



### Model Number

**ML300-8-H-200-RT/25/95/127**

Background suppression sensor  
with 2 m fixed cable

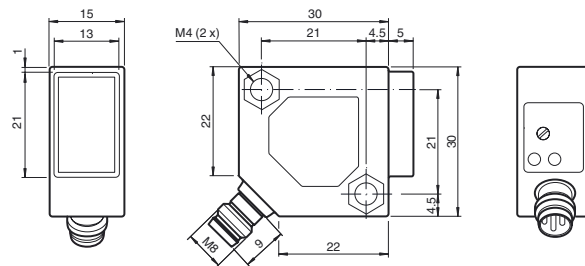
### Features

- Miniature design
- Easy to use
- Visible red light
- 45° connector

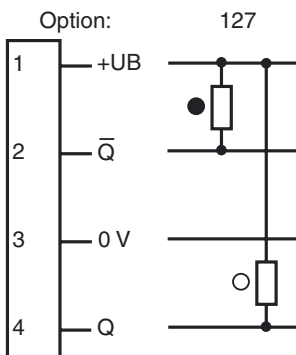
### Product information

The ML300 series has a robust miniature housing and all the standard functional principles. Of particular note are the sensors with analog output, which return a value proportional to the distance. The 45° plug/cable connection ensures flexible mounting. An LED indicates a weak signal, e.g. due to dirt.

### Dimensions



### Electrical connection

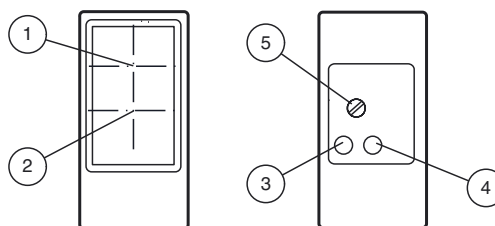


- = Light on  
● = Dark on

### Pinout



### Indicators/operating means



|   |                        |        |
|---|------------------------|--------|
| 1 | Receiver               |        |
| 2 | Emitter                |        |
| 3 | Switching state        | yellow |
| 4 | Stability control      | green  |
| 5 | Sensing range adjuster |        |

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

|                                   |                                              |
|-----------------------------------|----------------------------------------------|
| Detection range                   | 0 ... 200 mm , adjustable                    |
| Detection range min.              | 5 ... 25 mm                                  |
| Detection range max.              | 0 ... 200 mm                                 |
| Adjustment range                  | 25 ... 200 mm                                |
| Reference target                  | standard white, 100 mm x 100 mm              |
| Light source                      | LED                                          |
| Light type                        | modulated visible red light , 660 nm         |
| Black/White difference (6 %/90 %) | 15 % at 200 mm                               |
| Diameter of the light spot        | approx. 12 mm at a distance of 200 mm        |
| Angle of divergence               | approx. 3.5 °                                |
| Ambient light limit               |                                              |
| Continuous light                  | 10000 Lux                                    |
| Modulated light                   | 5000 Lux                                     |
| Accessories provided              | Mounting bracket OMH-ML300-01<br>Screwdriver |

**Indicators/operating means**

|                    |                                                                                          |
|--------------------|------------------------------------------------------------------------------------------|
| Function indicator | LED yellow: lights up when output is active<br>LED green: lights when object is detected |
| Control elements   | Detection range adjuster                                                                 |

**Electrical specifications**

|                        |       |                |
|------------------------|-------|----------------|
| Operating voltage      | $U_B$ | 10 ... 30 V DC |
| Ripple                 |       | max. 20 %      |
| No-load supply current | $I_0$ | max. 25 mA     |

**Output**

|                     |                |                                                                                                |
|---------------------|----------------|------------------------------------------------------------------------------------------------|
| Switching type      |                | light on / dark on                                                                             |
| Signal output       |                | 2 NPN outputs, complementary, short-circuit proof, reverse-polarity protection, open collector |
| Switching voltage   |                | max. 30 V DC                                                                                   |
| Switching current   |                | max. 0.1 A                                                                                     |
| Voltage drop        | U <sub>d</sub> | ≤ 2 V DC                                                                                       |
| Switching frequency | f              | 500 Hz                                                                                         |
| Response time       |                | 1 ms                                                                                           |

**Ambient conditions**

|                     |                                |
|---------------------|--------------------------------|
| Ambient temperature | -25 ... 55 °C (-13 ... 131 °F) |
|---------------------|--------------------------------|

**Mechanical specifications**

|                      |                         |
|----------------------|-------------------------|
| Degree of protection | IP67                    |
| Connection           | M8 x 1 connector, 4-pin |
| Material             |                         |
| Housing              | PBT                     |
| Optical face         | glass pane              |
| Connector            | metal                   |
| Mass                 | 18 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           |
| Shock and impact resistance | EN 60947-5-7 30 g, 11 ms, all axes                |
| Vibration resistance        | EN 60947-5-7, 10–55 Hz/1.5 mm amplitude, all axes |

**Approvals and certificates**

|              |                                                                    |
|--------------|--------------------------------------------------------------------|
| CCC approval | CCC approval / marking not required for products rated $\leq 36$ V |
|--------------|--------------------------------------------------------------------|

**Accessories****OMH-ML300-01**

Bracket for mounting ML300 series sensors

**OMH-ML300-02**

Bracket for mounting ML300 series sensors on a 35 mm DIN rail

**V31-GM-2M-PVC**

Female cordset, M8, 4-pin, PVC cable

**V31-WM-2M-PVC**

Female cordset, M8, 4-pin, PVC cable

**V31-WM-2M-PUR**

Female cordset, M8, 4-pin, PUR cable

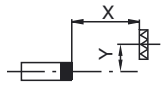
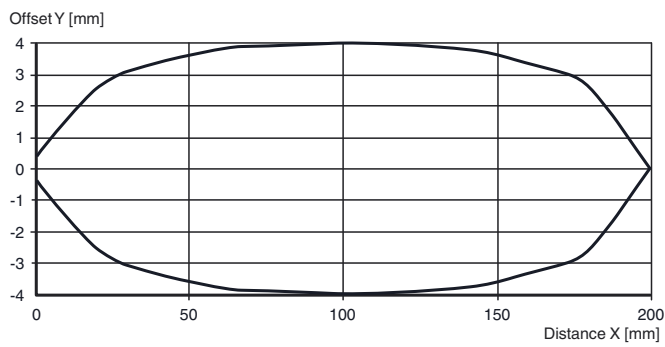
**V31-GM-2M-PUR**

Female cordset, M8, 4-pin, PUR cable

Other suitable accessories can be found at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

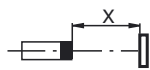
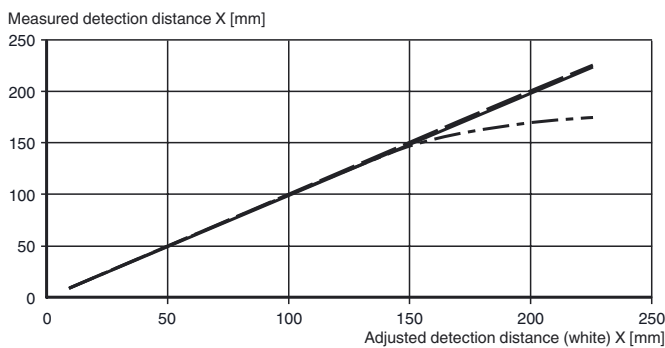
## Curves/Diagrams

## Characteristic response curve



— white 90 %

## Difference in detection distance



— white 90 %  
 - - - grey 18 %  
 . . . black 6 %