



**Model Number**

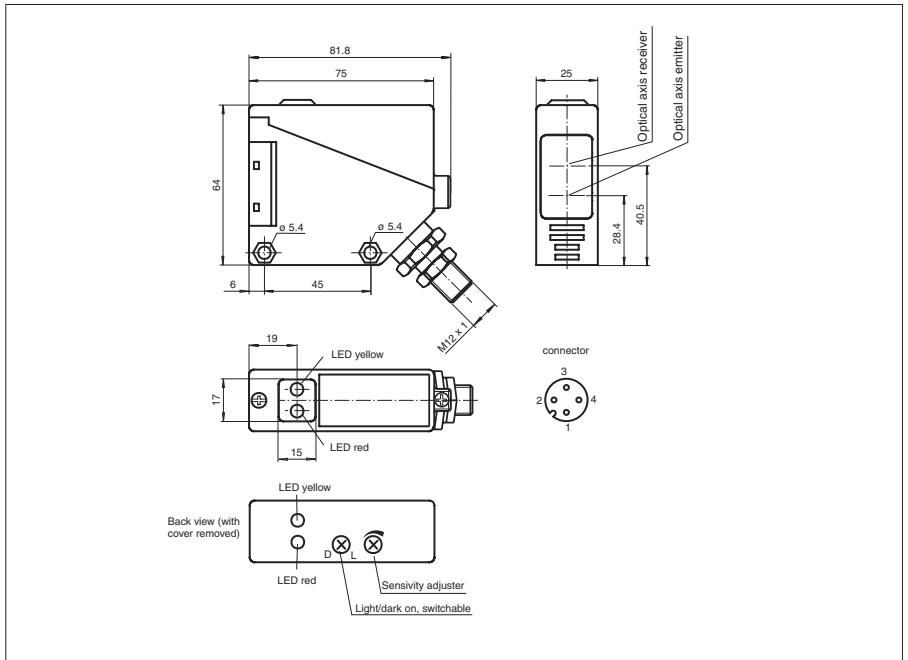
**RL39-54/32/40a/73c/82a**

Retroreflective sensor  
with 4-pin, M12 x 1 connector

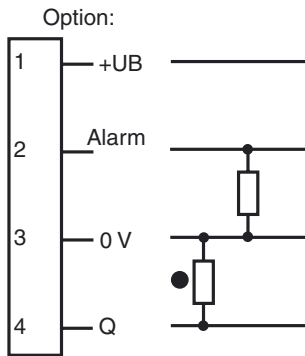
**Features**

- Glare protected with polarization filter
- Visible red light
- Light/dark ON, switchable
- Degree of protection IP67

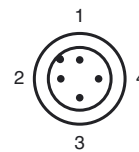
**Dimensions**



**Electrical connection**



**Pinout**



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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 ... 12 m
Reflector distance	0.05 ... 12 m
Threshold detection range	15 m
Reference target	H85-2 reflector
Light source	LED
Light type	modulated visible red light
Polarization filter	yes
Ambient light limit	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**

Function indicator	LED yellow: switching state LED red: pre-fault indication
Control elements	sensitivity adjustment
Control elements	Light/Dark switch

**Electrical specifications**

Operating voltage	U <sub>B</sub>	10 ... 30 V DC
Ripple		10 %
No-load supply current	I <sub>0</sub>	≤ 35 mA
Time delay before availability	t <sub>v</sub>	≤ 50 ms

**Output**

Pre-fault indication output	1 PNP, active when falling short of the stability control	
Switching type	light/dark on	
Signal output	1 PNP output, short-circuit protected, reverse polarity protected, open collector	
Switching voltage	max. 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

**Standard conformity**

Standards	EN 60947-5-2
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**Ambient conditions**

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

**Mechanical specifications**

Degree of protection	IP67
Connection	4-pin, M12 x 1 connector
Material	
Housing	PBT
Optical face	PMMA
Mass	100 g

