









Model Number

RL61-8-H-500-IR-Z/92/136

Background suppression sensor with 4-pin, M12 x 1 connector

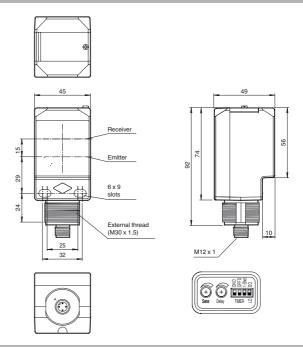
Features

- 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

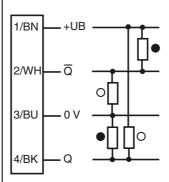
Product information

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

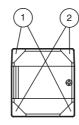


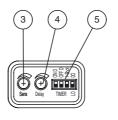
- O = Light on
- = Dark on

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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Detection range	Technical data					
Detection range min. Detection range max. 20 200 mm Adjustment range Background suppression Light source Light source Light source Light source Black/White difference (6 %/90 %) Diameter of the light spot Angle of divergence Ambient light limit Indicators/operating means Operating display Punction display Controls Controls Controls Controls Electrical specifications Operating voltage No-load supply current Switching voltage Switching voltage Switching voltage Switching voltage Switching voltage Switching voltage Switching frequency Ambient Londitions Ambient conditions Ambient conditions Ambient conditions Protection degree Light Park switch Detection range adjuster Time adjuster (0 50 ms) Light/dark on, switchable Signal output Voltage drop Ug Switching voltage Switching requency Fight Score Representative Fight Score Representative Fight Switching requency Fight Score Representative Fight Fight Connection Connection Connection Connection Material Housing Fight Connection Material Housing Fight Compliance with standards and directives Standard conformity Froduct standard Fight Figh	General specifications					
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Light source Light type modulated infarred light , \$50 nm Black/White difference (6 %/90 %) Diameter of the light spot approx. 6 mm at a distance of 500 mm Angle of divergence 0.7° Ambient light limit 300000 Lux 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 OFF: object outside the sensing range Controls Light/Dark switch Controls Detection range adjuster (050 ms) Electrical specifications Operating voltage U _B 1030 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 EN 50178, rated insulation voltage 240 V AC Output Switching type light/dark on, switchable 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 current max. 100 mA Voltage drop U _d < 2.5 V Switching frequency 1 500 Hz Response time	Adjustment range		200 500 mm			
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Black/White difference (6 %/90 %) Diameter of the light spot Angle of divergence Ambient light limit Indicators/operating means Operating display Function display Controls Controls Controls Controls Controls Detection range adjuster Controls Departing voltage Ripple No-load supply current Protection class Protection class Il, rated voltage ≤250 V AC with pollution degree 1-2 according to IEC 60664-1 Output circuit basis insulation of input circuit Switching type Signal output Switching current Voltage drop Switching frequency Switching frequency Response time Timer function Ambient conditions Ambient conditions Ambient degree Protection degree IP67 Connection Response time Firef Connection Response time Firef Connection Connection Response time Protection degree Protection degree Protection Response time Firef Connection Re	Light source		IRED			
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Angle of divergence Ambient light limit Indicators/operating means Operating display Function display Controls Contr	Black/White difference (6 %/90 %)		< 8 % at 500 mm sensor range			
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UL approval cULus	Gianuarus		LIT 5017 0, OL 500			
UL approval cULus	Approvals and certificates					
			cULus			
	CCC approval		Products with a maximum operating voltage of ≤36 V do not			

Accessories

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

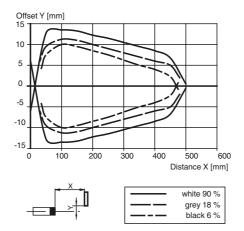
Cable socket, M12, 4-pin, PUR cable

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

bear a CCC marking because they do not require approval.

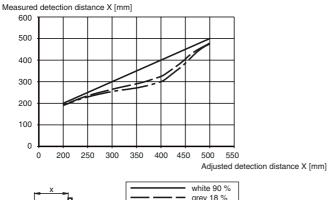
Curves/Diagrams

Movement Characteristic

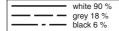


Difference in detection distance

RL(K)61-8-H-500-RT

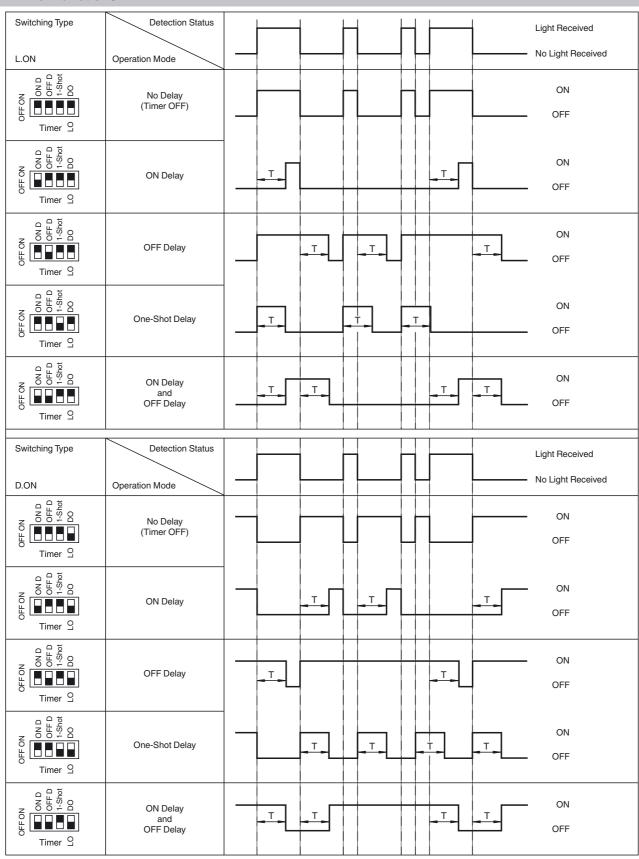






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Timer Functions



DIP-Switch position —

Time (T) is adjustable from 0 to 50 ms

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Adjustment Instructions

Intended use:

The transmitter and receiver are located in the same housing of Diffuse Mode sensors with Background Suppression. The suppression of objects outside the sensing range is achieved by arranging the angle between the transmitter and receiver (2 receiver elements).

Objects are detected independently of their surface structures, brightness and color, as well as the brightness of the background.

Mounting instructions:

The sensors can be fastened directly with fixing screws or with a mounting bracket (not included with delivery).

The surface underneath must be flat to prevent the housing from moving when the sensor is tightened into position. We recommend securing the nut and screw in place with lock washers to prevent the sensor from going out of adjustment.

Adjustment:

After the operating voltage is applied, the green LEDs light up.

Align the sensor to the background. If the yellow LEDs are lit, the sensing range should be reduced with the sensing range adjuster until the yellow LEDs turn off.

Object detection:

Place the object to be detected at the desired maximum sensing range and align the light spot to it. If the object is detected, the yellow LED lights up.

If they do not light up, the sensing range must be adjusted on the potentiometer until the yellow LEDs light up indicating that an object is detected.

Cleaning:

We recommend cleaning the optical surface and checking all of the connections at regular intervals.

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Singapore: +65 6779 9091

fa-info@sg.pepperl-fuchs.com