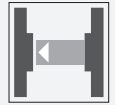




## Thru-beam sensor

### LA29/LK29-Z-F2/31/116-SET



- Robust, compact photoelectric sensor for single-beam gate protection
- Very high detection range
- No measurable emitted interference on all frequencies
- Not sensitive to ambient light, even with energy saving lamps
- Adjustable timer functions
- Version with accessories in scope of delivery

## Thru-beam sensor



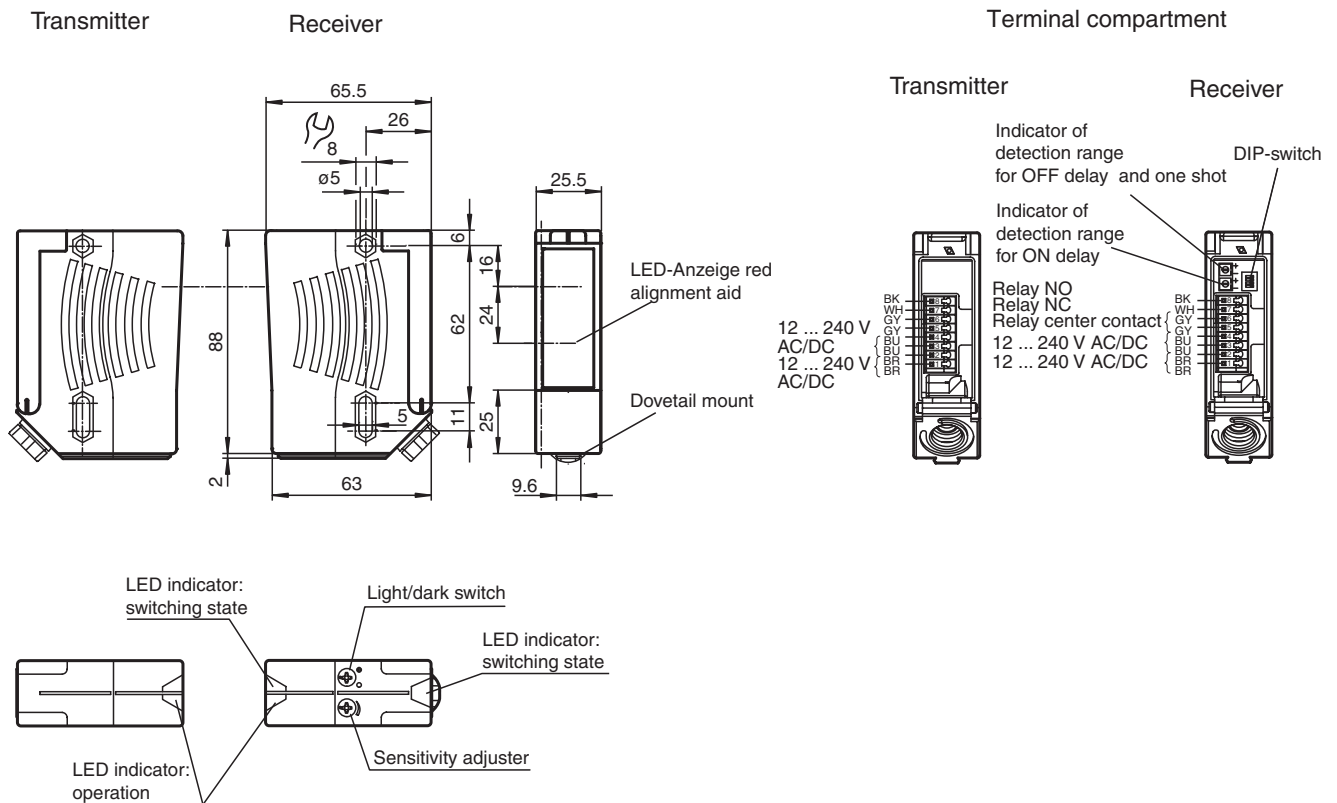
### Function

Series 29 is a range of low-cost and, most importantly, reliable photoelectric sensors for monitoring industrial doors, elevators, and automatic gates. Their high degree of protection makes them the ideal solution for tasks outdoors and at thresholds, and in harsh environments. These "universal-voltage sensors" can be operated with any supply voltage from 24 V to 240 V, and with direct current or alternating current.

