



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



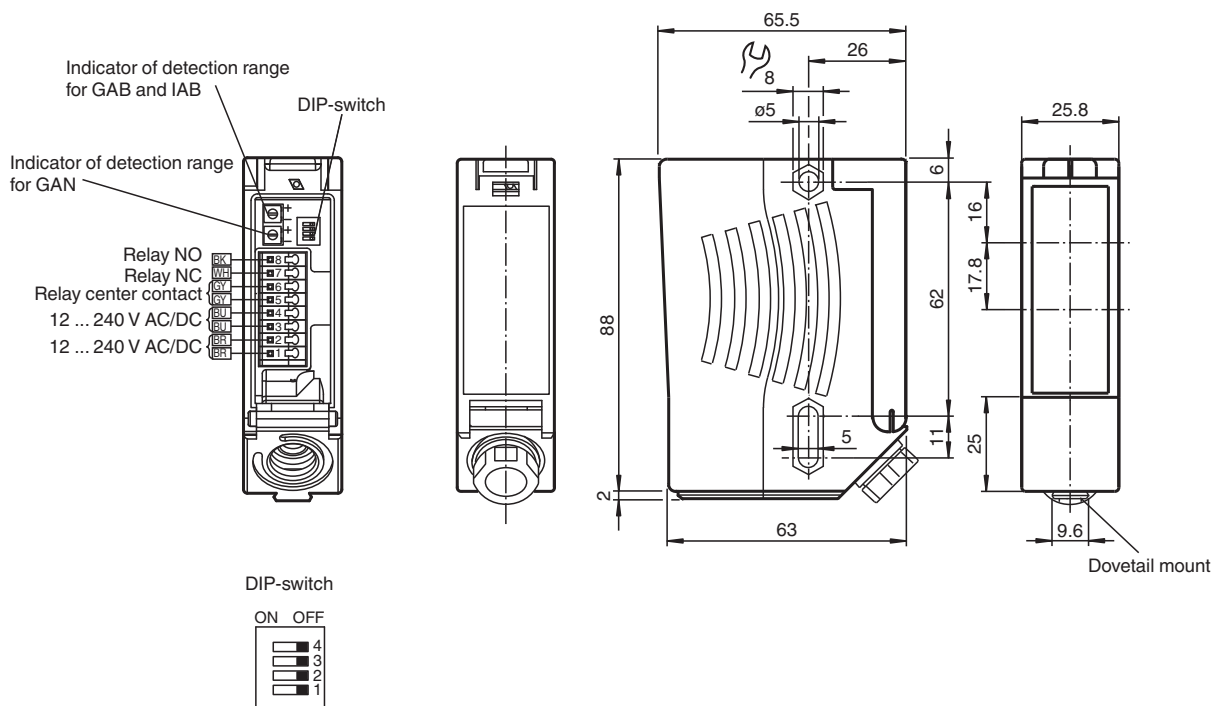
Function

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



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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)
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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

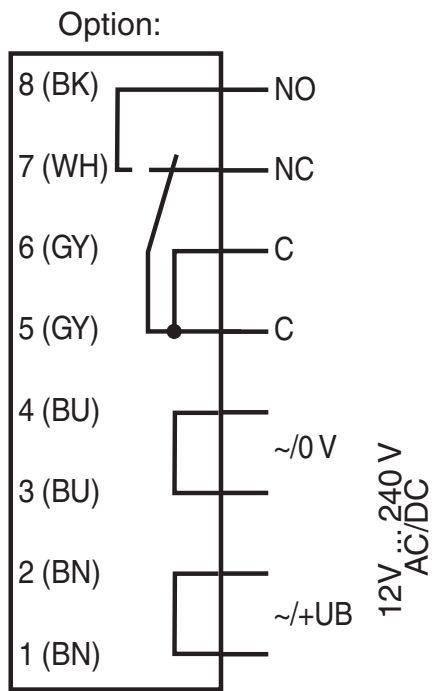
Degree of protection	IP67
Connection	terminal compartment with 8 spring-loaded terminals for wire cross section 0.5 ... 1.5 mm ² , insulation stripping 7.5 ... 8.5 mm, M16 x 1.5 cable gland
Material	
Housing	plastic

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Technical Data

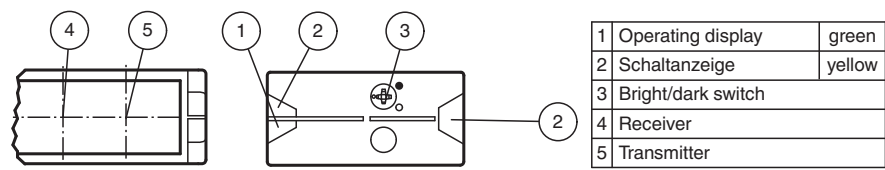
Optical face	Plastic pane
Mass	112 g
Dimensions	
Height	88 mm
Width	25.8 mm
Depth	65.5 mm

