



**Model Number**

**RL91-54-RT/49/59/73c**

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

**Features**

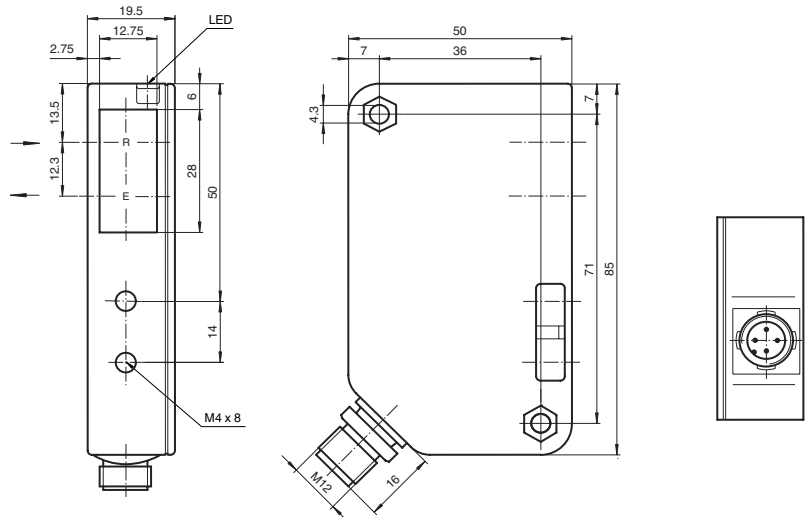
- Retroreflective sensor for single-beam closing edge protection
- Narrow housing suitable for small gaps
- Sturdy plastic housing
- Various possibilities for mounting
- Version with red light
- Version for supply voltage of up to 30 V DC
- Dark on version

**Product information**

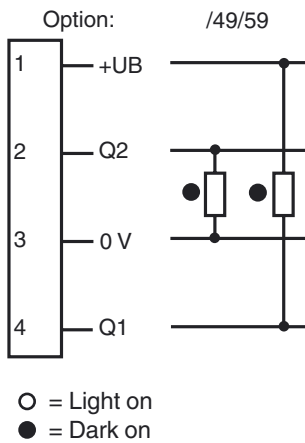
Concentration on the essentials is the hallmark of the 91 series. As ac/dc supply devices, these economical, reliable and easy-to-use photoelectric sensors can be used almost universally. Their narrow design means that they can be used in any environment.

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.

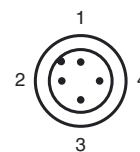
**Dimensions**



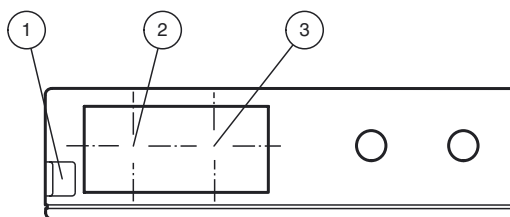
**Electrical connection**



**Pinout**



**Indicators/operating means**



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

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

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**Technical data****General specifications**

Effective detection range	0 ... 4 m
Reflector distance	0.2 ... 4000 mm
Threshold detection range	8 m
Reference target	H85-2 reflector
Light source	LED
Light type	modulated visible red light
Diameter of the light spot	approx. 160 mm at a distance of 4000 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**

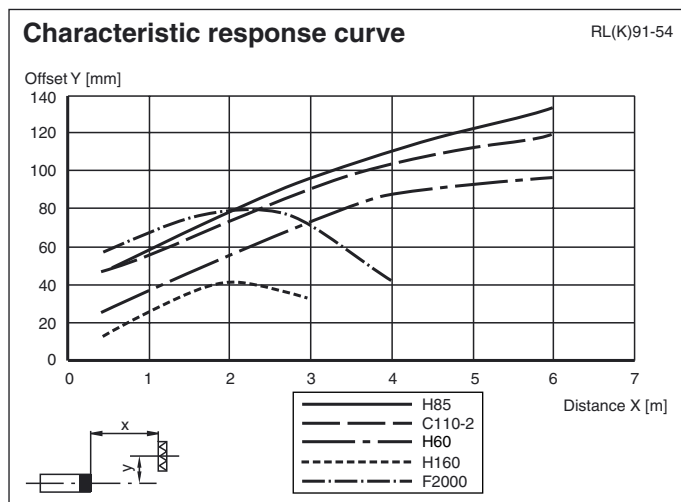
Degree of protection	IP65
Connection	4-pin, M12 x 1 connector
Material	
Housing	Luran
Mass	100 g

**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

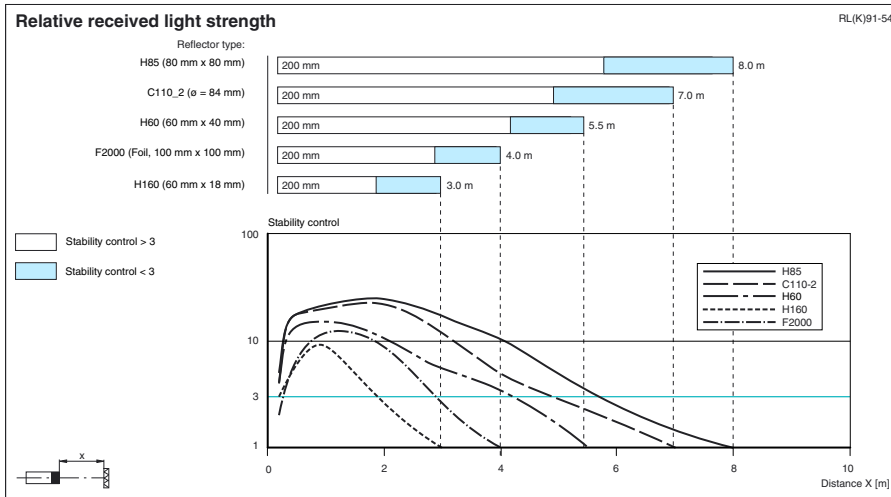
**Curves/Diagrams****Typical applications**

- 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.