



Model Number

ML300-P-12m-IR/76b/82d/95/103

Thru-beam sensor
with 4-pin, M8 x 1 connector

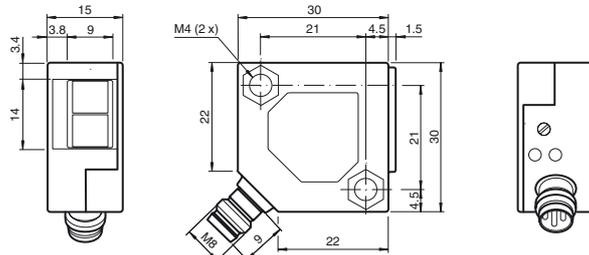
Features

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

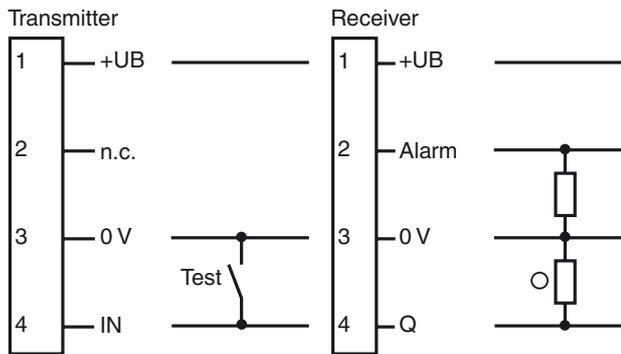
Product information

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

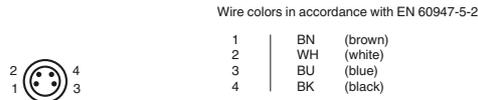


Electrical connection

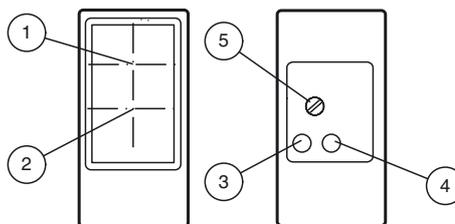


- = Light on
- = Dark on

Pinout



Indicators/operating means



| | | | |
|---|------------------------|--------|---------------|
| 1 | Receiver | | |
| 2 | Emitter | | |
| 3 | Switching state | yellow | only Receiver |
| 4 | Stability control | green | only Receiver |
| 5 | Sensitivity adjustment | | only Receiver |

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Technical data**System components**

| | |
|----------|------------------------------|
| Emitter | ML300-T-12m-IR/76b/95 |
| Receiver | ML300-R-12m-IR/25/82d/95/103 |

General specifications

| | |
|----------------------------|---------------------------------|
| Effective detection range | 0 ... 12 m |
| Threshold detection range | 14 m |
| Light source | IREd |
| Light type | modulated infrared light 880 nm |
| Diameter of the light spot | approx. 4 m at 12 m |
| Angle of divergence | approx. 7 ° |
| Ambient light limit | |
| Continuous light | 10000 Lux |
| Modulated light | 5000 Lux |

Indicators/operating means

| | |
|--------------------|--|
| Function indicator | LED yellow: lights up when output is active LED green: Sufficient stability control |
| Control elements | sensitivity adjustment |

Electrical specifications

| | | |
|------------------------|-------|---------------------------------------|
| Operating voltage | U_B | 10 ... 30 V DC |
| Ripple | | max. 20 % |
| No-load supply current | I_0 | Emitter: ≤ 15 mA Receiver: ≤ 10 mA |

Input

| | |
|------------|--|
| Test input | emitter: 1 test input, not activated: < 4 V, activated: > 8 V or open |
|------------|--|

Output

| | | |
|-----------------------------|--|----------|
| Pre-fault indication output | 1 PNP, inactive when falling short of the stability control, open collector, short-circuit protected, reverse polarity protected, 100 mA max | |
| Switching type | light on | |
| Signal output | 1 PNP output, short-circuit protected, reverse polarity protected, open collector | |
| Switching voltage | max. 30 V DC | |
| Switching current | max. 0.1 A | |
| Voltage drop | U_d | ≤ 2 V DC |
| Switching frequency | f | 1000 Hz |
| Response time | | 0.5 ms |

Conformity

| | |
|------------------|--------------|
| Product standard | EN 60947-5-2 |
|------------------|--------------|

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 | 35 g (emitter and receiver) |

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 ≤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 single-ended, M8, 4-pin, PVC cable

V31-WM-2M-PVC

Female cordset single-ended, M8, 4-pin, PVC cable

V31-GM-5M-PUR

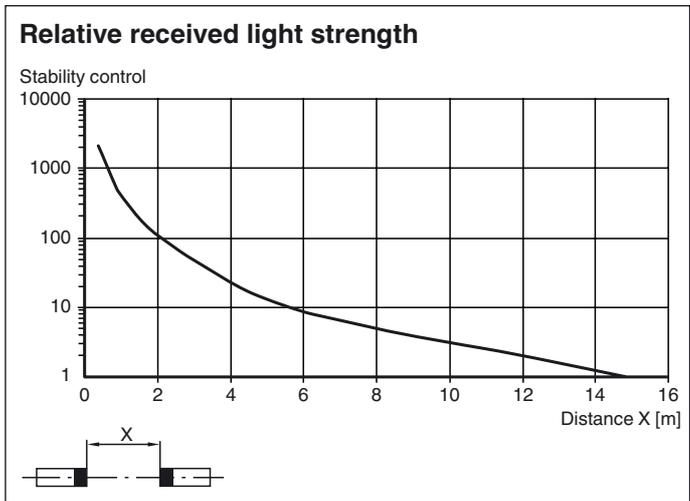
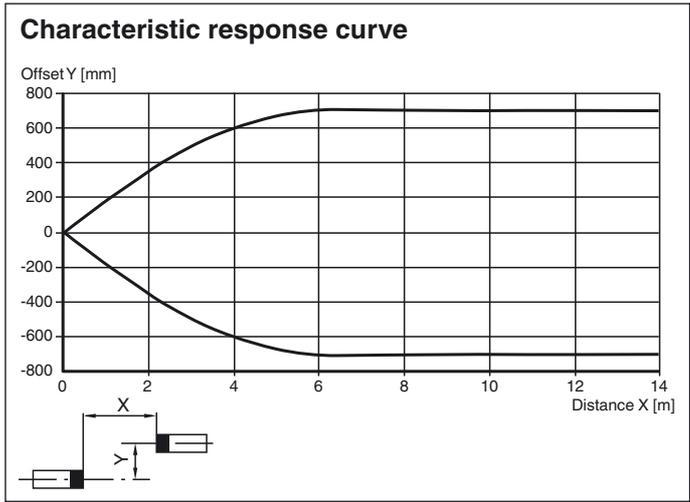
Female cordset single-ended, M8, 4-pin, PUR cable

V31-WM-5M-PUR

Female cordset single-ended, M8, 4-pin, PUR cable

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

Curves/Diagrams



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Refer to "General Notes Relating to Pepperl+Fuchs Product Information".