Model Number

RLK61-8-H-2000-IR-Z/31/115

Background suppression sensor
with fixed cable

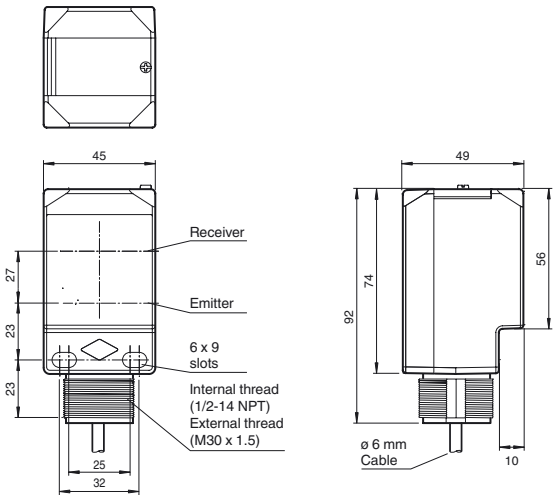
Features

- 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
- Version for universal voltages
- Relay output

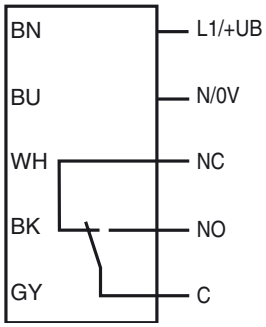
Product information

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.

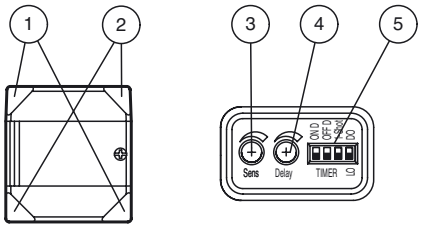
Dimensions



Electrical connection



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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Technical data

General specifications		
Detection range		20 ... 2000 mm
Detection range min.		20 ... 500 mm
Detection range max.		20 ... 2000 mm
Adjustment range		500 ... 2000 mm
Background suppression		max. + 10 % of the upper limit of the detection range
Light source		IRED
Light type		modulated infrared light , 850 nm
Black/White difference (6 %/90 %)		< 40 %
Diameter of the light spot		approx. 24 mm at a distance of 2000 mm
Angle of divergence		0.7 °
Optical face		frontal
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 scanning range OFF: object outside the scanning range
Control elements		Light-on/dark-on changeover switch
Control elements		Sensing range adjuster
Control elements		Time adjuster (0 ... 10 s)
Electrical specifications		
Operating voltage	U_B	24 ... 240 V AC 12 ... 240 V DC
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
Power consumption	P_0	≤ 2 VA
Output		
Switching type		light/dark on, switchable
Signal output		1 SPDT relay
Switching voltage		max. 250 V AC/DC
Switching current		max. 3 A
Switching power		DC: max. 150 W AC: max. 750 VA
Switching frequency	f	20 Hz
Response time		≤ 25 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		2 m fixed cable , 5-wire
Material		
Housing		PC (Polycarbonate)
Optical face		PMMA
Mass		approx. 240 g
Tightening torque, fastening screws		≤ 2 Nm
Cable length		2 m
Compliance with standards and directives		
Directive conformity		
EMC Directive 2004/108/EC		EN 60947-5-2:2007+A1:2012
Standard conformity		
Product standard		EN 60947-5-2:2007 IEC 60947-5-2:2007
Standards		EN 50178, UL 508
Approvals and certificates		
EAC conformity		TR CU 020/2011 TR CU 004/2011
UL approval		cULus Listed, Type 1 enclosure For overcurrent protection, install a fuse with a rated current of max. 5 A and min. 240 V AC/DC
CCC approval		Certified by China Compulsory Certification (CCC)

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

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

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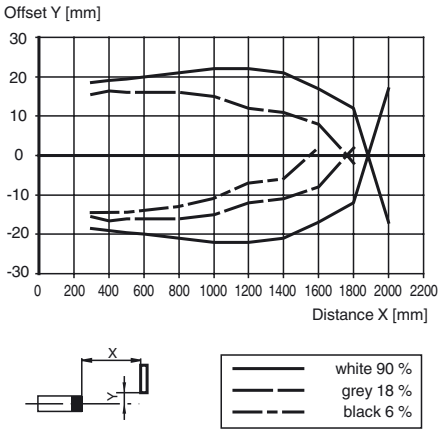
Curves/Diagrams

