

Thru-beam sensor (pair)

LA28/LK28-LAS-F1-7675

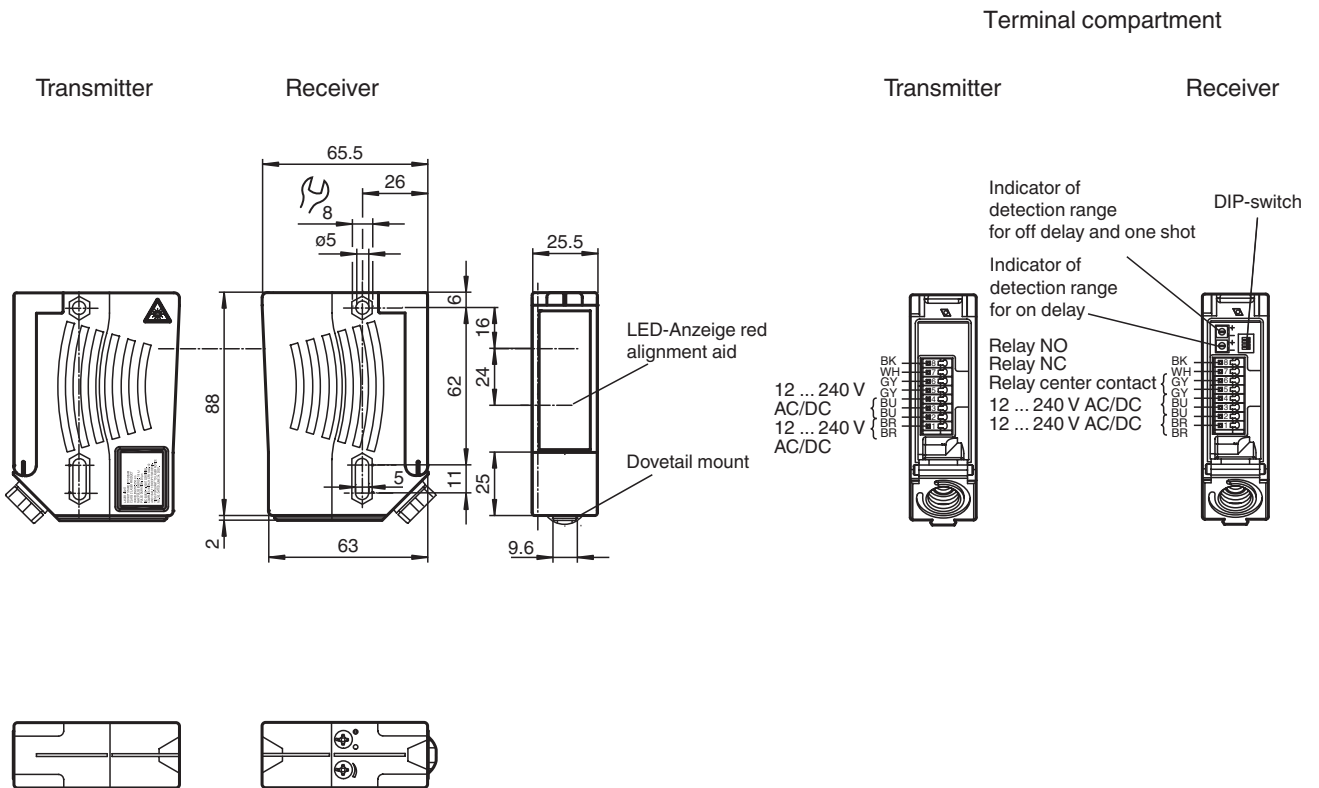


- Universal series with highly versatile fields of use
- Resistant against noise: reliable operation under all conditions
- Highly visible LED as alignment aid in receiver optics
- Programmable time function GAN, GAB, IAB as well as GAN-IAB and GAN-GAB as double function
- Laser version for long ranges

