Dimensions

Indicator of detection range for Off delay and one shot
DIP-switch
Name plate
Indicator of detection range for On delay
Relay NO
Relay NC
Relay center contact
12 ... 240 V AC/DC
12 ... 240 V AC/DC

Transmitter
Receiver
Dovetail mount

DIP-switch
ON OFF

Light/dark switch
LED-switch status
LED-switch status
LED-operating display
Sensitivity adjuster

Model Number

RLK28-55-V-Z/31/116

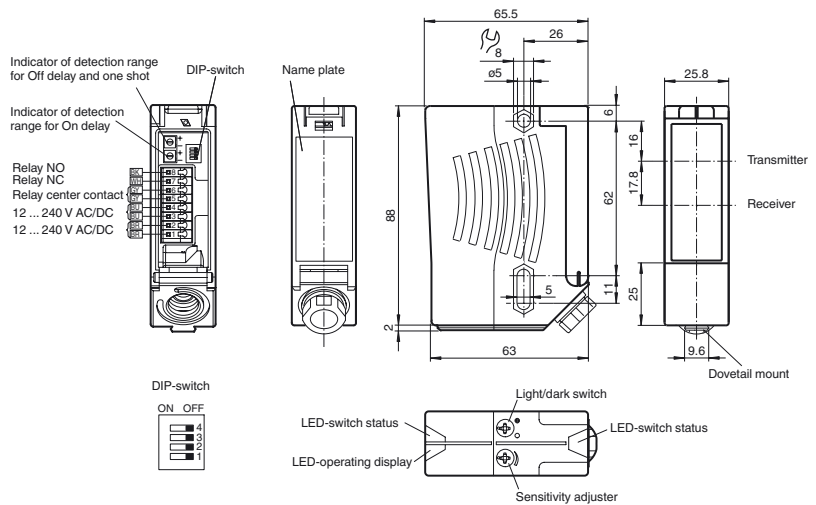Retroreflective sensor
with terminal compartment

Features

- Universal series with highly versatile fields of use
- Resistant against noise: reliable operation under all conditions
- Foreground suppression, suited to recording of sheet-shrink-wrapped objects
- 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

Electrical connection

Option:

8 (BK) — NO
7 (WH) — NC
6 (GY) — C
5 (GY) — C
4 (BU) — ~/0 V
3 (BU)
2 (BN) — ~/+UB
1 (BN)

12V ...240 V AC/DC

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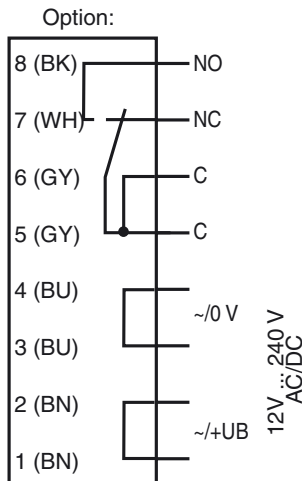This complies to the default setting of the light/dark switch (factory setting).

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.

Subject to modifications without notice

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Technical data

General specifications

Effective detection range	0 ... 13 m
Reflector distance	0.5 ... 13 m
Threshold detection range	17 m
Reference target	H85-2 reflector
Light source	LED
Light type	modulated visible red light
Near range suppression	0 ... 0.2 m
Diameter of the light spot	approx. 220 mm at a distance of 13 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

Operating display	LED green
Function display	2 LEDs yellow, light up when light beam is free, flash when falling short of the stability control, off when light beam is interrupted
Controls	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

Protection degree	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 , Class 2 power source
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

