



**Model Number**

**LD28/LV28-F2/76a/82b/110/115**

Thru-beam sensor  
with 2.5 m fixed cable

**Features**

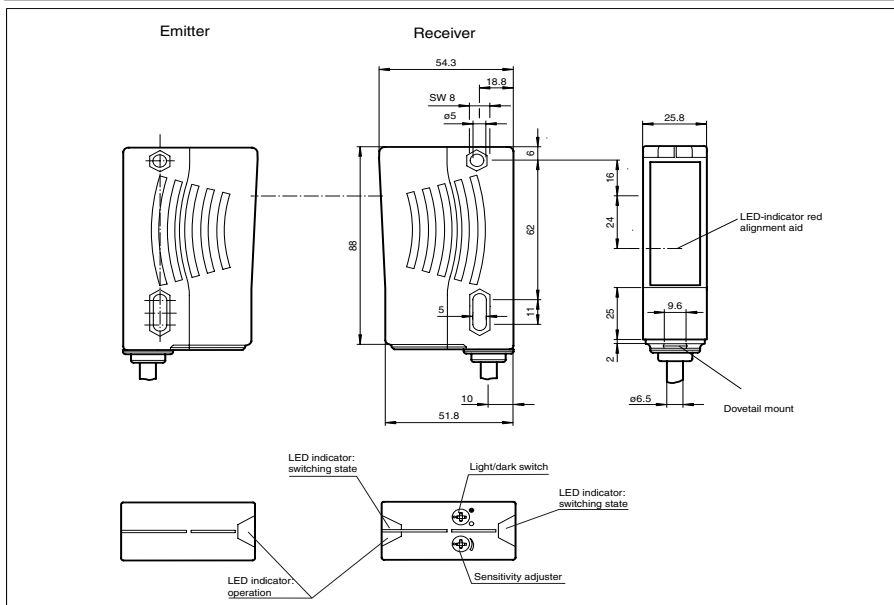
- Ultra bright LEDs for power on, stability control and switching state
- Very clearly visible LED as alignment aid in receiver optics
- Powerful push-pull output
- Emitter deactivation
- Various transmitter frequencies
- Not sensitive to ambient light, even with switched energy saving lamps
- Waterproof, protection class IP67
- Protection class II

**Accessories**

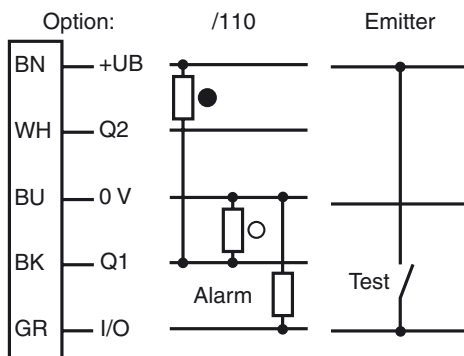
- OMH-05**  
Mounting aid
- OMH-07**  
Mounting aid
- OMH-21**  
Mounting aid
- OMH-22**  
Mounting aid
- OMH-MLV11-K**  
Mounting aid
- OMH-RLK29-HW**  
Mounting aid
- OMH-RL28-C**  
Mounting aid

Additional accessories can be found in the Internet.

**Dimensions**



**Electrical connection**



○ = Light on  
● = Dark on

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**Technical data****General specifications**

Effective detection range	0 ... 30 m
Threshold detection range	40 m
Light source	LED, 660 nm
Approvals	CE, cULus
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
Light type	red, modulated light
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 <sub>d</sub>	620 a
Mission Time (T <sub>M</sub> )	20 a
Diagnostic Coverage (DC)	90 %

**Indicators/operating means**

Operating display	LED green
Function display	LED yellow: 1. LED lits 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
Operating elements	sensitivity adjuster (Adjustment to < 25% of the effective operating range) , Light/dark switch

**Electrical specifications**

Operating voltage	U <sub>B</sub>	10 ... 30 V DC
Protection class		II , rated voltage ≤ 250 V AC with pollution degree 1-2 according to IEC 60664-1
Ripple		10 %
No-load supply current	I <sub>0</sub>	Emitter: ≤ 50 mA Receiver: ≤ 35 mA

**Input**

Test input	emitter deactivation at +U <sub>B</sub> (I <sub>max</sub> < 3 mA at 30 V DC)
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**Output**

