



**Model Number**

**RAL50-IR/32/98**

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

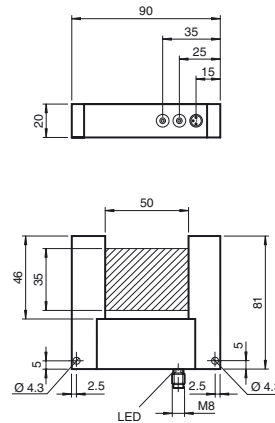
**Features**

- Compact slot grid sensor
- Open frame with wide detection area
- Optimized for detection of small parts up to 0.5 mm
- Option to suppress stationary objects
- Detection of very small guided and non-guided parts in free fall

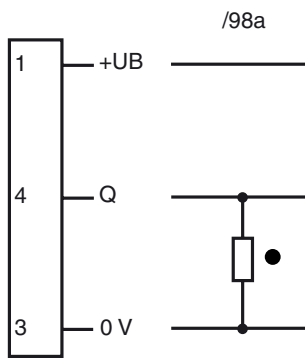
**Product information**

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 speed of 100 m/s and a minimum object size of 1 mm. When using dynamic mode, only moving objects are detected.

**Dimensions**



**Electrical connection**

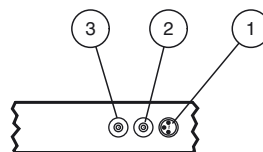


- = Light on
- = Dark on

**Pinout**



**Indicators/operating means**



1	Functional display	yellow
2	Time/static	
3	Sensitivity adjuster	

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Subject to modifications without notice

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**Technical data****General specifications**

Light source	IRE D
Light type	modulated infrared light
Marking	CE
Fork width	50 mm
Ambient light limit	10000 Lux
Resolution	0.5 mm
Temperature influence	< 10 %
active zone	35 mm x 50 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
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**Ambient conditions**

Ambient temperature	-10 ... 60 °C (14 ... 140 °F)
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**Mechanical specifications**

Protection degree	IP67
Connection	M8 connector, 3-pin
Material	
Housing	black anodized aluminium
Optical face	glass
Mass	200 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](http://www.pepperl-fuchs.com)