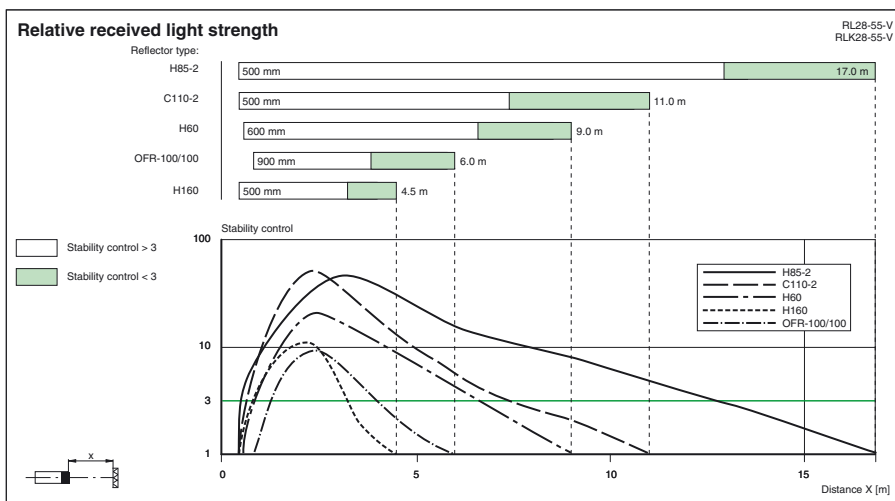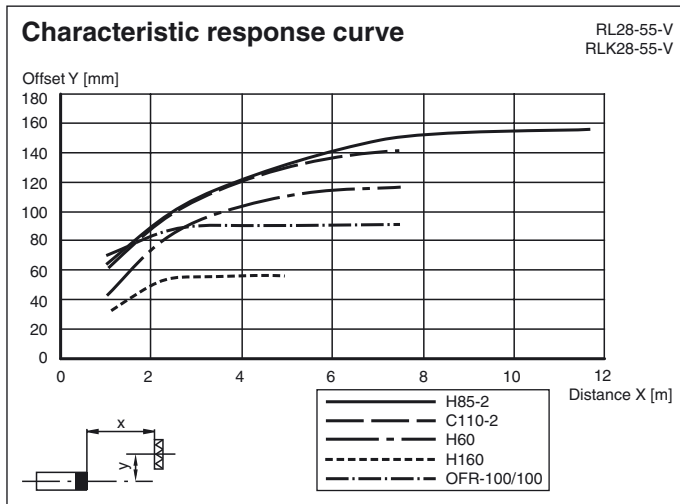**OMH-RLK29**
Mounting bracket

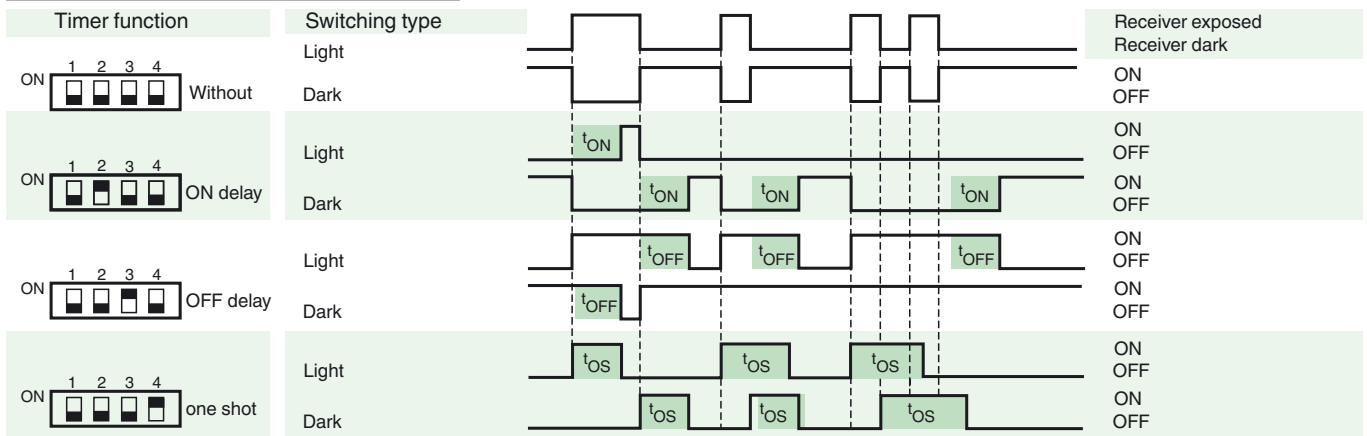**OMH-RLK29-HW**
Mounting bracket for rear wall mounting

OMH-RL28-C
Weld slag cover model

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

Curves/Diagrams

Characteristic response curve

RL28-55-V
RLK28-55-V

Offset Y [mm]

Distance X [m]

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

Relative received light strength

RL28-55-V
RLK28-55-V

Reflector type:

Reflector type		
H85-2	500 mm	17.0 m
C110-2	500 mm	11.0 m
H60	600 mm	9.0 m
OFR-100/100	900 mm	6.0 m
H160	500 mm	4.5 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	

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