



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

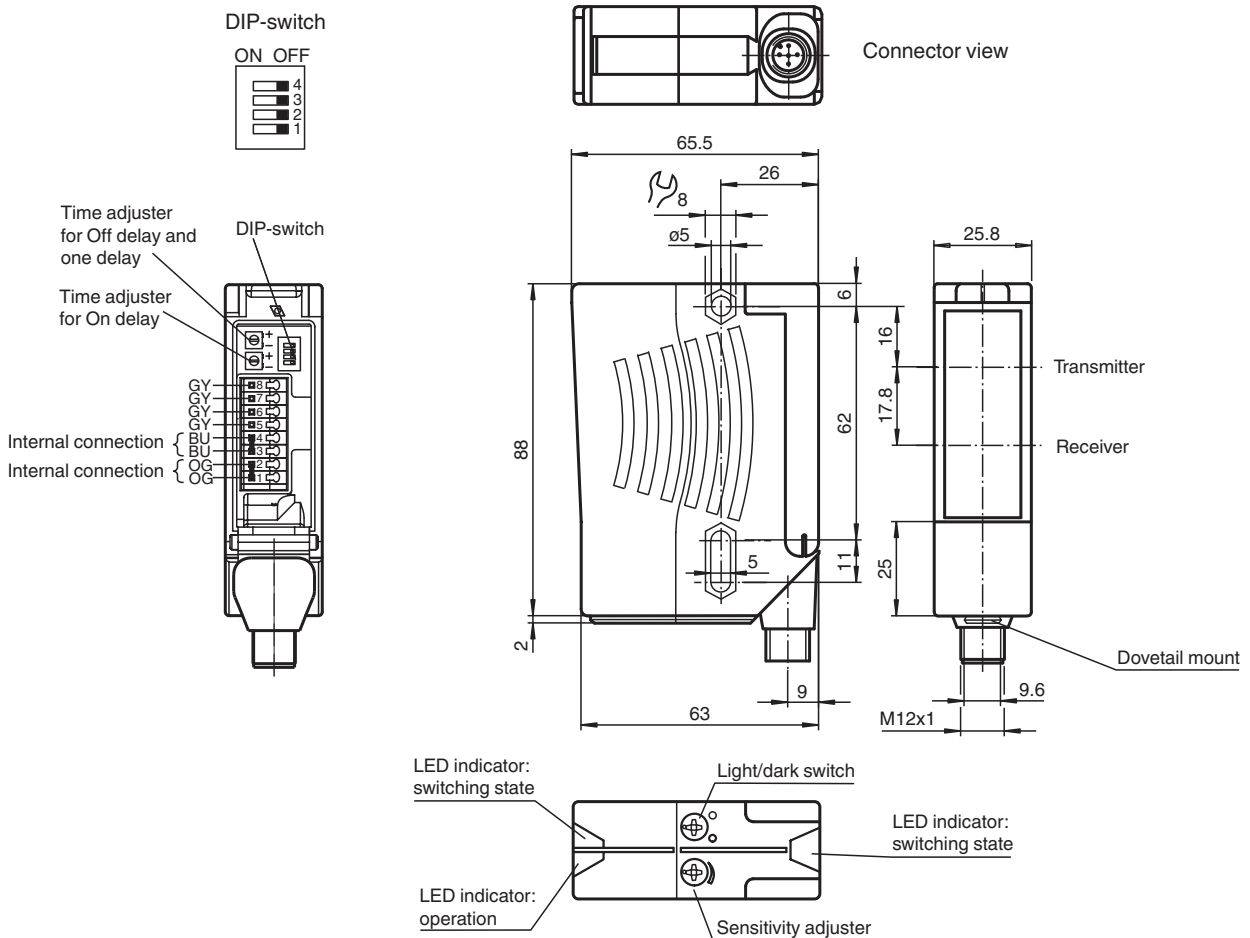


- Ultra bright LEDs for power on, weak signal indication and switching state
- Programmable time function GAN, GAB, IAB and GAN-IAB as double function
- Not sensitive to ambient light, even with switched energy saving lamps
- Waterproof, degree of protection IP67
- Protection class II

Retroreflective sensor with polarization filter



Dimensions



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

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PF PEPPERL+FUCHS

Technical Data

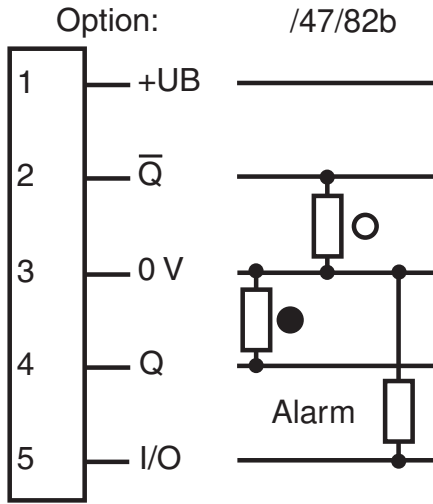
General specifications		
Effective detection range		0 ... 17 m
Reflector distance		0.05 ... 17 m
Threshold detection range		21 m
Reference target		H85-2 reflector
Light source		LED
Light type		modulated visible red light , 660 nm
Polarization filter		yes
Diameter of the light spot		approx. 290 mm at a distance of 17 m
Opening angle		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		
Stability alarm 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
Approvals and certificates		
EAC conformity		TR CU 020/2011
UL approval		E87056 , cULus Listed , class 2 power supply , type rating 1
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		5-pin, M12 x 1 connector, 90° rotatable
Material		

