



Model Number

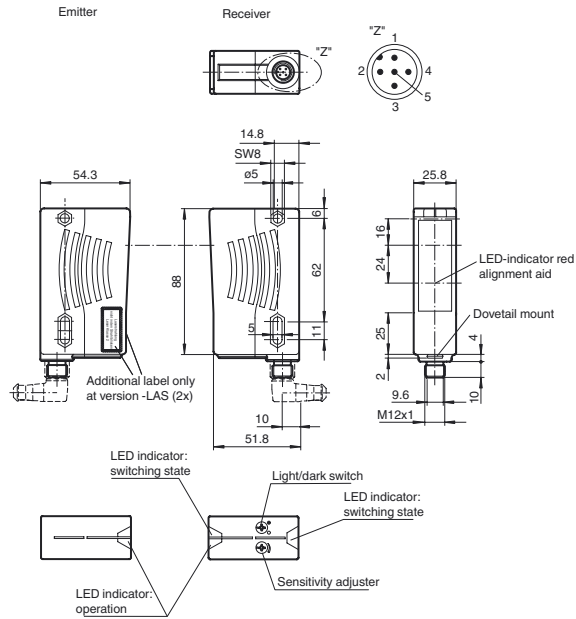
LD28/LV28-F2/49/76a/82b/105

Thru-beam sensor
with 5-pin, M12 x 1 plastic connector

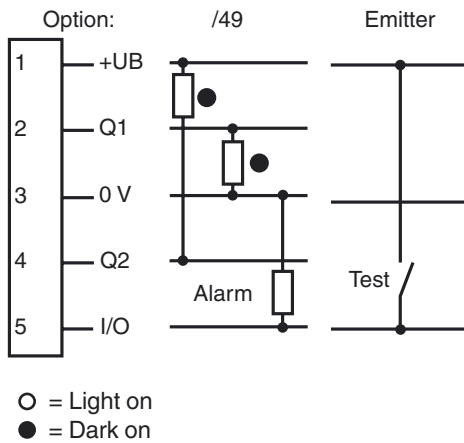
Features

- Ultra bright LEDs for power on, pre fault indication and switching state
- Highly visible LED as alignment aid in receiver optics
- Emitter deactivation
- Various transmitter frequencies
- Not sensitive to ambient light, even with switched energy saving lamps
- Waterproof, degree of protection IP67
- Protection class II

Dimensions



Electrical connection



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

Pepperl+Fuchs Group
www.pepperl-fuchs.com

USA: +1 330 486 0001
fa-info@us.pepperl-fuchs.com

Germany: +49 621 776 4411
fa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091
fa-info@sg.pepperl-fuchs.com

Technical data**System components**

| | |
|----------|--------------------|
| Emitter | LD28-F2/76a/105 |
| Receiver | LV28-F2/49/82b/105 |

General specifications

| | |
|----------------------------|---|
| Effective detection range | 0 ... 30 m |
| Threshold detection range | 40 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. 0.6 m at 30 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 |
| 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 (Adjustment to < 25% of the effective operating range) , Light/Dark switch |

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

| | | |
|-----------------------------|---|---------|
| Pre-fault indication output | 1 PNP transistor, short-circuit protected, protected from reverse polarity, open collector, U _{max} = 30 V DC, I _{max} = 0.2 A The output becomes inactive if the signal level has fallen below the function reserve for approx. 10 s (yellow and red LEDs flash). If the light beam is interrupted four times during this period, the output immediately becomes inactive. | |
| Switching type | light/dark on, switchable | |
| Signal output | 1 NPN, 1 PNP synchronized-switching, short-circuit protected, reverse polarity protected , open collectors | |
| Switching voltage | max. 30 V DC | |
| Switching current | max. 200 mA | |
| Switching frequency | f | 1000 Hz |
| Response time | | 0.5 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 | 5-pin, M12 x 1 plastic connector |
| Material | |
| Housing | Plastic ABS |
| Optical face | Plastic pane |
| Mass | 140 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 |

