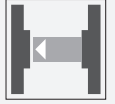




## Thru-beam sensor ML300-P-6m-RT/59/103/115



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

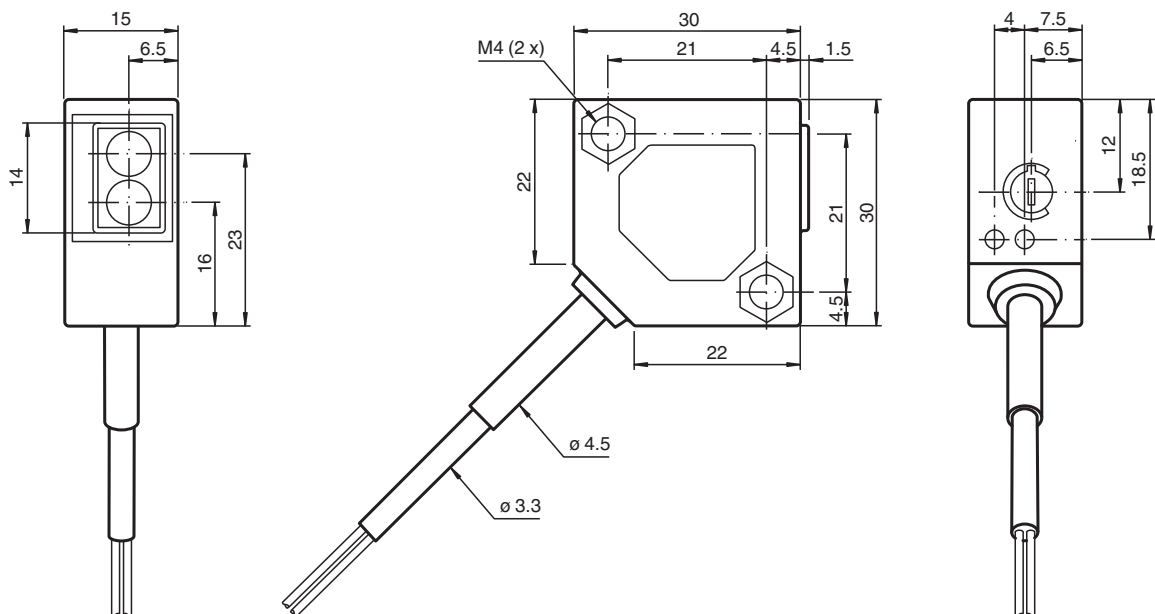
### Thru-beam sensor



### 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

### System components

|          |                          |
|----------|--------------------------|
| Emitter  | ML300-T-6m-RT/115        |
| Receiver | ML300-R-6m-RT/59/103/115 |

### 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<br>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: $\leq 20$ mA<br>Receiver: $\leq 15$ mA |

### Output

|                     |                |                                                                                   |
|---------------------|----------------|-----------------------------------------------------------------------------------|
| Switching type      | dark-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 <sub>d</sub> | ≤ 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

|              |                                                                    |
|--------------|--------------------------------------------------------------------|
| UL approval  | no                                                                 |
| CCC approval | CCC approval / marking not required for products rated $\leq 36$ V |

