



# GRF18S-N234LV

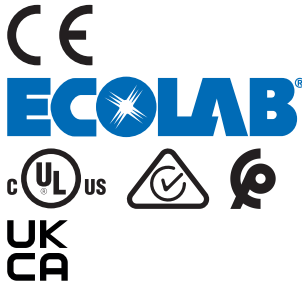
GRF18S

LEVEL SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

Type	part no.
GRF18S-N234LV	1092959

Other models and accessories → [www.sick.com/GRF18S](http://www.sick.com/GRF18S)

### Detailed technical data

#### Features

<b>Medium</b>	Fluids
<b>Measurement</b>	Switch
<b>Light source</b>	LED
<b>Type of light</b>	Visible red light
<b>Wave length</b>	650 nm
<b>Process pressure</b>	-0.5 bar ... 20 bar
<b>Process temperature</b>	-10 °C ... +55 °C

#### Safety-related parameters

<b>MTTF<sub>D</sub> (mean time to dangerous failure)</b>	2,304 years
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#### Performance

<b>Response time</b>	10 ms
<b>MTBF</b>	1,178 years
<b>MTTFd</b>	2,304 years

#### Electronics

<b>Communication interface</b>	-
<b>Supply voltage</b>	10 V DC ... 30 V DC <sup>1)</sup>
<b>Residual ripple</b>	≤ 5 V <sub>pp</sub> <sup>2)</sup>

<sup>1)</sup> U<sub>V</sub> connections, reverse polarity protected.

<sup>2)</sup> May not fall below or exceed U<sub>V</sub> tolerances.

<sup>3)</sup> Output overcurrent and short-circuit protected.

<sup>4)</sup> With light/dark ratio 1:1.

<b>Power consumption</b>	≤ 30 mA at 24 V DC without output load
<b>Protection class</b>	III
<b>Connection type</b>	M12 round connector x 1, 4-pin
<b>Output signal</b>	1 x NPN <sup>3)</sup>
<b>Switching mode</b>	Normally closed
<b>Output current</b>	≤ 100 mA Output overcurrent and short-circuit protected
<b>Switching frequency</b>	250 Hz <sup>4)</sup>
<b>Enclosure rating</b>	IP67 IP69

<sup>1)</sup> U<sub>V</sub> connections, reverse polarity protected.

<sup>2)</sup> May not fall below or exceed U<sub>V</sub> tolerances.

<sup>3)</sup> Output overcurrent and short-circuit protected.

<sup>4)</sup> With light/dark ratio 1:1.

## Mechanics

<b>Wetted parts</b>	FPM Stainless steel 1.4404 / 316L Polysulfon
<b>Process connection</b>	G ½
<b>Housing material</b>	Stainless steel 1.4404 / 316L

## Ambient data

<b>Ambient operating temperature</b>	-10 °C ... +55 °C
<b>Ambient temperature, storage</b>	-25 °C ... +70 °C

## Classifications

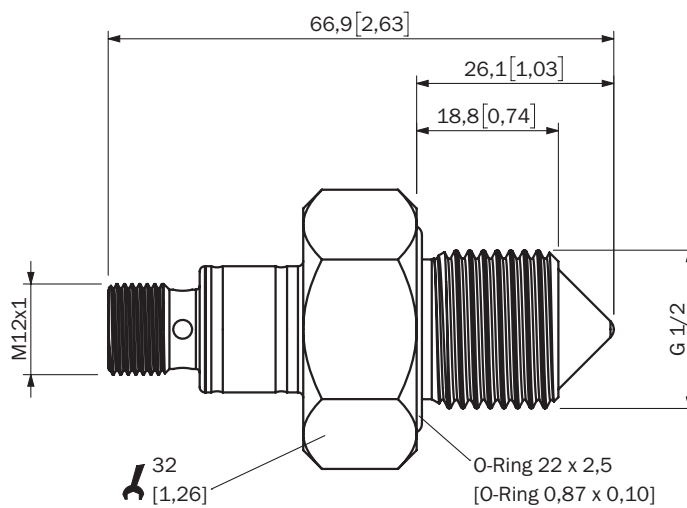
<b>ECLASS 5.0</b>	27273204
<b>ECLASS 5.1.4</b>	27273204
<b>ECLASS 6.0</b>	27273204
<b>ECLASS 6.2</b>	27273204
<b>ECLASS 7.0</b>	27273204
<b>ECLASS 8.0</b>	27273204
<b>ECLASS 8.1</b>	27273204
<b>ECLASS 9.0</b>	27273204
<b>ECLASS 10.0</b>	27273204
<b>ECLASS 11.0</b>	27273204
<b>ECLASS 12.0</b>	27270919
<b>ETIM 5.0</b>	EC002654
<b>ETIM 6.0</b>	EC002654
<b>ETIM 7.0</b>	EC002654
<b>ETIM 8.0</b>	EC002654
<b>UNSPSC 16.0901</b>	41111950