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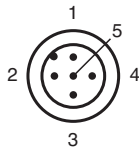
Housing	Plastic ABS
Optical face	plastic
Connector	metal
Mass	approx. 100 g

Connection Assignment



○ = Light on
● = Dark on

Connection Assignment



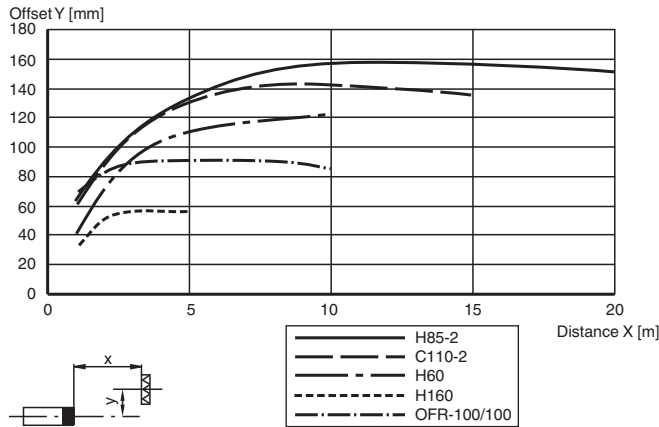
Wire colors in accordance with EN 60947-5-2

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

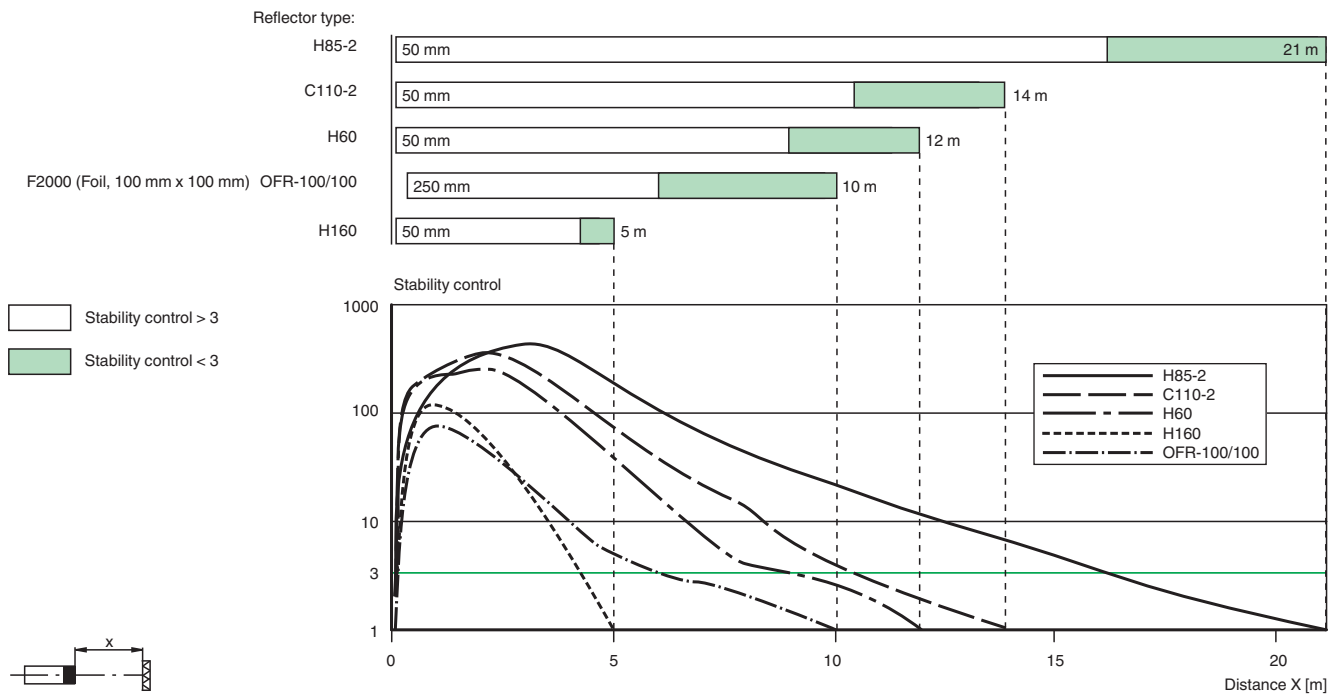
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Characteristic Curve

