



## Level sensors Vibrating level switch, LFV310

LFV310-DANAVXMRX



**Model Name** > LFV310-DANAVXMRX  
**Part No.** > 6039767



*Illustration may differ*

#### At a glance

- Several housing materials and electrical outputs available
- Commissioning without filling
- Process temperature up to 250 °C
- Immune to deposit formation
- Very high repeatability
- Aseptic versions according to EHEDG and FDA available, CIP and SIP resistant
- ATEX and marine certifications available

#### Your benefits

- Easy installation and commissioning, no calibration necessary
- Easy operation and integration, saves time
- Maintenance-free sensor, reduces downtime
- Testing in place possible - no mounting required, which reduces installation time
- Flexible and tough system for a multitude of applications
- Universal technology works in all kinds of liquids



#### Features

|                        |                                                 |
|------------------------|-------------------------------------------------|
| Medium:                | Fluids                                          |
| Measurement:           | Switch                                          |
| Probe length:          | 66 mm                                           |
| Process pressure:      | -1 bar ... 64 bar                               |
| Process temperature:   | -50 °C ... 150 °C                               |
| WHG approval:          | ✓                                               |
| ATEX approval:         | ATEX II 1/2G, 2G Ex d IIC T6                    |
| GOST approval:         | ✓                                               |
| Fill material density: | 0.5 g/cm <sup>3</sup> ... 2.5 g/cm <sup>3</sup> |
| Type examination:      | TÜV 09 ATEX 372527 X                            |

#### Performance

|                             |                          |
|-----------------------------|--------------------------|
| Accuracy of sensor element: | ± 2 mm                   |
| Repeatability:              | ≤ 1 mm                   |
| Viscosity:                  | 0.1 mPas ... 10,000 mPas |
| Response time:              | 500 ms                   |

#### Mechanical data

|                     |                                                      |
|---------------------|------------------------------------------------------|
| Housing material:   | Aluminum                                             |
| Process connection: | 1" NPT PN 64                                         |
| Wetted parts:       | Stainless steel 316L (optional $Ra \leq 0.8 \mu m$ ) |
| Sensor material:    | Stainless steel 1.4404                               |

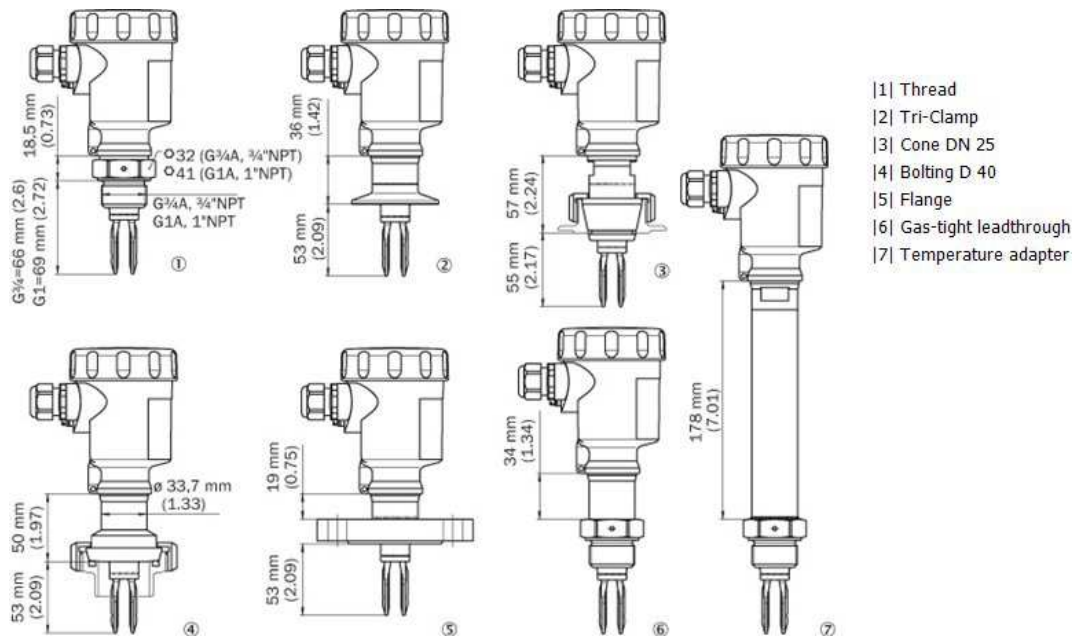
#### Electrical data

|                         |                                                          |
|-------------------------|----------------------------------------------------------|
| Temperature drift:      | 0,03 mm/K                                                |
| Enclosure rating:       | IP 66/IP 67                                              |
| Supply voltage:         | Double relay (DPDT): 20 V DC ... 72 V DC/20 ... 253 V AC |
| Power consumption:      | 5 mA ... 30 mA                                           |
| VDE protection class 1: | ✓                                                        |
| VDE protection class 2: | -                                                        |
| Initialization time:    | < 2 s                                                    |
| Hysteresis:             | 2 mm                                                     |
| Output current:         | > 10 $\mu A$ ; < 3A AC, 1A DC                            |
| Capacitive load:        | 750 VA 54 W                                              |
| Inductive load:         | 750 VA 54 W                                              |
| Electrical connection:  | M20 x 1.5                                                |
| Contact load:           | Min. 50 mW/max. 750 VA, 54 W                             |

