Thru-beam sensor
LA28-F1/116

- Universal series with highly versatile fields of use
- Resistant against noise: reliable operation under all conditions
- Highly visible LED as alignment aid in receiver optics
- Programmable time function GAN, GAB, IAB as well as GAN-IAB and GAN-GAB as double function
- Version with red light
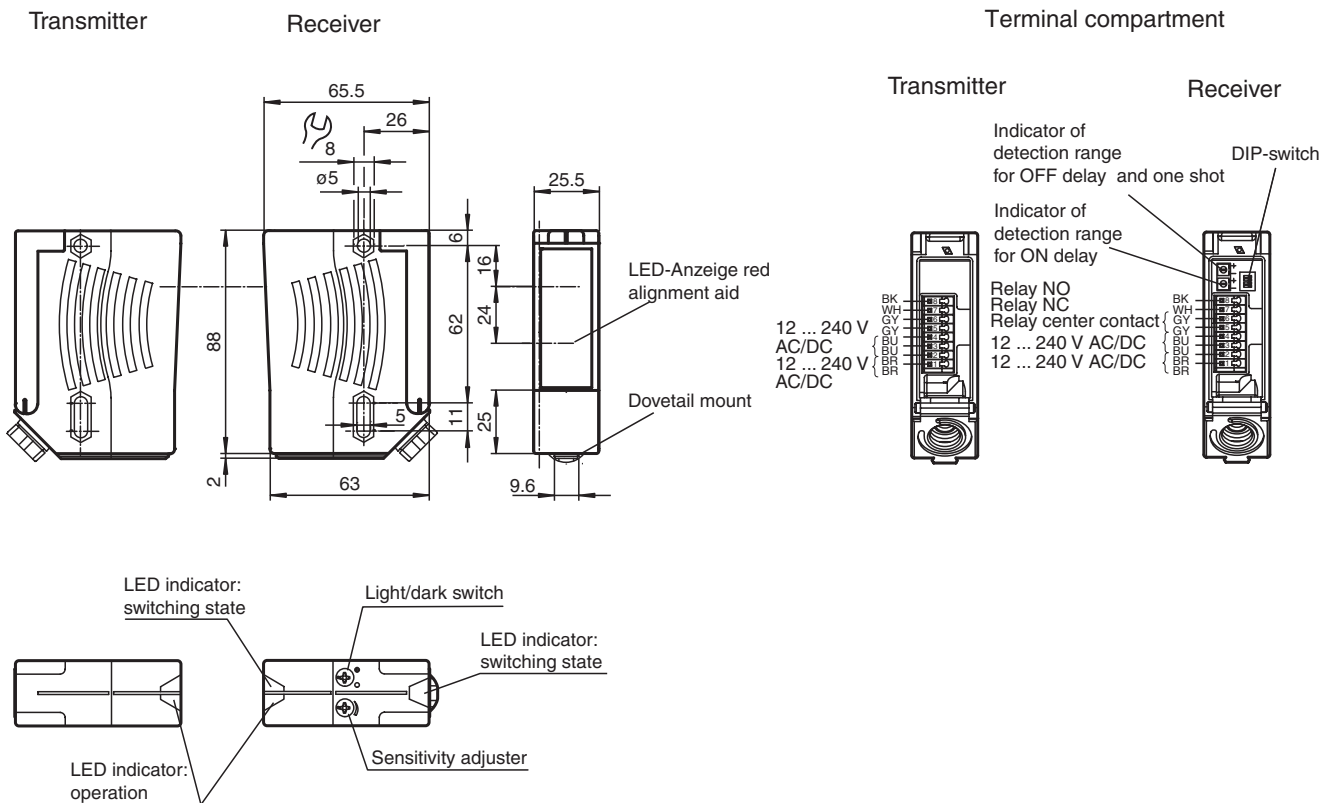- Version with relay output

Thru-beam sensor emitter

Function

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.

Application

- Object tracking in material handling, and the packaging sector
- Material flow monitoring
- Bin occupancy check in storage technology
- Fine positioning in high-bay warehouses
- Presence and height monitoring on pallet conveyors
- Single-beam protection for automatic industrial gates and elevator doors
- Protection at automatic gates

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

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Dimensions

Transmitter   Receiver

Terminal compartment

Transmitter   Receiver

65.5

26

8

ø5

25.5

6
16
62   24
88

5
11
25
2
63
9.6

LED-Anzeige red alignment aid

Dovetail mount

Indicator of detection range for OFF delay and one shot

Indicator of detection range for ON delay

DIP-switch

Relay NO
Relay NC
Relay center contact
12 ... 240 V AC/DC
12 ... 240 V AC/DC

BK
WH
GY
GY
BU
BU
BR
BR

12 ... 240 V AC/DC
12 ... 240 V AC/DC

BK
WH
GY
GY
BU
BU
BR
BR

LED indicator: switching state

Light/dark switch

LED indicator: switching state

LED indicator: operation

Sensitivity adjuster

Technical Data

System components		
Emitter		LA28-F1/116
General specifications		
Light source		LED
Light type		modulated visible red light
Transmitter frequency		F1 = 25 kHz
Diameter of the light spot		approx. 1.3 m at 65 m
Opening angle		1.2 °
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
Electrical specifications		
Operating voltage	U_B	12 ... 240 V AC/DC
Power consumption	P_0	≤ 3.5 VA
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