Universal thru-beam sensor, large housing design, 120 m detection range, red laser light, laser class 2, 25 kHz transmission frequency, light/dark on, AC version, relay output, timer function, terminal compartment



Dimensions



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

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Technical Data

System components		
Emitter		LA28-LAS-F1-7675
Receiver		LK28-LAS-F1-Z-7675
General specifications		
Effective detection range		0 ... 120 m
Threshold detection range		150 m
Light source		laser diode
Light type		modulated visible red light
Laser nominal ratings		
Note		LASER LIGHT , DO NOT STARE INTO BEAM
Laser class		2
Wave length		650 nm
Beam divergence		< 4 mrad
Pulse length		20 µs
Repetition rate		25 kHz
max. pulse energy		18 nJ
Alignment aid		LED red (in receiver lens) illuminated constantly: beam is interrupted, flashes: reaching switching point, off: sufficient stability control
Diameter of the light spot		Approx. 20 mm at 5 m, approx. 75 mm x 300 mm at 70 m horizontal in relation to the housing axis
Opening angle		Emitter: 0.23 ° Receiver: 5 °
Ambient light limit		50000 Lux
Functional safety related parameters		
MTTF _d		440 a
Mission Time (T _M)		20 a
Diagnostic Coverage (DC)		0 %
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	12 ... 240 V AC/DC
Power consumption	P ₀	≤ 3.5 VA
Output		
Switching type		light/dark on, switchable . (selectable, light/dark switching is only activated if the receiver has 'dark on' selected.)
Signal output		Relay, 1 alternator
Switching voltage		max. 250 V AC/DC
Switching current		max. 2 A
Switching power		DC: max. 50 W AC: max. 500 VA
Switching frequency	f	25 Hz
Response time		20 ms
Timer function		ON delay (GAN), OFF delay (GAB), one shot (IAB), ON delay-OFF delay (GAN-GAB), programmable adjustment range 0.1 ...10 s
Conformity		
Product standard		EN 60947-5-2
Laser safety		EN 60825-1
Approvals and certificates		

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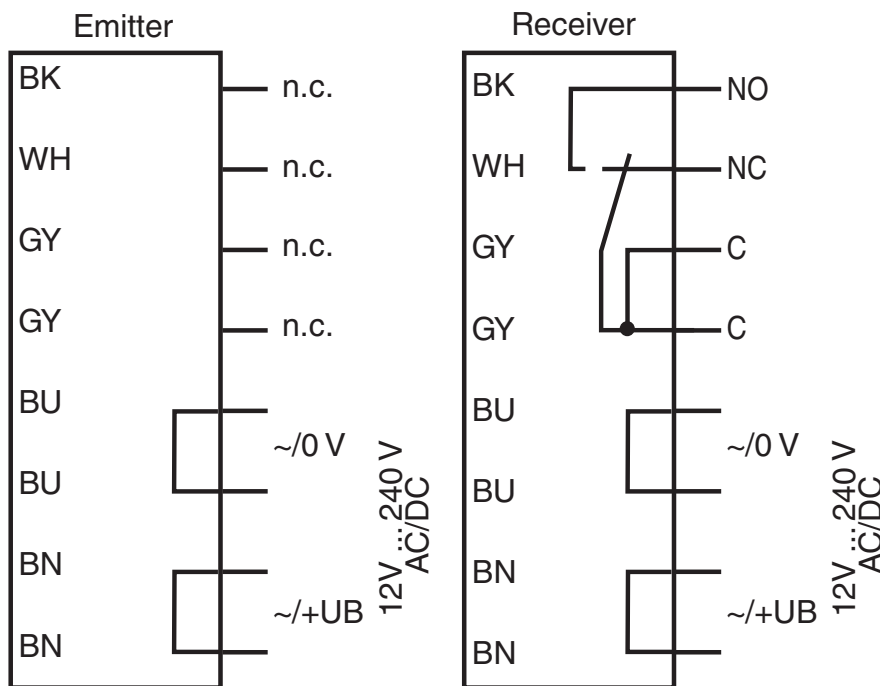
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Protection class	II, rated insulation voltage ≤ 250 V AC with pollution degree 1-2 according to IEC 60664-1 Output circuit insulated from control circuit in accordance with IEC 61140. Caution! The protection class 2 is only valid when the terminal compartment is closed.
UL approval	cULus Listed Caution: This equipment is considered as open-type equipment. It must be mounted within an enclosure, that is suitably designed for protection against internal fire and personal injury resulting from accessibility to live parts according UL 508.
CCC approval	Certified by China Compulsory Certification (CCC)
FDA approval	IEC 60825-1:2007 Complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007
Ambient conditions	
Ambient temperature	0 ... 40 °C (32 ... 104 °F)
Storage temperature	-40 ... 60 °C (-40 ... 140 °F)
Mechanical specifications	
Housing width	25.8 mm
Housing height	88 mm
Housing depth	65.5 mm
Degree of protection	IP67
Connection	terminal compartment with 8 spring-loaded terminals for wire cross section 0.5 ... 1.5 mm ² , Insulation stripping 7.5 ... 8.5 mm, M16 x 1.5 cable gland
Material	
Housing	Plastic ABS
Optical face	Plastic pane
Mass	200 g (emitter and receiver)

