



Model Number

ML4.2-8-H-20-IR/DS/25/95/136

Background suppression sensor with 4-pin, M8 x 1 connector

Features

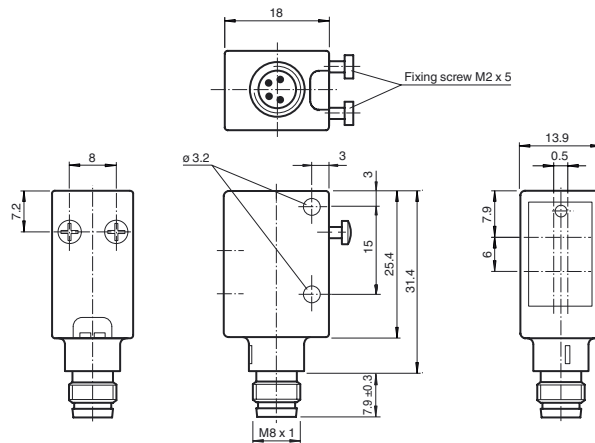
- Dual sensor with two Light spots
- Light spot signals are directly connected to both independent switching outputs
- Precise background suppression
- Very small black-white difference
- Metal-reinforced fastening holes
- Tamper-proof version with no adjustments
- Push-pull outputs

Product information

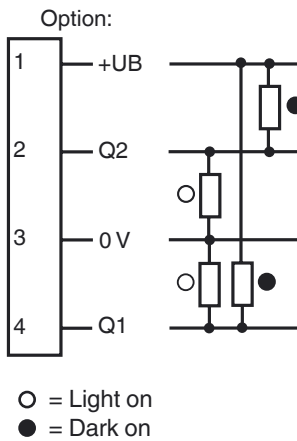
The ML4.2 series is characterized by a robust, powerful and standard design in a miniature housing. The housing offers IP67/ IP69K degree of protection, a scratch- and chemical-resistant lens, highly visible LEDs and robust all-metal bushings for mounting. Adjustable and tamper-proof sensors are available with a universal push-pull output and an electrical light ON/dark ON switch. The sensors have a high ambient light limit. Reflections from the background are suppressed. The unusually small, sharp light spot and the quick response time offer maximum switching precision on object edges.. Both red and infrared light sources are available. A high-performance fixed focus background suppressor is a useful feature. The sensors are suitable for precise object detection and open up a wide range of application fields.

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Dimensions



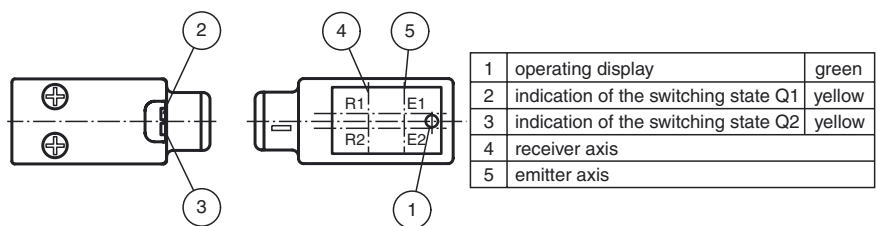
Electrical connection



Pinout



Indicators/operating means



Technical data**General specifications**

| | |
|-----------------------------------|---|
| Detection range | 7 ... 20 mm |
| Detection range max. | 2 ... 25 mm |
| Background suppression | starts from 25 mm |
| Light source | 2 IRED |
| Light type | modulated infrared light , 880 nm |
| Black/White difference (6 %/90 %) | approx. 1 mm |
| Diameter of the light spot | 2 light spots: size 2.5 mm distance 5 mm at 20 mm |
| Angle of divergence | approx. 5 ° |
| Ambient light limit | |
| Continuous light | 40000 Lux |
| Modulated light | 5000 Lux |

Functional safety related parameters

| | |
|--------------------------------|--------|
| MTTF _d | 1940 a |
| Mission Time (T _M) | 20 a |
| Diagnostic Coverage (DC) | 0 % |

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 | LEDs yellow: light up when object is detected |

Electrical specifications

| | | |
|------------------------|----------------|----------------|
| Operating voltage | U _B | 10 ... 30 V DC |
| Ripple | | 10 % |
| No-load supply current | I ₀ | < 20 mA |

