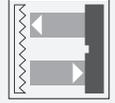




## Retroreflective sensor RLK61-55-Z/31/115



- 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

Retroreflective sensor with polarization filter



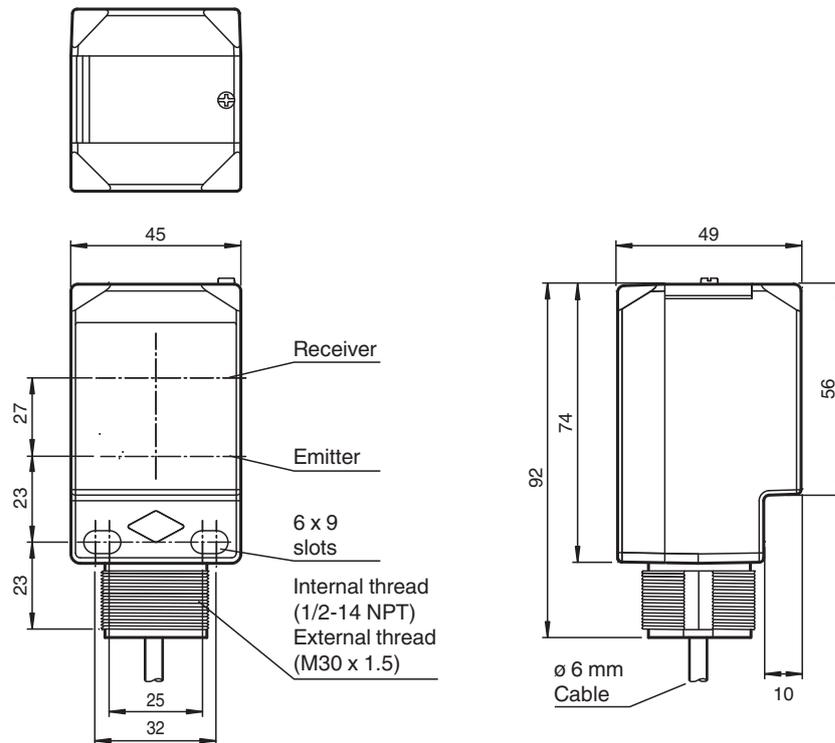
### Function

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.

### Application

- Object tracking in material handling, and the packaging sector
- Material flow monitoring
- Bin occupancy check in storage technology
- Fine positioning in high-bay warehouses
- Presence and height monitoring on pallet conveyors
- Single-beam protection for automatic industrial gates and elevator doors
- Protection at automatic gates

## Dimensions



## Technical Data

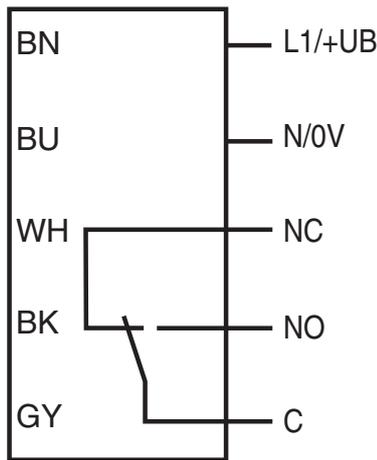
General specifications	
Effective detection range	0 ... 18 m
Reflector distance	0.3 ... 18 m
Threshold detection range	25 m
Reference target	FE-RR1 reflector
Light source	LED
Light type	modulated visible red light , 630 nm
Polarization filter	yes
Diameter of the light spot	approx. 350 mm at a distance of 18 m
Opening angle	1.1 °
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: reflector inside the sensing range off: reflector outside the sensing 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

Release date: 2022-05-04 Date of issue: 2022-05-04 Filename: 9111615\_eng.pdf

## Technical Data

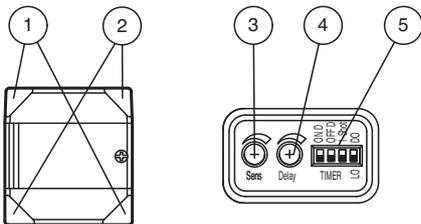
No-load supply current	$I_0$	$\leq 35 \text{ mA}$
Protection class		II, rated voltage $\leq 250 \text{ V AC}$ with pollution degree 1-2 according to IEC 60664-1 Output circuit basis insulation of input circuit according to EN 50178, rated insulation voltage $240 \text{ V AC}$
Power consumption	$P_0$	$\leq 2 \text{ VA}$
<b>Output</b>		
Switching type		light/dark on, switchable
Signal output		1 SPDT relay
Switching voltage		max. $250 \text{ V AC/DC}$
Switching current		max. $3 \text{ A}$
Switching power		DC: max. $150 \text{ W AC}$ : max. $750 \text{ VA}$
Switching frequency	$f$	$20 \text{ Hz}$
Response time		$\leq 25 \text{ ms}$
Timer function		DIP switch for selection of operating modes
<b>Compliance with standards and directives</b>		
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
<b>Approvals and certificates</b>		
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. $5 \text{ A}$ and min. $240 \text{ V AC/DC}$
CCC approval		Certified by China Compulsory Certification (CCC)
<b>Ambient conditions</b>		
Ambient temperature		$-40 \dots 55 \text{ }^\circ\text{C}$ ( $-40 \dots 131 \text{ }^\circ\text{F}$ )
Storage temperature		$-40 \dots 70 \text{ }^\circ\text{C}$ ( $-40 \dots 158 \text{ }^\circ\text{F}$ )
<b>Mechanical specifications</b>		
Housing width		$45 \text{ mm}$
Housing height		$73.7 \text{ mm}$
Housing depth		$48.6 \text{ mm}$
Degree of protection		IP67
Connection		$2 \text{ m}$ fixed cable
Material		
Housing		PC (Polycarbonate)
Optical face		PMMA
Mass		approx. $240 \text{ g}$
Tightening torque, fastening screws		max. $2 \text{ Nm}$
Cable length		$2 \text{ m}$