Output of the pre-fault indication	1 pnp transistor, short-circuit proof, protected from reverse polarity, open collector, U <sub>max</sub> = 30 V DC, I <sub>max</sub> = 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 push-pull output, short-circuit proof, protected against reverse polarity	
Switching voltage	max. 30 V DC	
Switching current	max. 100 mA	
Switching frequency	f	1000 Hz
Response time		0.5 ms

**Standard conformity**

Standards	EN 60947-5-2
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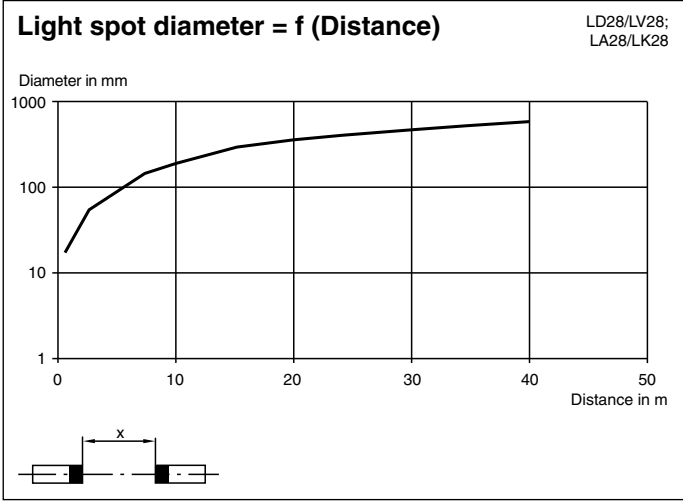
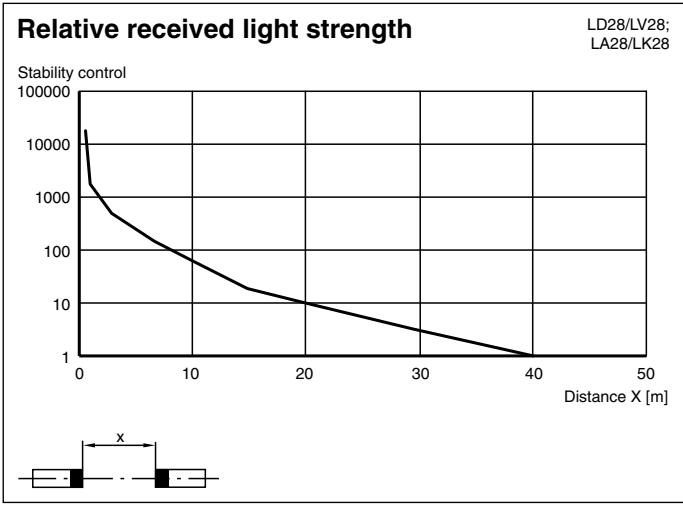
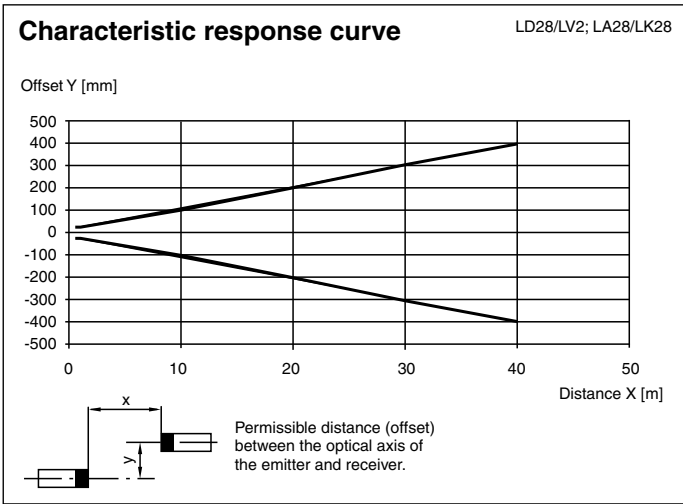
**Ambient conditions**

Ambient temperature	-40 ... 60 °C (233 ... 333 K)
Storage temperature	-40 ... 75 °C (233 ... 348 K)

**Mechanical specifications**

Protection degree	IP67
Connection	2.5 m fixed cable, 5-core, Euronorm
Material	
Housing	Plastic ABS
Optical face	Plastic pane
Mass	500 g (emitter and receiver)

Curves / Diagrams



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