Model Number
M4.2/MV4.2-8000-RT-4922
Thru-beam sensor
with 4-pin, M8 x 1 connector

Features
- High-precision sensors for complex applications
- Miniature design with very robust and versatile mounting options
- Optical surface made of scratch-resistant glass for areas that are prone to high levels of dirt
- Maximum immunity thanks to unique encrypted emission frequency
- Very short response time
- Rear mounting option for easy mounting without mounting bracket
- Aperture for reducing stray light

Dimensions

Electrical connection

Pinout

Indicators/operating means
# Technical data

## System components
- **Emitter**: M4.2-8000-RT-4922
- **Receiver**: MV4.2-8000-RT-4922

## General specifications
- **Effective detection range**: 0 ... 8000 mm
- **Threshold detection range**: 10000 mm
- **Light source**: LED
- **Light type**: modulated visible red light
- **Target size**: min. 7 mm
- **Diameter of the light spot**: 300 mm at 8000 mm detection range
- **Angle of divergence**: approx. 2 °
- **Ambient light limit**:
  - Continuous light: 40000 Lux
  - Modulated light: 5000 Lux

## Functional safety related parameters
- **MTTFd**: 550 a
- **Mission Time (TM)**: 20 a
- **Diagnostic Coverage (DC)**: 60 %

## Indicators/operating means
- **Operating display**: LED green, statically lit Power on, Undervoltage indicator: Green LED, pulsing (approx. 0.8 Hz), short-circuit: LED green flashing (approx. 4 Hz)
- **Function display**: LED yellow, lights up with receiver lit, flashes when falling short of the stability control
- **Controls**: sensitivity adjustment

## Electrical specifications
- **Operating voltage**: $U_B = 10 \ldots 30 \text{ V DC}$
- **Ripple**: < 10 %
- **No-load supply current**: $I_0 < 15 \text{ mA at 24 V DC}$

## Input
- **Switching type**: light/dark on electrically switchable
- **Signal output**: Push-pull output, short-circuit protected, reverse polarity protected
- **Switching voltage**: max. 30 V DC
- **Switching current**: max. 100 mA
- **Voltage drop**: $U_d \leq 2.5 \text{ V DC}$
- **Switching frequency**: f 2000 Hz
- **Response time**: 250 µs

## Ambient conditions
- **Ambient temperature**: -20 ... 60 °C (-4 ... 140 °F)
- **Storage temperature**: -20 ... 75 °C (-4 ... 167 °F)

## Mechanical specifications
- **Protection degree**: IP67 / IP69K
- **Connection**: M8 x 1 connector, 4-pin
- **Material**: ABS
- **Optical face**: glass pane
- **Mass**: 15 g (device)
- **Note**: For indoor use only
  - The sensor must be protected against UV radiation.

## Compliance with standards and directives
- **Standard conformity**:
  - EN 60947-5-2:2007
  - IEC 60947-5-2:2007
- **Shock and impact resistance**: IEC / EN 60068. half-sine, 40 g in each X, Y and Z directions
- **Vibration resistance**: IEC / EN 60068-2-6. Sinus. 10 -2000 Hz, 10 g in each X, Y and Z directions

## Approvals and certificates
- **CE conformity**: yes
- **UL approval**: cULus Listed
- **CCC approval**: CCC approval / marking not required for products rated $\leq 36 \text{ V}$

### Accessories
- **OMH-4.1**: Mounting Clamp
- **OMH-ML6**: Mounting bracket
- **OMH-ML6-U**: Mounting bracket
- **OMH-ML6-Z**: Mounting bracket
- **OMH-11-02 Aperture-V-H 0.5 mm**: Slit diaphragm can be affixed for detecting very small parts
- **OMH-11-04 Aperture-V-H 1.0 mm**: Slit diaphragm can be affixed for detecting very small parts
- **OMH-11-06 Aperture-V-H 1.5 mm**: Slit diaphragm can be affixed for detecting very small parts
- **OMH-11-08 Aperture-V-H 2.0 mm**: Slit diaphragm can be affixed for detecting very small parts
- **V31-GM-2M-PVC**: M8, 4-pin socket, PVC cable
- **V31-WM-2M-PVC**: M8, 4-pin socket, PVC cable
- **V31-GM-5M-PUR**: 4-pin, M8 socket, PUR cable
- **V31-WM-5M-PUR**: 4-pin, M8 socket, PUR cable

Other suitable accessories can be found at www.pepperl-fuchs.com
To aid in the detection of small objects, various apertures OMH-11... can be placed on the sensors. This results in different detection ranges:

<table>
<thead>
<tr>
<th>Aperture</th>
<th>Aperture type</th>
<th>Min. object size</th>
<th>Detection range</th>
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<tr>
<td>No aperture</td>
<td>Vertical</td>
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<tr>
<td>OMH-11-08</td>
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<tr>
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