Dimensions

Transmitter

45

29

23

25

32

Emitter

Receiver

45

44

23

25

32

Receiver

6 x 9 slots

External thread (M30 x 1.5)

49

56

92

74

7/8 - 16 UN

10

Model Number

LA61/LK61-Z/31/135

Thru-beam sensor

7/8"-16 UN 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
- 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.

Electrical connection

Transmitter

5   ~/+UB

4

3

2

1   ~/0 V

Receiver

5   ~/+UB

4   C

3   NC

2   NO

1   ~/0 V
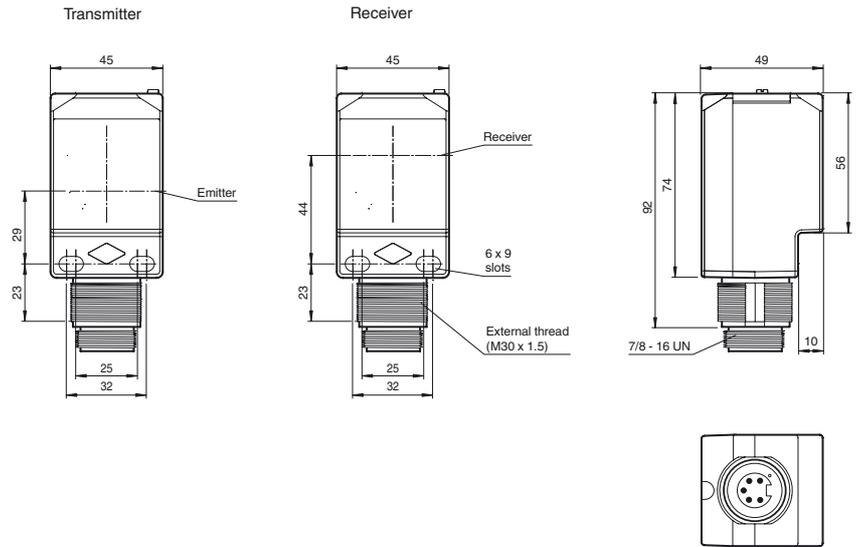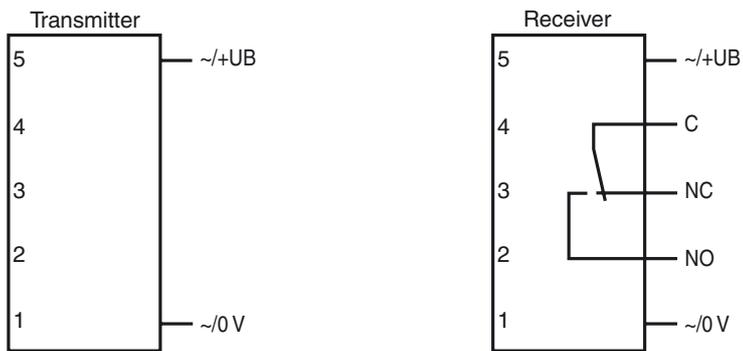
Pinout
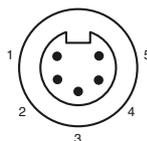
Wire colors

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

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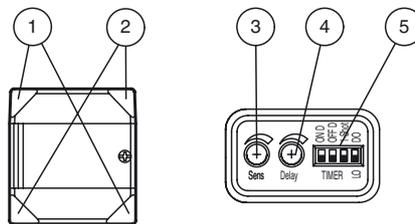
1	Operating display	green
2	Signal display	yellow
3	Sensing range adjuster	
4	Time adjuster	
5	DIP-switches	

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

PEPPERL+FUCHS
SENSING YOUR NEEDS

Technical data

System components	
Emitter	LA61/135
Receiver	LK61-Z/31/135

General specifications	
Effective detection range	0 ... 60 m
Threshold detection range	85 m
Light source	IRED
Light type	modulated infrared light , 850 nm
Diameter of the light spot	approx. 1600 mm at a distance of 60 m
Angle of divergence	Emitter: 1.5 ° , Receiver: 1.5 °
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 Receiver: receiver LED yellow, lights up when light beam is free, flashes when falling short of the stability control ; 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)

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 per device

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	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