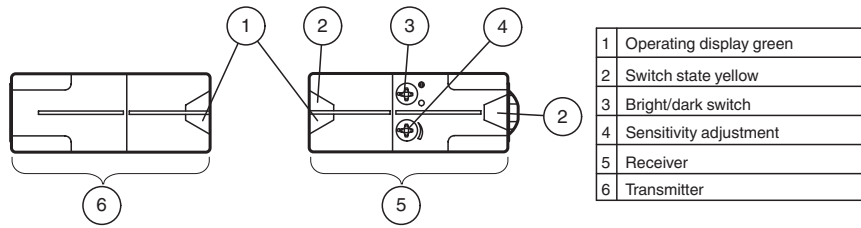
Connection Assignment



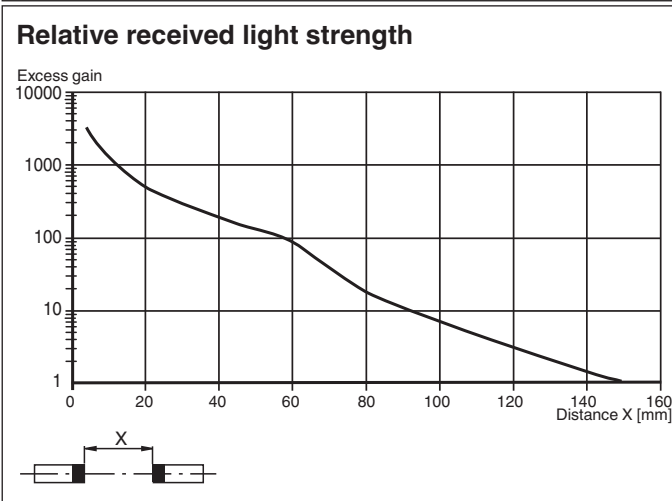
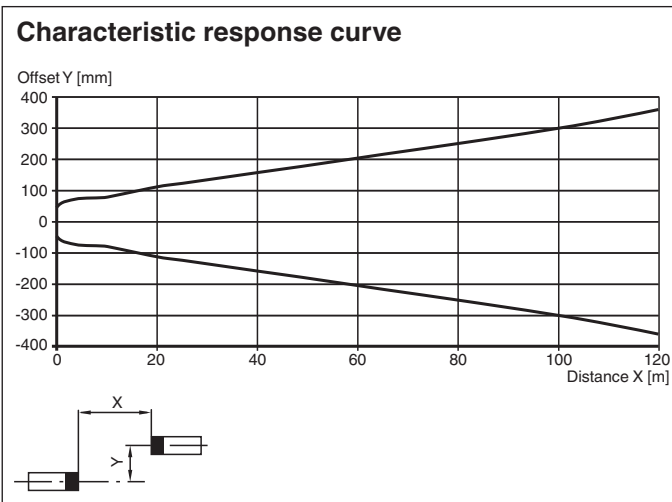
The relay-functions "NC" and "NO" bear on the switching mode "Dark-ON". This complies to the default setting of the light/dark switch (factory setting).

