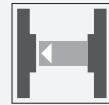




## Thru-beam sensor

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

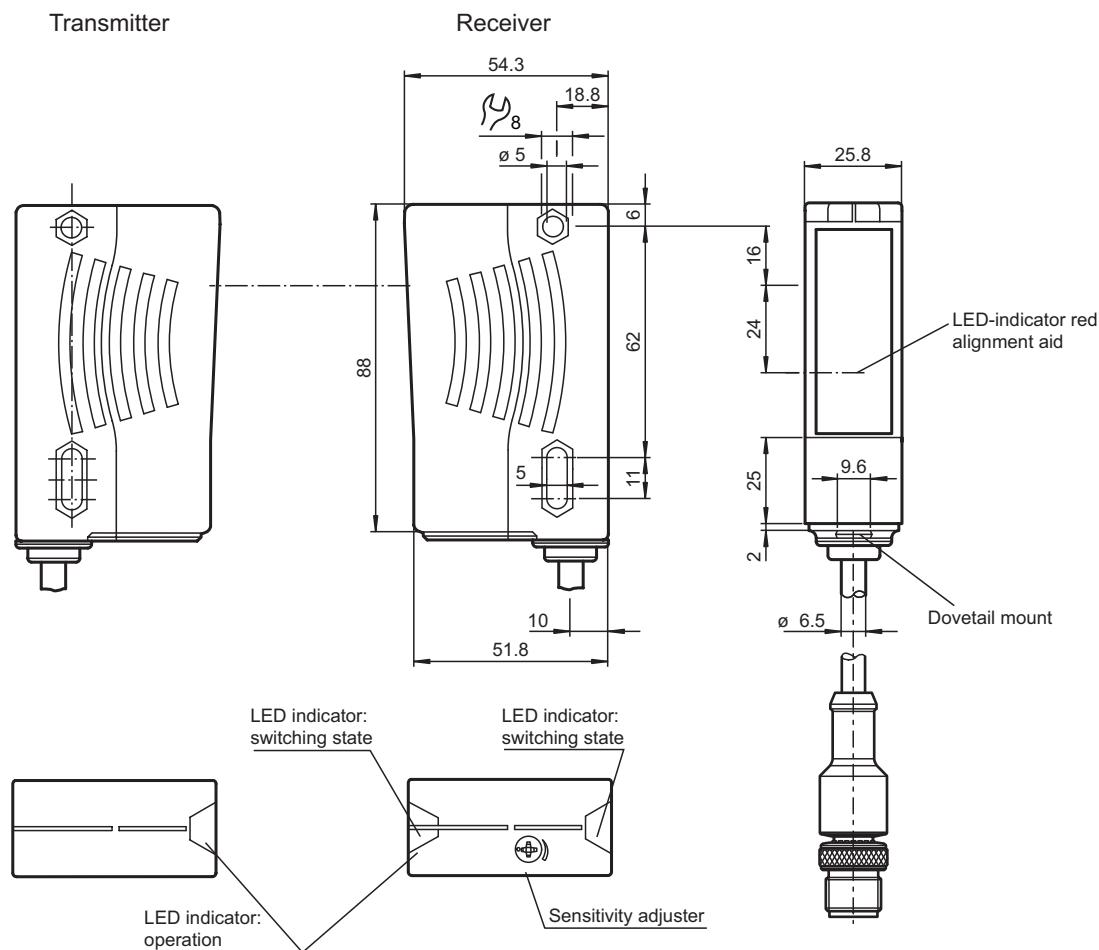


- Ultra bright LEDs for power on, weak signal indication and switching state
- Highly visible LED as alignment aid in receiver optics
- Delivery status: Light on switching
- Emitter deactivation
- Various transmitter frequencies
- Not sensitive to ambient light, even with switched energy saving lamps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

Universal thru-beam sensor, large housing design, 65 m detection range, red light, 30 kHz transmission frequency, light/dark on, DC version, 2 PNP outputs, test input, fixed cable with M12 plug