### Application

- Monitoring closing edges of automatic industrial doors and elevators
- Monitoring the swing range of automatic gates
- Detecting and tracking objects in material handling

Dimensions



Technical Data

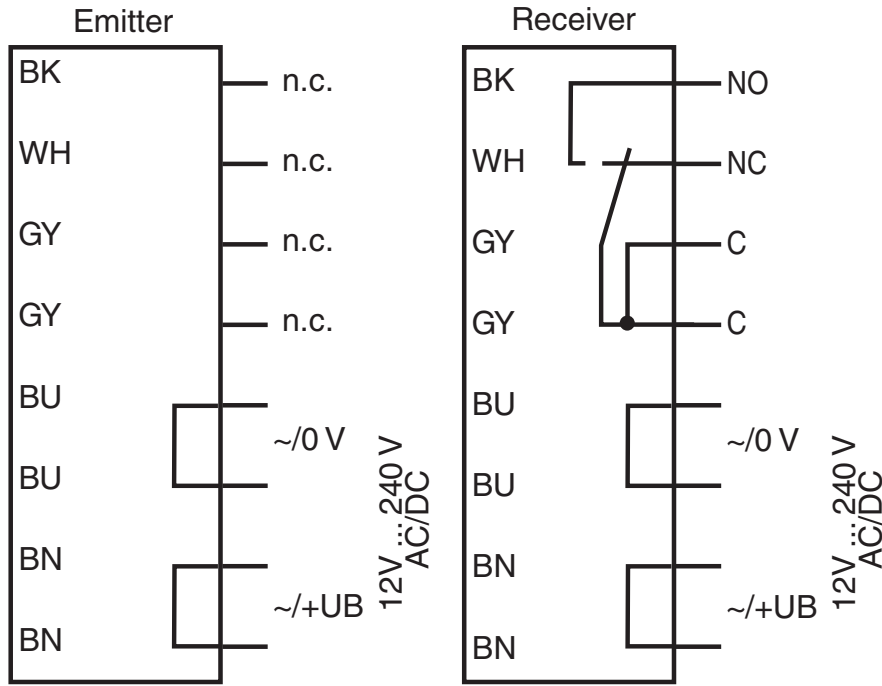
System components	
Emitter	LA29-F2/116
Receiver	LK29-Z-F2/31/116
General specifications	
Effective detection range	0 ... 65 m
Threshold detection range	90 m
Light source	LED
Light type	modulated visible red light , 660 nm
Alignment aid	LED red (in receiver lens) illuminated constantly: beam is interrupted, 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
Opening angle	Emitter 1.2° Receiver 5°
Ambient light limit	50000 Lux
Functional safety related parameters	
MTTF <sub>d</sub>	490 a
Mission Time (T <sub>M</sub> )	20 a
Diagnostic Coverage (DC)	0 %
Indicators/operating means	
Operation indicator	LED green