Accessories**OMH-05**

Mounting aid for round steel ø 12 mm or sheet 1.5 mm ... 3 mm

OMH-07

Mounting aid for round steel ø 12 mm or sheet 1.5 mm ... 3 mm

OMH-21

Mounting bracket

OMH-22

Mounting bracket

OMH-MLV11-K

dove tail mounting clamp

OMH-RLK29-HW

Mounting bracket for rear wall mounting

OMH-RL28-C

Weld slag cover model

V15-G-2M-PUR

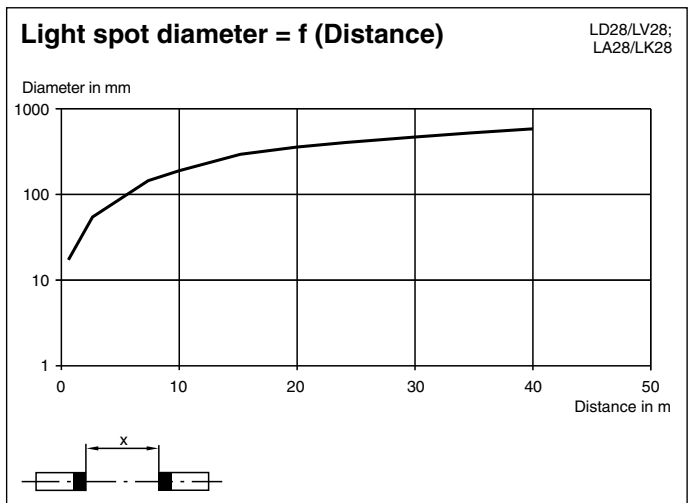
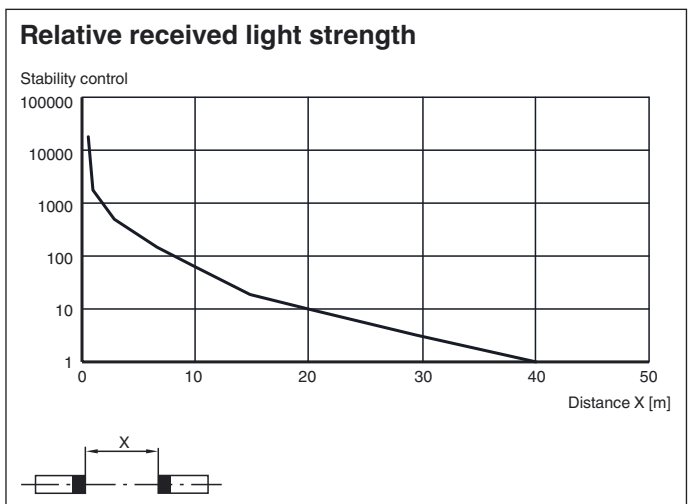
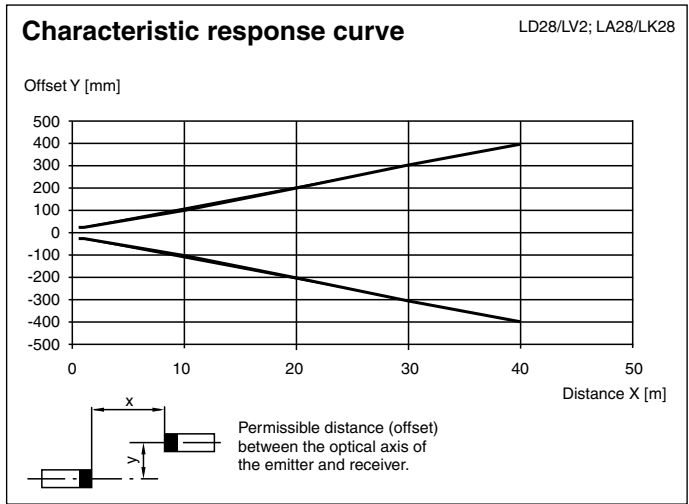
Female cordset, M12, 5-pin, PUR cable

V15-W-2M-PUR

Female cordset, M12, 5-pin, PUR cable

Additional accessories can be found in the Internet.

Curves/Diagrams



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