



## Diffuse mode sensor ML300-8-1200-IR/25/95/120



- Miniature design
- Easy to use
- Infrared light
- High operating range
- 45° connector

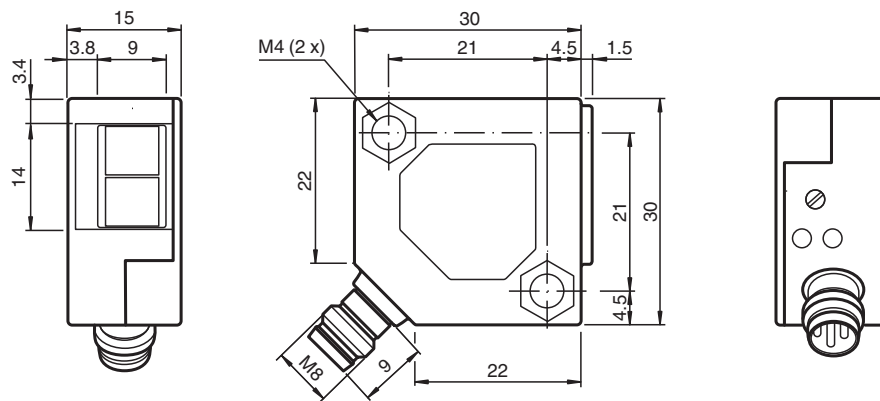
Diffuse mode sensor



### Function

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.

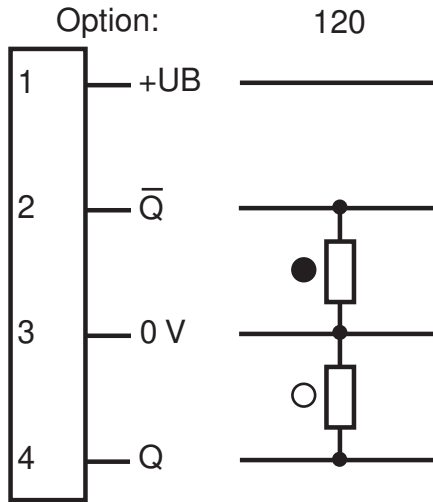
### Dimensions



## Technical Data

| General specifications                   |       |   |
|--|-------|---|
| Detection range                          |       | 0 ... 1200 mm , adjustable  |
| Adjustment range                         |       | 250 ... 1200 mm   |
| Reference target                         |       | standard white 200 mm x 200 mm  |
| Light source                             |       | IREd  |
| Light type                               |       | modulated infrared light , 880 nm   |
| Diameter of the light spot               |       | approx. 160 mm at a distance of 1200 mm   |
| Opening angle                            |       | approx. 8 °   |
| Ambient light limit                      |       |   |
| Continuous light                         |       | 10000 Lux   |
| Modulated light                          |       | 5000 Lux  |
| Accessories provided                     |       | Mounting bracket OMH-ML300-01   |
| Indicators/operating means               |       |   |
| Function indicator                       |       | LED yellow: lights up when output is active<br>LED green: Sufficient stability control            |
| Control elements                         |       | Sensing range adjuster  |
| Electrical specifications                |       |   |
| Operating voltage                        | $U_B$ | 10 ... 30 V DC  |
| Ripple                                   |       | max. 20 %   |
| No-load supply current                   | $I_0$ | max. 20 mA  |
| Output                                   |       |   |
| Switching type                           |       | light on / dark on  |
| Signal output                            |       | 2 PNP outputs, complementary, short-circuit protected, reverse polarity protected, open collector |
| Switching voltage                        |       | max. 30 V DC  |
| Switching current                        |       | max. 0.1 A  |
| Voltage drop                             | $U_d$ | $\leq 2$ V DC   |
| Switching frequency                      | $f$   | 1000 Hz   |
| Response time                            |       | 0.5 ms  |
| Conformity                               |       |   |
| Product standard                         |       | EN 60947-5-2  |
| Compliance with standards and directives |       |   |
| Standard conformity                      |       |   |
| 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                                |
| Ambient conditions                       |       |   |
| Ambient temperature                      |       | -25 ... 55 °C (-13 ... 131 °F)  |
| Mechanical specifications                |       |   |
| Housing width                            |       | 30 mm   |
| Housing height                           |       | 30 mm   |
| Housing depth                            |       | 15 mm   |
| Degree of protection                     |       | IP67  |
| Connection                               |       | M8 x 1 connector, 4-pin   |
| Material                                 |       |   |
| Housing                                  |       | PBT   |
| Optical face                             |       | glass pane  |
| Connector                                |       | metal   |
| Mass                                     |       | 18 g  |