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## Technical Data

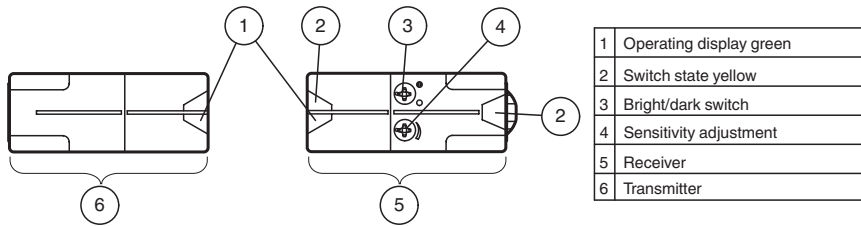
Function indicator	LED yellow: 1. LED lit constantly: signal > 2 x switching point (function reserve) 2. LED flashes: signal between 1 x switching point and 2 x switching point 3. LED off: signal < switching point	
Control elements	sensitivity adjustment (Adjustment to < 25% of the effective operating range) , Light-on/dark-on changeover switch	
<b>Electrical specifications</b>		
Operating voltage	$U_B$	12 ... 240 V AC/DC
Power consumption	$P_0$	≤ 3.5 VA
<b>Output</b>		
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	
<b>Conformity</b>		
Product standard	EN 60947-5-2	
<b>Approvals and certificates</b>		
Protection class	II, rated voltage ≤ 250 V AC with pollution degree 1-2 according to IEC 60664-1 Output circuit basis insulation of input circuit according to EN 50178, rated insulation voltage 230 V AC Caution! The protection class 2 is only valid when the terminal compartment is closed.	
CCC approval	Certified by China Compulsory Certification (CCC)	
<b>Ambient conditions</b>		
Ambient temperature	-40 ... 60 °C (-40 ... 140 °F)	
Storage temperature	-40 ... 75 °C (-40 ... 167 °F)	
<b>Mechanical specifications</b>		
Degree of protection	IP67	
Connection	terminal compartment with 8 spring-loaded terminals for wire cross section 0.5 ... 1.5 mm <sup>2</sup> , 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)	
<b>General information</b>		
Scope of delivery	2x OMH-RLK29-HW	

**Connection Assignment**

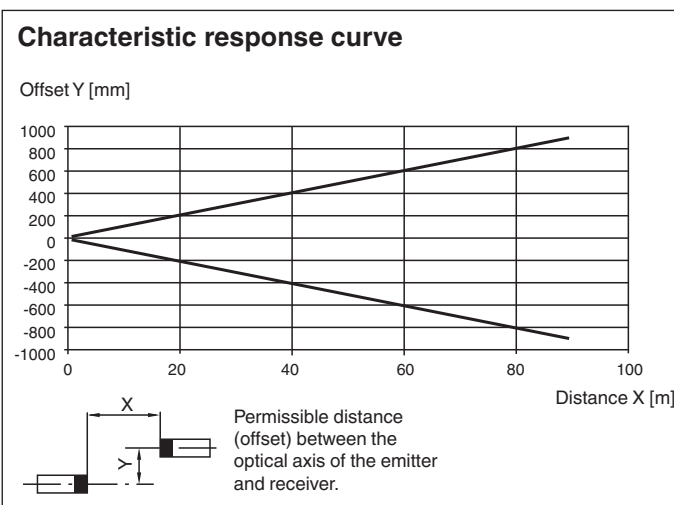


The relay-functions "NC" and "NO" bear on the switching mode "Dark-ON". This complies to the default setting of the light/dark switch (factory setting).

**Assembly**

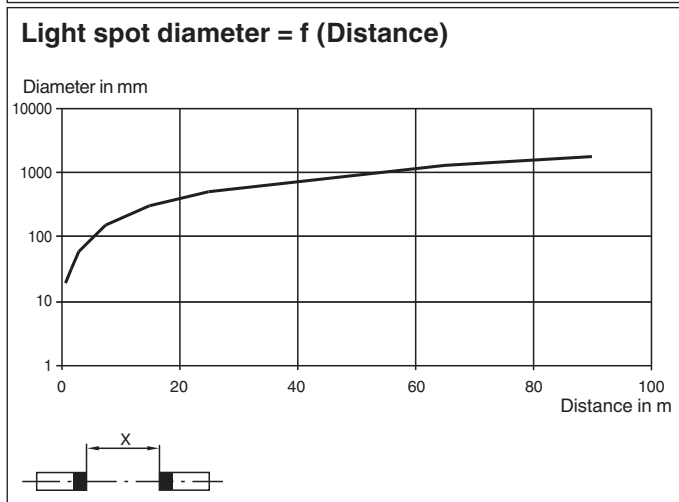
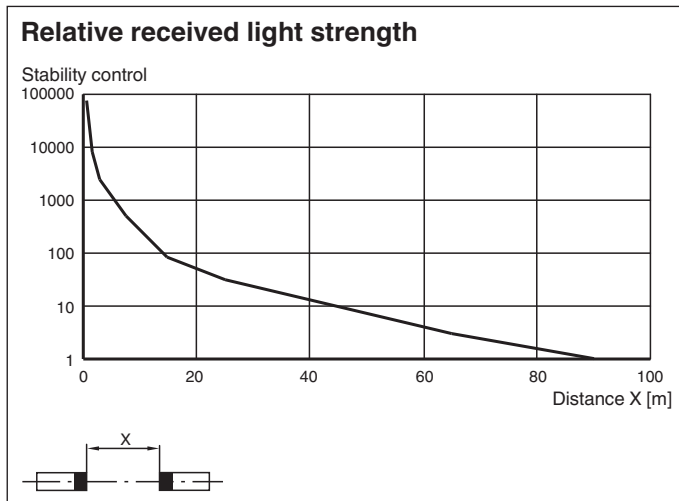