## Certificates

<b>EU declaration of conformity</b>	✓
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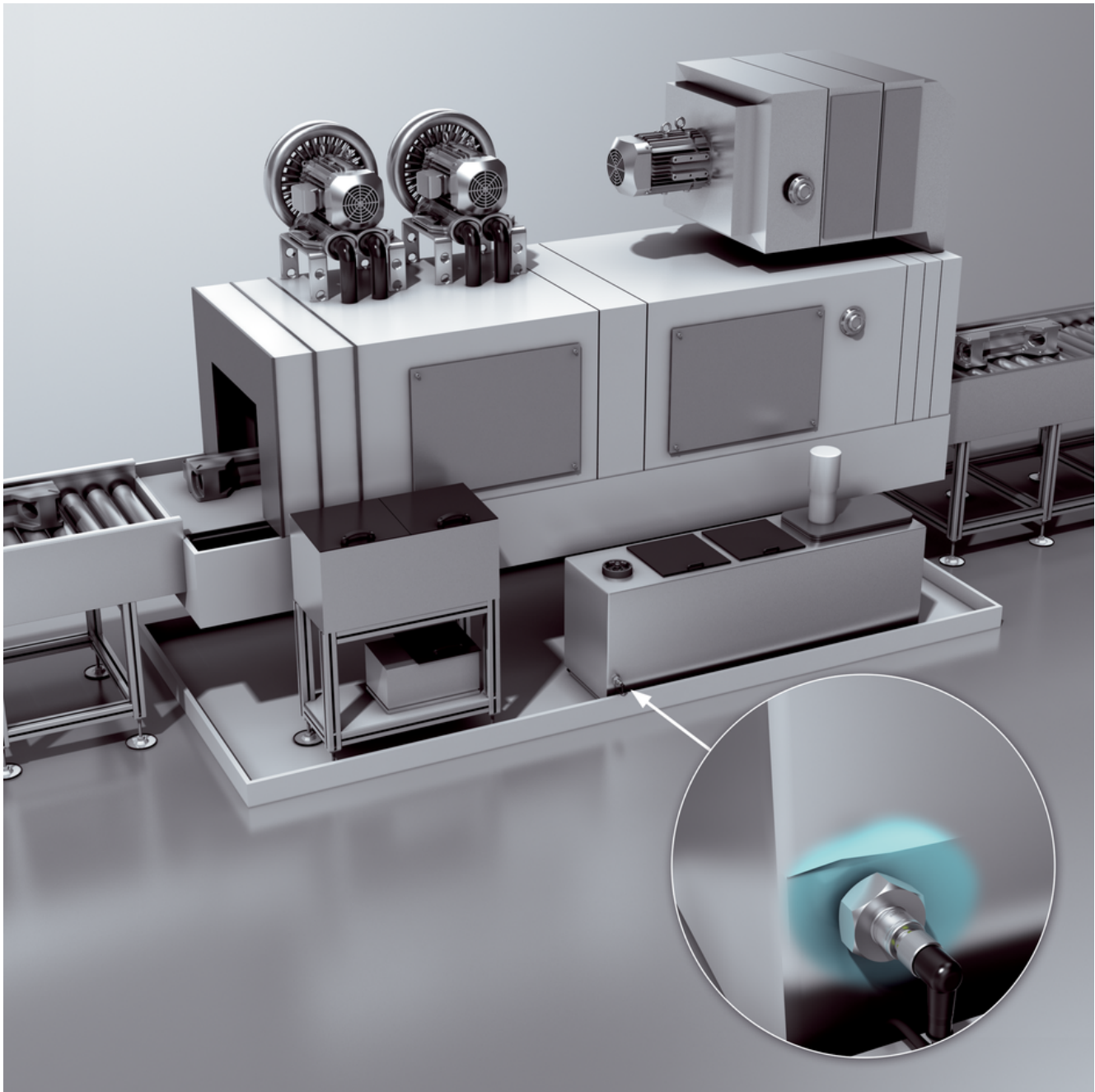
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
ECOLAB certificate	✓
FDA certificate	✓
cULus certificate	✓
Photobiological safety (DIN EN 62471) certificate	✓

### Dimensional drawing

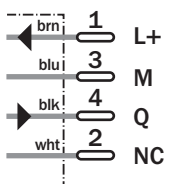


Dimensions in mm (inch)

## Application



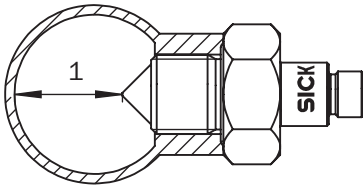
## Connection diagram



### Connection type



### Instruction for installation Installation in pipelines for pump dry-run protection



#### Note:

Fluids which leave heavy coatings can cause sensor deposits and disrupt the function.

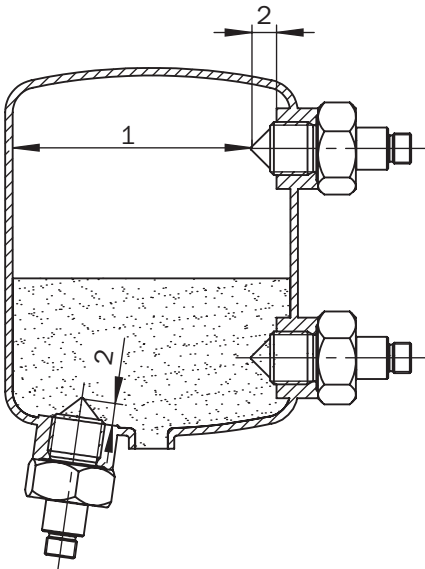
Applications with foam:

Foam with low foam density is not detected by the GRF18S.

Foam with high foam density can be detected by the GRF18S and cause switching errors.

① Distance  $\geq 40$  mm

### Instruction for installation Installation in containers



The apex should protrude into the container

① Distance  $\geq 40$  mm

② Filler tip = 8 mm

## SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

## WORLDWIDE PRESENCE:

Contacts and other locations –[www.sick.com](http://www.sick.com)