



Fire protection retroreflective sensor RLK28-FC-55-Z/31/116



- Compact fire protection photoelectric sensor for safety devices on fire barriers
- Approval in accordance with VdS Test Report FSA and externally monitored manufacture (Ü Symbol)
- Not sensitive to ambient light, even with switched energy saving lamps

Compact fire protection photoelectric sensor



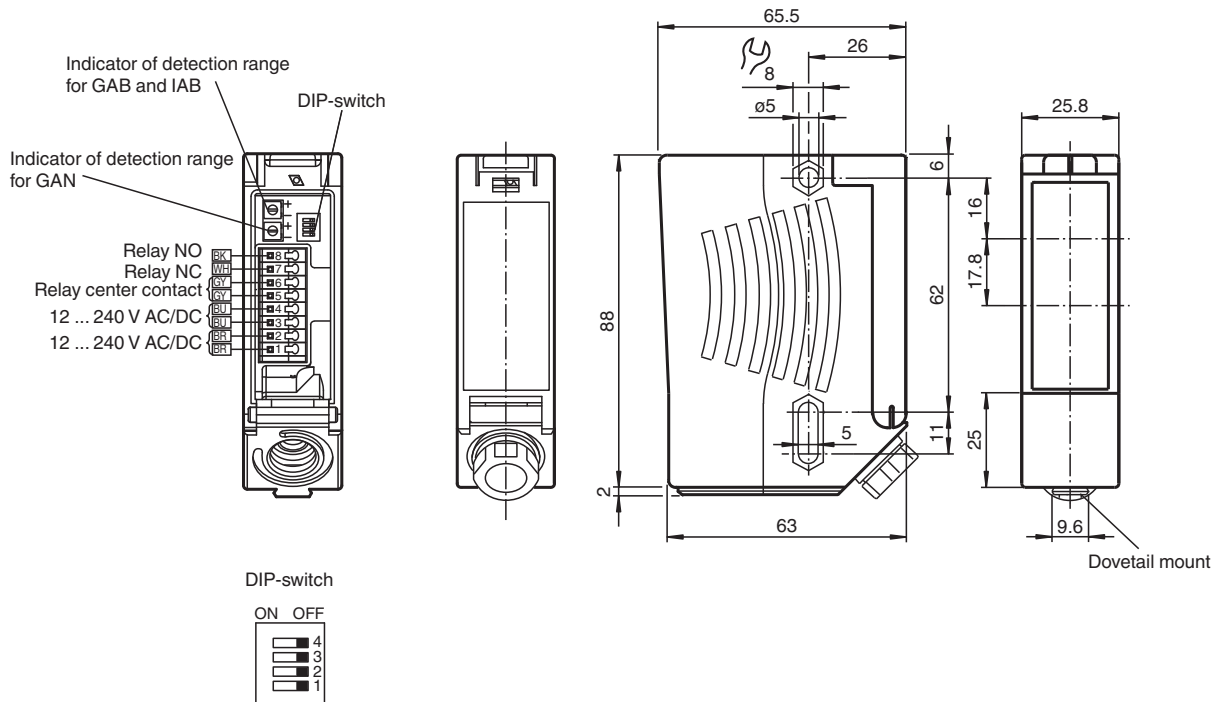
Function

It is essential that fire is not allowed to spread in buildings should it break out. Fire protection regulations therefore prescribe fire barriers. These include fire doors, industrial fire doors and fire dampers, which are generally kept closed at all times. In areas where doors are left open, such as heavily traveled passageways and corridors, a self-closing mechanism must be automatically triggered in case of fire. However, the door must not close when persons or objects are in the closing area. Legislation consequently requires monitoring with appropriate safety devices. The technical challenge is to ignore the smoke and at the same time reliably detect objects in it. These certified photoelectric sensors fulfill this function.