**Connection Assignment**



The relay-functions "NC" and "NO" bear on the switching mode "Dark-ON". This complies to the default setting of the light/dark switch (factory setting).

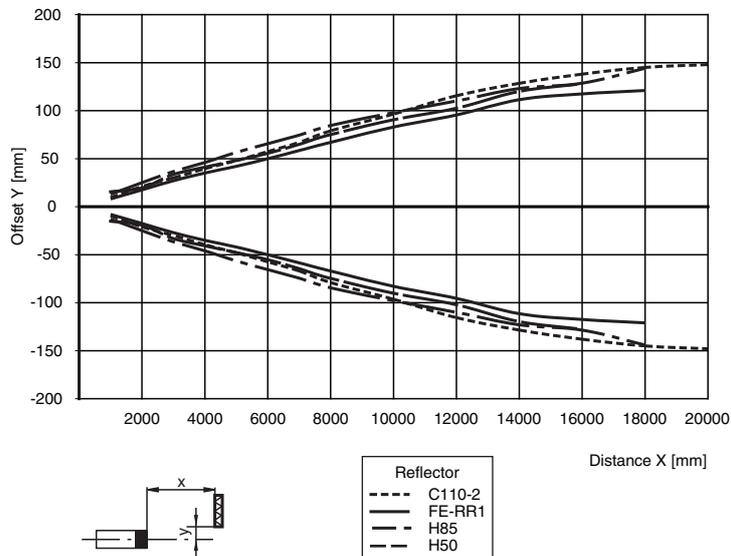
**Assembly**



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

**Characteristic Curve**

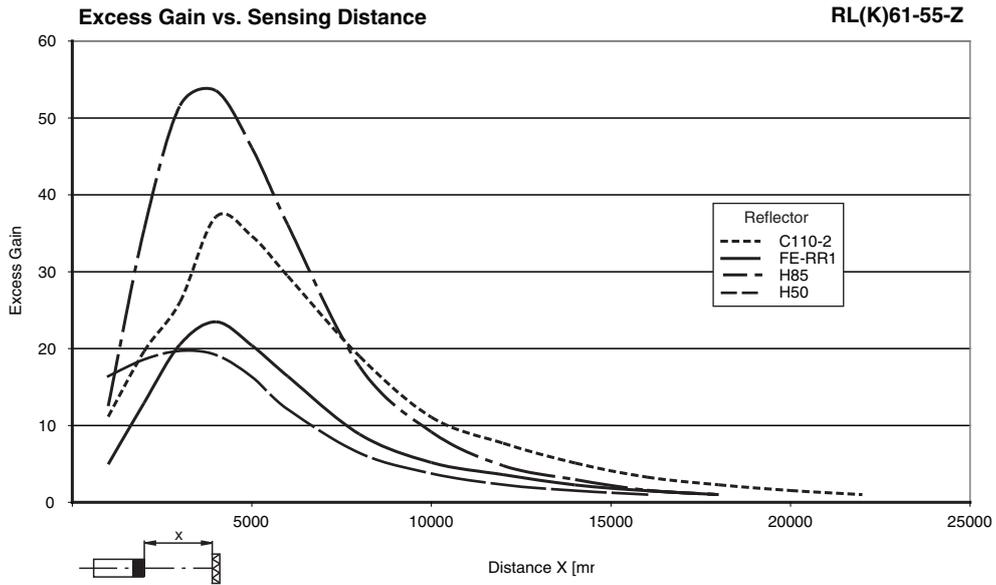
**Movement Characteristic RL(K)-61-55-Z**



