



## Thru-beam sensor LA31/LK31/25/31/115 SET



- Photoelectric sensor for detecting people, objects and vehicles
- Large construction with small housing
- Not sensitive to ambient light
- Version for universal voltages
- Relay output
- Version with accessories in scope of delivery

Mid-range photoelectric sensors for detecting people, objects, and vehicles



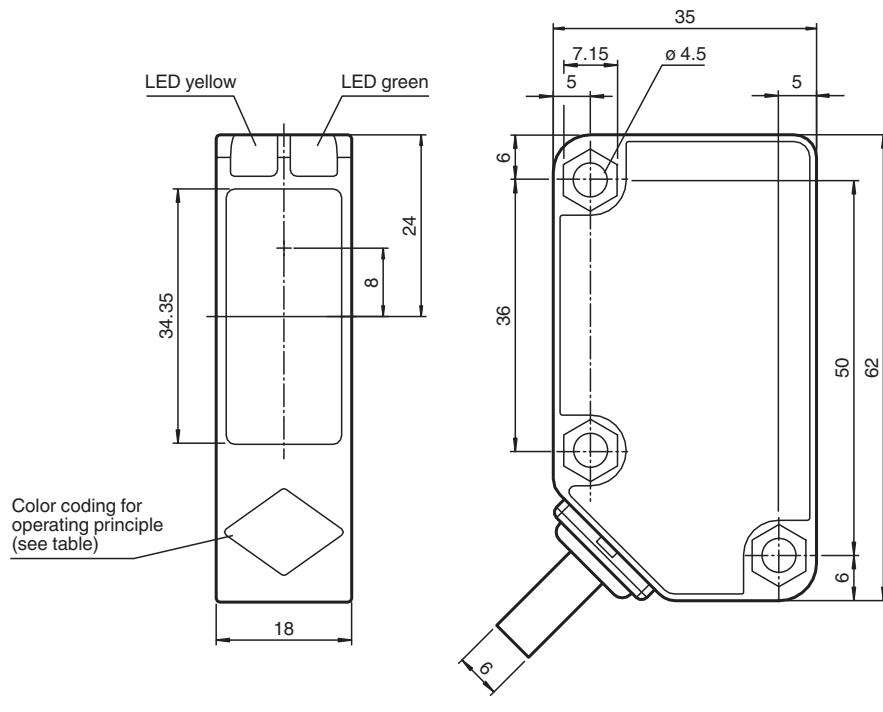
### Function

Series 31 is a range of cost-effective and, most importantly, reliable photoelectric sensors for standard applications in the fields of material handling and logistics, and for monitoring industrial doors, elevators, and automatic gates. The ultrasonic-welded plastic housing provides a high degree of protection, making these sensors ideal for tasks in harsh outdoor conditions. These sensors are currently the most compact "wide range power supply sensors" that can work with any DC and AC voltage between 24 V and 240 V. In addition to the robust technology, the sensors offer numerous product details that help the user with assembly, connection and operation.

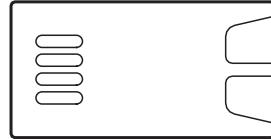
### Application

- Monitoring closing edges of automatic industrial doors and elevators
- Monitoring the swing range of automatic gates
- Detecting and tracking objects in material handling

## Dimensions



Operating principle	color
Retroreflective sensor with polarisation filter	green
Retroreflective sensor	blue
Diffuse mode sensor	white
Thru-beam sensor	grey
Diffuse mode sensor with background suppression	red



## Technical Data

## System components

Emitter	LA31/115
Receiver	LK31/25/31/115

## General specifications

Effective detection range	0 ... 30 m
Threshold detection range	43 m
Light source	LED
Light type	modulated visible red light , 630 nm

Alignment aid	LED yellow: 1. LED illuminates: Sufficient light signal received, emitter and receiver alignment is correct 2. LED flashes: Reaching switching point 3. LED off: Light beam is interrupted or the alignment is out
---------------	---

Diameter of the light spot	approx. 800 mm at a distance of 30 m
----------------------------	--------------------------------------

Opening angle	Emitter: 0.5 ° , Receiver: 1.5 °
---------------	----------------------------------

Ambient light limit	50000 Lux
---------------------	-----------

Accessories provided	2 x Mounting bracket OMH-RL31-01 and mounting materials
----------------------	---

## Functional safety related parameters

MTTF <sub>d</sub>	790 a
Mission Time (T <sub>M</sub> )	20 a
Diagnostic Coverage (DC)	0 %