#### Dimensions



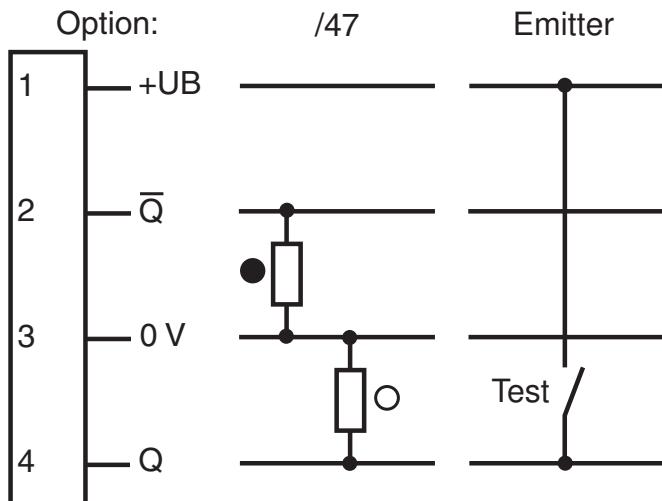
## Technical Data

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 <sub>d</sub>	620 a	
Mission Time (T <sub>M</sub> )	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 <sub>B</sub>	10 ... 30 V DC
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)	
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	
Conformity		
Product standard	EN 60947-5-2	
Approvals and certificates		
EAC conformity	TR CU 020/2011	
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	
Ambient conditions		
Ambient temperature	-40 ... 60 °C (-40 ... 140 °F)	
Storage temperature	-40 ... 75 °C (-40 ... 167 °F)	
Mechanical specifications		
Housing width	25.8 mm	
Housing height	88 mm	

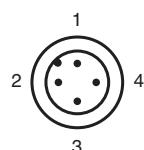
## Technical Data

Housing depth	54.3 mm
Degree of protection	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)

## Connection



## Connection Assignment



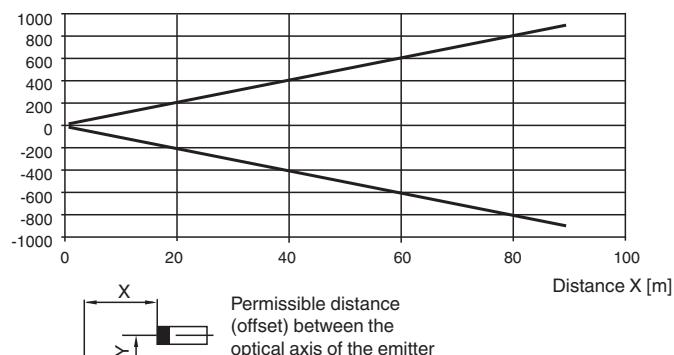
Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)

## Characteristic Curve

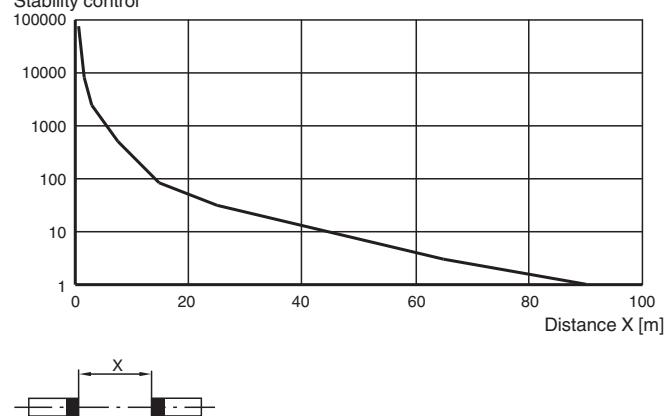
### Characteristic response curve

Offset Y [mm]



### Relative received light strength

Stability control



### Light spot diameter = f (Distance)

Diameter in mm