Connection Assignment



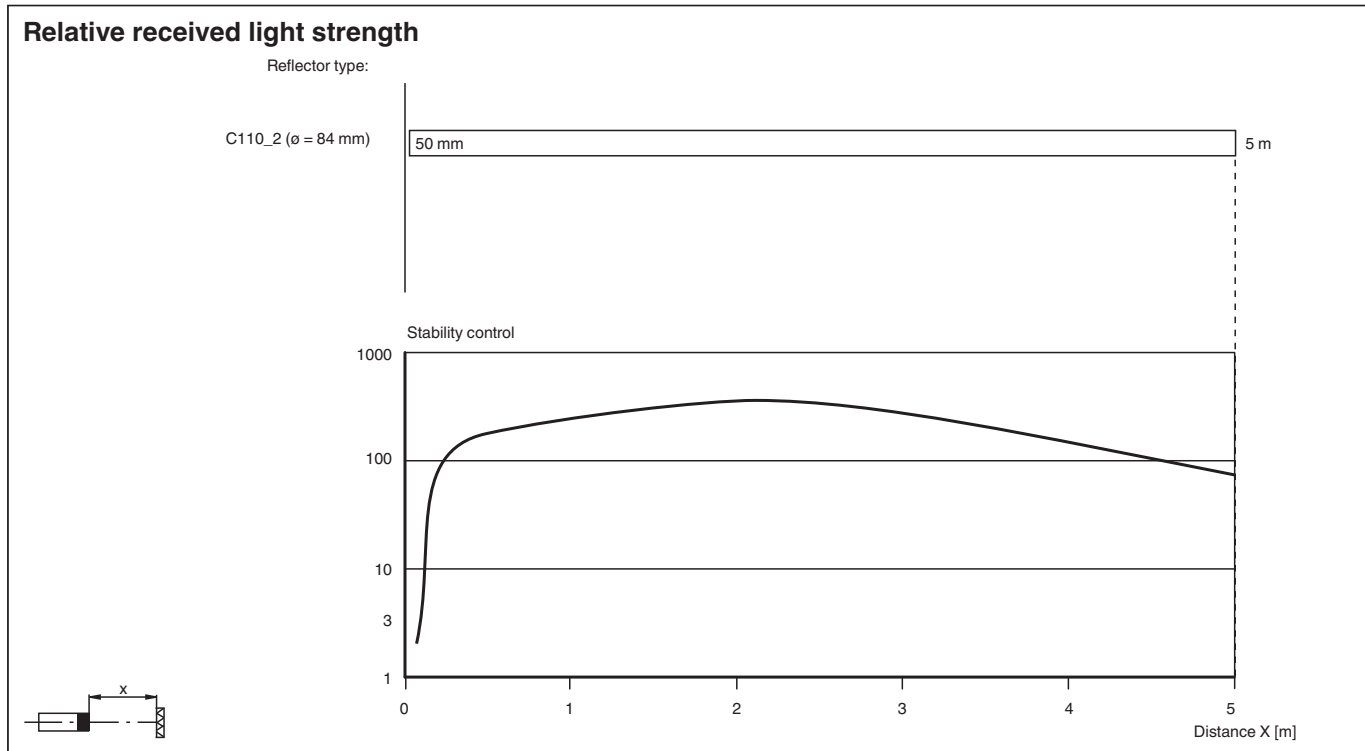
The relay-functions "NC" and "NO" bear on the switching mode "Dark-ON". This complies to the default setting of the light/dark switch (factory setting).

Assembly



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Characteristic Curve



Application



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.

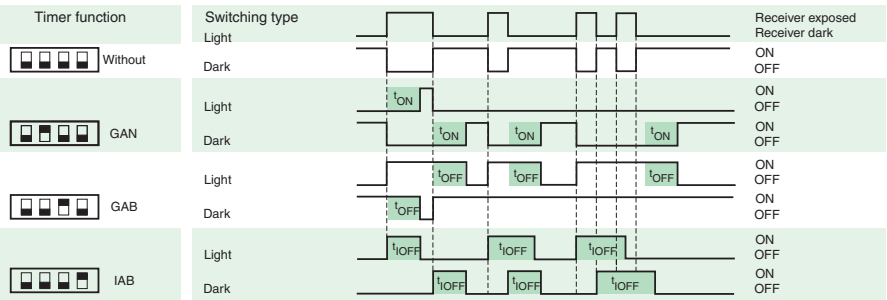
The RLK28-55-FC is a diffuse-mode photoelectric sensor with a polarization filter and power supply for 12 ... 240 V AC/DC. The diffuse-mode photoelectric sensor is an emitter and a receiver in a single housing. The emitted light is reflected back to the receiver by a reflector. When the light beam is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