



Model Number

LD28/LV28-F2-3057/35/47/115b

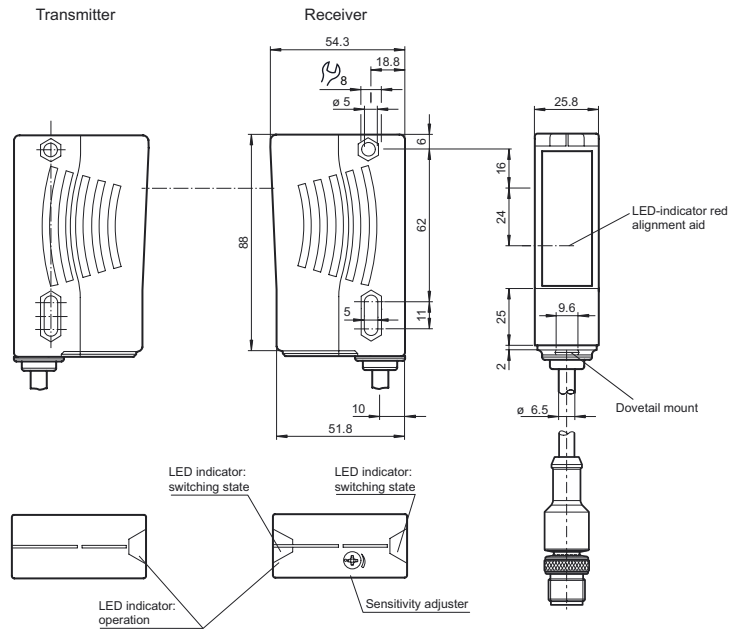
Thru-beam sensor

fixed cable 230 mm with M12 x 1 male connector, 4-pin

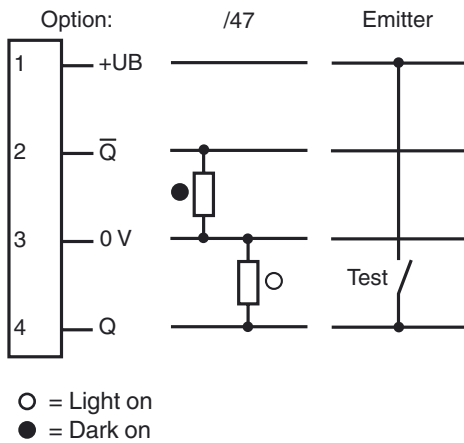
Features

- Ultra bright LEDs for power on, pre fault indication and switching state
- Highly visible LED as alignment aid in receiver optics
- Delivery status: Light on switching
- Emitter deactivation
- Various transmitter frequencies
- Not sensitive to ambient light, even with switched energy saving lamps
- Protection class II

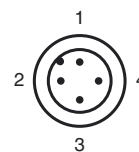
Dimensions



Electrical connection



Pinout



Release date: 2013-03-04 17:06 Date of issue: 2013-11-18 207267_eng.xml

Technical data**System components**

| | |
|----------|--------------------------|
| Emitter | LD28-F2-3057/35/76a/115b |
| Receiver | LV28-F2-3057/35/47/115b |

General specifications

| | |
|----------------------------|---|
| Effective detection range | 0 ... 65 m |
| Threshold detection range | 90 m |
| Light source | LED |
| Light type | modulated visible red light , 660 nm |
| Alignment aid | LED red (in receiver lens) illuminated constantly: beam is interrupted, flashes: reaching switching point, off: sufficient stability control |
| Transmitter frequency | F2 = 30 kHz |
| Diameter of the light spot | approx. 1.3 m at 65 m |
| Angle of divergence | Emitter 1.2°, Receiver 5° |
| Ambient light limit | 50000 Lux |

Functional safety related parameters

| | |
|--------------------------------|-------|
| MTTF _d | 620 a |
| Mission Time (T _M) | 20 a |
| Diagnostic Coverage (DC) | 90 % |

Indicators/operating means

| | |
|---------------------|---|
| Operation indicator | LED green, flashes in case of short-circuit |
| 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 |
| Control elements | sensitivity adjustment |

Electrical specifications

| | | |
|------------------------|----------------|---------------------------------------|
| Operating voltage | U _B | 10 ... 30 V DC |
| Ripple | | 10 % |
| No-load supply current | I ₀ | Emitter: ≤ 50 mA Receiver: ≤ 35 mA |

Input

| | |
|------------|--|
| Test input | emitter deactivation at +U _B (I _{max} < 3 mA at 30 V DC) |
|------------|--|

Output

| | | |
|---------------------|---|-------|
| Switching type | light/dark on , preset to light on | |
| Signal output | 2 PNP, complementary, short-circuit protected, reverse polarity protected , open collectors | |
| Switching voltage | max. 30 V DC | |
| Switching current | max. 200 mA | |
| Switching frequency | f | 25 Hz |
| Response time | | 20 ms |