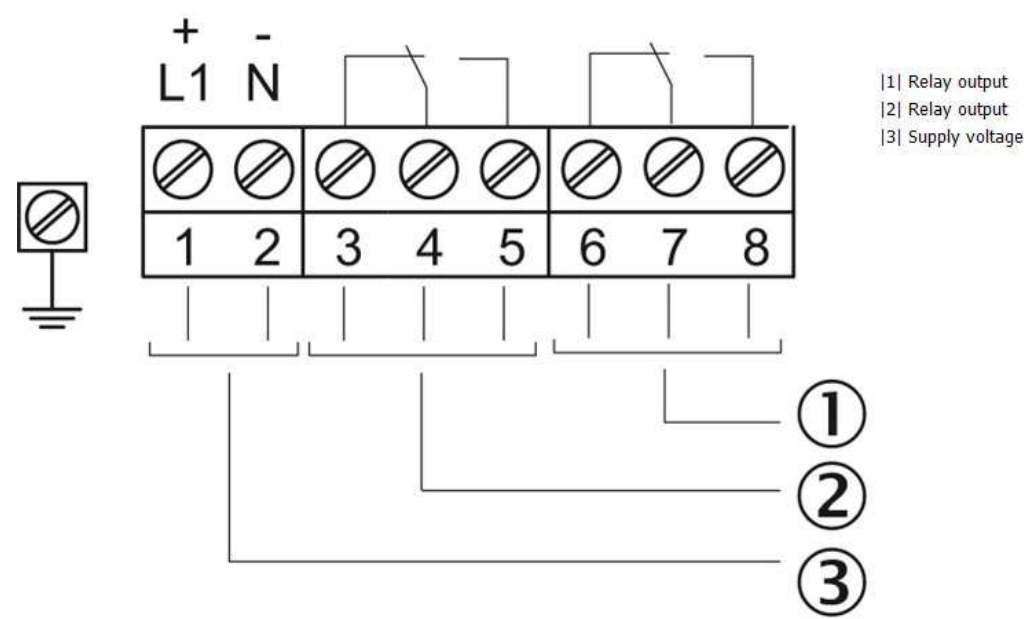
#### Ambient data

|                                |                  |
|--------------------------------|------------------|
| Ambient temperature operation: | -40 °C ... 70 °C |
| Ambient storage temperature:   | -40 °C ... 80 °C |

