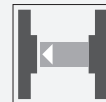




Thru-beam sensor

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



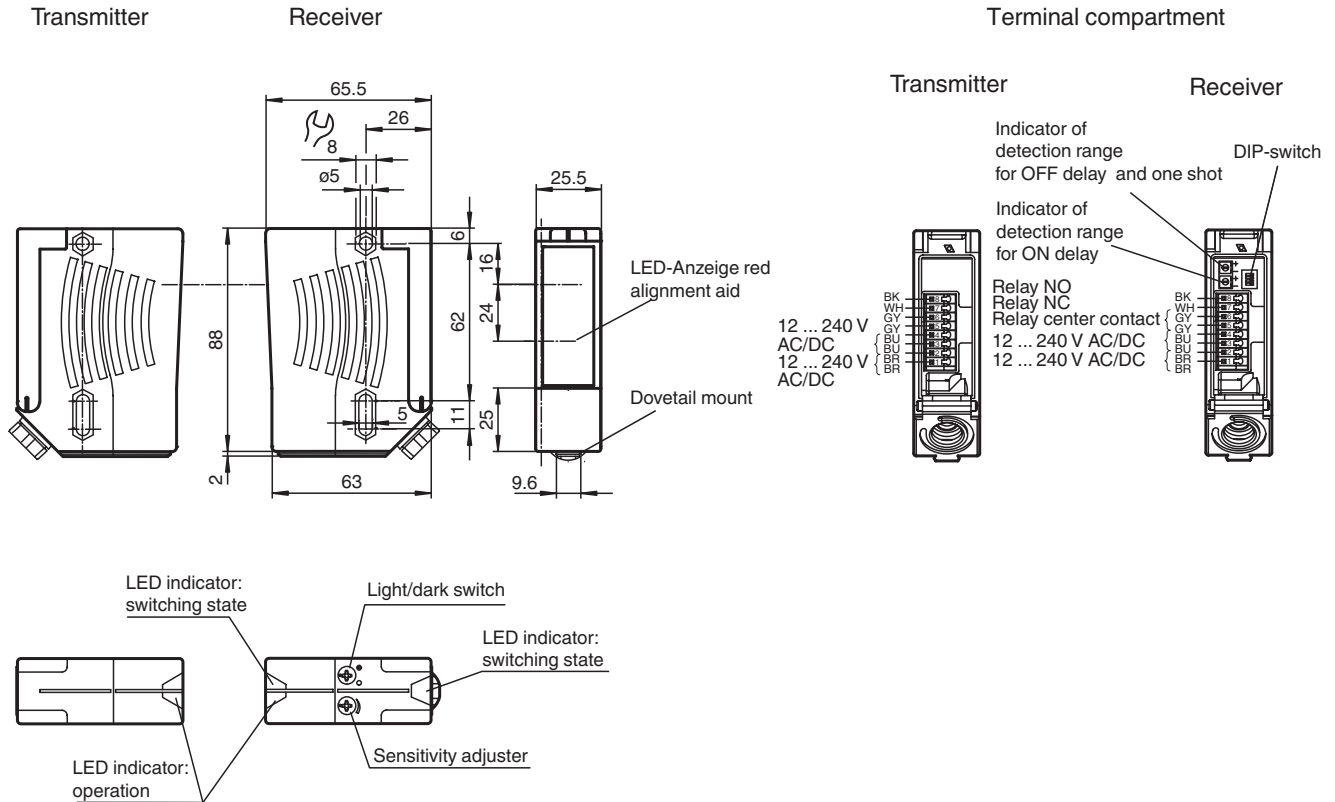
Function

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

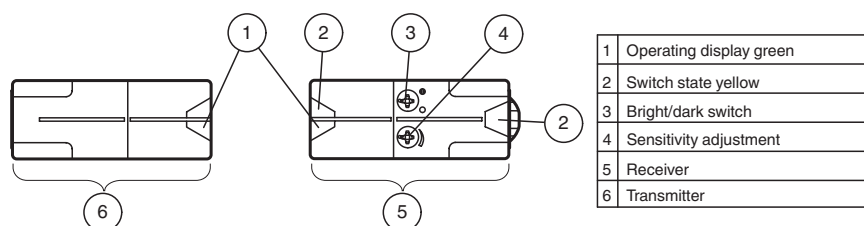
System components		
Emitter		LA29-F2/116
Receiver		LK29-Z-F2/31/116
General specifications		
Effective detection range		0 ... 65 m
Threshold detection range		90 m
Light source		LED
Light type		modulated visible red light , 660 nm
Alignment aid		LED red (in receiver lens) illuminated constantly: beam 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 _d		490 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		

Technical Data

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
Approvals and certificates		
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)
Ambient conditions		
Ambient temperature		-40 ... 60 °C (-40 ... 140 °F)
Storage temperature		-40 ... 75 °C (-40 ... 167 °F)
Mechanical specifications		
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
Optical face		Plastic pane
Mass		200 g (emitter and receiver)
Dimensions		
Height		88 mm
Width		25.8 mm
Depth		65.5 mm
General information		
Scope of delivery		2x OMH-RLK29-HW

The diagram illustrates a 12V AC/DC converter circuit, divided into an Emitter section and a Receiver section. The Emitter section consists of a 12V AC/DC converter block with four output terminals: BK (n.c.), WH (n.c.), GY (n.c.), and GY (n.c.). Below these are two sets of terminals labeled BU and BN, each with a switch symbol and a label ~0 V and ~+/UB. The Receiver section consists of a 12V AC/DC converter block with four output terminals: BK (NO), WH (NC), GY (C), and GY (C). Below these are two sets of terminals labeled BU and BN, each with a switch symbol and a label ~0 V and ~+/UB. The circuit is powered by a 12V AC/DC converter block.