**Characteristic Curve**



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## Characteristic Curve





## Application







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## Accessories

	<b>OMH-05</b>	Mounting aid for round steel $\varnothing$ 12 mm or sheet 1.5 mm ... 3 mm
	<b>OMH-21</b>	Mounting bracket: mounting aid for sensors in the RL* series

**Accessories**

	<b>OMH-22</b>	Mounting aid for RL* series
	<b>OMH-RLK29</b>	Mounting bracket
	<b>OMH-RLK29-HW</b>	Mounting bracket for rear wall mounting
	<b>OMH-RL28-C</b>	Weld slag cover model

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

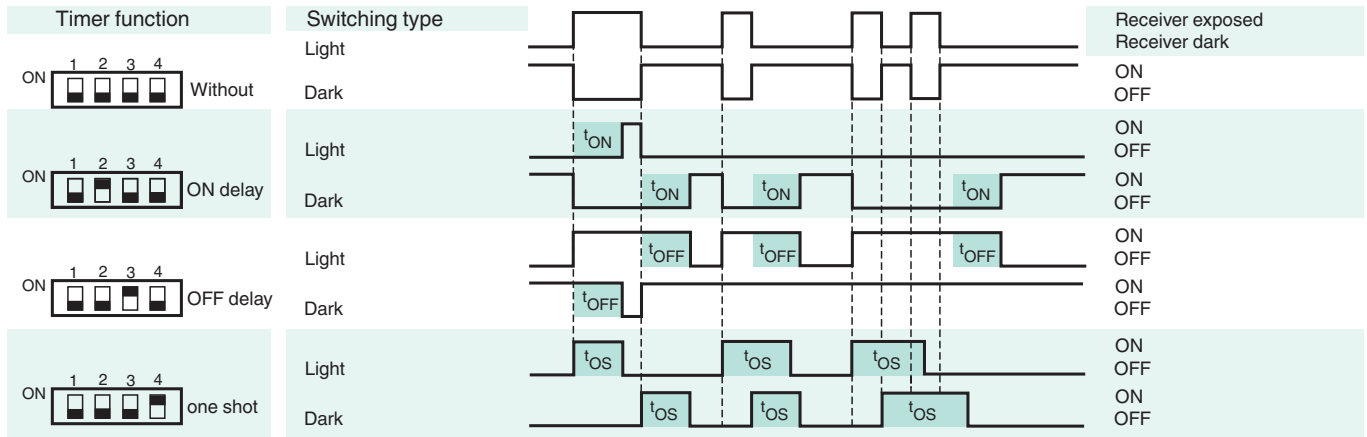
Pepperl+Fuchs Group  
www.pepperl-fuchs.com

USA: +1 330 486 0001  
fa-info@us.pepperl-fuchs.com

Germany: +49 621 776 1111  
fa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091  
fa-info@sg.pepperl-fuchs.com

**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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