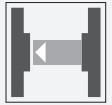




Thru-beam sensor

LD28/LV28-F1/49/76a/82b/115

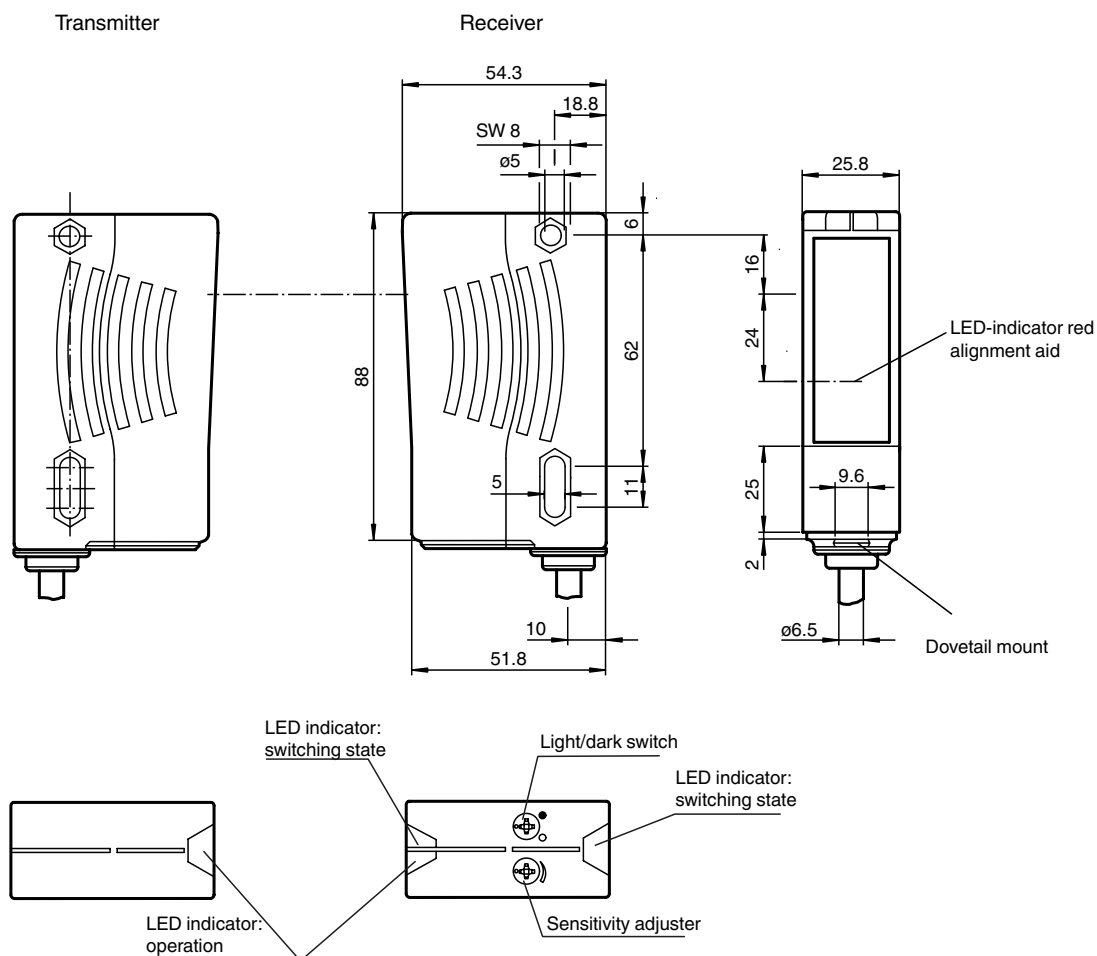


- Universal series with highly versatile fields of use
- Resistant against noise: reliable operation under all conditions
- Highly visible LED as alignment aid in receiver optics
- Emitter with test input
- Version with red light

Universal thru-beam sensor, large housing design, 30 m detection range, red light, 25 kHz transmission frequency, light/dark on, DC version, NPN output, PNP output, test input, pre-fault output, fixed cable



Dimensions



Release date: 2023-04-04 Date of issue: 2023-04-04 Filename: 116617_eng.pdf

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

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PEPPERL+FUCHS

Technical Data

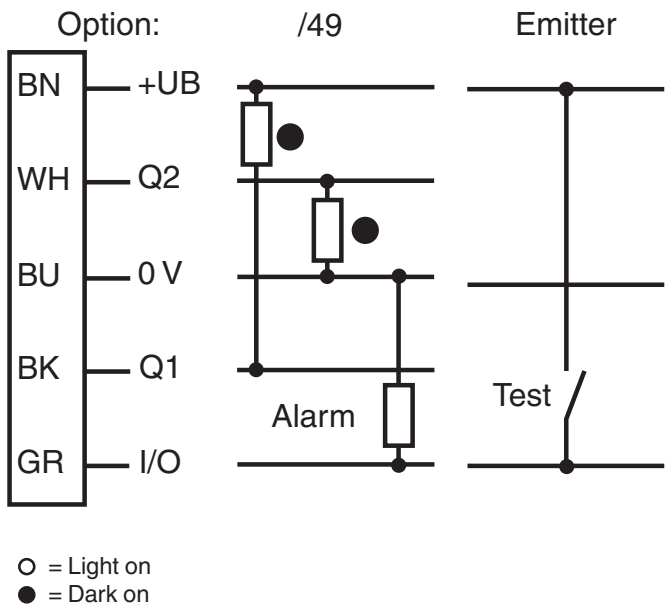
| | | |
|--------------------------------------|----------------|---|
| System components | | |
| Emitter | | LD28-F1/76a/115 |
| Receiver | | LV28-F1/49/82b/115 |
| General specifications | | |
| Effective detection range | | 0 ... 30 m |
| Threshold detection range | | 40 m |
| Light source | | LED |
| 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 | | F1 = 25 kHz |
| Diameter of the light spot | | approx. 0.6 m at 30 m |
| Opening angle | | 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-on/dark-on changeover 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 | | |
| Stability alarm 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 |
| Conformity | | |
| Product standard | | EN 60947-5-2 |
| Approvals and certificates | | |
| Protection class | | II, rated voltage ≤ 250 V AC with pollution degree 1-2 according to IEC 60664-1 |
| UL approval | | cULus Listed , Class 2 power source |
| CCC approval | | CCC approval / marking not required for products rated ≤36 V |
| Ambient conditions | | |
| Ambient temperature | | -40 ... 60 °C (-40 ... 140 °F) |
| Storage temperature | | -40 ... 75 °C (-40 ... 167 °F) |