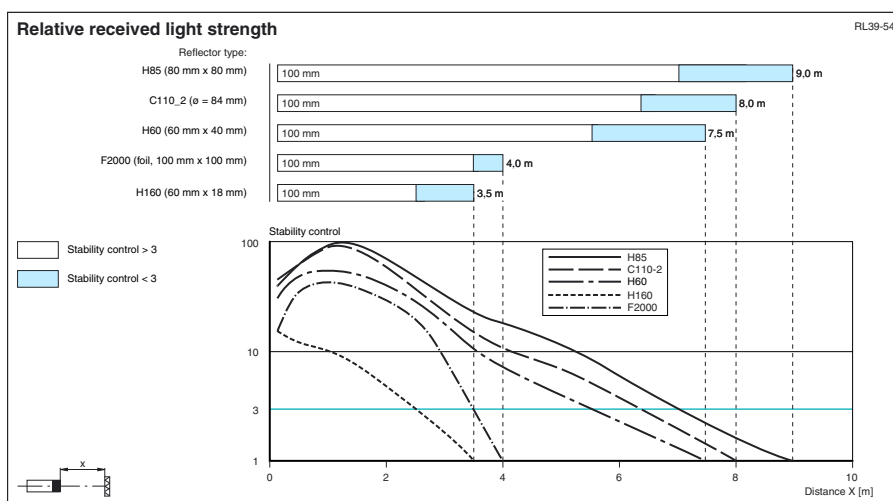
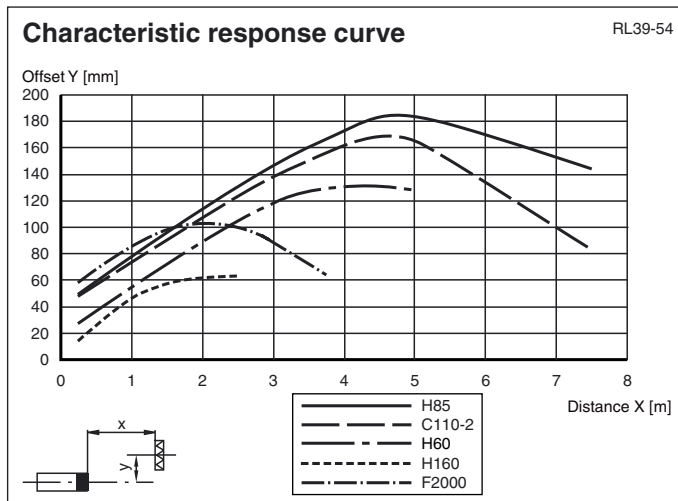
**Compliance with standards and directives**

Directive conformity	
EMC Directive 2004/108/EC	EN 60947-5-2

**Approvals and certificates**

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

## Curves/Diagrams



## Additional Information

**Conventional use:**

The reflex light beam switch contains the emitter 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.

**Mounting instructions:**

The sensor can be fastened over the through-holes directly or with the included mounting bracket.

The base surface must be flat to avoid distorting the housing during mounting. It is advisable to secure the bolts and screws with washers to prevent misalignment of the sensor.

**Instructions for adjustment:**

Connect the sensor to operating voltage, the LED green lights up constantly.

Mount suitable reflector opposite light beam switch and align roughly.

The exact adjustment takes by swivelling the sensor horizontally and vertically. With optimum light reception the yellow LED lights up constantly. In case of bad alignment, the red LED lights up.

**Object detection check:**

Move the object into the light beam. If the object is recorded, the yellow LED goes off. If it isn't going off, reduce the sensitivity with the potentiometer until it goes off. It should light up constantly again when the object is removed.

The red LED lights up if reception deteriorates (e.g. soiled lenses or by maladjustment) and when falling short of the stability control.

**Illustration:**

We recommend that you clean the optical interfaces and check the plug-in connections and screw connections at regular intervals.