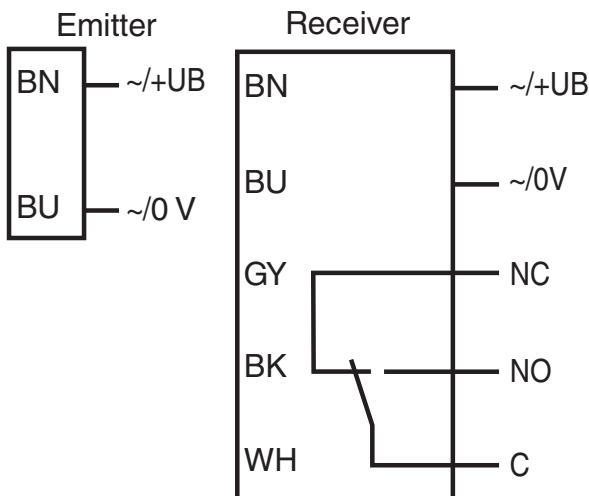
## Indicators/operating means

Operation indicator	LED green: power on
Function indicator	LED yellow: 1. LED lit constantly: signal > 2 x switching point (function reserve) 2. LED flashes: signal between 1 x switching point and 2 x switching point 3. LED off: signal < switching point

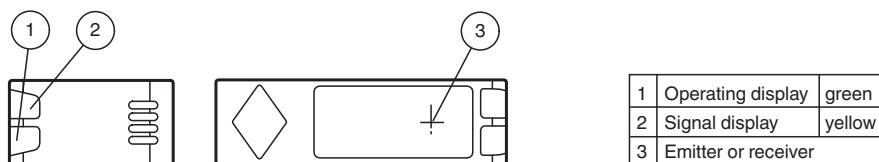
## Technical Data

Electrical specifications		
Operating voltage	$U_B$	24 ... 240 V AC 12 ... 240 V DC
No-load supply current	$I_0$	Emitter: ≤ 40 mA Receiver: ≤ 3 mA
Power consumption	$P_0$	Emitter: ≤ 1 VA Receiver: ≤ 1 VA
Output		
Switching type		light-on
Signal output		Relay, 1 alternator
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
Conformity		
Product standard		EN 60947-5-2
Compliance with standards and directives		
Standard conformity		
Standards		EN 62103
Approvals and certificates		
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
CCC approval		Certified by China Compulsory Certification (CCC)
Ambient conditions		
Ambient temperature		-25 ... 55 °C (-13 ... 131 °F)
Storage temperature		-40 ... 70 °C (-40 ... 158 °F)
Mechanical specifications		
Degree of protection		IP67
Connection		Emitter: 2 m fixed cable, 2-wire Receiver: 2 m fixed cable, 5-wire
Material		
Housing		Polycarbonate
Optical face		PMMA
Mass		Emitter: 116 g Receiver: 131 g

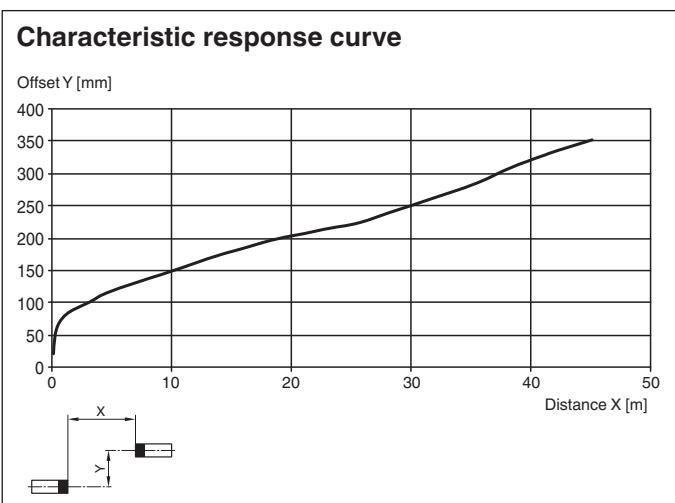
## Connection Assignment



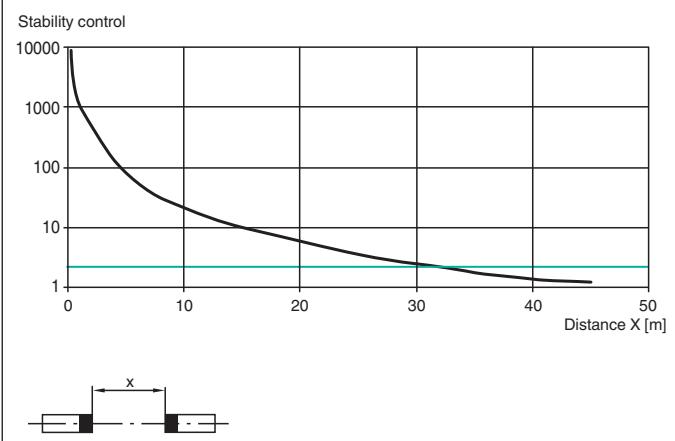
## Assembly



## Characteristic Curve



### Relative received light strength



## Application



## Kit component

	<b>OMH-RL31-01</b>	Mounting bracket
--	--------------------	------------------