Application

- Securing hold-open devices on fire barriers in the vicinity of track-based conveyor systems
- Reliable object detection for doorway monitoring with fire barriers in the vicinity of trackbased conveyor systems, even in smoky condition

Dimensions



Release date: 2024-07-30 Date of issue: 2024-07-30 Filename: 202520_eng.pdf

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

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Technical Data

General specifications		
Effective detection range		1 ... 3 m
Reflector distance		1 ... 3 m
Threshold detection range		3 m
Reference target		reflector C110-2
Light source		LED
Light type		modulated visible red light , 660 nm
Diameter of the light spot		approx. 50 mm at a distance of 3 m
Opening angle		emitter 1.2° receiver 2°
Ambient light limit		80000 Lux
Accessories provided		reflector C110-2 Bracket
Functional safety related parameters		
MTTF _d		600 a
Mission Time (T _M)		20 a
Diagnostic Coverage (DC)		0 %
Indicators/operating means		
Operation indicator		LED green
Function indicator		2 LEDs yellow, light up when light beam is free, flash when falling short of the stability control, off when light beam is interrupted
Control elements		Time adjuster , 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-one shot (GAN-IAB), ON delay-OFF delay (GAN-GAB), programmable adjustment interval 0.1 ... 10 s
Standard conformity		
Standards		EN 60947-5-2 smoke insensitive up to 2 dB/m (EN 54-12)
Approvals and certificates		
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.
CCC approval		Certified by China Compulsory Certification (CCC)
Approvals		VdS/DIBt certificate of compliance No. 25022 , approval number Z-6.510-2384
Ambient conditions		
Ambient temperature		-40 ... 60 °C (-40 ... 140 °F)
Storage temperature		-40 ... 60 °C (-40 ... 140 °F)
Relative humidity		30% ... 85% non-condensing ; Non-icing
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

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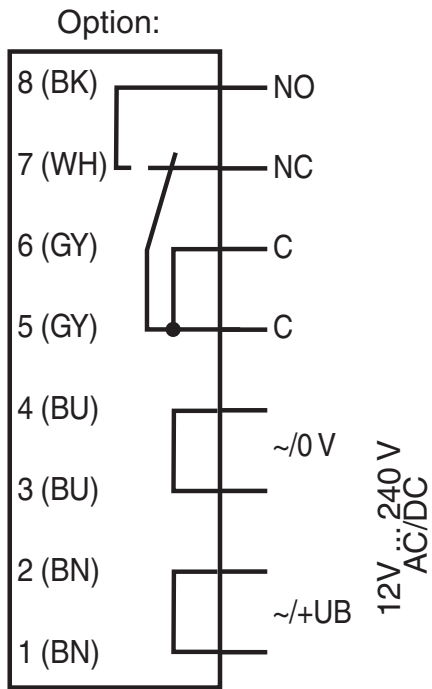
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Technical Data

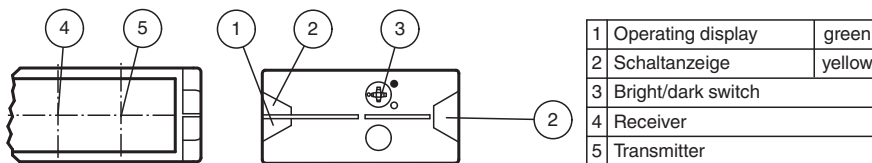
Optical face	Plastic pane
Mass	112 g
Dimensions	
Height	88 mm
Width	25.8 mm
Depth	65.5 mm