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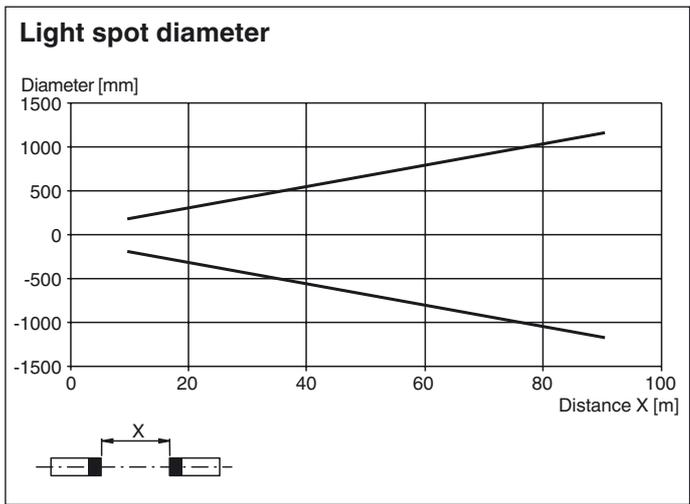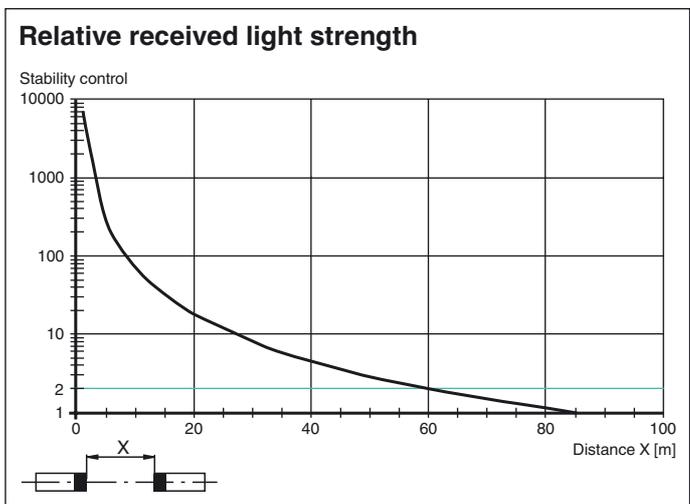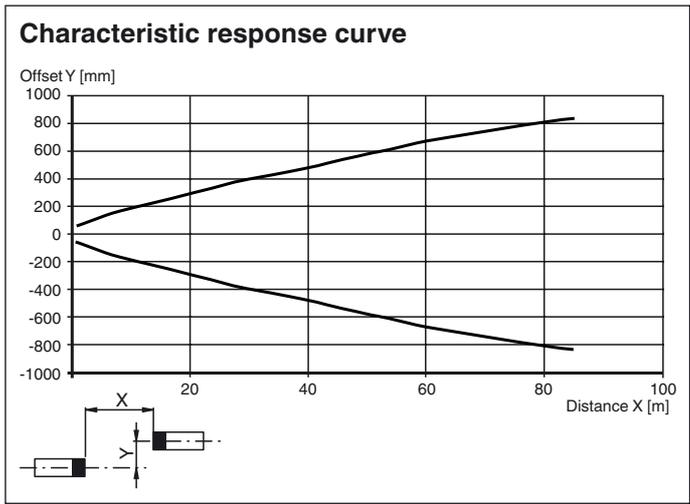
Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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Curves/Diagrams

Characteristic response curve

Offset Y [mm]

Distance X [m]

Relative received light strength

Stability control

Distance X [m]

Light spot diameter

Diameter [mm]

Distance X [m]

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

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Timer Functions

Switching Type	Detection Status		Light Received
L.ON	Operation Mode		No Light Received
Timer: OFF ON / ON D OFF D 1-Shot DO — L.O	No Delay (Timer OFF)		ON / OFF
Timer: OFF ON / ON D OFF D 1-Shot DO — L.O	ON Delay		ON / OFF
Timer: OFF ON / ON D OFF D 1-Shot DO — L.O	OFF Delay		ON / OFF
Timer: OFF ON / ON D OFF D 1-Shot DO — L.O	One-Shot Delay		ON / OFF
Timer: OFF ON / ON D OFF D 1-Shot DO — L.O	ON Delay and OFF Delay		ON / OFF

Switching Type	Detection Status		Light Received
D.ON	Operation Mode		No Light Received
Timer: OFF ON / ON D OFF D 1-Shot DO — L.O	No Delay (Timer OFF)		ON / OFF
Timer: OFF ON / ON D OFF D 1-Shot DO — L.O	ON Delay		ON / OFF
Timer: OFF ON / ON D OFF D 1-Shot DO — L.O	OFF Delay		ON / OFF
Timer: OFF ON / ON D OFF D 1-Shot DO — L.O	One-Shot Delay		ON / OFF
Timer: OFF ON / ON D OFF D 1-Shot DO — L.O	ON Delay and OFF Delay		ON / OFF

Time (T) is adjustable from 0 to 10 s

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