**Connection Assignment**



○ = Light on  
● = Dark on

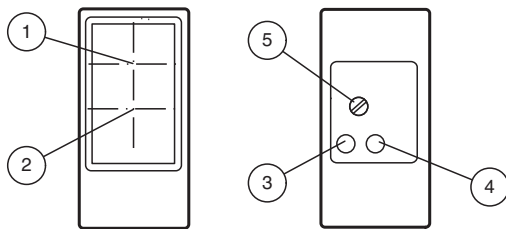
**Connection Assignment**



Wire colors in accordance with EN 60947-5-2

- 1 | BN (brown)
- 2 | WH (white)
- 3 | BU (blue)
- 4 | BK (black)

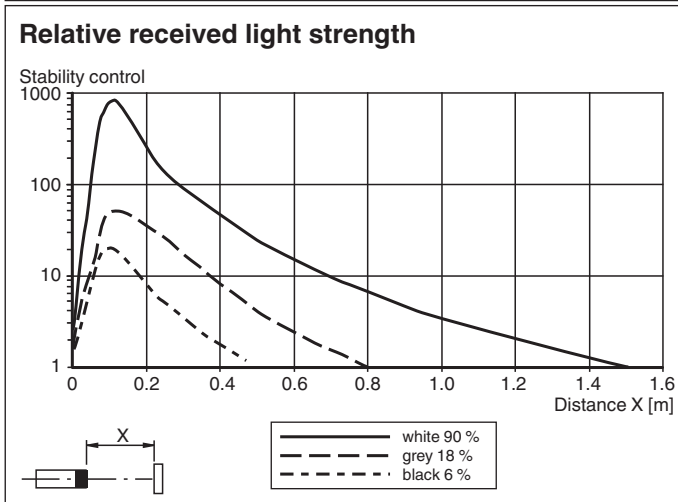
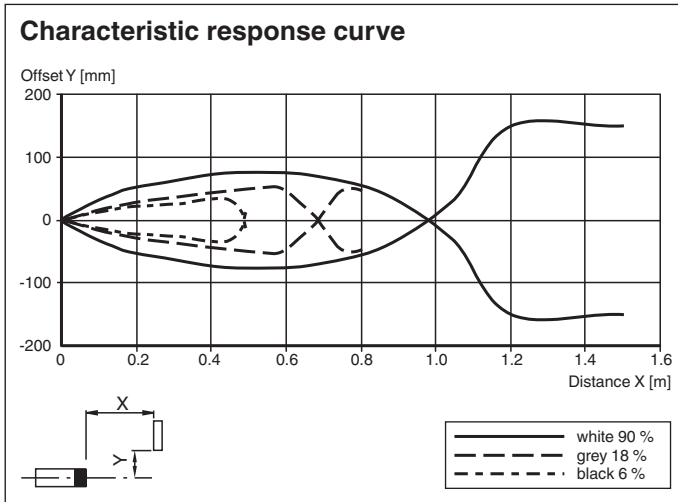
**Assembly**








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

Release date: 2023-02-27 Date of issue: 2023-02-27 Filename: 238221\_eng.pdf

**Characteristic Curve**



**Accessories**

|   |                      |  |
|---|----------------------|--|
|  | <b>OMH-ML300-01</b>  | Bracket for mounting ML300 series sensors                              |
|  | <b>V31-GM-2M-PVC</b> | Female cordset single-ended M8 straight A-coded, 4-pin, PVC cable grey |
|  | <b>V31-WM-2M-PVC</b> | Female cordset single-ended M8 angled A-coded, 4-pin, PVC cable grey   |
|  | <b>V31-WM-2M-PUR</b> | Female cordset single-ended M8 angled A-coded, 4-pin, PUR cable grey   |
|  | <b>V31-GM-2M-PUR</b> | Female cordset single-ended M8 straight A-coded, 4-pin, PUR cable grey |

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