Output

| | | |
|---------------------|---|------------|
| Switching type | light on +UB dark on: 0 V | |
| Signal output | 2 push-pull (4 in 1) outputs, short-circuit protected, reverse polarity protected | |
| Switching voltage | max. 30 V DC | |
| Switching current | max. 100 mA | |
| Voltage drop | U _d | ≤ 2.5 V DC |
| Switching frequency | f | 500 Hz |
| Response time | | 1 ms |

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 | |
| Housing | ABS |
| Optical face | glass pane |
| Mass | approx. 10 g |

Compliance with standards and directives

| | |
|-----------------------------|--|
| Standard conformity | |
| Product standard | 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 -150 Hz, 5 g in each X, Y and Z directions |

Approvals and certificates

| | |
|---------------|--|
| CE conformity | yes |
| UL approval | cULus Listed |
| CCC approval | Products with a maximum operating voltage of ≤36 V do not bear a CCC marking because they do not require approval. |

Accessories

OMH-4.1
Mounting Clamp

OMH-ML6
Mounting bracket

OMH-ML6-U
Mounting bracket

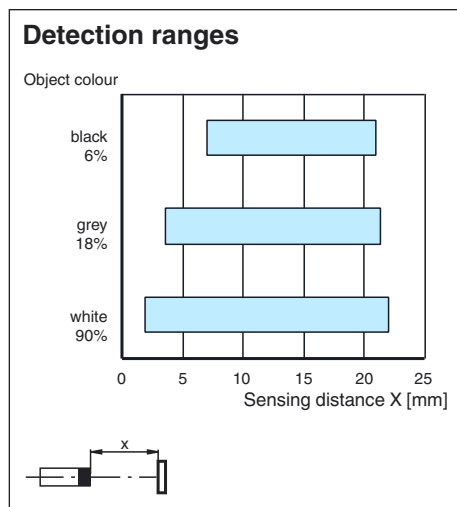
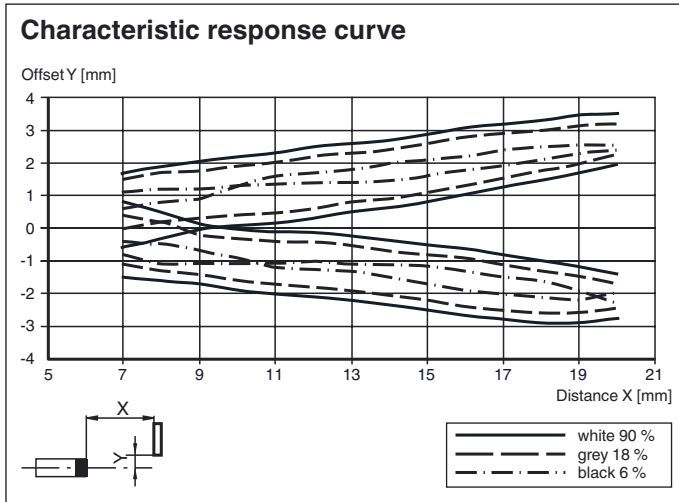
OMH-ML6-Z
Mounting bracket

V31-GM-2M-PVC
M8, 4-pin socket, PVC cable

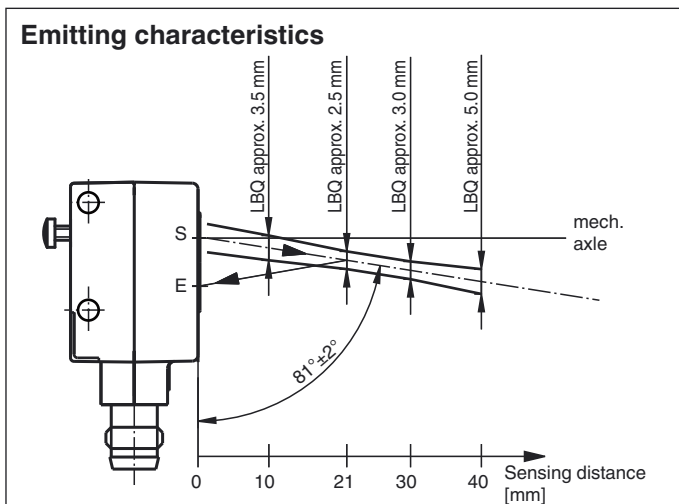
V31-WM-2M-PVC
M8, 4-pin socket, PVC cable

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

Curves/Diagrams



Curves/Diagrams



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