



### Model Number

**LD39/LV39/30/40a/116/126a**

Thru-beam sensor  
with terminal compartment

### Features

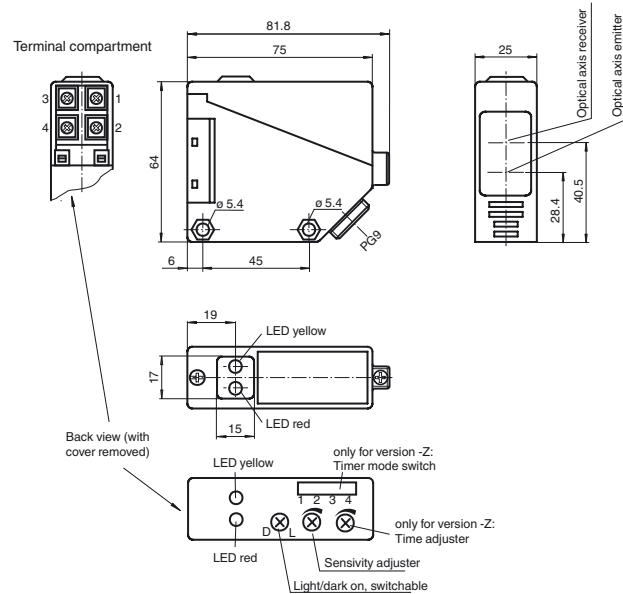
- Pre-fault indication and output (static)
- Light/dark ON, switchable
- Supplied with mounting accessory
- Degree of protection IP67

### Product information

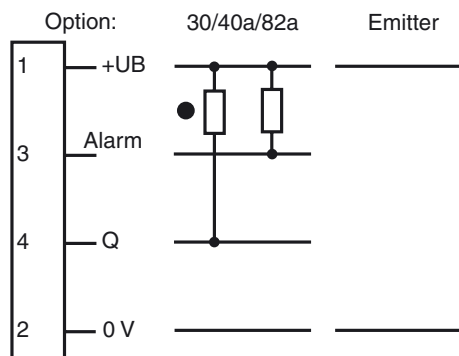
Series 39 sensors are characterized by their high performance level, compact housing design, and variety of available versions. These include thru-beam sensors with a 20 m detection range, retroreflective sensors with polarization filter for a 5 m detection range, energetic diffuse mode sensors with an 800 mm and 2000 mm detection range, and a background suppression sensor with 500 mm detection range. Fitted in a robust plastic housing, this series is ideal for tough industrial applications.

The sensors are supplied with 10 V to 30 V DC, or 24 V to 240 V AC/DC. Various transistor and relay outputs are available as signal outputs. Standard features include pre-fault diagnostics and pre-fault output. The switching element function can be changed using the light/dark switch.

### Dimensions



### Electrical connection



○ = Light on  
● = Dark on

## Technical data

### System components

Emitter	LD39/116
Receiver	LV39/30/40a/116/126a

### General specifications

Effective detection range	0 ... 20 m
Threshold detection range	25 m
Adjustment range	2 ... 25 m
Reference target	receiver
Light source	LED
Light type	modulated infrared light
Ambient light limit	IEC / EN 60947-5-2 , 10000 Lux

### Functional safety related parameters

MTTF <sub>d</sub>	800 a
Mission Time (T <sub>M</sub> )	20 a
Diagnostic Coverage (DC)	0 %

### Indicators/operating means

Operation indicator	LED red (emitter)
Function indicator	LED yellow: switching state (receiver) LED red: pre-fault indicator, flashing (receiver)
Control elements	Sensing range adjuster, light-on/dark-on changeover switch

### Electrical specifications

Operating voltage	U <sub>B</sub>	10 ... 30 V DC
Ripple		10 %
No-load supply current	I <sub>0</sub>	≤ 20 mA (device)
Time delay before availability	t <sub>v</sub>	≤ 300 ms

### Output

Pre-fault indication output	1 NPN, active when falling short of the stability control	
Switching type	light/dark on	
Signal output	1 NPN output, short-circuit protected, reverse polarity protected, open collector	
Switching voltage	≤ 30 V DC	
Switching current	max. 200 mA , resistive load	
Voltage drop	U <sub>d</sub>	≤ 3 V
Switching frequency	f	≤ 300 Hz
Response time	≤ 1.5 ms	

### Conformity

Product standard	EN 60947-5-2
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### Ambient conditions

Ambient temperature	-25 ... 55 °C (-13 ... 131 °F)
Storage temperature	-40 ... 70 °C (-40 ... 158 °F)

### Mechanical specifications

Housing width	25 mm
Housing height	64 mm
Housing depth	75 mm
Degree of protection	IP67
Connection	terminal compartment PG9, ≤ 2.5 mm <sup>2</sup>
Material	
Housing	PBT
Optical face	PMMA
Mass	Emitter: approx. 90 g receiver: approx. 100 g

### General information

Scope of delivery	Mounting aid
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### Approvals and certificates

CCC approval	CCC approval / marking not required for products rated ≤36 V
Approvals	CE

## Operating principle

The thru-beam sensor requires a pair of devices for operation, comprising a light transmitter and a light receiver. The emitter and receiver must be arranged in optical alignment with each other. The infrared light from the emitter is detected by the receiver and evaluated.

## Accessories

### OMH-RL39

Mounting bracket for RL39 series  
Sensors

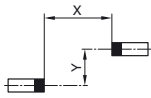
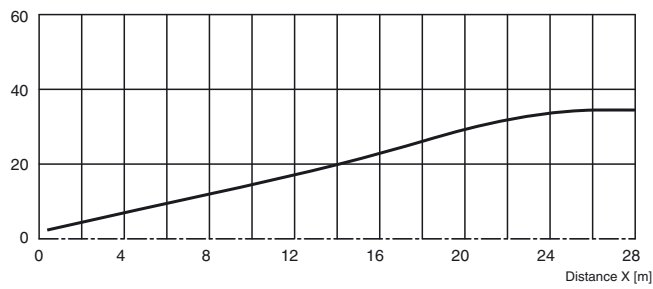
Other suitable accessories can be found at  
[www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)



## Curves/Diagrams

## Characteristic response curve

Offset Y [mm]



Permissible distance (offset) between the optical axis of the emitter and receiver.

## Relative received light strength

L39/LV(K)39

Stability control

