



**Model Number**

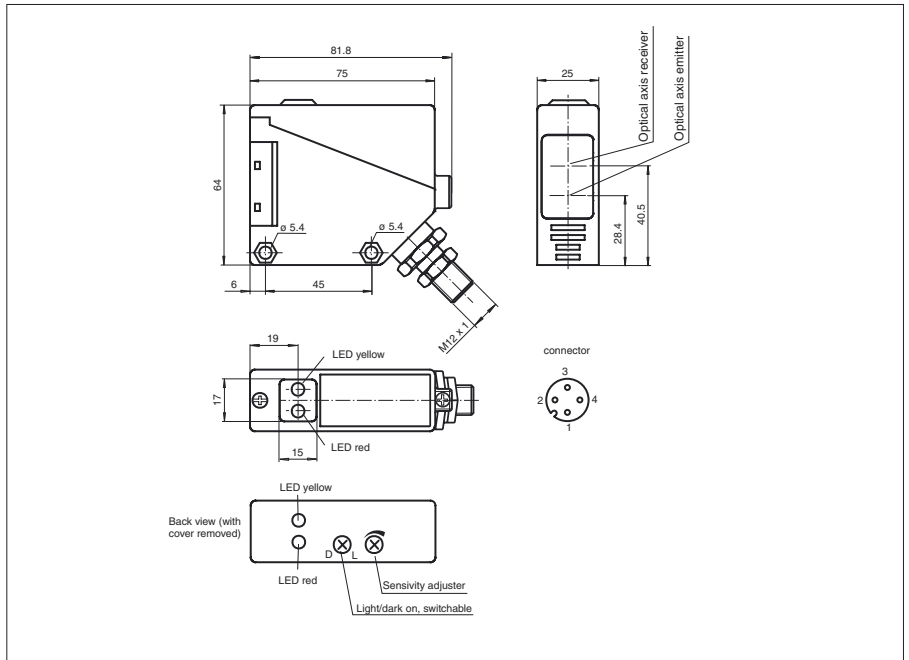
**RL39-8-2000/32/40a/73c/82a**

Diffuse mode sensor  
with terminal compartment

**Features**

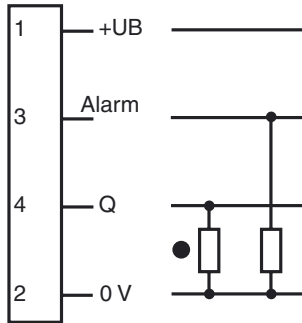
- Infrared light
- Light/dark ON, switchable
- Degree of protection IP67

**Dimensions**



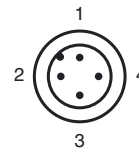
**Electrical connection**

Option: 32/40a/82a



- = Light on
- = Dark on

**Pinout**



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## Technical data

### General specifications

Detection range	0 ... 2000 mm
Adjustment range	75 ... 2000 mm
Reference target	standard white 200 mm x 200 mm
Light source	IREL
Light type	modulated infrared light
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	Detection range adjuster, 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

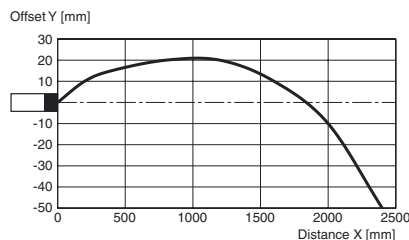
Directive conformity	
EMC Directive 2004/108/EC	EN 60947-5-2

### Approvals and certificates

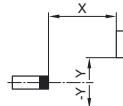
CCC approval	CCC approval / marking not required for products rated ≤36 V
Approvals	CE

## Curves/Diagrams

### Characteristic response curve



Permissible distance (offset) between optical axis and object.



## Additional Information

### Conventional use:

The reflex light scanner contains the emitter and receiver in a single housing. The light from transmitter is beamed back from the recorded object is evaluated by the receiver. The detection range depend on the object colour. With dark or very small objects the detection range reduces.

### 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 so that the sensor does not become misaligned.

### Instructions for adjustment:

Adjust the sensor on the background. If the yellow LED illuminates, the detection range needs to be reduced with the detection range adjuster, until the yellow LED goes off.

### Object detection check:

Position the object into the light beam. Position light spot on object. If the object is detected, the yellow LED illuminated. If it does not light up, further to adjust the detection range with the potentiometer, until the yellow LED lights up. The red LED flashes 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.