Model Number

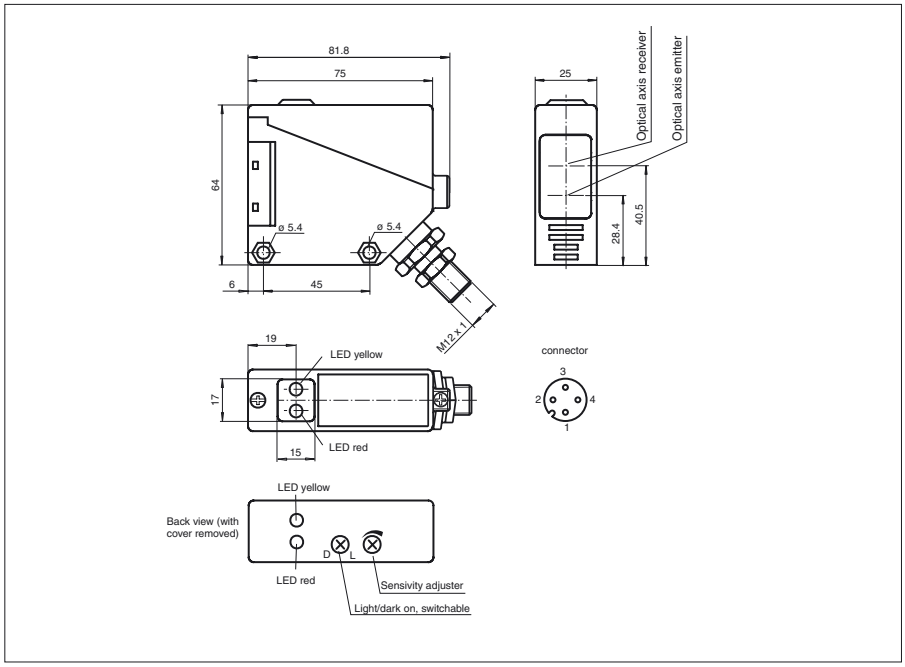
RL39-54/32/40a/73c/82a

Retroreflective sensor
with 4-pin, M12 x 1 connector

Features

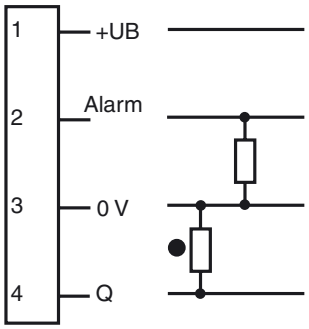
- Glare protected with polarization filter
- Visible red light
- Light/dark ON, switchable
- Degree of protection IP67

Dimensions

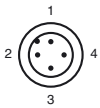


Electrical connection

Option:



Pinout



Wire colors in accordance with EN 60947-5-2

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

Release date: 2019-11-25 11:15 Date of issue: 2019-11-25 088821_eng.xml

Technical data

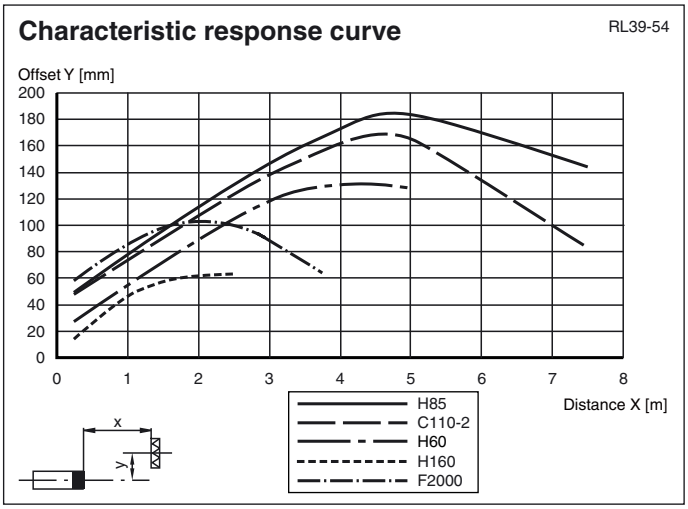
General specifications		
Effective detection range		0 ... 5 m
Reflector distance		0.1 ... 5 m
Threshold detection range		6 m
Reference target		H50 reflector
Light source		LED red
Light type		modulated visible red light
Polarization filter		yes
Ambient light limit		IEC / EN 60947-5-2 , 10000 Lux
Functional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

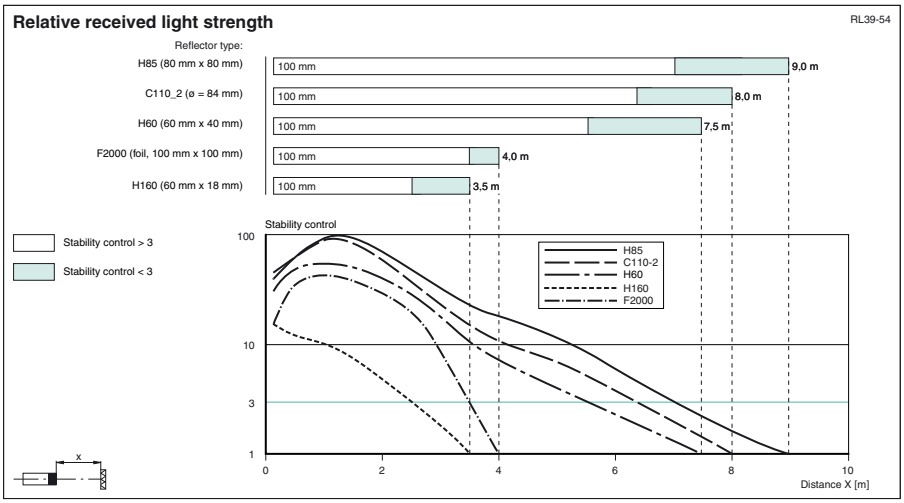
Approvals and certificates	
CCC approval	CCC approval / marking not required for products rated ≤36 V
Approvals	CE

Release date: 2019-11-25 11:15 Date of issue: 2019-11-25 088821_eng.xml

Refer to "General Notes Relating to Pepperl+Fuchs Product Information".
Pepperl+Fuchs Group www.pepperl-fuchs.com
USA: +1 330 486 0001 fa-info@us.pepperl-fuchs.com
Germany: +49 621 776 1111 fa-info@de.pepperl-fuchs.com
Singapore: +65 6779 9091 fa-info@sg.pepperl-fuchs.com
PEPPERL+FUCHS

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.

Iustration:

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

Release date: 2019-11-25 11:15 Date of issue: 2019-11-25 088821_eng.xml