



## Thru-beam sensor LA61/LK61-Z/31/135



- 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

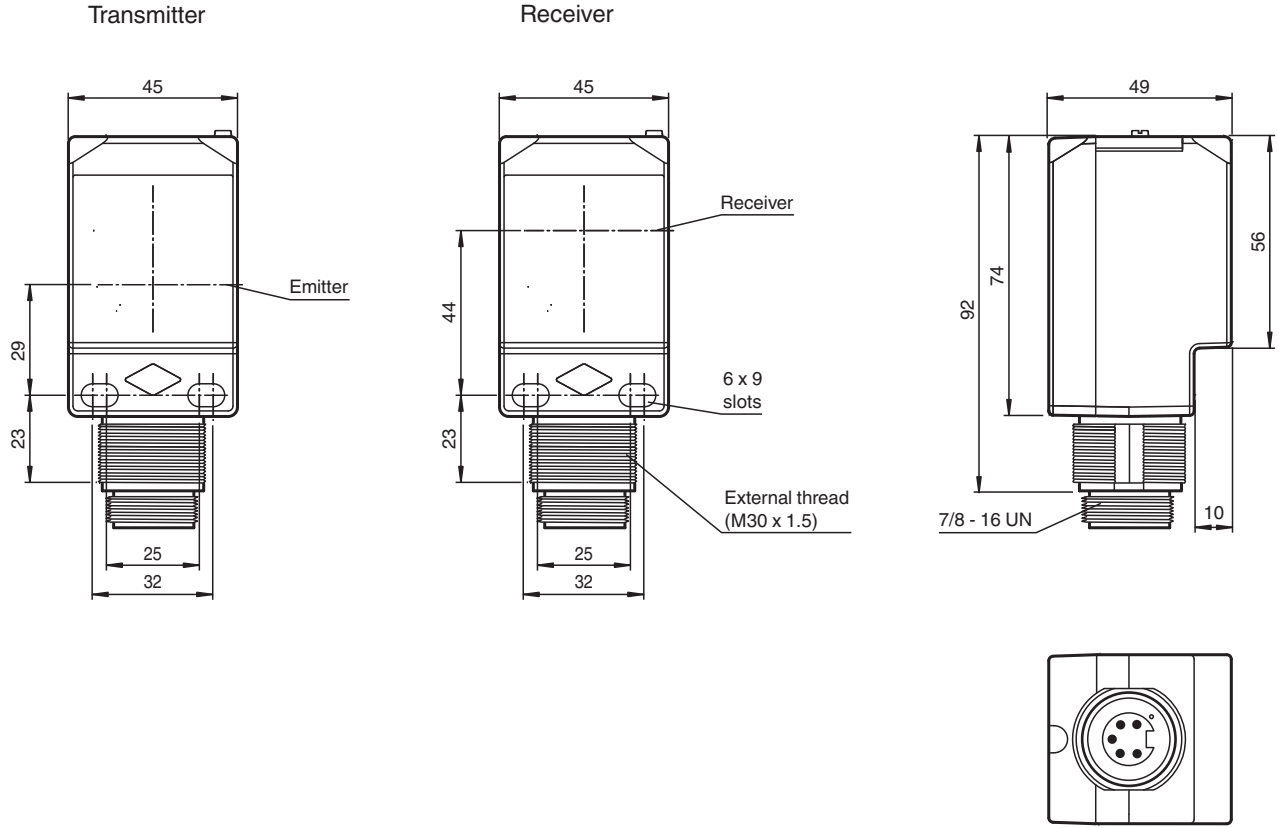
### Thru-beam sensor



### 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.

Dimensions



Technical Data

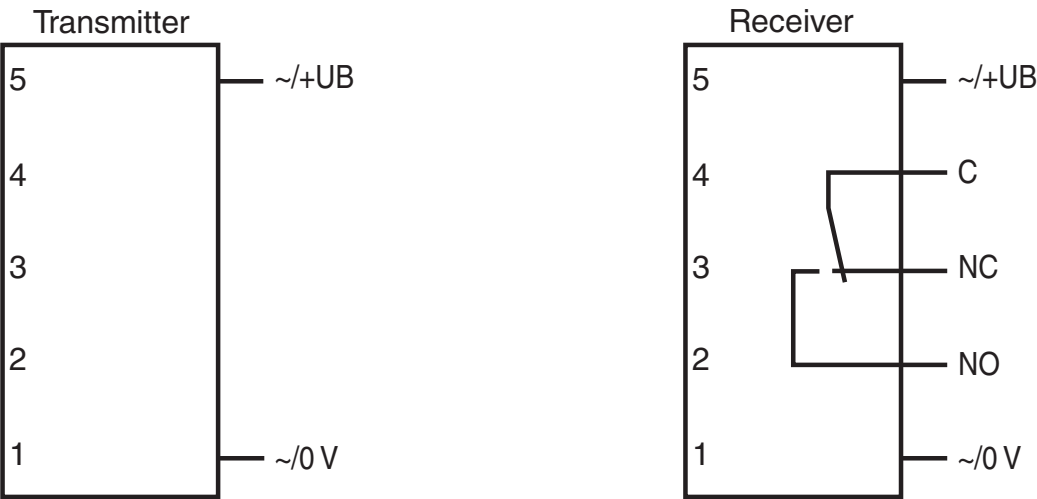
<b>System components</b>		
Emitter		LA61/135
Receiver		LK61-Z/31/135
<b>General specifications</b>		
Effective detection range		0 ... 60 m
Threshold detection range		85 m
Light source		IRE
Light type		modulated infrared light , 850 nm
Diameter of the light spot		approx. 1600 mm at a distance of 60 m
Opening angle		Emitter: 1.5 ° , Receiver: 1.5 °
Optical face		frontal
Ambient light limit		5000 Lux ; according to EN 60947-5-2
<b>Indicators/operating means</b>		
Operation indicator		2 LEDs green
Function indicator		2 LEDs yellow Receiver: receiver LED yellow, lights up when light beam is free, flashes when falling short of the operating reserve ; OFF when light beam is interrupted
Control elements		Light-on/dark-on changeover switch
Control elements		Sensing range adjuster
Control elements		Time adjuster ( 0 ... 10 s )
<b>Electrical specifications</b>		
Operating voltage	U <sub>B</sub>	24 ... 240 V AC 12 ... 240 V DC
No-load supply current	I <sub>0</sub>	≤ 35 mA

Release date: 2023-03-28 Date of issue: 2023-03-28 Filename: 913909\_eng.pdf

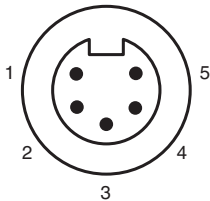
## Technical Data

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 <sub>0</sub>	≤ 2 VA per device
<b>Output</b>		
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
<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>		
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)
<b>Ambient conditions</b>		
Ambient temperature		-40 ... 55 °C (-40 ... 131 °F)
Storage temperature		-40 ... 70 °C (-40 ... 158 °F)
<b>Mechanical specifications</b>		
Housing width		45 mm
Housing height		73.7 mm
Housing depth		48.6 mm
Degree of protection		IP67
Connection		7/8"-16 UN connector
Material		
Housing		PC (glass-fiber-reinforced Makrolon)
Optical face		PMMA
Mass		approx. 140 g per device
Tightening torque, fastening screws		< 2 Nm

