

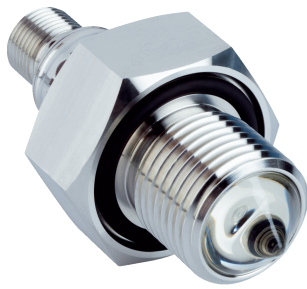


# GRF18S-P234LV

GRF18S

OPTICAL LEVEL SWITCH

**SICK**  
Sensor Intelligence.



## Ordering information

Type	Part no.
GRF18S-P234LV	1092957

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
<b>UL approval</b>	✓
<b>RoHS certificate</b>	✓

## Performance

<b>Response time</b>	10 ms
<b>MTBF</b>	1178 a
<b>MTTFd</b>	2,304 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 <sup>3)</sup>
<b>Switching mode</b>	Normally closed
<b>Output current</b>	≤ 100 mA <sup>3)</sup>
<b>Switching frequency</b>	250 Hz <sup>4)</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>Enclosure rating</b>	IP67 / IP69
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- 1) U<sub>V</sub> connections, reverse polarity protected.
- 2) May not exceed or fall below U<sub>V</sub> 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 ½
<b>Housing material</b>	Stainless steel 1.4404

**Ambient data**

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

**Classifications**

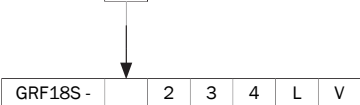
<b>ECLASS 5.0</b>	27273204
<b>ECLASS 5.1.4</b>	27273204
<b>ECLASS 6.0</b>	27273204
<b>ECLASS 6.2</b>	27273204
<b>ECLASS 7.0</b>	27273204
<b>ECLASS 8.0</b>	27273204
<b>ECLASS 8.1</b>	27273204
<b>ECLASS 9.0</b>	27273204
<b>ECLASS 10.0</b>	27273204
<b>ECLASS 11.0</b>	27273204
<b>ECLASS 12.0</b>	27270919
<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

**Type code**

Type code

**Switching output**

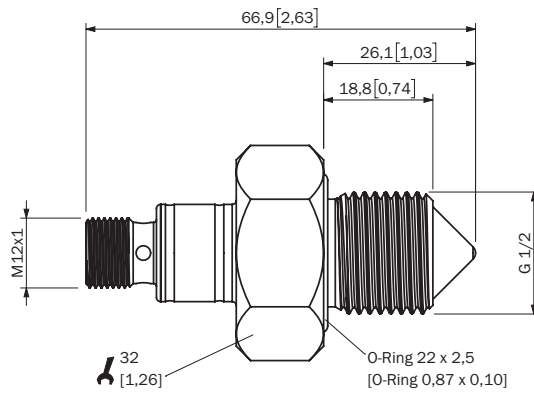
P	1 x PNP transistor output, normally closed
F	1 x PNP transistor output, normally open
E	1 x NPN transistor output, normally open
N	1 x NPN transistor output, normally closed



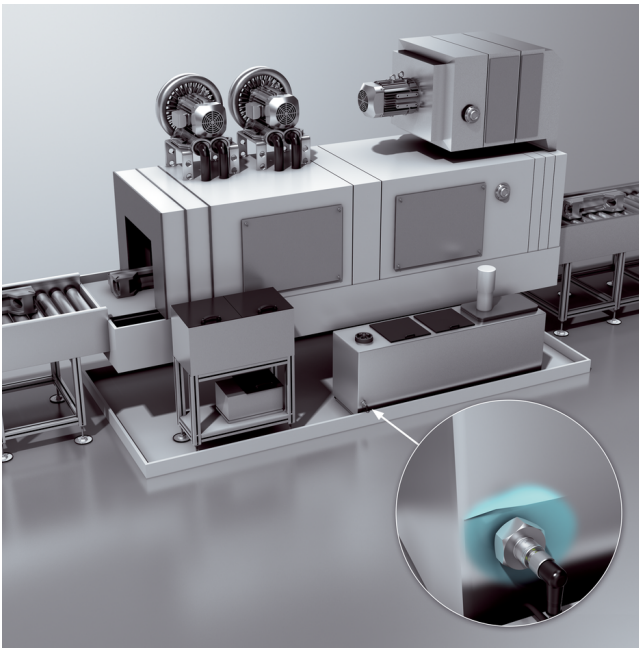
# GRF18S-P234LV | GRF18S

## OPTICAL LEVEL SWITCH

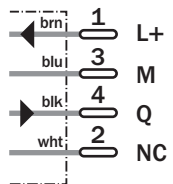
### Dimensional drawing (Dimensions in mm (inch))



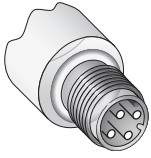
### Application



### Connection diagram

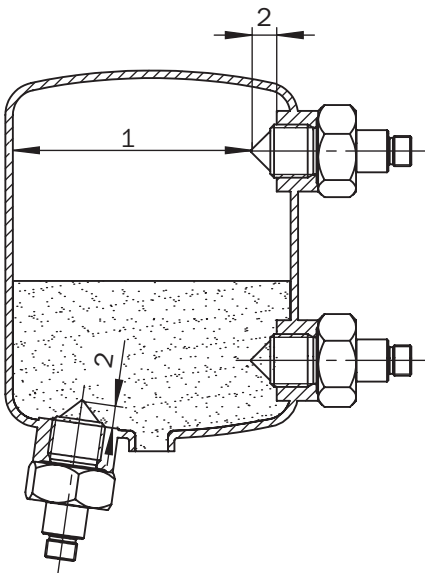


## Connection type



## Instruction for installation

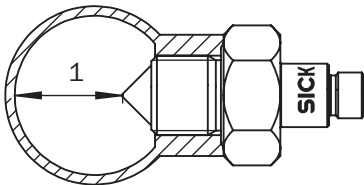
## Installation in containers



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

## 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)