



Photoelectric slot sensor

GL50-IR/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
- Infrared light
- Degree of protection IP67
- cULus approval
- Diecast zinc housing, powder coated

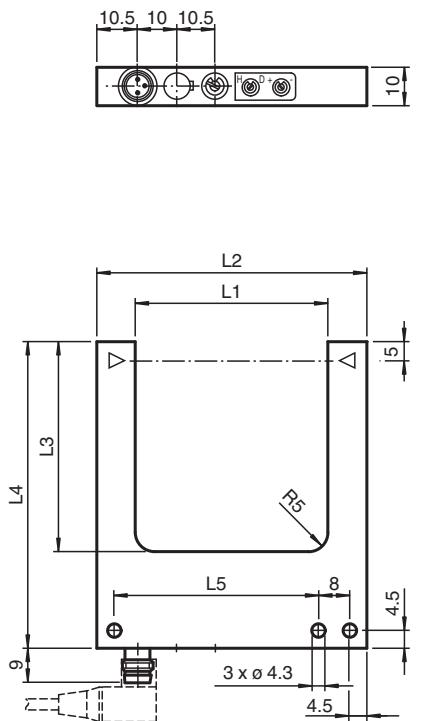
Photoelectric slot sensor, zinc pressure diecast housing, 50 mm slot width, infrared light, light/dark on, sensitivity adjuster, DC version, PNP output, 3 pin M8 plug



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



	L1	L2	L3	L4	L5
GL30..	30	50	35	60	33
GL50..	50	70	55	80	53
GL80..	80	100	55	80	83

Technical Data

General specifications

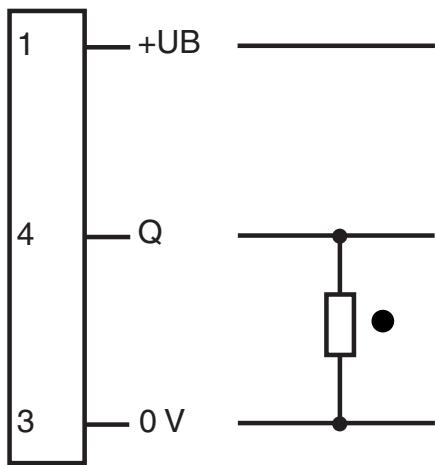
Light source	IRED
Light type	modulated infrared light
Tests	EN 60947-5-2

Technical Data

Target size	0.3 mm
Slot width	50 mm
Slot depth	55 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, class 2
Ripple	10 %
No-load supply current	I ₀ ≤ 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 2 kHz
Response time	≤ 250 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	90 g
Dimensions	
Height	70 mm
Width	10 mm
Length	80 mm

Connection Assignment

/98a



○ = Light on
 ● = Dark on

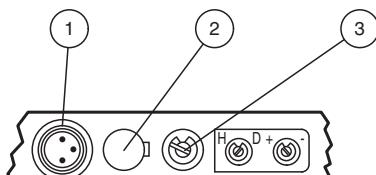
Connection Assignment



Wire colors in accordance with EN 60947-5-2

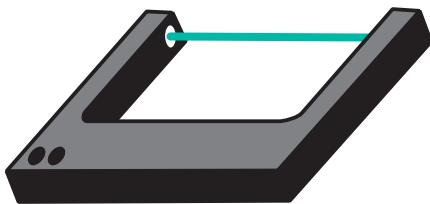
1	BN	(brown)
3	BU	(blue)
4	BK	(black)

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