Release date: 2023-04-04 Date of issue: 2023-04-04 Filename: 116617_eng.pdf

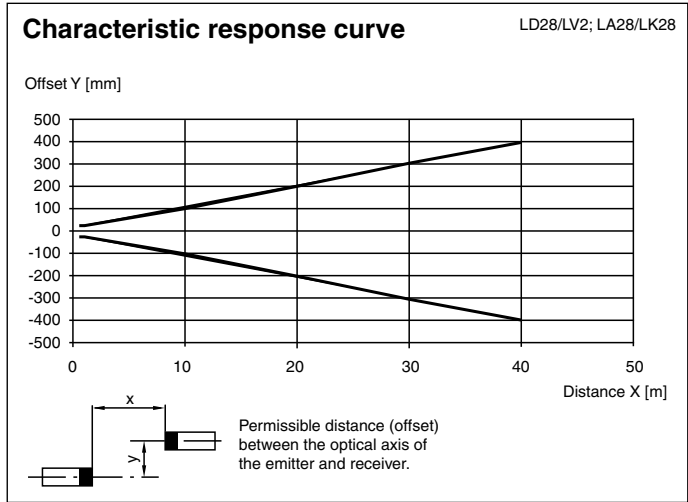
Technical Data

| Mechanical specifications | | |
|---------------------------|--|--------------------------------------|
| Housing width | | 25.8 mm |
| Housing height | | 88 mm |
| Housing depth | | 54.3 mm |
| Degree of protection | | IP67 |
| Connection | | 2.5 m, 5-wire, fixed cable, Euronorm |
| Material | | |
| Housing | | Plastic ABS |
| Optical face | | Plastic pane |
| Mass | | 500 g (emitter and receiver) |

Connection Assignment



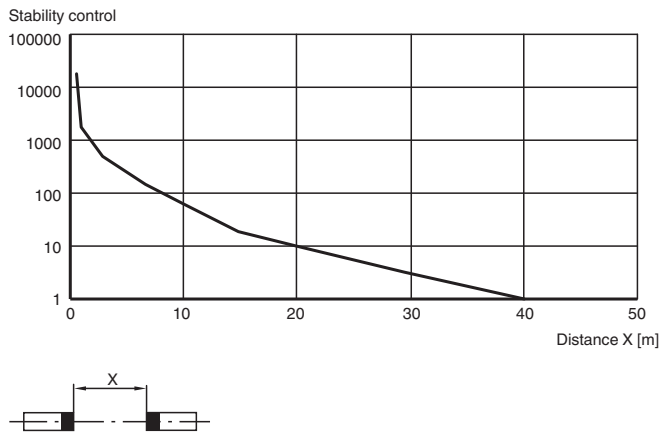
Characteristic Curve



Release date: 2023-04-04 Date of issue: 2023-04-04 Filename: 116617_eng.pdf

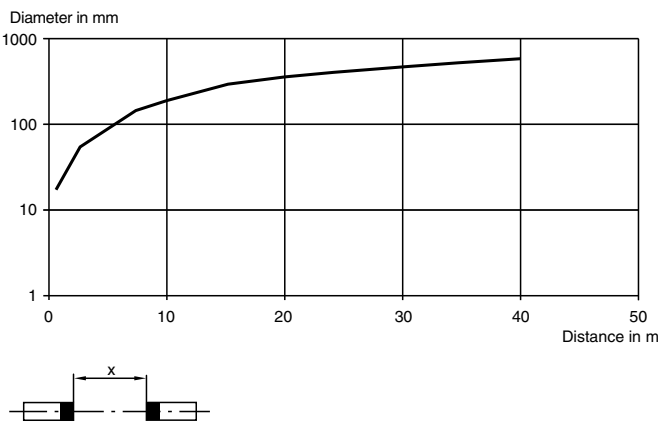
Characteristic Curve

Relative received light strength








Light spot diameter = f (Distance)

LD28/LV28;
LA28/LK28



Accessories

| | | |
|---|---------------------|---|
|  | OMH-05 | Mounting aid for round steel ø 12 mm or sheet 1.5 mm ... 3 mm |
|  | OMH-21 | Mounting bracket: mounting aid for sensors in the RL* series |
|  | OMH-22 | Mounting aid for RL* series |
|  | OMH-RLK29-HW | Mounting bracket for rear wall mounting |
|  | OMH-RL28-C | Weld slag cover model |

Release date: 2023-04-04 Date of issue: 2023-04-04 Filename: 116617_eng.pdf