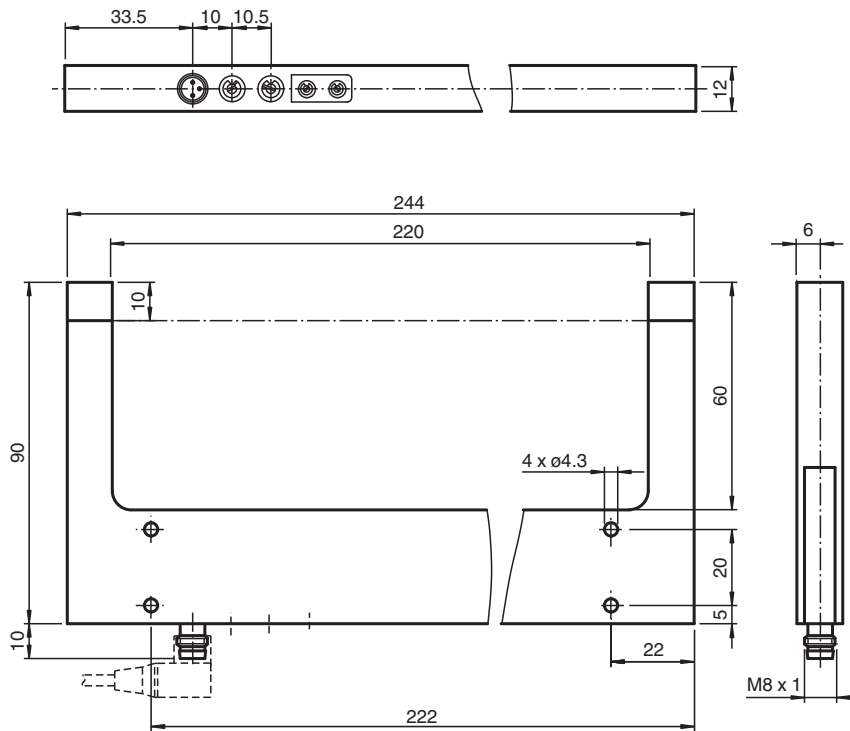
Function

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.

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

Dimensions



Technical Data

General specifications

Light source	LED
Light type	modulated visible red light
Target size	0.5 mm
Slot width	220 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

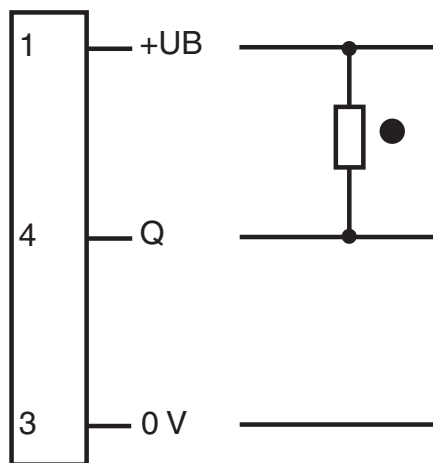
Product standard	EN 60947-5-2
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Approvals and certificates

Technical Data

CE conformity	CE
UL approval	cULus Listed, Class 2 Power Source, Type 1 enclosure
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	black anodized aluminum
Optical face	glass
Mass	240 g
Dimensions	
Height	244 mm
Width	12 mm
Length	90 mm

Connection Assignment



- = Light on
● = Dark on

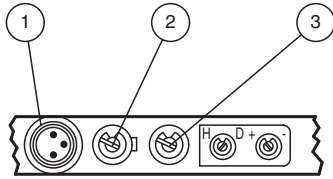
Connection Assignment



Wire colors in accordance with EN 60947-5-2

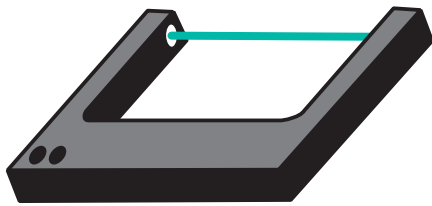
1	BN	(brown)
3	BU	(blue)
4	BK	(black)

Assembly



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

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.