Model Number

RL61-LL-IR-Z/92/136

Fiber optic sensor
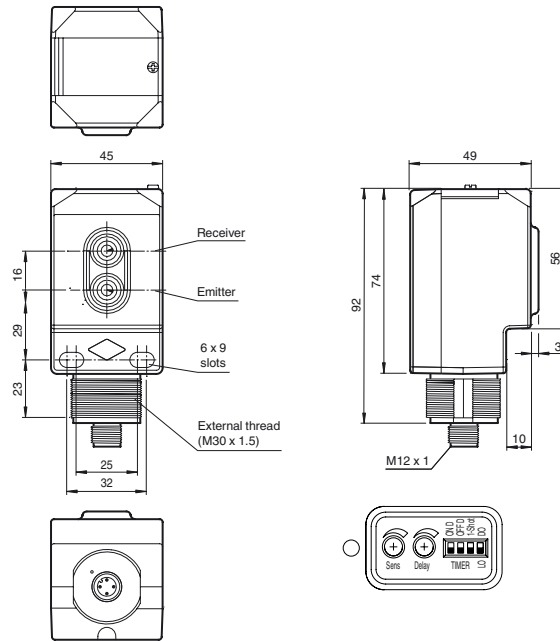with 4-pin, M12 x 1 connector

Features

- Cost-optimized series for standard tasks in a special design
- Compact design
- Wide range of mounting options thanks to cubic housing design with M30 thread
- 360° high visibility LEDs
- Programmable ON-delay, OFF-delay, and One-shot timers
- 4-in-1 output (push-pull)
- Version with infrared light
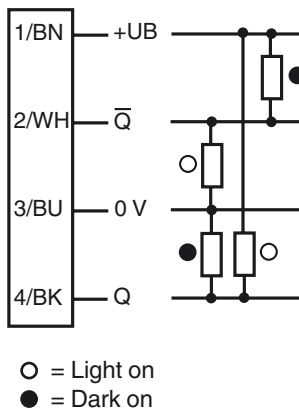- Includes universal fiber adapter kit

Product information

The Series 61 sensor family is a comprehensive product line, offering five sensing modes. Each sensor is equipped with four LEDs that are highly visible from all directions, indicating Power-On, target presence and marginal excess gain. The widely recognized, polycarbonate housing provides a IP67 protection degree rating. Color-coded labels are clearly printed on the housing to easily identify the sensing mode. DC models offer a 4-in-1 output while AC/DC models have a SPDT relay output rated to 3 A. All versions come standard with an integral multifunction timer, sensitivity adjustment and Light-ON/Dark-ON switch. Series 61 sensors are cross-talk protected and have a high degree of resistance to ambient lighting. Each sensor can be mounted via front and rear slots, rear dovetail guide or M30 x 1.5 mounting base. Additionally, cabled sensor models provide ½" - 14 NPT internal threads for use with flexible conduit.
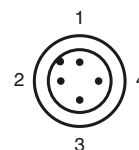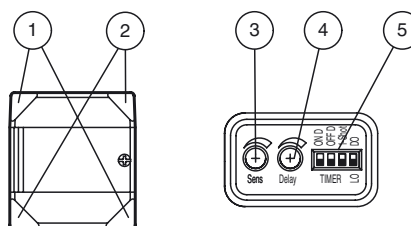
Release date: 2013-01-14 15:19   Date of issue: 2013-01-14   911630_eng.xml

Dimensions

Receiver
Emitter
6 x 9 slots
External thread (M30 x 1.5)

45
16
29
23
25
32

49
92
74
56
3
10
M12 x 1

Sens   Delay   TIMER

Electrical connection

1/BN	+UB
2/WH	$\overline{Q}$
3/BU	0 V
4/BK	Q

○ = Light on
● = Dark on

Pinout

1
2   4
3

Indicators/operating means

1   2   3   4   5

Sens   Delay   TIMER

1	Operating display	green
2	Signal display	yellow
3	Sensing range adjuster	
4	Time adjuster	
5	DIP-switches	

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Technical data

General specifications

Detection range	Dependent on fibers selected
Light source	IRED
Light type	modulated infrared light , 850 nm
Ambient light limit	5000 Lux ; according EN 60947-5-2

Indicators/operating means

Operating display	2 LEDs green
Function display	2 LEDs yellow ON: object inside the sensing range OFF: object outside the sensing range
Controls	Light/Dark switch
Controls	Detection range adjuster
Controls	Time adjuster (0 ... 50 ms)

Electrical specifications

Operating voltage	U_B	10 ... 30 V DC
Ripple		10 %
No-load supply current	I_0	≤ 35 mA
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 240 V AC

Output

Switching type		light/dark on, switchable
Signal output		2 push-pull (4 in 1) outputs, short-circuit protected, reverse polarity protected
Switching voltage		max. 30 V DC
Switching current		max. 100 mA
Voltage drop	U_d	≤ 2.5 V
Switching frequency	f	500 Hz
Response time		≤ 1 ms
Timer function		DIP-switch for selection of operating modes

Ambient conditions

Ambient temperature	-40 ... 55 °C (-40 ... 131 °F)
Storage temperature	-40 ... 70 °C (-40 ... 158 °F)

Mechanical specifications

Protection degree	IP67
Connection	connector M12 x 1, 4-pin
Material	
Housing	PC (Polycarbonate)
Optical face	PMMA
Mass	120 g

Compliance with standards and directives

Standard conformity	
Product standard	EN 60947-5-2:2007 IEC 60947-5-2:2007

Approvals and certificates

UL approval	cULus
CCC approval	Products with a maximum operating voltage of ≤36 V do not bear a CCC marking because they do not require approval.

Accessories

MPGKITC
Fiber cable adapter kit

MPZB01
Mounting bracket with vertical slots

MPZB02
Mounting bracket with circular slots

MPZB06
Ball and Swivel Mounting Bracket

MPZB07
Ball and Swivel Vertical Mounting Plate

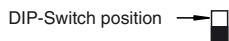**V1-G-2M-PUR**
Cable socket, M12, 4-pin, PUR cable

V1-W-2M-PUR
Cable socket, M12, 4-pin, PUR cable

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

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Timer Functions

Switching Type L.ON	Detection Status / Operation Mode		
			Light Received / No Light Received
Timer (DIP)	No Delay (Timer OFF)		ON / OFF
Timer (DIP)	ON Delay		ON / OFF
Timer (DIP)	OFF Delay		ON / OFF
Timer (DIP)	One-Shot Delay		ON / OFF
Timer (DIP)	ON Delay and OFF Delay		ON / OFF

Switching Type D.ON	Detection Status / Operation Mode		
			Light Received / No Light Received
Timer (DIP)	No Delay (Timer OFF)		ON / OFF
Timer (DIP)	ON Delay		ON / OFF
Timer (DIP)	OFF Delay		ON / OFF
Timer (DIP)	One-Shot Delay		ON / OFF
Timer (DIP)	ON Delay and OFF Delay		ON / OFF

DIP-Switch position →

Time (T) is adjustable from 0 to 50 ms

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