



Model Number

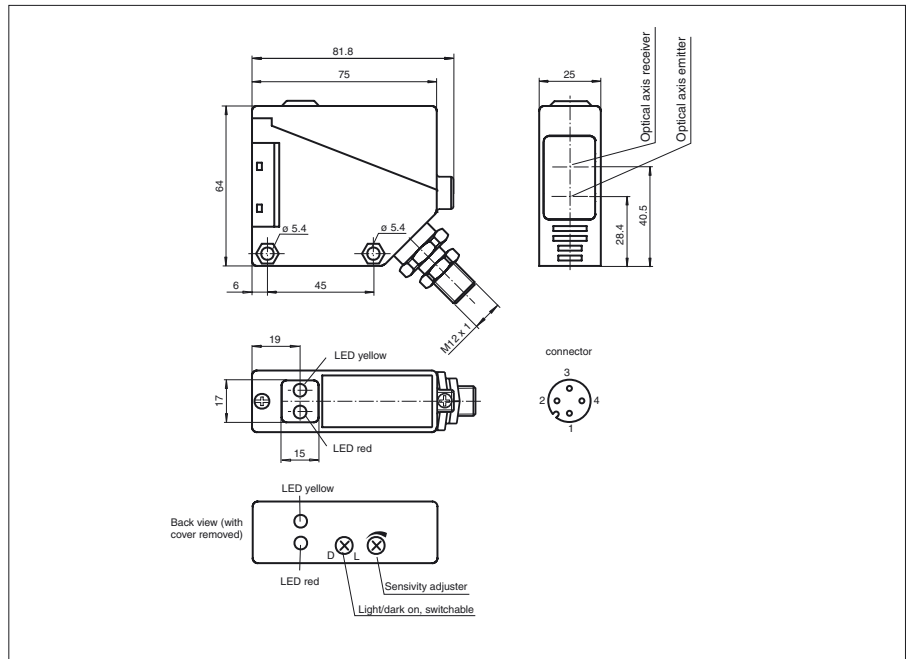
RL39-54/32/40a/73c/82a

Retroreflective sensor
with 4-pin, M12 x 1 connector

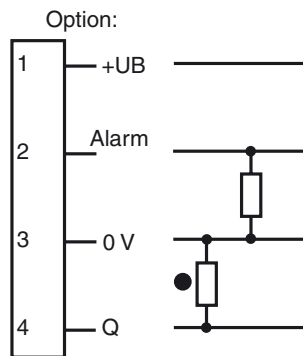
Features

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

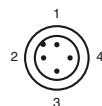
Dimensions



Electrical connection



Pinout



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)

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Technical data**General specifications**

Effective detection range	0 ... 5 m
Reflector distance	0.1 ... 5 m
Threshold detection range	6 m
Reference target	H50 reflector
Light source	LED red
Light type	modulated visible red light
Polarization filter	yes
Ambient light limit	IEC / EN 60947-5-2 , 10000 Lux

Functional safety related parameters

MTTF _d	800 a
Mission Time (T _M)	20 a
Diagnostic Coverage (DC)	0 %

Indicators/operating means

Function indicator	LED yellow: switching state LED red: pre-fault indication
Control elements	Sensing range adjuster, light-on/dark-on changeover switch

Electrical specifications

Operating voltage	U _B	10 ... 30 V DC
Ripple		10 %
No-load supply current	I ₀	≤ 20 mA
Time delay before availability	t _v	≤ 300 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 _d	≤ 3 V
Switching frequency	f	≤ 300 Hz
Response time		≤ 1.5 ms

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	4-pin, M12 x 1 connector
Material	
Housing	PBT
Optical face	PMMA
Mass	approx. 100 g

General information

Scope of delivery	Mounting aid , Reflector
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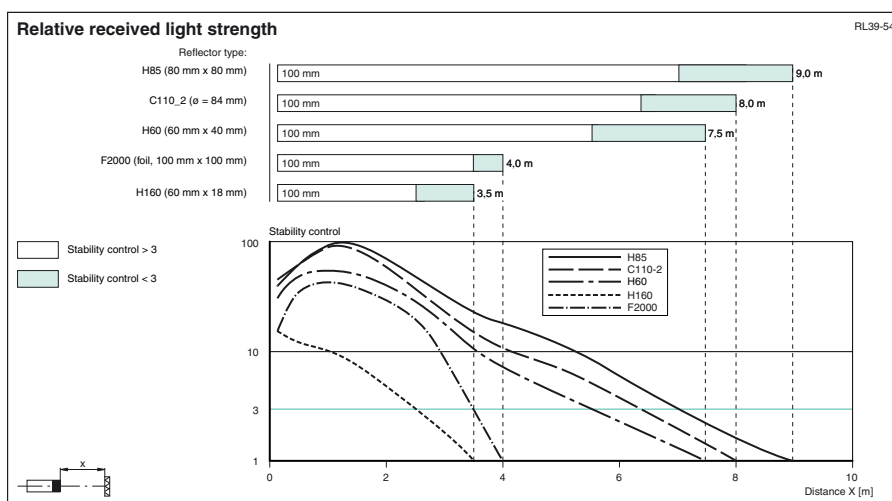
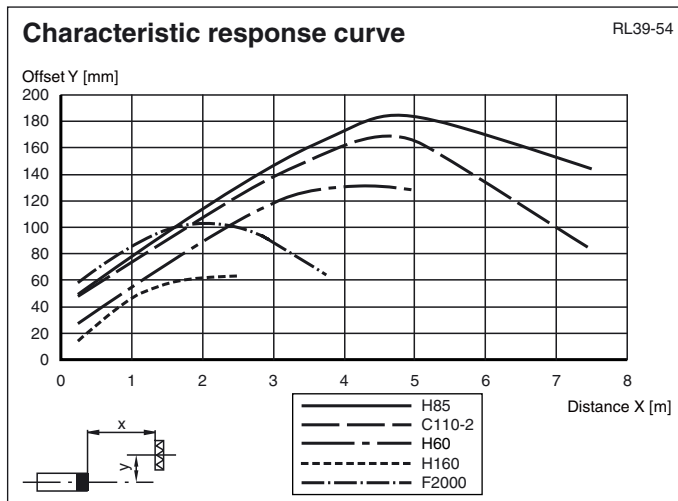
Compliance with standards and directives

Directive conformity	EMC Directive 2004/108/EC
EMC Directive 2004/108/EC	EN 60947-5-2:2007+A1:2012 IEC 60947-5-2:2007+A1:2012
Standard conformity	
Product standard	EN 60947-5-2:2007 IEC 60947-5-2:2007

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.