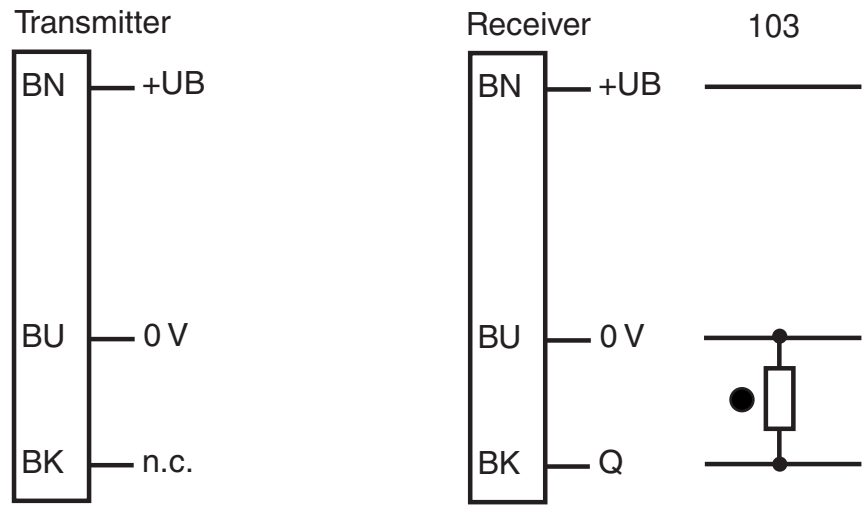
### Ambient conditions

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

### Mechanical specifications

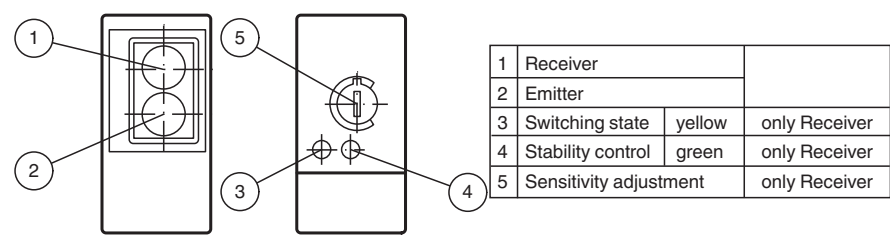
|                      |                              |
|----------------------|------------------------------|
| Housing width        | 30 mm                        |
| Housing height       | 30 mm                        |
| Housing depth        | 15 mm                        |
| Degree of protection | IP65                         |
| Connection           | 2 m fixed cable              |
| Material             |                              |
| Housing              | ABS                          |
| Optical face         | plastic                      |
| Cable                | PVC                          |
| Mass                 | 150 g (emitter and receiver) |

Connection Assignment

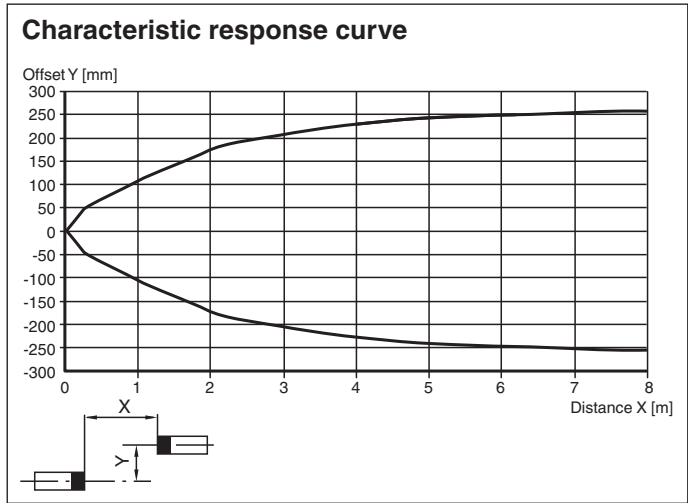


○ = Light on  
● = Dark on

Assembly

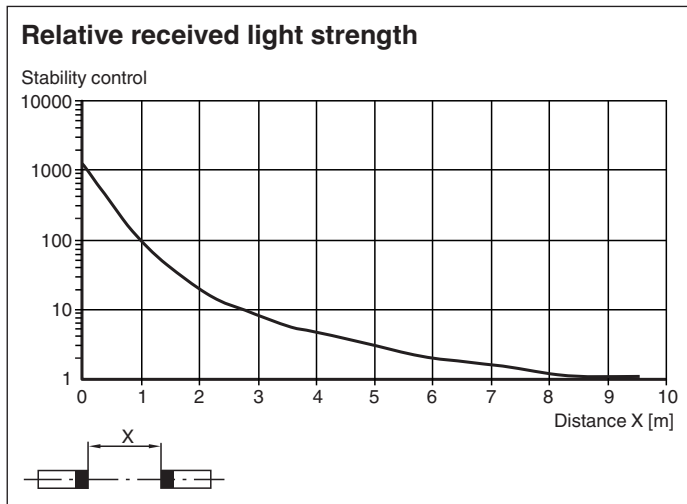


Characteristic Curve



Release date: 2023-04-04 Date of issue: 2023-04-04 Filename: 238203\_eng.pdf

Characteristic Curve



Accessories

|                                                                                   |                     |                                           |
|-----------------------------------------------------------------------------------|---------------------|-------------------------------------------|
|  | <b>OMH-ML300-01</b> | Bracket for mounting ML300 series sensors |
|-----------------------------------------------------------------------------------|---------------------|-------------------------------------------|