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Assembly

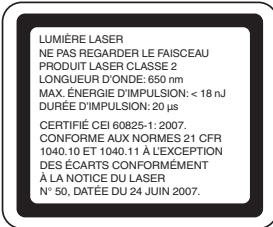
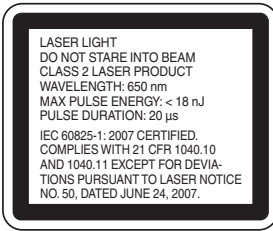


Characteristic Curve



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Safety Information



Safety Information

Laser Class 2 Information

The irradiation can lead to irritation especially in a dark environment. Do not point at people!







Caution: Do not look into the beam!

Maintenance and repairs should only be carried out by authorized service personnel!

Attach the device so that the warning is clearly visible and readable.

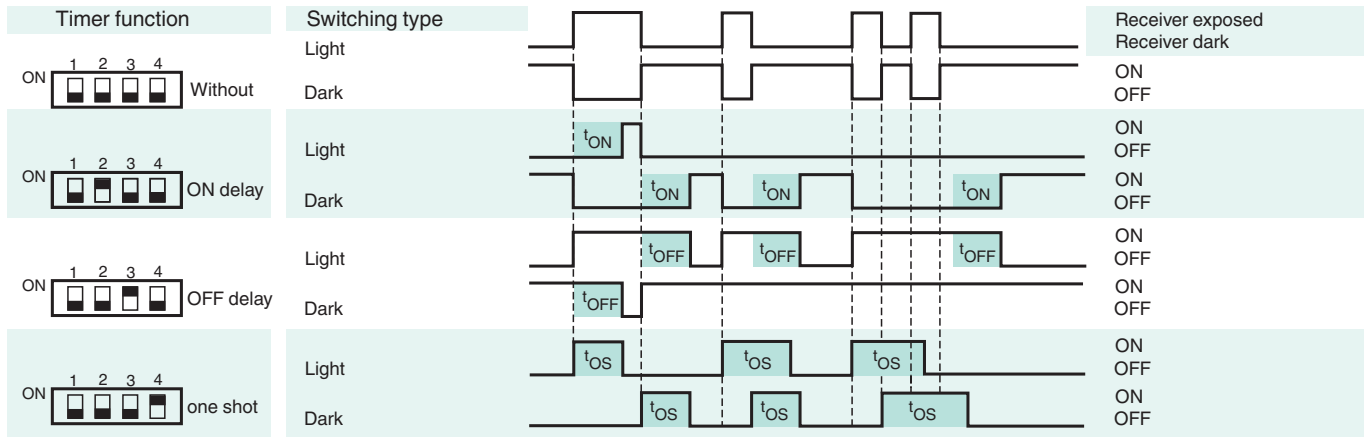
Caution – Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

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	Mounting bracket
	OMH-RLK29-HW	Mounting bracket for rear wall mounting
	OMH-RL28-C	Weld slag cover model

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Timer functions



Time t_{ON} , t_{OFF} and t_{OS} are adjustable from 0.1 to 10 seconds.
 The Light-/Dark-Switch (Left, outer switch) is shown in the "Dark ON" position.

Type	Description	Notes
-Z	OFF delay timer	Adjustable time interval (0.1 s - 10 s)
	one shot timer	
	ON delay timer	
	ON delay timer / OFF delay timer	
	ON delay timer / one shot timer	

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