Model Number

RL28-55-Z/47/82b/112

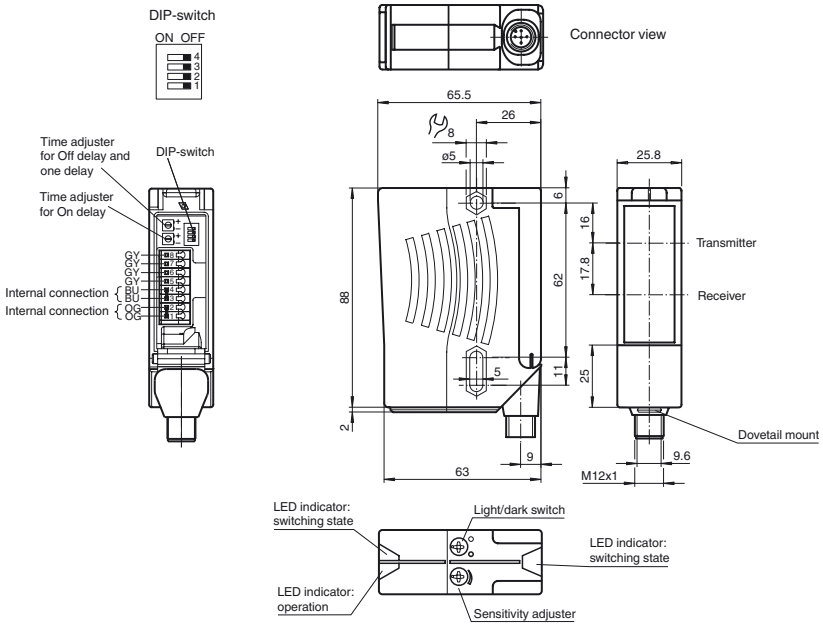
Retroreflective sensor

with metal connector M12; 5-pin, 90° convertible

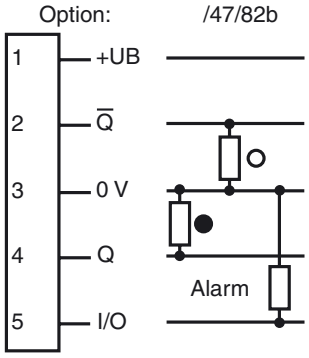
Features

- Ultra bright LEDs for power on, weak signal indication and switching state
- Programmable time function GAN, GAB, IAB and GAN-IAB as double function
- Not sensitive to ambient light, even with switched energy saving lamps
- Waterproof, degree of protection IP67
- Protection class II

Dimensions

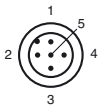


Electrical connection



○ = Light on
● = Dark on

Pinout



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)
5	GY	(gray)

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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 , 660 nm
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		
$MTTF_d$		690 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-on/dark-on changeover switch
Electrical specifications		
Operating voltage	U_B	10 ... 30 V DC
Ripple		10 %
No-load supply current	I_0	≤ 40 mA
Output		
Pre-fault indication output		1 PNP, inactive when falling short of the stability control for 10;s immediately inactive if 4 light beam interruptions take place
Switching type		light/dark on, switchable . (selectable, light/dark switching is only activated if the receiver has 'dark on' selected.)
Signal output		2 PNP, complementary, short-circuit protected, reverse polarity protected , open collectors
Switching voltage		max. 30 V DC
Switching current		max. 200 mA
Switching frequency	f	1000 Hz
Response time		0.5 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 0.02 s ... 1 s
Conformity		
Product standard		EN 60947-5-2
Ambient conditions		
Ambient temperature		-40 ... 60 °C (-40 ... 140 °F)
Storage temperature		-40 ... 75 °C (-40 ... 167 °F)
Mechanical specifications		
Housing width		25.8 mm
Housing height		88 mm
Housing depth		65.5 mm
Degree of protection		IP67
Connection		5-pin, M12 x 1 connector, 90° rotatable
Material		
Housing		Plastic ABS
Optical face		plastic
Connector		metal
Mass		approx. 100 g
Approvals and certificates		
UL approval		E87056 , cULus Listed , class 2 power supply , type rating 1

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-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

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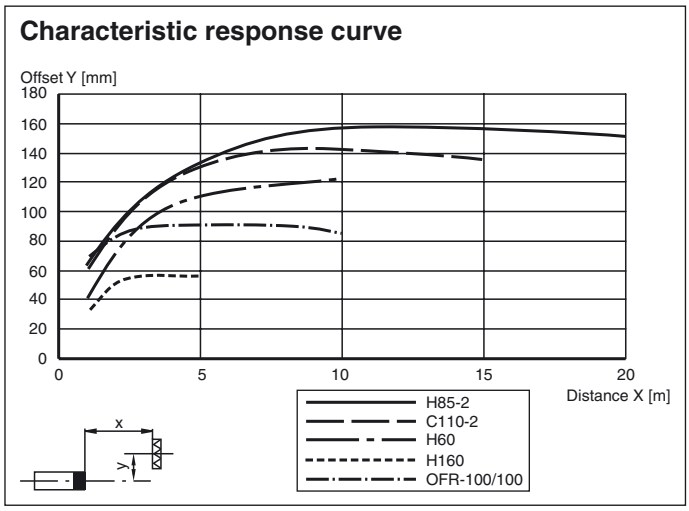
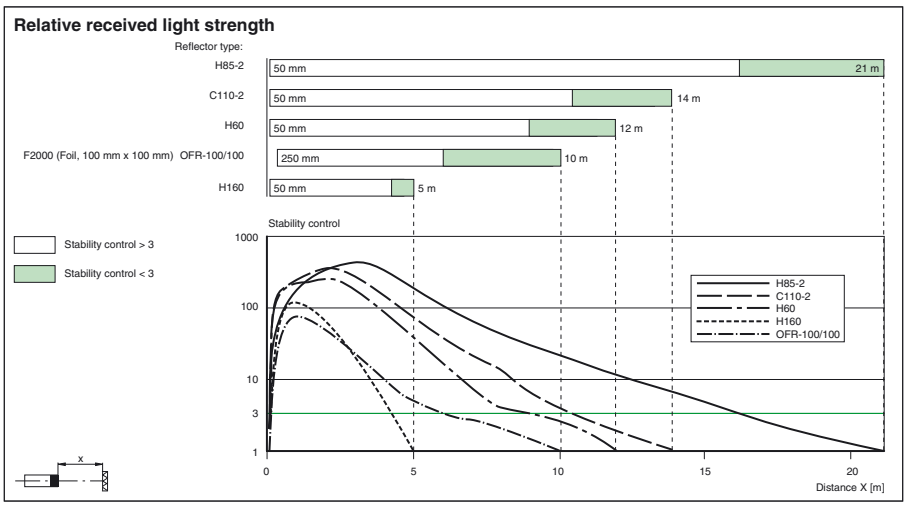
Curves/Diagrams





Timer functions

Timer function	Switching type		Receiver exposed / Receiver dark
ON 1 2 3 4 Without	Light		ON
	Dark		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 0.02 to 1 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 (0.02 s - 1 s)
	one shot timer	
	ON delay timer	
	ON delay timer / OFF delay timer	
	ON delay timer / one shot timer	

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