



Thru-beam sensor

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

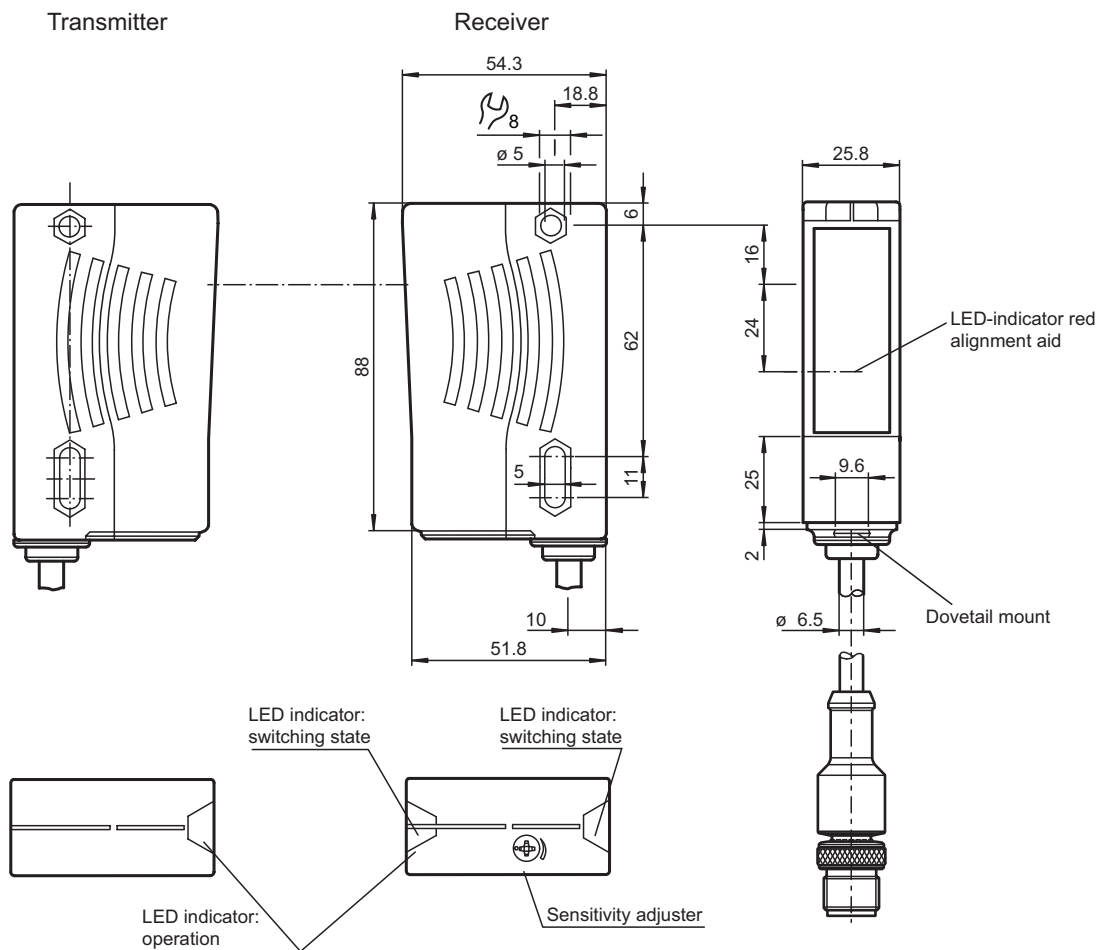


- Ultra bright LEDs for power on, weak signal indication and switching state
- Highly visible LED as alignment aid in receiver optics
- Delivery status: Light on switching
- Emitter deactivation
- Various transmitter frequencies
- Not sensitive to ambient light, even with switched energy saving lamps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



