Dimensions

Model Number

RLK28-55-Z/31/116

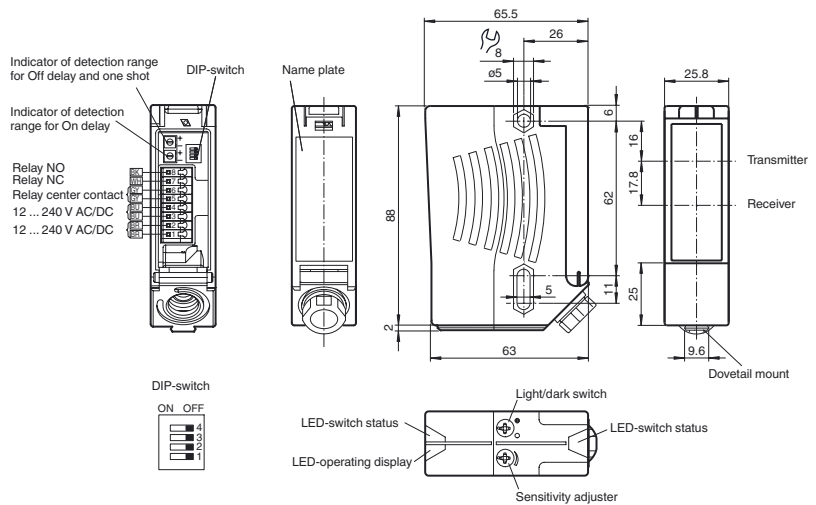Retroreflective sensor
with terminal compartment

Features

- Universal series with highly versatile fields of use

- Resistant against noise: reliable operation under all conditions

- Programmable time function GAN, GAB, IAB, as well as GAN-GAB and GAN-IAB as double function

- Version with red light
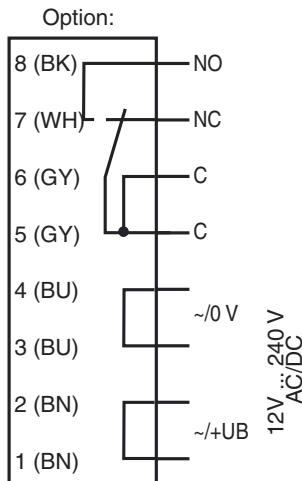
- Version with relay output

Product information

The series 28 family of sensors can be universally used. It has a large range of models that allows it to be integrated into any automation environment. The sensors are contained in sturdy water resistant plastic housings with multiple fastening options and scratch resistant optical cover. Features such as a timer function, and functions including a light/dark switch, sensitivity adjuster and highly visible status LEDs make for less effort on the part of the user and streamline installation, setup and operation. Just about any task associated with positioning, moving, conveying and monitoring can be accomplished with these sensors.

Electrical connection

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).

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

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1

Technical data

General specifications

Effective detection range	0 ... 17 m
Reflector distance	0.05 ... 17 m
Threshold detection range	21 m
Reference target	H85-2 reflector
Light source	LED
Light type	modulated visible red light
Polarization filter	yes
Diameter of the light spot	approx. 290 mm at a distance of 17 m
Angle of divergence	emitter 1.2° receiver 2°
Ambient light limit	80000 Lux

Functional safety related parameters

$MTTF_d$		940 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	sensitivity adjustment (Adjustment to < 25% of the effective operating range) , Light/Dark 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
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

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 ABS
Optical face	Plastic pane
Mass	112 g

Compliance with standards and directives

Directive conformity	Low Voltage Directive 2006/95/EC EMC Directive 2004/108/EC
Standard conformity	
Product standard	EN 60947-5-2:2007 IEC 60947-5-2:2007

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.
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)

