Photoelectric slot sensor GL20-RT/30/40a/98a

Model Number
GL20-RT/30/40a/98a
Photoelectric slot sensor with 3-pin, M8 x 1 connector

Features
• Optimized for the detection of small parts
• High switching frequency
• Multiple device installation possible, no mutual interference (no cross-talk)
• Sensitivity adjuster and light/dark switch as standard features of this series
• Visible red light
• Degree of protection IP67
• cULus approval
• Sturdy aluminum housing

Product information
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.
## Technical data

### General specifications
- **Light source**: LED
- **Light type**: modulated visible red light
- **Target size**: 0.3 mm
- **Slot width**: 20 mm
- **Slot depth**: 17 mm
- **Ambient light limit**: 100000 Lux

### Functional safety related parameters
- **MTTFd**: 1290 a
- **Mission Time (TM)**: 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**: $U_B = 10 \ldots 30 \text{ V DC}$
- **Ripple**: 10 %
- **No-load supply current**: $I_0 \leq 15 \text{ mA}$

### 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**: 3 kHz
- **Response time**: $\leq 160 \mu\text{s}$

### 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**: 25 g

### Compliance with standards and directives
- **CE conformity**: CE
- **UL approval**: cULus Listed, Class 2 Power Source, Type 1 enclosure
- **CCC approval**: CCC approval / marking not required for products rated ≤36 V

### Operating 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.

### Accessories
- **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)