



### Model Number

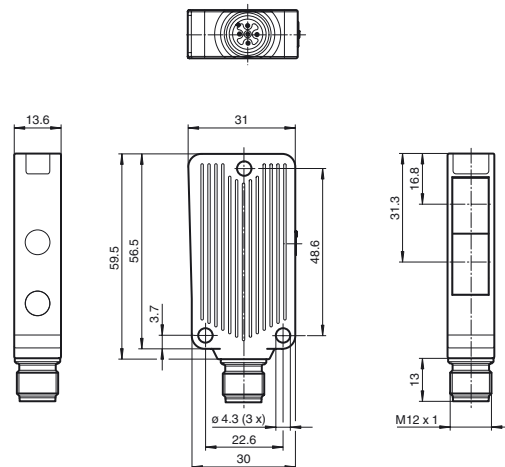
**MLV41-8-HV-60-IR/110/124/167**

Background suppression sensor  
with 5-pin, M12 x 1 connector

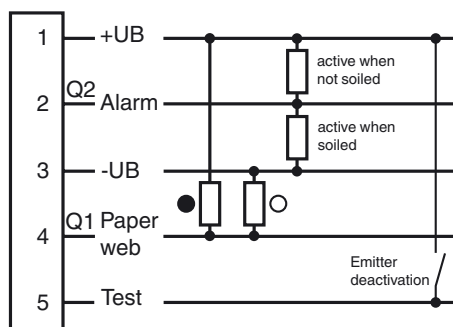
### Features

- Special device for paper web break control and printing machinery
- Active contamination detection
- Sensing range 20 mm ... 60 mm
- Light scanner with foreground suppression 0 mm ... 15 mm and background suppression beyond 70 mm
- Minimal black/white difference
- Sturdy aluminum housing
- Protection degree IP67

### Dimensions

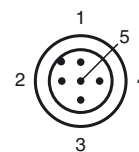


### Electrical connection



○ = Light on  
● = Dark on

### Pinout



### Indicators/operating means



|   |                   |        |
|---|-------------------|--------|
| 1 | Operating display | green  |
| 2 | Signal display    | yellow |
| 4 | Receiver          |        |
| 5 | Emitter           |        |

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

|                                   |                                    |
|-----------------------------------|------------------------------------|
| Foreground suppression            | 0 ... 15 mm                        |
| Detection range                   | on black (6 %): 20 ... 60 mm fixed |
| Detection range min.              | 20 ... 60 mm                       |
| Detection range max.              | 16 ... 70 mm                       |
| Background suppression            | starts from 70 mm                  |
| Light source                      | IREL                               |
| Light type                        | modulated infrared light , 880 nm  |
| Black/White difference (6 %/90 %) | < 1 % at 60 mm                     |
| Diameter of the light spot        | max. 6 mm at a distance of 70 mm   |
| Angle of divergence               | approx. 4 °                        |
| Ambient light limit               | 50000 Lux                          |

**Functional safety related parameters**

|                                |        |
|--------------------------------|--------|
| MTTF <sub>d</sub>              | 1260 a |
| Mission Time (T <sub>M</sub> ) | 20 a   |
| Diagnostic Coverage (DC)       | 0 %    |

**Indicators/operating means**

|                   |                                                                                                                 |
|-------------------|-----------------------------------------------------------------------------------------------------------------|
| Operating display | LED green, statically lit Power on, short-circuit or undervoltage : pulsing (1 Hz). Pollution : flashing (1 Hz) |
| Function display  | 2 LEDs yellow<br>ON: object inside the scanning range<br>OFF: object outside the scanning range                 |

**Electrical specifications**

|                        |                |                |
|------------------------|----------------|----------------|
| Operating voltage      | U <sub>B</sub> | 10 ... 30 V DC |
| Ripple                 |                | 10 %           |
| No-load supply current | I <sub>0</sub> | max. 25 mA     |

**Input**

|            |                                         |
|------------|-----------------------------------------|
| Test input | emitter deactivation at +U <sub>B</sub> |
|------------|-----------------------------------------|