Connection Assignment



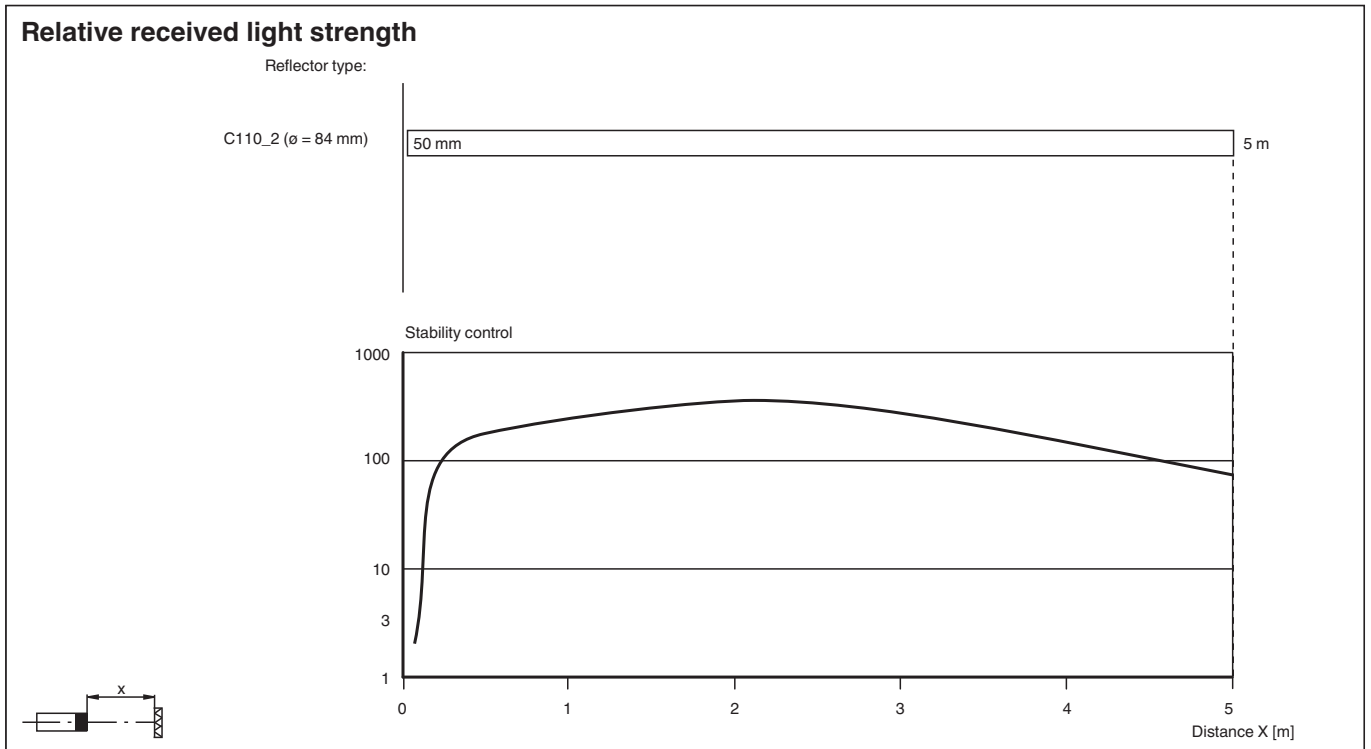
The relay-functions "NC" and "NO" bear on the switching mode "Dark-ON". This complies to the default setting of the light/dark switch (factory setting).

Assembly



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Characteristic Curve



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Additional Information

Function principle:

Fire protection photoelectric sensors are photoelectric sensor systems as safety devices for hold-open systems on fire barriers. The safety device is used to monitor the closing area of fire barriers for obstacles. The safety device ensures that the barrier is only closed if there are no obstacles in the closing area.

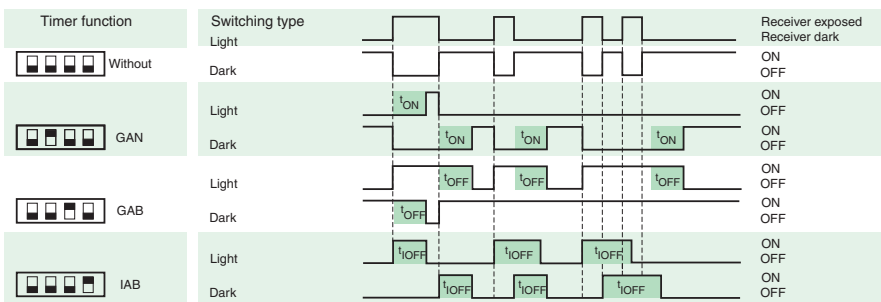
The RLK28-55-FC is a diffuse-mode photoelectric sensor with a polarization filter and power supply for 12 ... 240 V AC/DC. The diffuse-mode photoelectric sensor is an emitter and a receiver in a single housing. The emitted light is reflected back to the receiver by a reflector. When the light beam is interrupted, the switching function is triggered.

With its relatively high excess gain at detection ranges of up to 3 m, the diffuse-mode photoelectric sensor is suitable as a safety device for hold-open devices on fire barriers. The photoelectric sensor is insensitive to reflective and shiny objects.

In accordance with the FSA test report, this photoelectric sensor can only be operated with the C110-2 reflector in an operating range (reflector distance) of 1 m ... 3 m.

Setting the timer functions:

The desired timer function can be set with the DIP switches



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

Version	Description	Notes
-Z	"OFF delay" time relay, (GAB)	Time range adjustable 0.1 s ... 10 s
	Impulse-type "OFF delay" time relay, (IAB)	
	"ON delay" time relay, (GAN)	
	"ON/OFF delay" double time relay (GAN/GAB)	
	"ON impulse-type/OFF delay" double time relay (GAN/IAB)	

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