

Thru-beam sensor

ML300-P-6m-RT/25/98/102



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

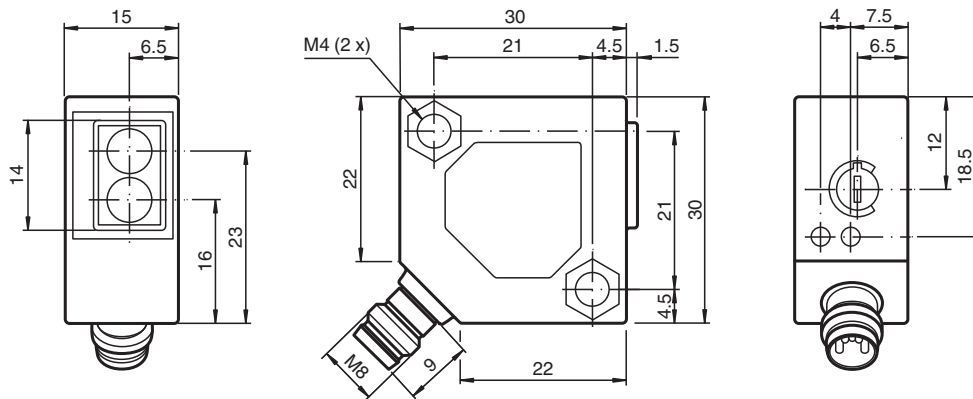
Thru-beam sensor for basic applications, miniature design, 6 m detection range, red light, light on, NPN output, M8 plug



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



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

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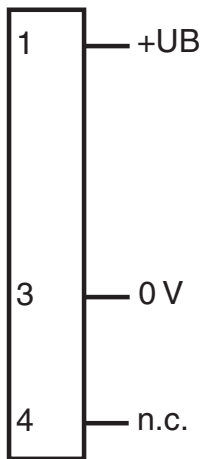
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Technical Data

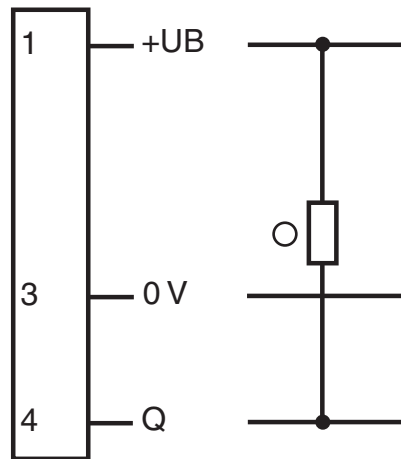
| | | |
|---|-------|--|
| System components | | |
| Emitter | | ML300-T-6m-RT/98 |
| Receiver | | ML300-R-6m-RT/25/98/102 |
| General specifications | | |
| Effective detection range | | 0 ... 6 m |
| Threshold detection range | | 8 m |
| Light source | | LED |
| Light type | | modulated visible red light 660 nm |
| Diameter of the light spot | | approx. 500 mm at 6 m |
| Opening angle | | approx. 5 ° |
| 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. 10 % |
| No-load supply current | I_0 | Emitter: ≤ 20 mA Receiver: ≤ 20 mA |
| Output | | |
| Switching type | | light-on |
| Signal output | | 1 NPN 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 |
| 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 |
| 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 | | IP65 |
| Connection | | M8 x 1 connector, 3-pin |
| Material | | |
| Housing | | ABS |
| Optical face | | plastic |
| Connector | | metal |
| Mass | | 35 g (emitter and receiver) |

Connection Assignment

Transmitter



Receiver



○ = Light on
● = Dark on

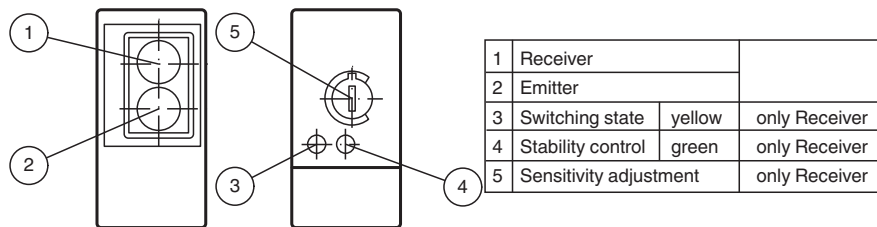
Connection Assignment



Wire colors in accordance with EN 60947-5-2

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

Assembly

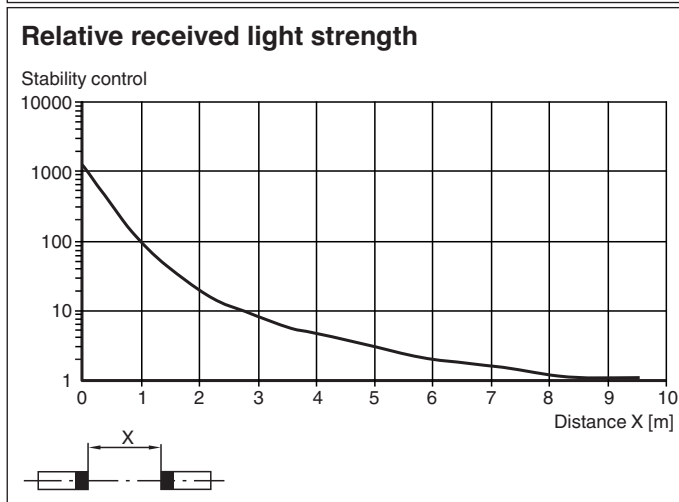
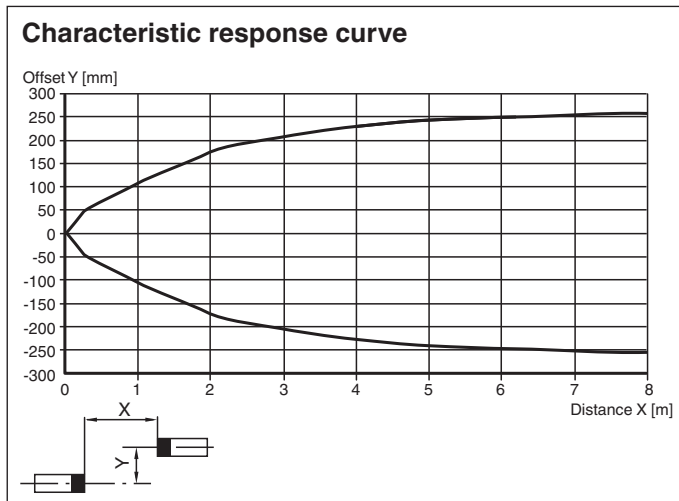


| | | | |
|---|------------------------|--------|---------------|
| 1 | Receiver | | |
| 2 | Emitter | | |
| 3 | Switching state | yellow | only Receiver |
| 4 | Stability control | green | only Receiver |
| 5 | Sensitivity adjustment | | only Receiver |





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Characteristic Curve



Accessories

| | | |
|---|---------------------|--|
|  | OMH-ML300-01 | Bracket for mounting ML300 series sensors |
|  | V3-GM-2M-PVC | Female cordset single-ended M8 straight A-coded, 3-pin, PVC cable grey |
|  | V3-WM-2M-PVC | Female cordset single-ended M8 angled A-coded, 3-pin, PVC cable grey |
|  | V3-WM-2M-PUR | Female cordset single-ended M8 angled A-coded, 3-pin, PUR cable grey |

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