Connection Assignment



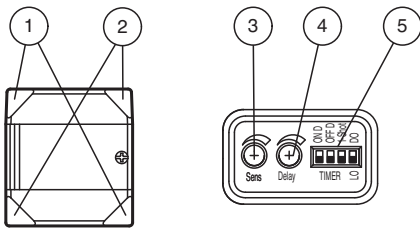
Connection Assignment



Wire colors

1	WH	(white)
2	RD	(red)
3	GN	(green)
4	OR	(orange)
5	BK	(black)

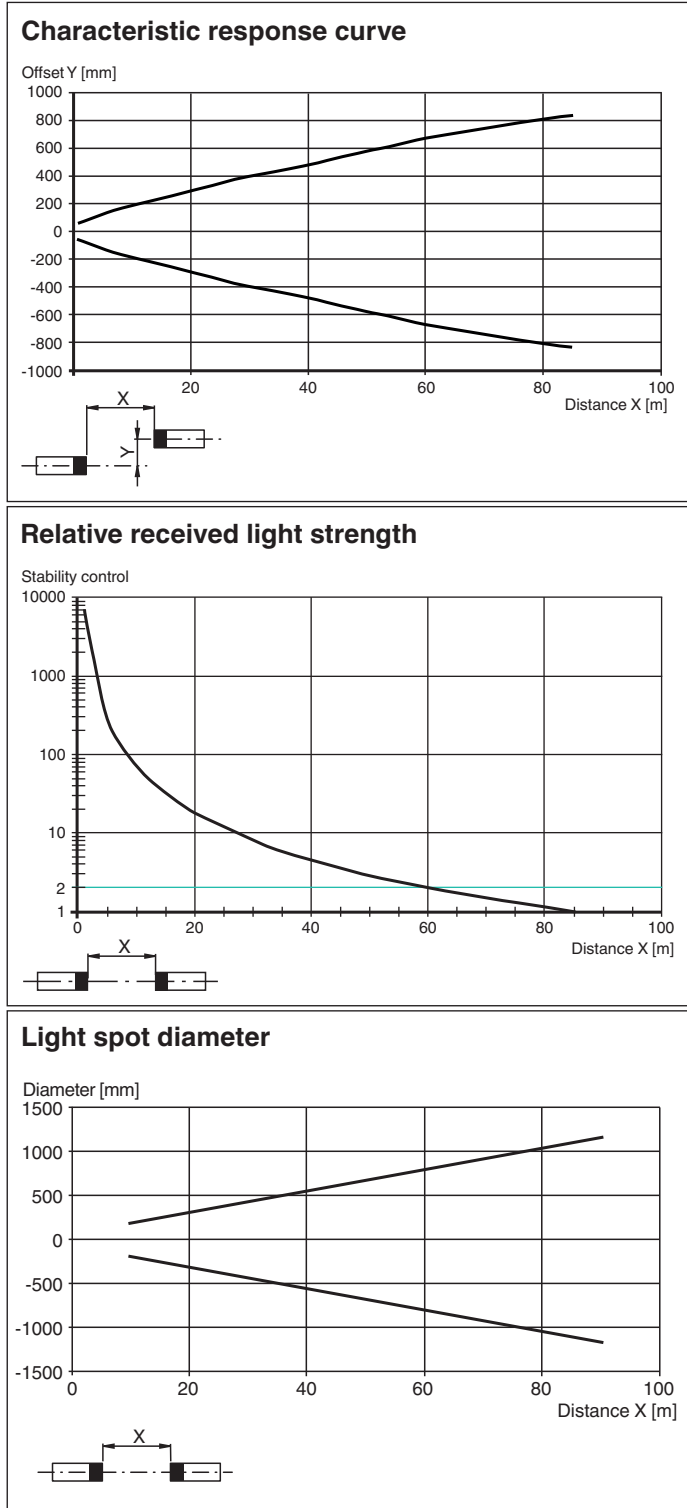
Assembly



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

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Characteristic Curve



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### Characteristic Curve





## Timer Functions

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

Switching Type	Detection Status	
D.ON	Operation Mode	<div> <div>Light Received</div> <div>No Light Received</div> </div>
<div> <div>OFF ON</div> <div> <div>ON D</div> <div>OFF D</div> <div>1-Shot</div> <div>DO</div> </div> <div> <div>Timer</div> <div>LO</div> </div> </div>	No Delay (Timer OFF)	<div> <div>ON</div> <div>OFF</div> </div>
<div> <div>OFF ON</div> <div> <div>ON D</div> <div>OFF D</div> <div>1-Shot</div> <div>DO</div> </div> <div> <div>Timer</div> <div>LO</div> </div> </div>	ON Delay	<div> <div>ON</div> <div>OFF</div> </div>
<div> <div>OFF ON</div> <div> <div>ON D</div> <div>OFF D</div> <div>1-Shot</div> <div>DO</div> </div> <div> <div>Timer</div> <div>LO</div> </div> </div>	OFF Delay	<div> <div>ON</div> <div>OFF</div> </div>
<div> <div>OFF ON</div> <div> <div>ON D</div> <div>OFF D</div> <div>1-Shot</div> <div>DO</div> </div> <div> <div>Timer</div> <div>LO</div> </div> </div>	One-Shot Delay	<div> <div>ON</div> <div>OFF</div> </div>
<div> <div>OFF ON</div> <div> <div>ON D</div> <div>OFF D</div> <div>1-Shot</div> <div>DO</div> </div> <div> <div>Timer</div> <div>LO</div> </div> </div>	ON Delay and OFF Delay	<div> <div>ON</div> <div>OFF</div> </div>

Time ( T ) is adjustable from 0 to 10 s

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

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