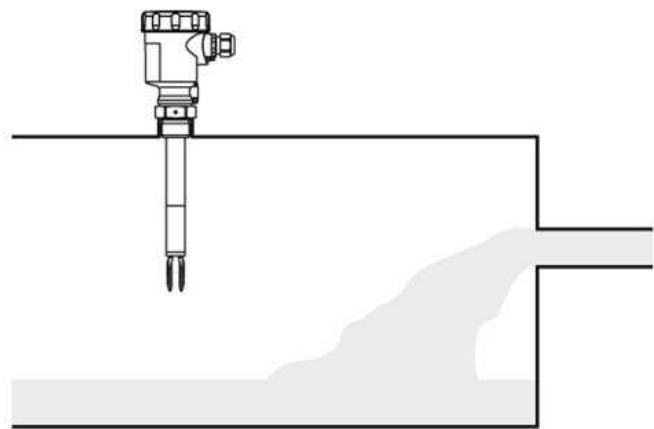
#### Dimensional drawing



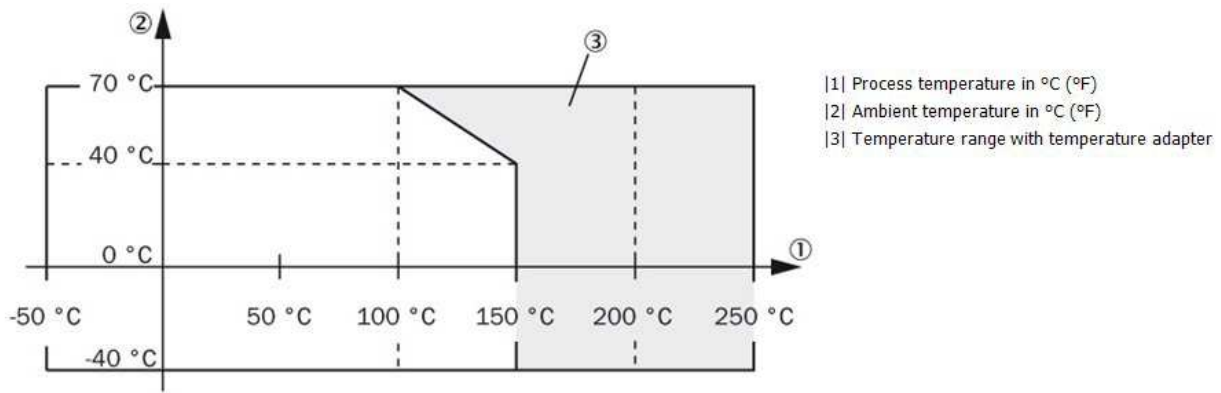
Double relay connection diagram



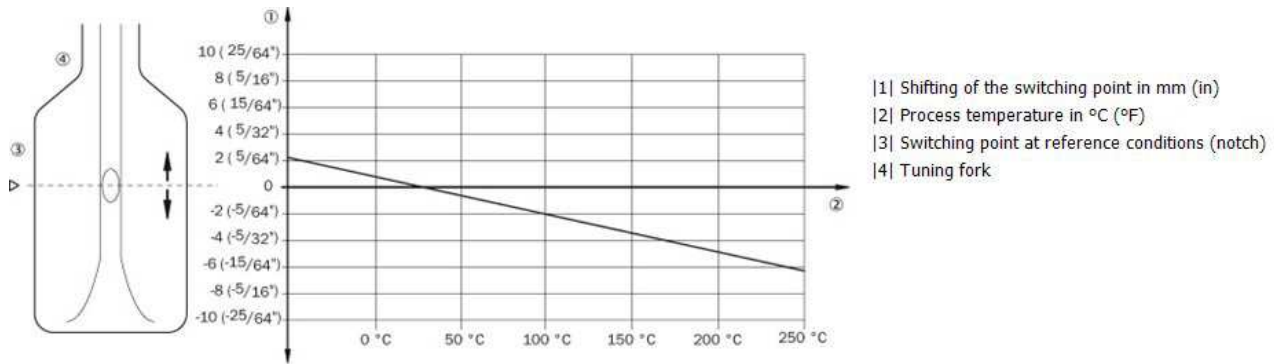
Instruction for installation



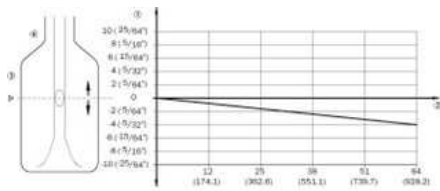
## Ambient temperature - process temperature



## Influence of the process temperature on the switching point

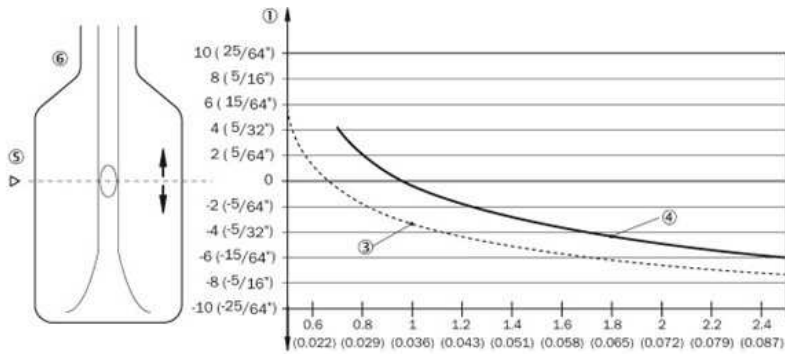


## Influence of the process temperature to the switching point



- |1| Shifting of the switching point in mm (in)
- |2| Process pressure in bar (psig)
- |3| Switching point at reference conditions (notch)
- |4| Tuning fork

## Influence of the product density on the switching point



- |1| Shifting of the switching point in mm (in)
- |2| Product density in g/cm3 (lb/in3)
- |3| Switch position 0.5 g/cm3 (0.018 lb/in3)
- |4| Switch position 0.7 g/cm3 (0.025 lb/in3)
- |5| Switching point at reference conditions (notch)
- |6| Tuning fork

**Australia**

Phone +61 3 9457 0600  
1800 33 48 02 – tollfree  
E-Mail sales@sick.com.au

**Belgium/Luxembourg**

Phone +32 (0)2 466 55 66  
E-Mail info@sick.be

**Brasil**

Phone +55 11 3215-4900  
E-Mail marketing@sick.com.br

**Canada**

Phone +1 905 771 14 44  
E-Mail information@sick.com

**Česká republika**

Phone +420 2 57 91 18 50  
E-Mail sick@sick.cz

**China**

Phone +86 4000 121 000  
E-Mail info.china@sick.net.cn  
Phone +852-2153 6300  
E-Mail ghk@sick.com.hk

**Danmark**

Phone +45 45 82 64 00  
E-Mail sick@sick.dk

**Deutschland**

Phone +49 211 5301-301  
E-Mail info@sick.de

**España**

Phone +34 93 480 31 00  
E-Mail info@sick.es

**France**

Phone +33 1 64 62 35 00  
E-Mail info@sick.fr

**Great Britain**

Phone +44 (0)1727 831121  
E-Mail info@sick.co.uk

**India**

Phone +91-22-4033 8333  
E-Mail info@sick-india.com

**Israel**

Phone +972-4-6881000  
E-Mail info@sick-sensors.com

**Italia**

Phone +39 02 27 43 41  
E-Mail info@sick.it

**Japan**

Phone +81 (0)3 5309 2112  
E-Mail support@sick.jp

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