



### Model Number

**RL91-6-IR/49/59/73c**

Retroreflective sensor  
with 4-pin, M12 x 1 plastic connector

### Features

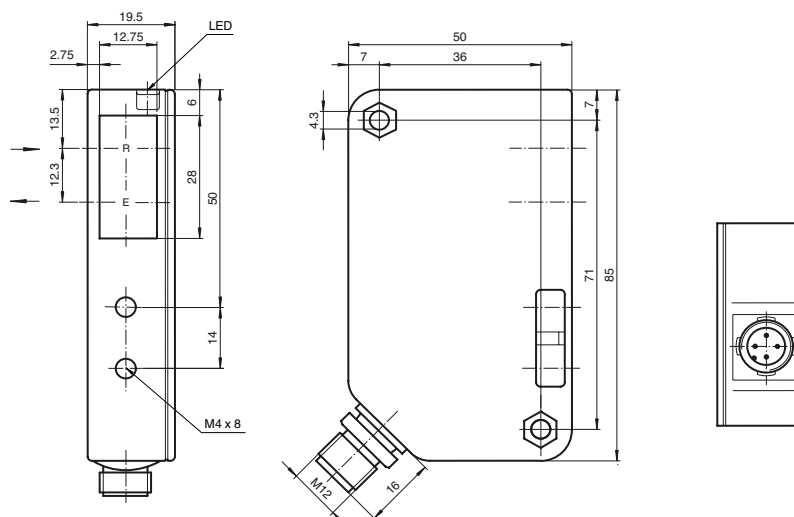
- Retroreflective sensor for single-beam closing edge protection
- Narrow housing suitable for small gaps
- Sturdy plastic housing
- Various possibilities for mounting
- Version with infrared light
- Version for supply voltage of up to 30 V DC
- Dark on version

### Product information

Concentration on the essentials is the hallmark of the 91 series. As ac/dc supply devices, these economical, reliable and easy-to-use photoelectric sensors can be used almost universally. Their narrow design means that they can be used in any environment.

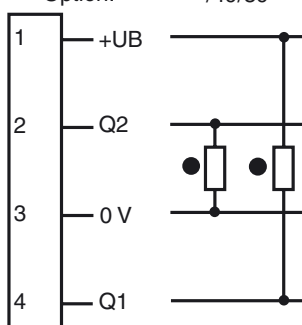
The single-beam photoelectric sensors of the 91 series are suitable for closing-edge monitoring for elevators, barriers and doors, as well as for object detection and object tracking in material handling systems.

### Dimensions



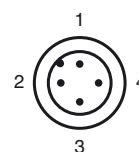
### Electrical connection

Option: /49/59

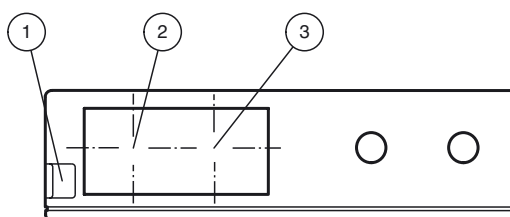


○ = Light on  
● = Dark on

### Pinout



### Indicators/operating means



1	Functional display	red
2	Optical axis Receiver	
3	Optical axis Transmitter	

## Technical data

### General specifications

Effective detection range	0 ... 6 m
Reflector distance	0 ... 6 m
Threshold detection range	9 m
Reference target	H85-2 reflector
Light source	LED
Light type	modulated infrared light
Diameter of the light spot	approx. 230 mm at a distance of 6000 mm
Angle of divergence	approx. 2.5 °
Ambient light limit	90000 Lux

### Functional safety related parameters

MTTF <sub>d</sub>	1083.4 a
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### Indicators/operating means

Function indicator	LED red, flashes when falling short of the stability control
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### Electrical specifications

Operating voltage	U <sub>B</sub>	12 ... 30 V DC
No-load supply current	I <sub>0</sub>	< 100 mA

### Output

Switching type	dark on
Signal output	1 NPN, 1 PNP synchronized-switching, short-circuit protected, reverse polarity protected
Switching voltage	max. 30 V DC
Switching current	200 mA
Switching frequency	f 25 Hz
Response time	20 ms

### Ambient conditions

Ambient temperature	-20 ... 55 °C (-4 ... 131 °F)
Storage temperature	-20 ... 75 °C (-4 ... 167 °F)

### Mechanical specifications

Degree of protection	IP65
Connection	4-pin, M12 x 1 connector
Material	
Housing	Luran
Optical face	Luran
Mass	100 g

### Compliance with standards and directives

Standard conformity	
Product standard	EN 60947-5-2:2007 IEC 60947-5-2:2007

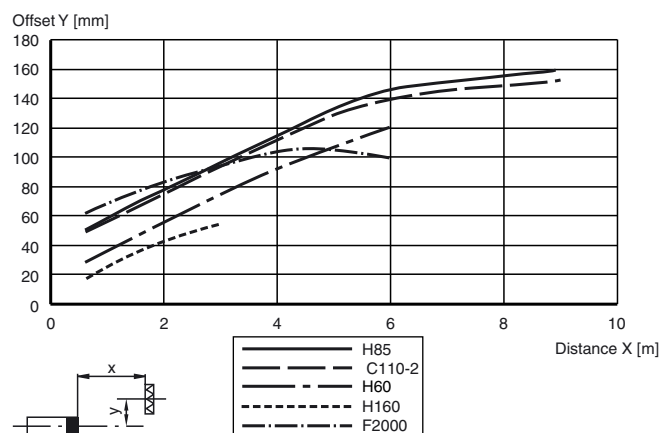
### Approvals and certificates

UL approval	cULus
CCC approval	CCC approval / marking not required for products rated ≤36 V

## Curves/Diagrams

Characteristic response curve

RL(K)91-6



## Typical applications

- Closing-edge monitoring for elevators, barriers and industrial doors
- Detecting and tracking objects in material handling

## Detection area

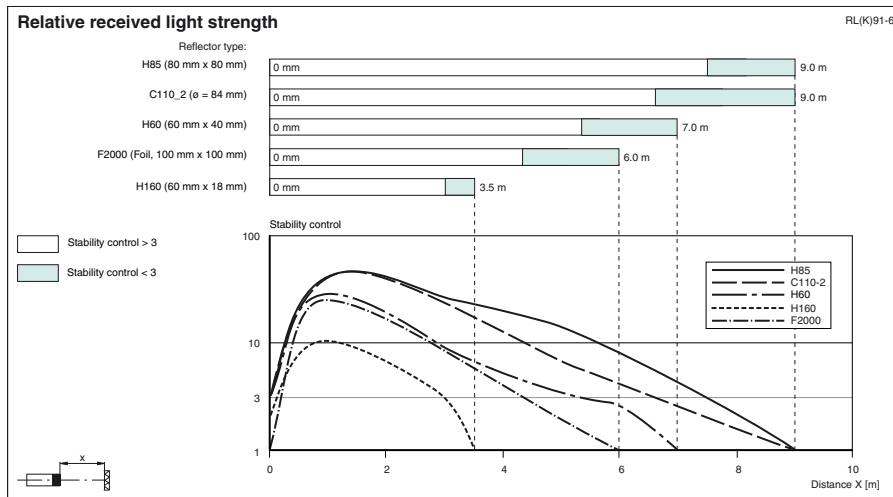


## Accessories

### OMH-91

Mounting bracket

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



### Operating principle

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