Release date: 2021-11-11 Date of issue: 2021-11-11 Filename: 207267_eng.pdf

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

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Technical Data

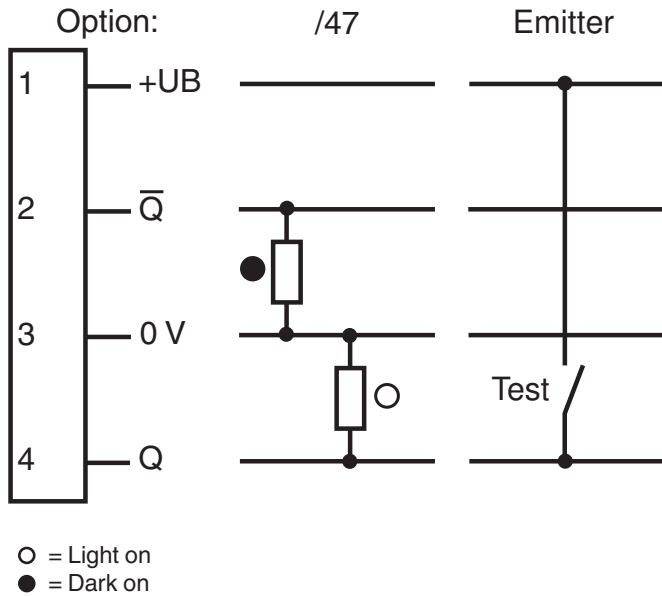
System components		
Emitter		LD28-F2-3057/35/76a/115b
Receiver		LV28-F2-3057/35/47/115b
General specifications		
Effective detection range		0 ... 65 m
Threshold detection range		90 m
Light source		LED
Light type		modulated visible red light , 660 nm
Alignment aid		LED red (in receiver lens) illuminated 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
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

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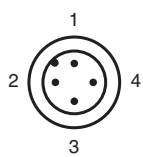
Technical Data

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



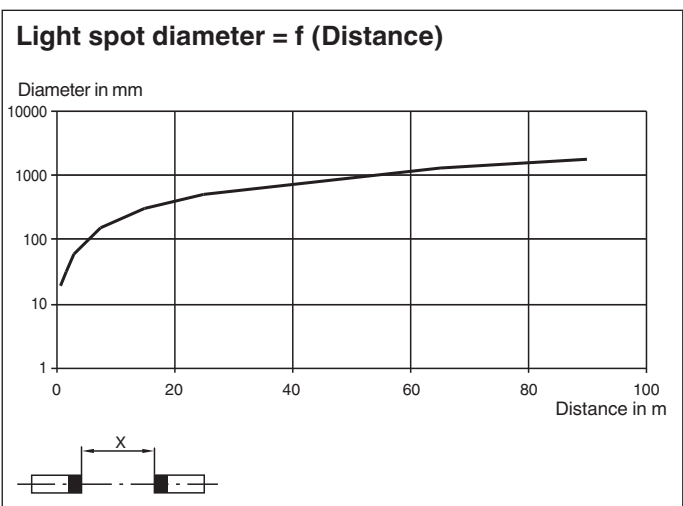
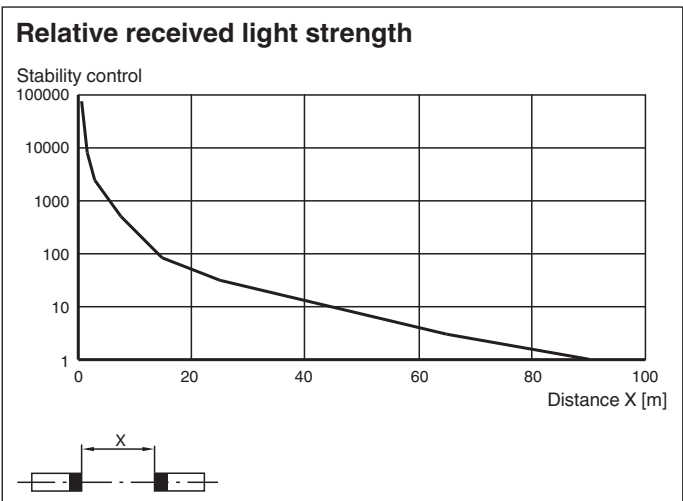
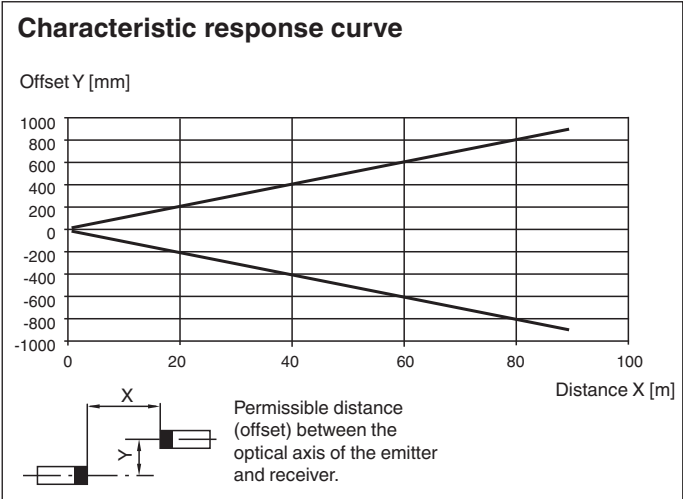
Wire colors in accordance with EN 60947-5-2

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

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Characteristic Curve



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