

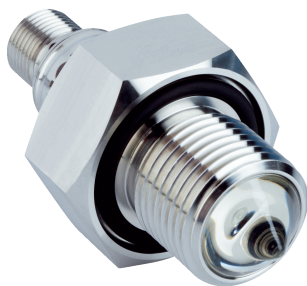


# GRF18S-F234LV

GRF18S

LEVEL SENSORS

**SICK**  
Sensor Intelligence.



## Ordering information

Type	Part no.
GRF18S-F234LV	1092958

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 ... 16 bar
<b>Process temperature</b>	-25 °C ... +55 °C
<b>UL approval</b>	✓
<b>RoHS certificate</b>	✓

## Performance

<b>Response time</b>	10 ms
<b>MTTFd</b>	1,930 years

## Electronics

<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>
<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 PNP
<b>Switching mode</b>	NO
<b>Signal voltage HIGH</b>	V <sub>s</sub> - 3 V
<b>Signal voltage LOW</b>	Approx. 0 V
<b>Output current</b>	≤ 100 mA <sup>3)</sup>

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

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

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

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

<b>Switching frequency</b>	250 Hz <sup>4)</sup>
<b>Enclosure rating</b>	IP67 / IP69

1)  $U_V$  connections, reverse polarity protected.

2) May not exceed or fall below  $U_V$  tolerances.

3) Output overcurrent and short-circuit protected.

4) With light/dark ratio 1:1.

## Mechanics

<b>Wetted parts</b>	Stainless steel 316L, polysulfon, FPM
<b>Process connection</b>	G 1/2
<b>Housing material</b>	Stainless steel 1.4404

## Ambient data

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

## Classifications

<b>ECI@ss 5.0</b>	27273204
<b>ECI@ss 5.1.4</b>	27273204
<b>ECI@ss 6.0</b>	27273204
<b>ECI@ss 6.2</b>	27273204
<b>ECI@ss 7.0</b>	27273204
<b>ECI@ss 8.0</b>	27273204
<b>ECI@ss 8.1</b>	27273204
<b>ECI@ss 9.0</b>	27273204
<b>ECI@ss 10.0</b>	27273204
<b>ECI@ss 11.0</b>	27273204
<b>ETIM 5.0</b>	EC002654
<b>ETIM 6.0</b>	EC002654
<b>ETIM 7.0</b>	EC002654
<b>UNSPSC 16.0901</b>	41111950

## Type code

### Type code

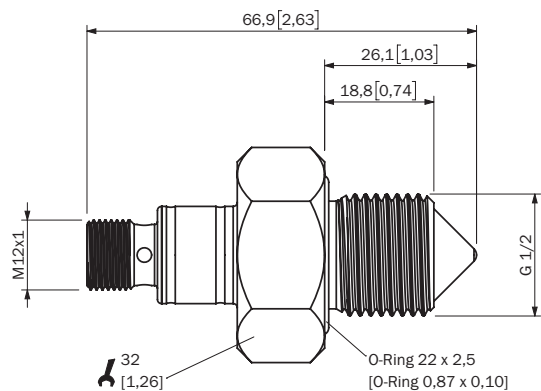
#### Switching output

P	1 x PNP transistor output, normally closed
F	1 x PNP transistor output, normally open
E	1 x NPN transistor output, normally open
N	1 x NPN transistor output, normally closed

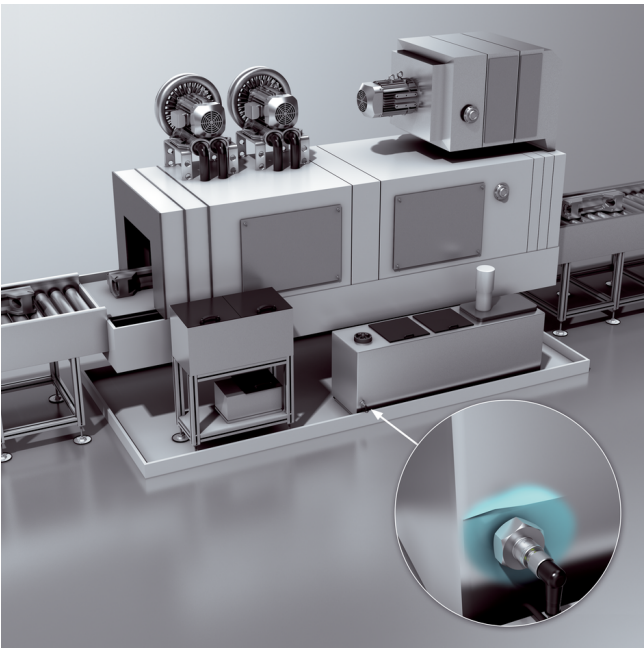


GRF18S -		2	3	4	L	V
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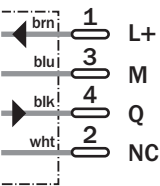
Dimensional drawing (Dimensions in mm (inch))



Application



Connection diagram

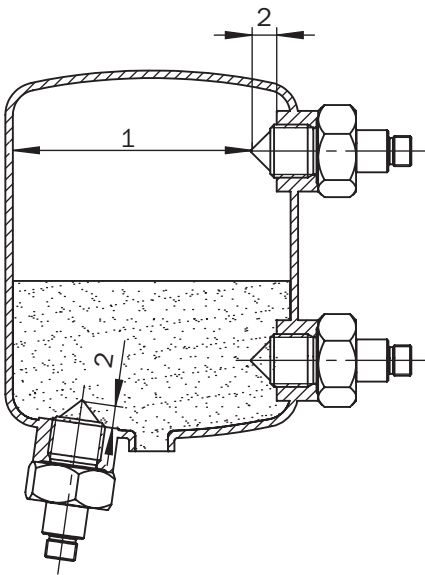


## Connection type



## Instruction for installation

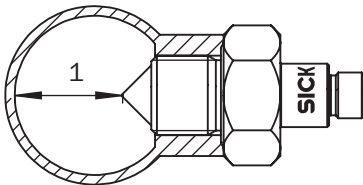
### Installation in containers



The apex should protrude into the container

- ① Distance  $\geq 40$  mm
- ② Filler tip = 8 mm

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



- ① Distance  $\geq 40$  mm

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.

## 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)