Release date: 2022-11-02 Date of issue: 2022-11-02 Filename: 134117_eng.pdf

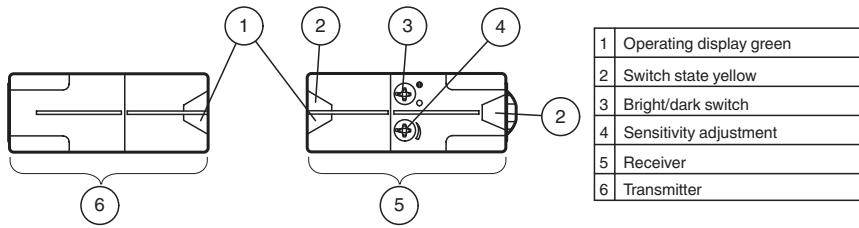Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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Technical Data

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)

Ambient conditions

Ambient temperature	-40 ... 60 °C (-40 ... 140 °F)
Storage temperature	-40 ... 60 °C (-40 ... 140 °F)

Mechanical specifications

Housing width	25.8 mm
Housing height	88 mm
Housing depth	65.5 mm
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	100 g

Connection Assignment
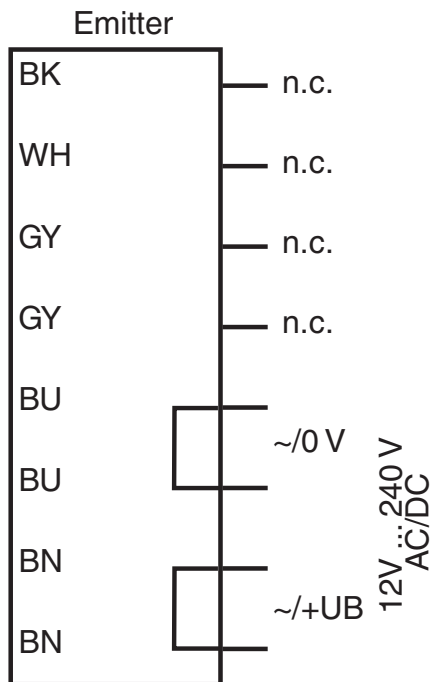
Emitter

BK	n.c.
WH	n.c.
GY	n.c.
GY	n.c.
BU	
BU	~/0 V
BN	
BN	~/+UB

12V ...240 V AC/DC

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Assembly

1	Operating display green
2	Switch state yellow
3	Bright/dark switch
4	Sensitivity adjustment
5	Receiver
6	Transmitter

Application

Accessories

	OMH-05	Mounting aid for round steel ø 12 mm or sheet 1.5 mm ... 3 mm
	OMH-21	Mounting bracket: mounting aid for sensors in the RL* series
	OMH-22	Mounting aid for RL* series
	OMH-RLK29	Mounting bracket
	OMH-RLK29-HW	Mounting bracket for rear wall mounting
	OMH-RL28-C	Weld slag cover model

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Timer functions

Timer function	Switching type		Receiver exposed Receiver dark
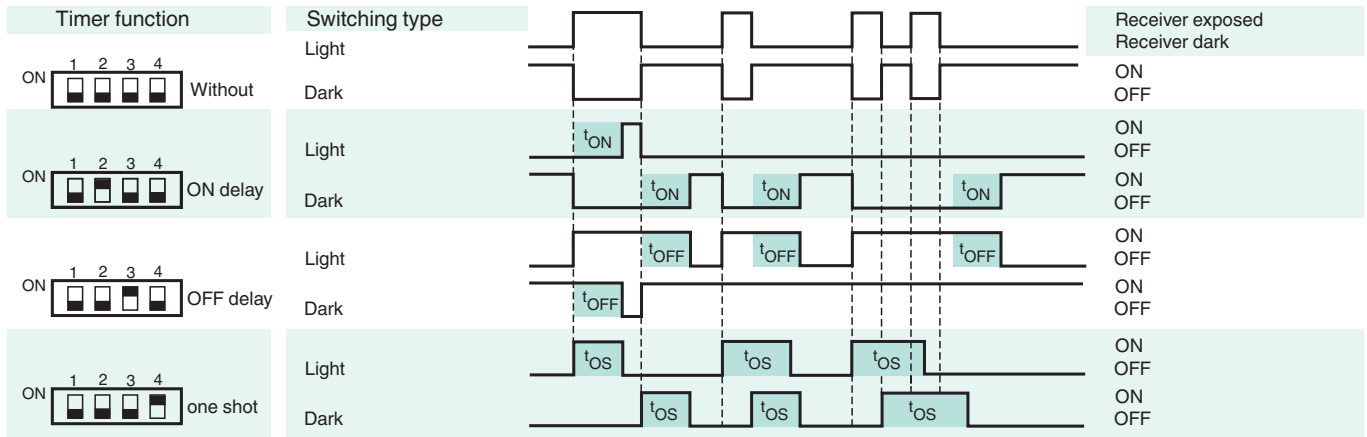
Time t_{ON}, t_{OFF} and t_{OS} are adjustable from 0.1 to 10 seconds.
The Light-/Dark-Switch (Left, outer switch) is shown in the "Dark ON" position.

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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