



# LFV310-XXSHPXVTQ

LFV300

LEVEL SENSORS

**SICK**  
Sensor Intelligence.



### Ordering information

| Type             | part no. |
|------------------|----------|
| LFV310-XXSHPXVTQ | 6065575  |

Other models and accessories → [www.sick.com/LFV300](http://www.sick.com/LFV300)

Illustration may differ



### Detailed technical data

#### Features

|                              |   |
|------------------------------|---|
| <b>Measurement</b>           | Switch  |
| <b>Probe length</b>          | 66 mm   |
| <b>Process pressure</b>      | -1 bar ... 64 bar                               |
| <b>Process temperature</b>   | -50 °C ... +150 °C                              |
| <b>Fill material density</b> | 0.5 g/cm <sup>3</sup> ... 2.5 g/cm <sup>3</sup> |

#### Performance

|                                   |                          |
|-----------------------------------|--------------------------|
| <b>Accuracy of sensor element</b> | ± 2 mm                   |
| <b>Reproducibility</b>            | ≤ 1 mm                   |
| <b>Viscosity</b>                  | 0.1 mPas ... 10,000 mPas |
| <b>Response time</b>              | 500 ms                   |
| <b>MTBF</b>                       | 9,73*10 <sup>6</sup> h   |

#### Electronics

|                                |                                      |
|--------------------------------|--------------------------------------|
| <b>Communication interface</b> | -                                    |
| <b>Supply voltage</b>          | 10 V DC ... 55 V DC                  |
| <b>Residual ripple</b>         | ≤ 5 V <sub>pp</sub>                  |
| <b>Power consumption</b>       | < 10 mA                              |
| <b>Initialization time</b>     | < 2 s                                |
| <b>VDE protection class 2</b>  | ✓                                    |
| <b>Connection type</b>         | M20 x 1.5                            |
| <b>Output signal</b>           | 1 x PNP/NPN                          |
| <b>Electronics</b>             | Volt-free transistor output PNP/ NPN |
| <b>Hysteresis</b>              | 2 mm                                 |
| <b>Output current</b>          | < 300 mA                             |
| <b>Inductive load</b>          | ≤ 1 H                                |
| <b>Capacitive load</b>         | 100 nF                               |

|                          |             |
|--------------------------|-------------|
| <b>Enclosure rating</b>  | IP66 / IP67 |
| <b>Temperature drift</b> | 0.03 mm/K   |

Mechanics

|                           |  |
|---------------------------|--|
| <b>Wetted parts</b>       | Stainless steel 316L (optional Ra ≤ 0.8 µm)  |
| <b>Process connection</b> | Aseptic lapped flange, DIN 50, PN 60, DIN 11864-3-A, 316L, R <sub>a</sub> < 0.8 µm |
| <b>Housing material</b>   | Stainless steel (investment casting) 316L  |
| <b>Sensor material</b>    | Stainless steel 1.4404   |

Ambient data

|                                      |                   |
|--------------------------------------|-------------------|
| <b>Ambient operating temperature</b> | -40 °C ... +70 °C |
| <b>Ambient temperature, storage</b>  | -40 °C ... +80 °C |

Certificates

|                                       |   |
|---------------------------------------|---|
| <b>EU declaration of conformity</b>   | ✓ |
| <b>UK declaration of conformity</b>   | ✓ |
| <b>ACMA declaration of conformity</b> | ✓ |
| <b>China RoHS</b>                     | ✓ |
| <b>FDA certificate</b>                | ✓ |
| <b>EHEDG approval</b>                 | ✓ |