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

**Characteristic Curve**



**Application**

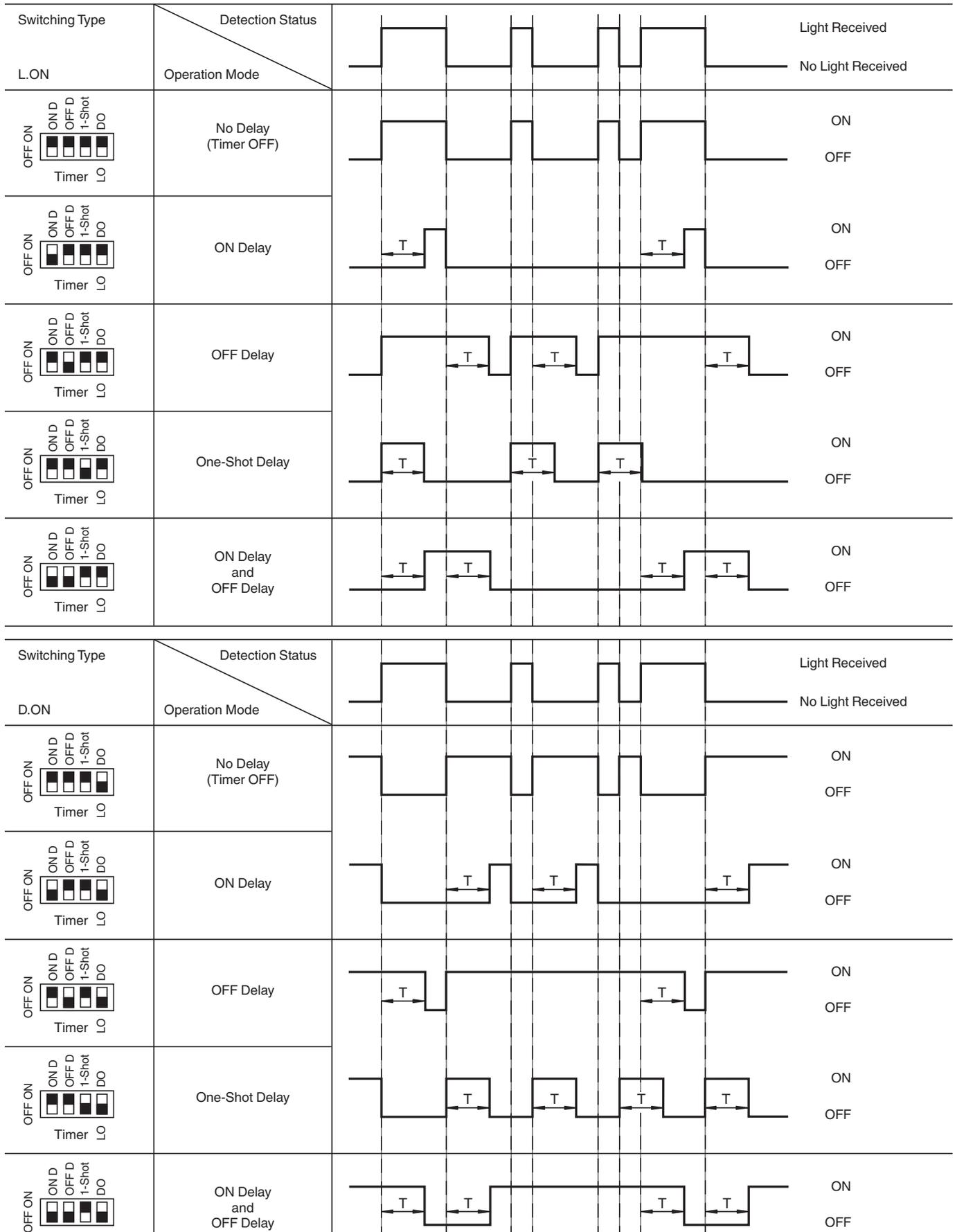


**Accessories**

	<b>MPZB01</b>	Mounting bracket with vertical slots
	<b>MPZB02</b>	Mounting bracket with circular slots
	<b>MPZB06</b>	Ball and Swivel Mounting Bracket
	<b>MPZB07</b>	Ball and Swivel Vertical Mounting Plate

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Timer Functions



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

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PEPPERL+FUCHS

Time (T) is adjustable from 0 sec ... 10 sec

## Adjustment Instructions

### Intended use:

The retroreflective sensor contains the emitter and receiver in a single housing. The light from transmitter is reflected back from a reflector to the receiver. If an object interrupts the light beam, the switching function is initiated.

### Mounting instructions:

The sensor can be mounted using the through-holes or with a mounting bracket (not included with delivery).

The base surface must be flat to avoid distorting the sensor housing during mounting. It is advisable to secure the bolts and screws with washers so that the sensor does not become misaligned.

### Adjustment Instructions:

Connect the sensor to operating voltage and the green LED lights up solid.

Mount a suitable reflector opposite the sensor and make a rough adjustment.

**The precise adjustment is done by swiveling the sensor horizontally and vertically. With optimum light reception, the yellow LED lights up solid. It will blink if the sensor requires fine adjustment.**

### Object detection:

Move an object into the light beam. If the object is detected, the yellow LED switches off. If it does not switch off, reduce the sensitivity with the potentiometer until it does. It should light up solid when the object is removed.

### Cleaning:

The yellow LED flashes if the light received decreases (e.g. dirty lenses).

We recommend that you clean the optical interfaces and check all connections at regular intervals.