Assembly



Characteristic response curve

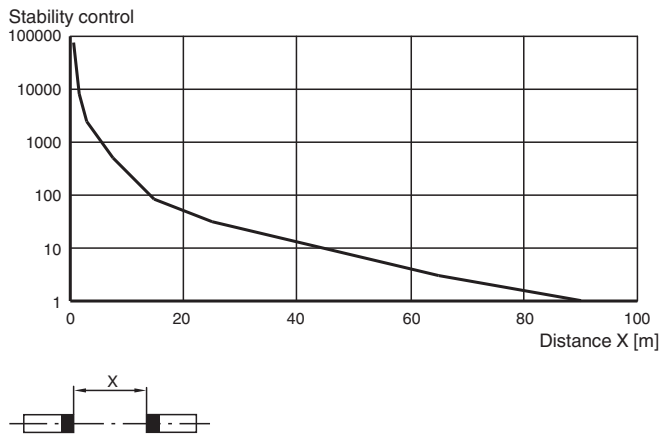
Offset Y [mm]

Distance X [m]

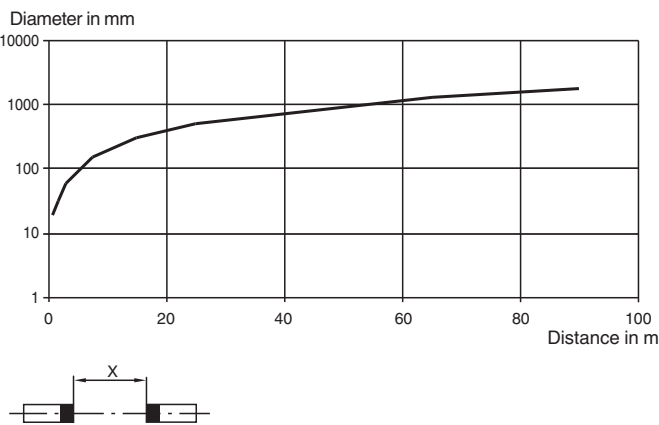
Permissible distance (offset) between the optical axis of the emitter and receiver.

Characteristic Curve

Relative received light strength



Light spot diameter = f (Distance)



Application

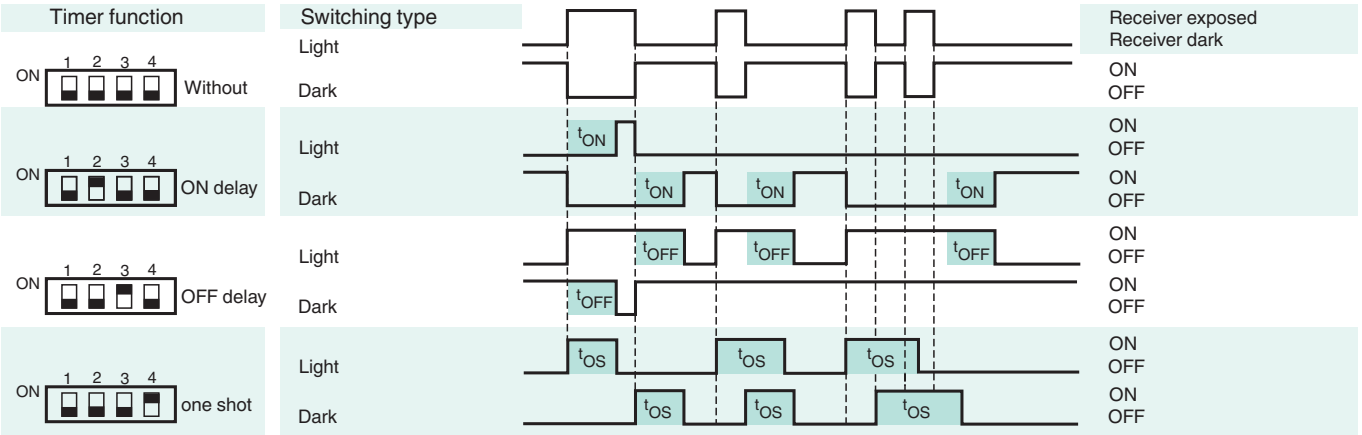


Kit component

	OMH-RLK29-HW	Mounting bracket for rear wall mounting
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Release date: 2024-09-13 Date of issue: 2024-09-13 Filename: 244082_eng.pdf

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	