**Output**

|                             |                                                                                  |
|-----------------------------|----------------------------------------------------------------------------------|
| Pre-fault indication output | 1 push-pull (4 in 1) output, short-circuit protected, reverse polarity protected |
| Signal output               | 1 push-pull (4 in 1) output, short-circuit protected, reverse polarity protected |
| Switching voltage           | max. 30 V DC                                                                     |
| Switching current           | max. 100 mA                                                                      |
| Voltage drop                | U <sub>d</sub> ≤ 2.5 V DC                                                        |
| Switching frequency         | f 250 Hz                                                                         |
| Response time               | 2 ms                                                                             |

**Ambient conditions**

|                     |                                |
|---------------------|--------------------------------|
| Ambient temperature | 0 ... 70 °C (32 ... 158 °F)    |
| Storage temperature | -40 ... 75 °C (-40 ... 167 °F) |

**Mechanical specifications**

|                   |                              |
|-------------------|------------------------------|
| Protection degree | IP67                         |
| Connection        | M12 x 1 connector, 5-pin     |
| Material          |                              |
| Housing           | aluminum , Delta-Seal coated |
| Optical face      | glass pane                   |
| Connector         | metal                        |
| Mass              | 50 g                         |

**Compliance with standards and directives**

|                           |                                         |
|---------------------------|-----------------------------------------|
| Directive conformity      |                                         |
| EMC Directive 2004/108/EC | EN 60947-5-2:2007                       |
| Standard conformity       |                                         |
| Product standard          | EN 60947-5-2:2007<br>IEC 60947-5-2:2007 |

**Approvals and certificates**

|                  |                                                                                                                             |
|------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Protection class | II, rated voltage ≤ 50 V AC with pollution degree 1-2 according to IEC 60664-1 , functional insulation acc. to DIN EN 50178 |
| UL approval      | cULus Listed 57M3 (Only in association with UL Class 2 power supply; Type 1 enclosure)                                      |
| CCC approval     | CCC approval / marking not required for products rated ≤36 V                                                                |

**Accessories****OMH-MLV41-8-HV-L**

Mounting bracket

**OMH-MLV41-8-HV-U**

Mounting bracket

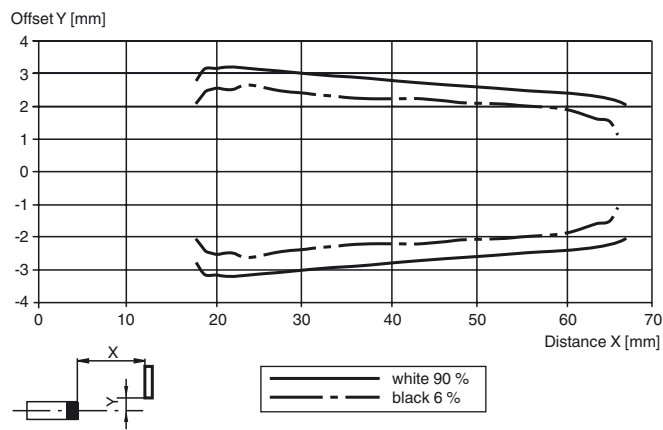
**OMH-40**

Mounting bracket

**OMH-09**Mounting bracket for Sensors series  
MLV41 for M12 rod mountingOther suitable accessories can be found at  
[www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

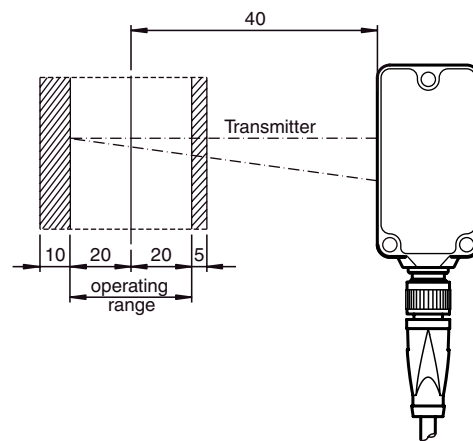
## Curves/Diagrams

## Characteristic response curve



## Curves/Diagrams

## Path of light beam



## Diffuse mode sensor test

The test monitors the operation of the sensor outputs after switching on the power supply.  
It does not monitor the "optical channels" of the light curtain.

