



Model Number

RL61-LL-IR-Z/92/136

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

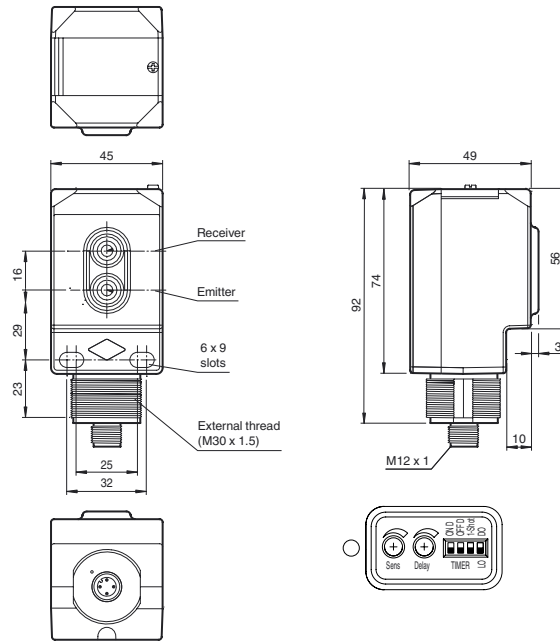
Features

- 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

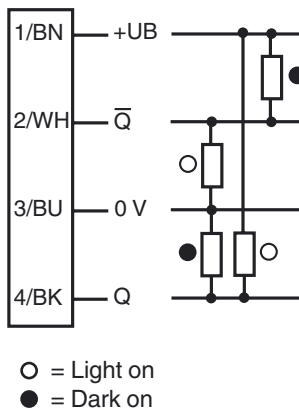
Product information

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 1/2" - 14 NPT internal threads for use with flexible conduit.

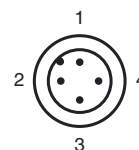
Dimensions



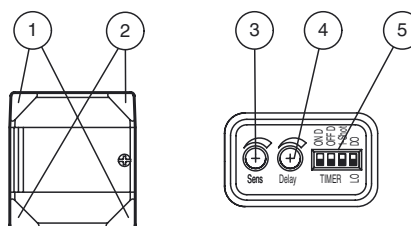
Electrical connection



Pinout



Indicators/operating means



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

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

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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

Operation indicator	2 LEDs green
Function indicator	2 LEDs yellow ON: object inside the sensing range OFF: object outside the sensing range
Control elements	Light/Dark switch
Control elements	Detection range adjuster
Control elements	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

Degree of protection	IP67
Connection	4-pin, M12 x 1 connector
Material	
Housing	PC (Polycarbonate)
Optical face	PMMA
Mass	120 g
Tightening torque, fastening screws	≤ 2 Nm

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	CCC approval / marking not required for products rated ≤36 V

Accessories**FE-BTS6S-5**

Glass fiber optic - diffuse

FE-BTS6S-10

Glass fiber optic - diffuse

FE-BTS6M-3

Glass fiber optic - diffuse

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

Female cordset, M12, 4-pin, PUR cable

V1-W-2M-PUR

Female cordset, M12, 4-pin, PUR cable

FE-BTS6S-3

Glass fiber optic - diffuse

FE-BTSAS6S-3

Glass fiber optic - diffuse

FE-BTSAS6M-3

Glass fiber optic - diffuse

FE-BNSRA5S-3

Glass fiber optic - diffuse

FE-BRL7S-3

Glass fiber optic - diffuse

FE-BRL7M-3


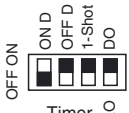
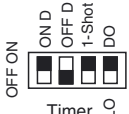
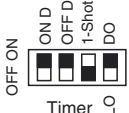
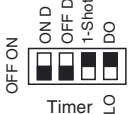
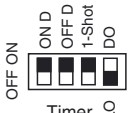
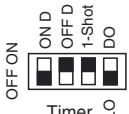
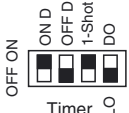
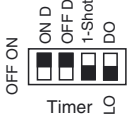
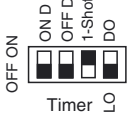
Glass fiber optic - diffuse


FE-BNSRA5M-3

Glass fiber optic - diffuse

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

Timer Functions

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

DIP-Switch position 

Time (T) is adjustable from 0 to 50 ms

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