



Photoelectric slot sensor GL121-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

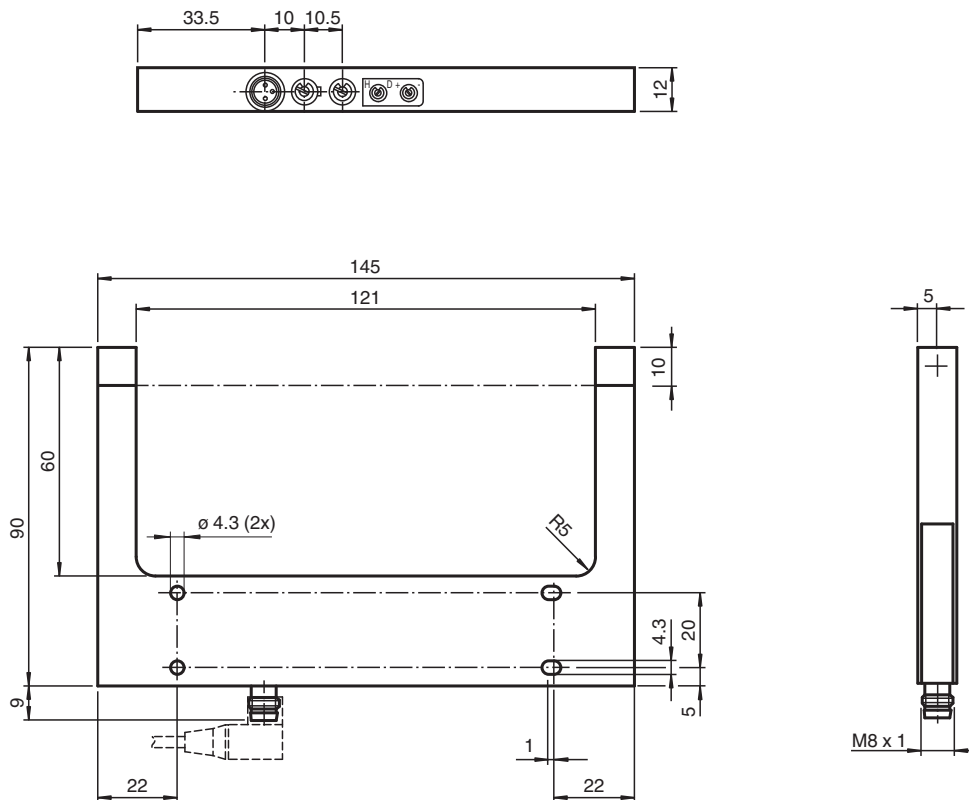
Photoelectric slot sensor, zinc pressure diecast housing, 121 mm slot width, infrared light, light/dark on, sensitivity adjuster, DC version, PNP output, 3 pin M8 plug



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

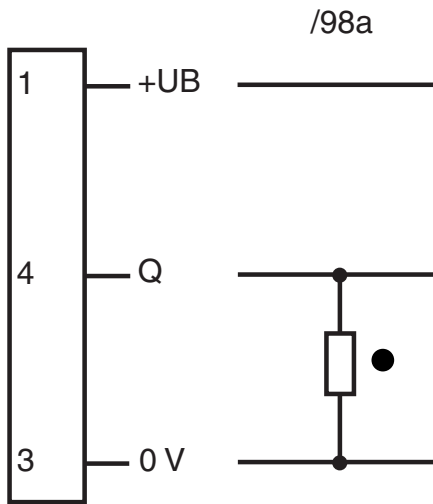


Release date: 2024-06-24 Date of issue: 2024-06-24 Filename: 198055_eng.pdf

Technical Data

| General specifications | | |
|--------------------------------------|----------------|--|
| Light source | | IREd |
| Light type | | modulated infrared 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 _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 | | 295 g |
| Dimensions | | |
| Height | | 145 mm |
| Width | | 12 mm |
| Length | | 90 mm |

Connection Assignment



○ = Light on
● = Dark on

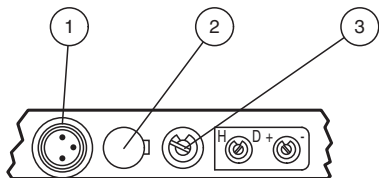
Connection Assignment



Wire colors in accordance with EN 60947-5-2

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

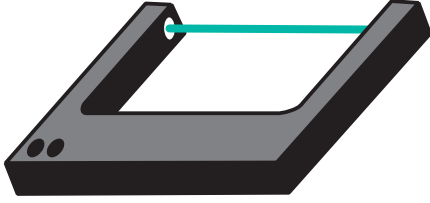
Assembly



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

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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.

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