Diffuse mode sensor

**Model Number**
ML300-8-600-RT/25/103/115
Diffuse mode sensor with 2 m fixed cable

**Features**
- Miniature design
- Easy to use
- Visible red light
- 45° cable 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.

**Electrical connection**

<table>
<thead>
<tr>
<th>Option</th>
<th>103</th>
</tr>
</thead>
<tbody>
<tr>
<td>BN</td>
<td>+UB</td>
</tr>
<tr>
<td>BU</td>
<td>0 V</td>
</tr>
<tr>
<td>BK</td>
<td>Q</td>
</tr>
</tbody>
</table>

- O = Light on
- - = Dark on

**Indicators/operating means**

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Receiver</td>
<td>Emitter</td>
<td>Switching state: yellow</td>
<td>Stability control: green</td>
<td>Sensing range adjuster</td>
</tr>
</tbody>
</table>

Refer to “General Notes Relating to Pepperl+Fuchs Product Information”.

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Diffuse mode sensor

ML300-8-600-RT/25/103/115

Technical data

General specifications
- Detection range: 0 ... 600 mm, adjustable
- Adjustment range: 150 ... 600 mm
- Reference target: standard white 200 mm x 200 mm
- Light source: LED
- Light type: modulated visible red light, 660 nm
- Diameter of the light spot: approx. 130 mm at a distance of 600 mm
- Angle of divergence: approx. 13°
- Ambient light limit: 10000 Lux (continuous light), 5000 Lux (modulated light)

Indicators/operating means
- Function indicator LED yellow: lights up when output is active
- LED green: sufficient stability control

Control elements
- Detection range adjuster

Electrical specifications
- Operating voltage: $U_B = 10 \ldots 30 \text{ V DC}$
- Ripple: max. 10 %
- No-load supply current: $I_0 = \text{max. 35 mA}$

Output
- 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: $U_d \leq 2 \text{ V DC}$
- Switching frequency: $f = 1000 \text{ Hz}$
- Response time: 0.5 ms

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

Mechanical specifications
- Degree of protection: IP65
- Connection: 2 m fixed cable
- Material: Housing ABS, Optical face plastic, Cable PVC
- Mass: 75 g

Compliance with standards and directives
- 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

Curves/Diagrams

Characteristic response curve

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

Other suitable accessories can be found at www.pepperl-fuchs.com
Diffuse mode sensor
ML300-8-600-RT/25/103/115

Relative received light strength

Stability control

Distance X [m]

white 90 %
grey 18 %
black 6 %

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