Accessories

OMH-05
Mounting aid for round steel ø 12 mm or sheet 1.5 mm ... 3 mm

OMH-07
Mounting aid for round steel ø 12 mm or sheet 1.5 mm ... 3 mm

OMH-21
Mounting bracket

OMH-22
Mounting bracket

OMH-MLV11-K
dove tail mounting clamp

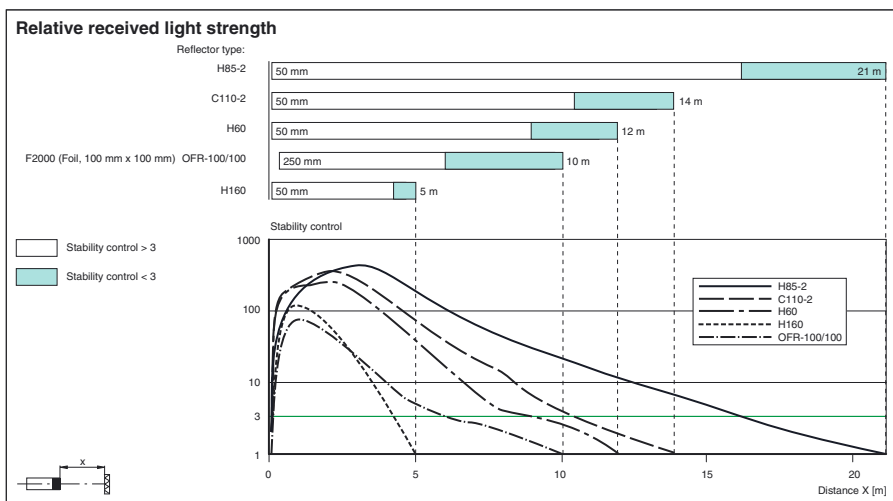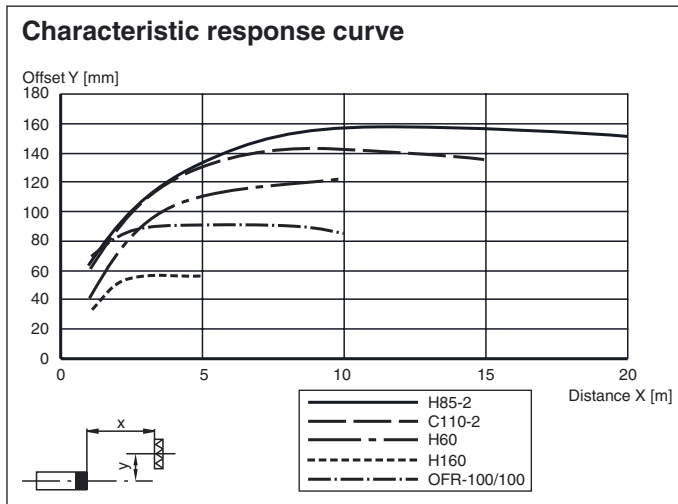**OMH-RLK29**
Mounting bracket

OMH-RLK29-HW
Mounting bracket for rear wall mounting

OMH-RL28-C
Weld slag cover model

Other suitable accessories can be found at www.pepperl-fuchs.com

Curves/Diagrams

Characteristic response curve

Offset Y [mm] vs Distance X [m]

- H85-2
- C110-2
- H60
- H160
- OFR-100/100

Relative received light strength

Reflector type:

Reflector	Size	Range
H85-2	50 mm	21 m
C110-2	50 mm	14 m
H60	50 mm	12 m
F2000 (Foil, 100 mm x 100 mm) OFR-100/100	250 mm	10 m
H160	50 mm	5 m

Stability control > 3
Stability control < 3

Stability control

- H85-2
- C110-2
- H60
- H160
- OFR-100/100

Distance X [m]

Timer functions

Timer function	Switching type		Receiver exposed / Receiver dark
ON 1 2 3 4 Without	Light		ON / OFF
	Dark		ON / OFF
ON 1 2 3 4 ON delay	Light	t_{ON}	ON / OFF
	Dark	t_{ON} t_{ON} t_{ON}	ON / OFF
ON 1 2 3 4 OFF delay	Light	t_{OFF} t_{OFF} t_{OFF}	ON / OFF
	Dark	t_{OFF}	ON / OFF
ON 1 2 3 4 one shot	Light	t_{OS} t_{OS} t_{OS}	ON / OFF
	Dark	t_{OS} t_{OS} t_{OS}	ON / OFF

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	

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

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