Ambient conditions

| | |
|---------------------|--------------------------------|
| Ambient temperature | -40 ... 60 °C (-40 ... 140 °F) |
| Storage temperature | -40 ... 75 °C (-40 ... 167 °F) |

Mechanical specifications

| | |
|-------------------|---|
| Protection degree | IP67 |
| Connection | fixed cable 230 mm with M12 x 1 male connector, 4-pin |
| Material | |
| Housing | Plastic ABS |
| Optical face | Plastic pane |
| Mass | 500 g (emitter and receiver) |

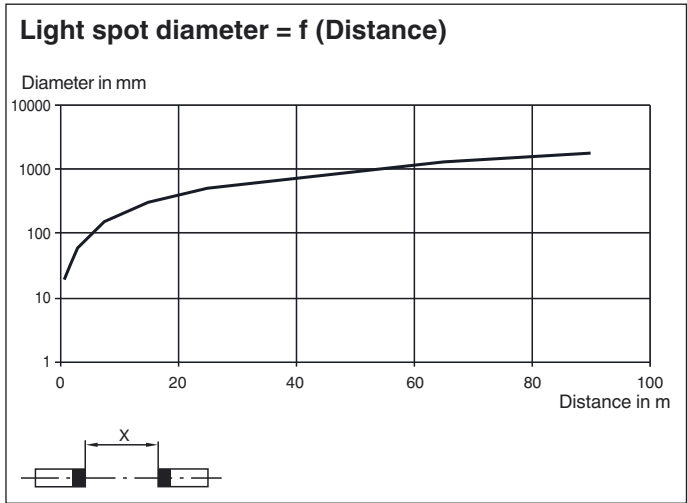
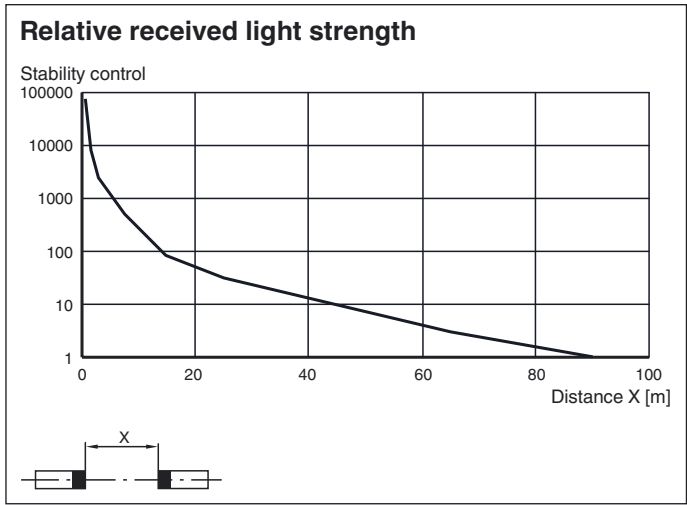
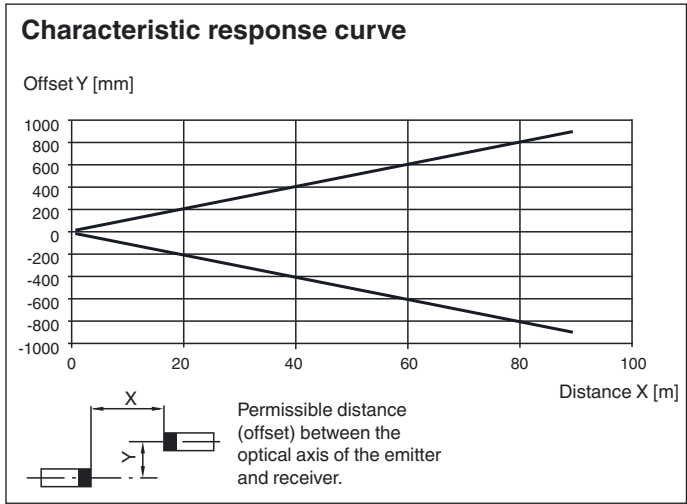
Compliance with standards and directives

| | |
|---------------------|---|
| Standard conformity | |
| Product standard | EN 60947-5-2:2007 IEC 60947-5-2:2007 |

Approvals and certificates

| | |
|------------------|---|
| Protection class | II, rated voltage ≤ 250 V AC with pollution degree 1-2 according to IEC 60664-1 |
| UL approval | cULus |
| CCC approval | CCC approval / marking not required for products rated ≤ 36 V |

Curves/Diagrams



Release date: 2013-03-04 17:06 Date of issue: 2013-11-18 207267_eng.xml

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