Movement Characteristic



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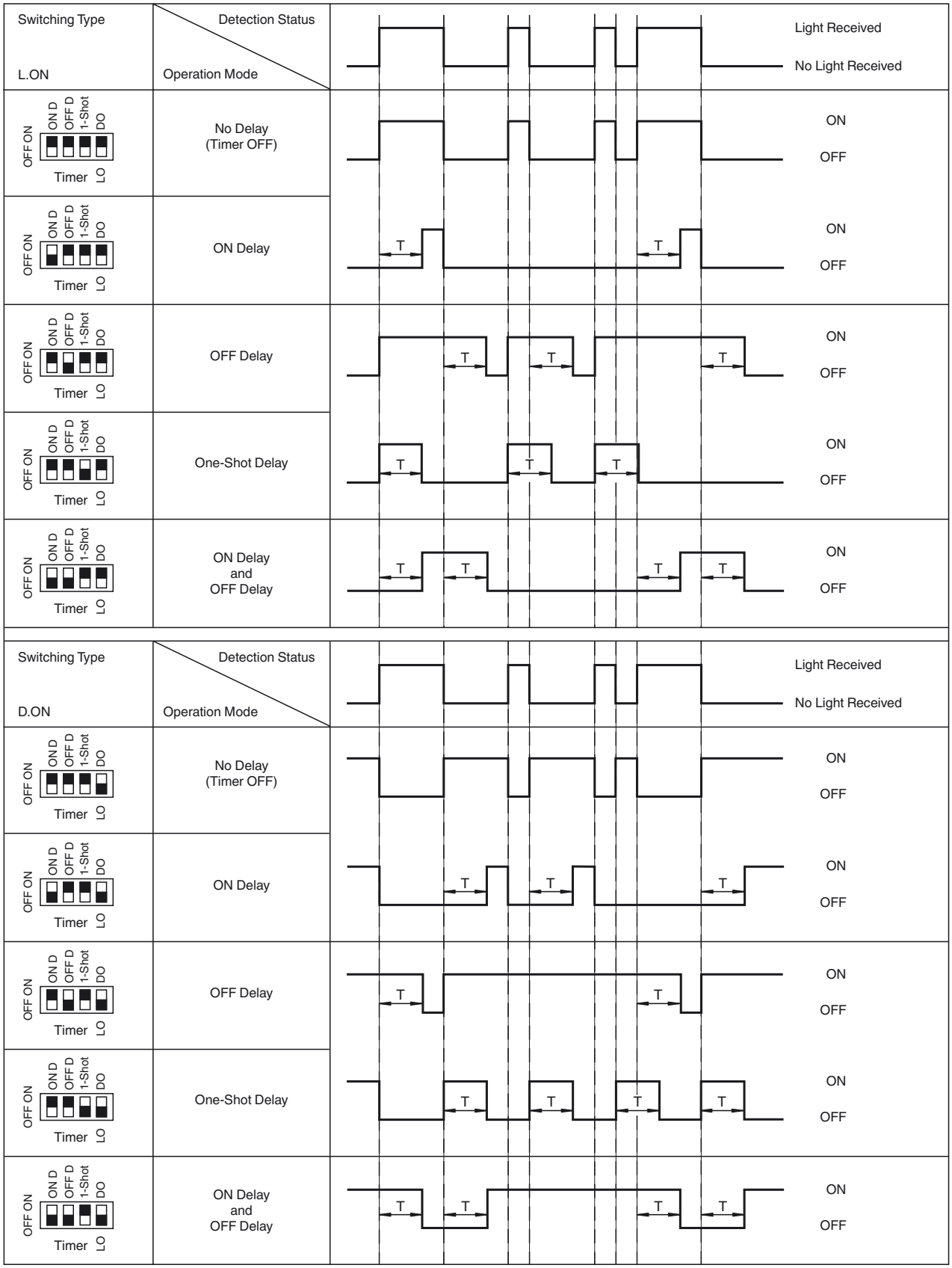
Timer Functions



DIP-Switch position →

Time (T) is adjustable from 0 to 10 s

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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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