Characteristic response curve



Relative received light strength



Application



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Mounting

Zeitfunktionen / Fonctions de temporisation / Funzioni di temporizzazione / Timer functions / Funciones de tiempo

Zeitfunktion	Schalungsart	Empfänger belichtet / Empfänger dunkel
ON Ohne	Hell Dunkel	EIN AUS
ON GAN	Hell Dunkel	EIN AUS
ON GAB	Hell Dunkel	EIN AUS
ON IAB	Hell Dunkel	EIN AUS

Die Zeit t_{AN} , t_{AB} und t_{IAB} sind von 0,02 - 1 Sekunde einstellbar.
Der H/D-Schalter (Schalter links außen) ist in Stellung Dunkelschaltung dargestellt.

Timer function	Switching type	Receiver exposed / Receiver dark
ON Without	Light Dark	ON OFF
ON ON delay	Light Dark	ON OFF
ON OFF delay	Light Dark	ON OFF
ON one shot	Light Dark	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.

Fonction de temporisation	Mode de commutation	Récepteur éclairé / Récepteur non éclairé
ON sans	clair foncé	activé désactivé
ON GAN	clair foncé	activé désactivé
ON GAB	clair foncé	activé désactivé
ON IAB	clair foncé	activé désactivé

Les temps t_{AN} , t_{AB} et t_{IAB} sont réglables de 0,02 ... 1 s.
Le commutateur H/D (commutateur à l'extrême gauche) est représenté en position commutation obscur.

Función de tiempo	Modo de conmutación	Receptor recibiendo luz / Receptor oscuro
ON Sin	Claro Oscuro	ON OFF
ON GAN	Claro Oscuro	ON OFF
ON GAB	Claro Oscuro	ON OFF
ON IAB	Claro Oscuro	ON OFF






El tiempo t_{AN} , t_{AB} y t_{IAB} es ajustable entre 0,02 y 1 segundos.
El conmutador H/D (conmutador exterior izquierdo) está representado en posición de reducción de la luz.

Funzione tempo	Modo di commutazione	Ricevitore illuminato / Ricevitore scuro
ON Senza	Chiaro Scuro	Un Disattivo
ON GAN	Chiaro Scuro	Un Disattivo
ON GAB	Chiaro Scuro	Un Disattivo
ON IAB	Chiaro Scuro	Un Disattivo

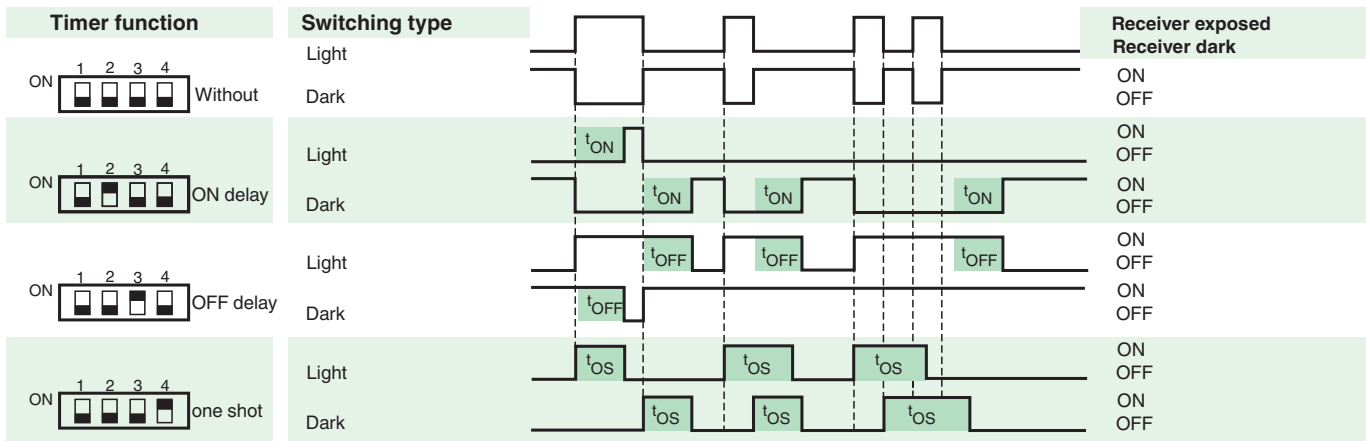
i tempi t_{AN} , t_{AB} e t_{IAB} sono regolabili tra 0,02 s e 1 s.
L'interruttore chiaro/scuro (interruttore sul lato esterno sinistro) è rappresentato in posizione di azionamento in scuro.

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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-HW	Mounting bracket for rear wall mounting
	OMH-RL28-C	Weld slag cover model

Timer functions



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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