Diffuse mode sensor
RL39-8-2000/32/40a/73c/82a

- Infrared light
- Light-on/dark-on, switchable
- Degree of protection IP54
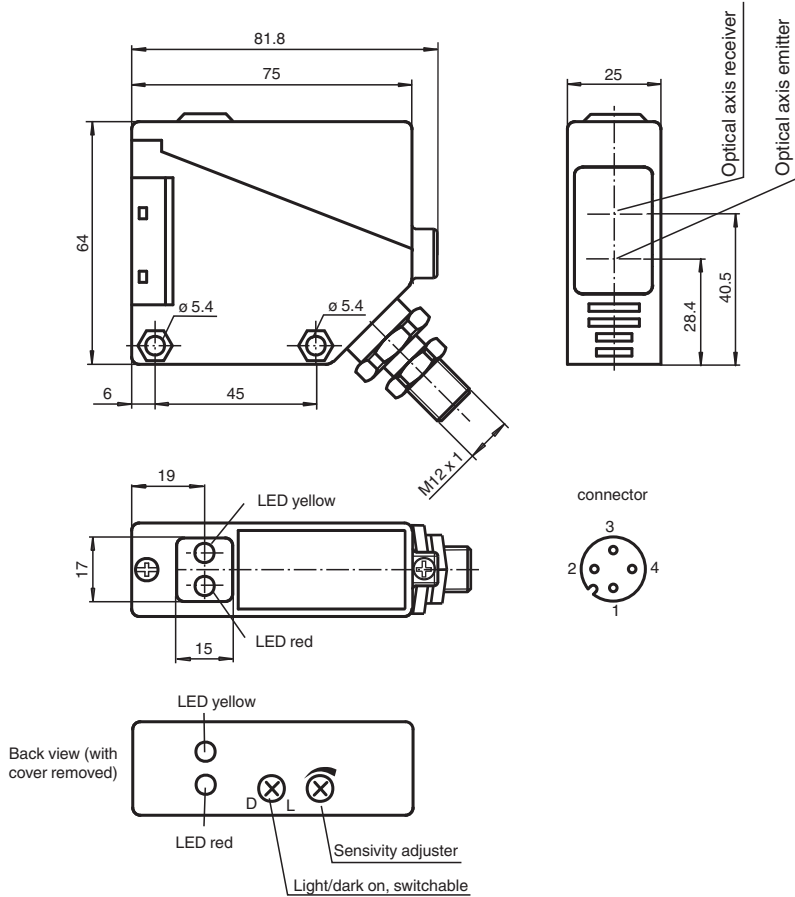
CE UK CA

Dimensions

81.8
75
64
ø 5.4
ø 5.4
6
45
M12 x 1

25
Optical axis receiver
Optical axis emitter
40.5
28.4

19
17
15
LED yellow
LED red

connector

3
2   4
1

Back view (with cover removed)

LED yellow
LED red
D   L
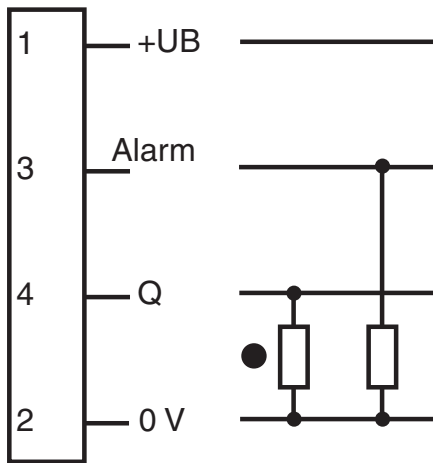Sensivity adjuster
Light/dark on, switchable

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

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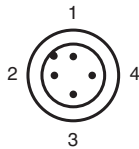fa-info@sg.pepperl-fuchs.com

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Technical Data

General specifications

Detection range		0 ... 2000 mm
Adjustment range		200 ... 2000 mm
Reference target		standard white 200 mm x 200 mm
Light source		IRED
Light type		modulated infrared light
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

Stability alarm 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

Approvals and certificates

Approvals		CE

Ambient conditions

Ambient temperature		-25 ... 55 °C (-13 ... 131 °F)
Storage temperature		-40 ... 70 °C (-40 ... 158 °F)

Mechanical specifications

Degree of protection		IP54
Connection		4-pin, M12 x 1 connector
Material		
Housing		PBT
Optical face		PMMA
Mass		approx. 100 g
Dimensions		
Height		64 mm
Width		25 mm
Depth		75 mm

General information

Scope of delivery		Mounting aid

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

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Connection Assignment

Option: 32/40a/82a
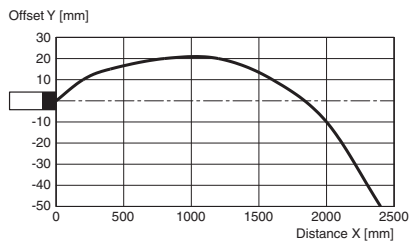

○ = Light on
● = Dark on

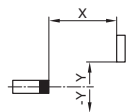## Connection Assignment

Wire colors in accordance with EN 60947-5-2

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

Characteristic Curve

Characteristic response curve

Permissible distance (offset) between optical axis and object.

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

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Additional Information

System Description
A retroreflective sensor contains both an emitter and a receiver in a single housing. The light of the emitter ist reflected by the detected object, returned to, and evaluated by the receiver. The sensing range depends on the object color. For dark or very small objects, the sensing range is reduced.

Mounting
The sensors can be mounted directly with thru-holes or using the mounting bracket supplied.
Ensure that the background is level to prevent the housing from becoming distorted when the fittings are tightened.
Secure the nuts and screws with spring disks to prevent the sensor from becoming misaligned.

Aligning the sensor: Align the sensor with the background.
Yellow signal indicator lights up continuously: Use the sensing range adjuster to set the sensing range correctly. When the sensing range is right, the yellow signal indicator goes out.

Commissioning
Check Object Detection: Check as follows if the sensor detects objects as intended.
Position the object in the required sensing range of the sensor and align the light spot towards the object.
The yellow signal indicator is off. The indicator lights up only when the object is detected.
Troubleshooting: If the sensor does not respond as expected, change the sensing range setting until the signal indicator lights up during object detection.

Maintenance
Cleaning: If the transmission reception deteriorates, e.g., due to dirt or misalignment, and is lower than the functional reserve, the red signal indicator on the receiver lights up. Clean the optical interfaces of the sensor (e.g., lenses) at regular intervals.
Maintenance: Check the mounting fittings and the electrical connections regularly.

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