### Model Number

**LA31/LK31/25/31/115**

Thru-beam sensor with 2 m fixed cable

### Features

- Cost-optimized series for standard tasks
- Large construction with small housing
- Highly visible LED
- Version for universal voltages
- Relay output
- Wide range of mounting options

### Dimensions

#### LED yellow

Size: 35

#### LED green

Size: 35

#### Color coding for operating principle

<table>
<thead>
<tr>
<th>Operating principle</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retroreflective sensor with polarisation filter</td>
<td>yellow</td>
</tr>
<tr>
<td>Diffusive mode sensor</td>
<td>white</td>
</tr>
<tr>
<td>Thru-beam sensor</td>
<td>grey</td>
</tr>
<tr>
<td>Diffusive mode sensor with background suppression</td>
<td>red</td>
</tr>
</tbody>
</table>

### Electrical connection

#### Emitter

- BN: +/+ UB
- BU: -/0 V

#### Receiver

- BN: +/+ UB
- BU: -/0 V
- GY: NC
- BK: NO
- WH: C

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

#### System components
- Emitter: LA31/115
- Receiver: LK31/25/31/115

#### General specifications
- Effective detection range: 0 ... 30 m
- Threshold detection range: 43 m
- Light source: LED
- Light type: modulated visible red light, 630 nm
- Alignment aid: LED yellow:
  1. LED illuminates: Sufficient light signal received, emitter and receiver alignment is correct
  2. LED flashes: Reaching switching point
  3. LED off: Light beam is interrupted or the alignment is out
- Diameter of the light spot: approx. 800 mm at a distance of 30 m
- Angle of divergence:
  - Emitter: 0.5 °
  - Receiver: 1.5 °
- Ambient light limit: 50000 Lux; according EN 60947-5-2

#### Functional safety related parameters
- MTTFd: 620 a
- Mission Time (Tmission): 20 a
- Diagnostic Coverage (DC): 0 %

#### Indicators/operating means
- Operation indicator: LED green: power on
- Function indicator: LED yellow:
  1. LED lit constantly: signal > 2 x switching point (function reserve)
  2. LED flashes: signal between 1 x switching point and 2 x switching point
  3. LED off: signal < switching point

#### Electrical specifications
- Operating voltage:
  - Emitter: 24 ... 240 V AC
  - Receiver: 12 ... 240 V DC
- No-load supply current:
  - Emitter: ≤ 20 mA
  - Receiver: ≤ 20 mA
- Power consumption:
  - Emitter: ≤ 1 VA
  - Receiver: ≤ 1 VA

#### Output
- Switching type: light on
- Signal output: Relay, 1 alternator
- Switching voltage: max. 250 V AC/DC
- Switching current: max. 3 A
- Switching power:
  - DC: max. 150 W AC; max. 750 VA
- Switching frequency: f ≤ 20 Hz
- Response time: ≤ 25 ms

#### Ambient conditions
- Ambient temperature: -25 ... 55 °C (-13 ... 131 °F)
- Storage temperature: -40 ... 70 °C (-40 ... 158 °F)

#### Mechanical specifications
- Degree of protection: IP67
- Connection:
  - Emitter: 2 m fixed cable, 2-wire
  - Receiver: 2 m fixed cable, 5-wire
- Material:
  - Housing: Polycarbonate
  - Optical face: PMMA
- Mass:
  - Emitter: 116 g
  - Receiver: 131 g

#### Compliance with standards and directives
- Standard conformity:
  - IEC 60947-5-2:2007
- Standards: EN 62103

#### Approvals and certificates
- EAC conformity:
  - TR CU 020/2011
  - TR CU 004/2011
- Protection class I, rated voltage ≤ 250 V AC with pollution degree 1-2 according to IEC 60664-1 Output circuit basis insulation of input circuit according to EN 50178, rated insulation voltage 240 V AC
- CCC approval: Certified by China Compulsory Certification (CCC)

### Accessories
- OMH-RL31-01: Mounting bracket
- OMH-RL31-02: Mounting bracket narrow
- OMH-RL31-03: Mounting bracket narrow
- OMH-RL31-04: Mounting aid for round steel ø 12 mm or sheet 1.5 mm ... 3 mm
- OMH-RL31-06: Stainless steel mounting bracket with adjustable half clamp on the side
- OMH-RL31-05: Mounting bracket with M10 threaded rod

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

Characteristic response curve

Relative received light strength