



Model Number

RAL150-IR/32/98

Slot grid sensor
with 3-pin, M8 x 1 connector

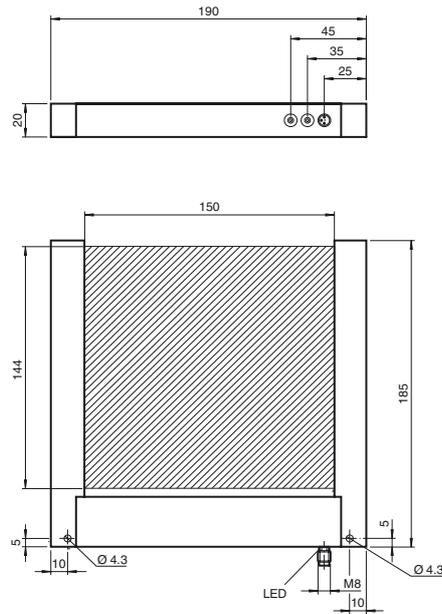
Features

- Compact slot grid sensor
- Open frame with wide detection area
- Optimized for the detection of small parts
- Option to suppress stationary objects
- Detection of very small guided and non-guided parts in free fall

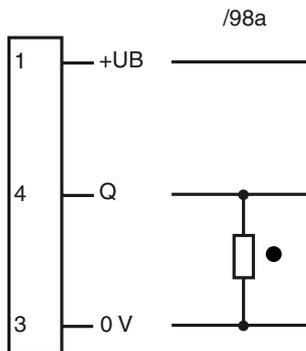
Product information

Slot grid sensors are ideal for filling and counting objects in feed devices. In contrast to standard photoelectric slot sensors, the slot grid sensors have an entire field for object detection with a maximum response time of 100 µs and a minimum object size of 1 mm. When using dynamic mode, only moving objects are detected.

Dimensions



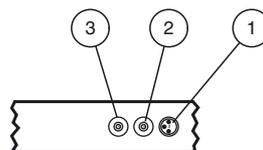
Electrical connection



Pinout



Indicators/operating means



| | | |
|---|----------------------|--------|
| 1 | Functional display | yellow |
| 2 | Time/static | |
| 3 | Sensitivity adjuster | |

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

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Technical data**General specifications**

| | |
|-----------------------|--------------------------|
| Light source | IREC |
| Light type | modulated infrared light |
| Marking | CE |
| Fork width | 150 mm |
| Ambient light limit | 10000 Lux |
| Resolution | 3 mm |
| Temperature influence | < 10 % |
| active zone | 150 mm x 144 mm |

Indicators/operating means

| | |
|------------------|---|
| Function display | LED, yellow |
| Controls | sensitivity adjustment |
| Controls | Time adjuster for Pulse stretching and Dynamic/static operation |

Electrical specifications

| | | |
|------------------------|-------|--------------------|
| Operating voltage | U_B | 24 V DC \pm 20 % |
| No-load supply current | I_0 | < 70 mA |

Output

| | | |
|---------------------|---|----------------|
| Switching type | dark on | |
| Signal output | 1 PNP output, short-circuit protected, reverse polarity protected, open collector | |
| Switching voltage | max. 30 V DC | |
| Switching current | 200 mA | |
| Voltage drop | U_d | < 2.5 V |
| Switching frequency | f | 5000 Hz |
| Repeat accuracy | R | 0.1 mm |
| Pulse extension | | 0.1 ... 150 ms |

Standard conformity

| | |
|-----------|--------------|
| Standards | EN 60947-5-2 |
|-----------|--------------|

Ambient conditions

| | |
|---------------------|-------------------------------|
| Ambient temperature | -10 ... 60 °C (14 ... 140 °F) |
|---------------------|-------------------------------|

Mechanical specifications

| | |
|-------------------|-------------------------|
| Protection degree | IP67 |
| Connection | M8 connector, 3-pin |
| Material | |
| Housing | black anodized aluminum |
| Optical face | glass |
| Mass | 500 g |

Resolution

| Potentiometer setting | RAL-50 | RAL-70 | RAL-100 | RAL-150 |
|-----------------------|--------|---------|---------|---------|
| Minimal | 0.5 mm | 0.8 mm | 1.0 mm | 1.2 mm |
| Center | 4.0 mm | 8.0 mm | 10.0 mm | 15.0 mm |
| Maximum | 8.0 mm | 15.0 mm | 25.0 mm | 50.0 mm |

The information on the maximum resolution (smallest detectable object) relates to the center of the slot grid sensor.

Configuration information

The device is set to large parts by turning the sensitivity adjustment potentiometer clockwise and to small parts by turning the sensitivity adjustment potentiometer counterclockwise.

The "time/static" potentiometer can be used both to select pulse extension in dynamic operation and to select static/dynamic operation. Static operation is selected by turning the potentiometer counterclockwise as far as it will go. Pulse extension is set to 1 ms. Pulse extension can be adjusted between 150 ms and 0 ms by turning the potentiometer clockwise.

In static operation, the output remains set while the object is within the frame. The switching threshold is not automatically tracked in this operating mode. Temperature fluctuations and dirt may trigger a switching operation.

In dynamic operation, the output is set only to the specified pulse extension. Objects that extend into the frame are hidden.

If the device becomes dirty in dynamic operation, the output is set statically at 50% reception signal.

Accessories**V3-GM-2M-PUR**

Cable socket, M8, 3-pin, PUR cable

V3-WM-2M-PUR

Cable socket, M8, 3-pin, PUR cable

Other suitable accessories can be found at www.pepperl-fuchs.com