Classifications

|                       |          |
|-----------------------|----------|
| <b>ECLASS 5.0</b>     | 27273202 |
| <b>ECLASS 5.1.4</b>   | 27273202 |
| <b>ECLASS 6.0</b>     | 27273202 |
| <b>ECLASS 6.2</b>     | 27273202 |
| <b>ECLASS 7.0</b>     | 27273202 |
| <b>ECLASS 8.0</b>     | 27273202 |
| <b>ECLASS 8.1</b>     | 27273202 |
| <b>ECLASS 9.0</b>     | 27273202 |
| <b>ECLASS 10.0</b>    | 27273202 |
| <b>ECLASS 11.0</b>    | 27273202 |
| <b>ECLASS 12.0</b>    | 27273106 |
| <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> | 41111938 |

### Dimensional drawing LFB310



Dimensions in mm (inch)

- ① Thread
- ② Tri-Clamp
- ③ DN 25 cone
- ④ Bolting D 40
- ⑤ Flange
- ⑥ Gas-tight leadthrough
- ⑦ Temperature adapter

### Dimensional drawing Marking on the welded flange



Dimensions in mm (inch)

- ① Marking

Connection diagram Transistor - electronic module



- ① Signal lamp (LED)
- ② DIL switch for mode adjustment
- ③ DIL-switch for sensitivity adjustment

Connection diagram NPN action



Connection diagram PNP action



Instruction for installation Inflowing medium



### Characteristic curve Influence of the process temperature on the switching point



- ① Shifting of the switching point in mm (in)
- ② Process temperature in °C (°F)
- ③ Switching point at reference conditions (notch)
- ④ Tuning fork

Recommended accessories

Other models and accessories → [www.sick.com/LFV300](http://www.sick.com/LFV300)

|   | Brief description  | Type                | part no. |
|---|--|---------------------|----------|
| <b>Mounting systems</b>   |  |                     |          |
|   | <ul style="list-style-type: none"> <li><b>Description:</b> Lock nut fitting, process pressure -1 bar to 64 bar, G 1 A process connection, G 3/4 A female thread</li> <li><b>Material:</b> Stainless steel</li> <li><b>Details:</b> Stainless steel 316L</li> </ul> | BEF-MU-316G10-ALFV  | 5322463  |
|    | <ul style="list-style-type: none"> <li><b>Description:</b> Welded flange/welded connector, process connection G 1</li> <li><b>Material:</b> Stainless steel</li> <li><b>Details:</b> Stainless steel 1.4404</li> </ul>   | BEF-FL-GEWG10-LFV2  | 4054605  |
|    | <ul style="list-style-type: none"> <li><b>Description:</b> Welded flange/welded connector, G 3/4 process connection</li> <li><b>Material:</b> Stainless steel</li> <li><b>Details:</b> Stainless steel 1.4404</li> </ul>   | BEF-FL-GEWG34-LFV2  | 4054604  |
|    | <ul style="list-style-type: none"> <li><b>Description:</b> Welded flange/welded connector, process connection Tri-Clamp 1"</li> <li><b>Material:</b> Stainless steel</li> <li><b>Details:</b> Stainless steel 1.4404</li> </ul>                                    | BEF-FL-TCL110-LFV2  | 5321678  |
|    | <ul style="list-style-type: none"> <li><b>Description:</b> Welded flange/welded connector, process connection Tri-Clamp 2"</li> <li><b>Material:</b> Stainless steel</li> <li><b>Details:</b> Stainless steel 1.4404</li> </ul>                                    | BEF-FL-TCL120-LFV2  | 5321679  |
|  | <ul style="list-style-type: none"> <li><b>Description:</b> Welded flange/welded connector, DIN11851-1, DN25 / PN40</li> <li><b>Material:</b> Stainless steel</li> <li><b>Details:</b> Stainless steel 1.4404</li> </ul>  | BEF-FL-851D25-LFV2  | 5321527  |
| <b>Power supply units and power supply cables</b>                                   |  |                     |          |
|  | <ul style="list-style-type: none"> <li><b>Description:</b> Transistor (PNP/NPN): 10 V DC ... 55 V DC</li> </ul>  | ECD-RE-LFVP-NP-0001 | 6038672  |

## 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)