



# LBV310-XXCNDT8MX

LBV3xx

LEVEL SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



## Ordering information

| Type             | part no. |
|------------------|----------|
| LBV310-XXCNDT8MX | 6038138  |

Other models and accessories → [www.sick.com/LBV3xx](http://www.sick.com/LBV3xx)

## Detailed technical data

## Features

|                              |                                  |
|------------------------------|----------------------------------|
| <b>Medium</b>                | Bulk solids                      |
| <b>Measurement</b>           | Switch                           |
| <b>Probe type</b>            | Tuning fork                      |
| <b>Probe length</b>          | 220 mm                           |
| <b>Process pressure</b>      | -1 bar ... 25 bar                |
| <b>Process temperature</b>   | -50 °C ... +150 °C <sup>1)</sup> |
| <b>Fill material density</b> | ≥ 0.008 g/cm <sup>3</sup>        |
| <b>Particle size</b>         | < 10 mm                          |

<sup>1)</sup> Detection of solids in water.

## Performance

|                                   |                                                |
|-----------------------------------|------------------------------------------------|
| <b>Accuracy of sensor element</b> | ± 10 mm                                        |
| <b>Reproducibility</b>            | ≤ 5 mm                                         |
| <b>Response time</b>              | 500 ms <sup>1)</sup><br>1,000 ms <sup>2)</sup> |
| <b>MTBF</b>                       | 4,61*10 <sup>6</sup> h                         |

<sup>1)</sup> When covered.<sup>2)</sup> When uncovered.

## 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>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>              | 10 mm                                |

|                         |              |
|-------------------------|--------------|
| <b>Output current</b>   | < 300 mA     |
| <b>Inductive load</b>   | ≤ 1 H        |
| <b>Capacitive load</b>  | 100 nF       |
| <b>Enclosure rating</b> | IP66<br>IP67 |

## Mechanics

|                           |                                        |
|---------------------------|----------------------------------------|
| <b>Wetted parts</b>       | Stainless steel 1.4404 / 316L          |
| <b>Process connection</b> | 1 1/2" NPT PN 25                       |
| <b>Housing material</b>   | Stainless steel (electropolished) 316L |
| <b>Sensor material</b>    | Stainless steel 1.4404                 |

## Ambient data

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

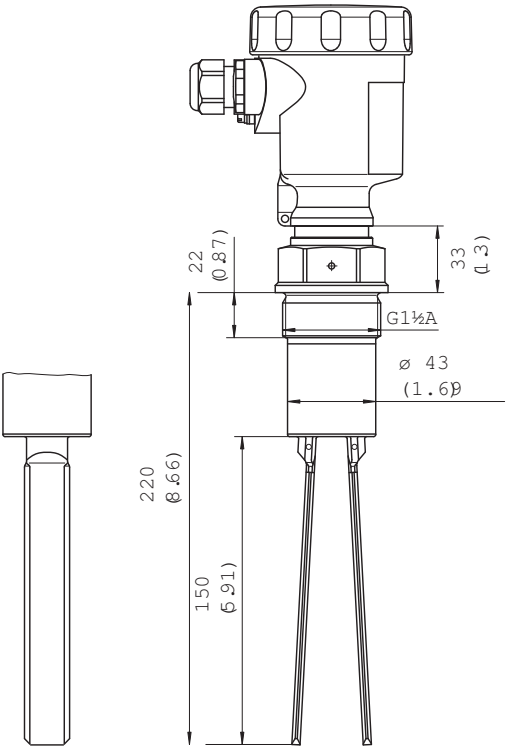
## Classifications

|                       |          |
|-----------------------|----------|
| <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 |

## Certificates

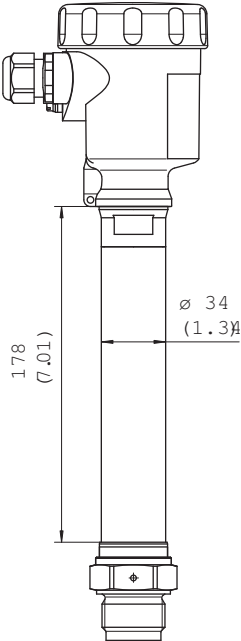
|                                       |   |
|---------------------------------------|---|
| <b>EU declaration of conformity</b>   | ✓ |
| <b>UK declaration of conformity</b>   | ✓ |
| <b>ACMA declaration of conformity</b> | ✓ |
| <b>China RoHS</b>                     | ✓ |
| <b>FDA certificate</b>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

Dimensional drawing LBV310 threaded version G 1½ A (DIN ISO 228/1)



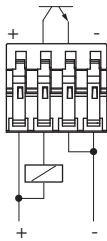
Dimensions in mm (inch)

Dimensional drawing Temperature adapter

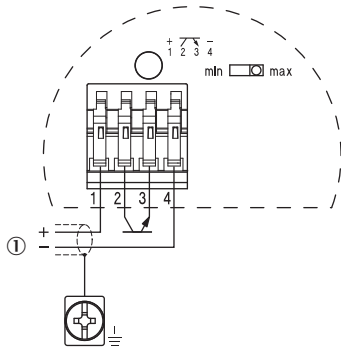


Dimensions in mm (inch)

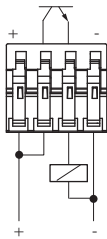
Connection diagram NPN action



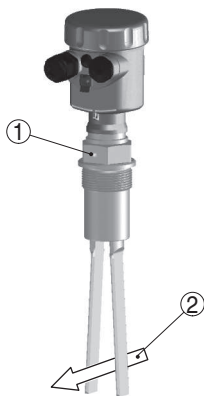
Connection diagram Transistor connection diagram



Connection diagram PNP action

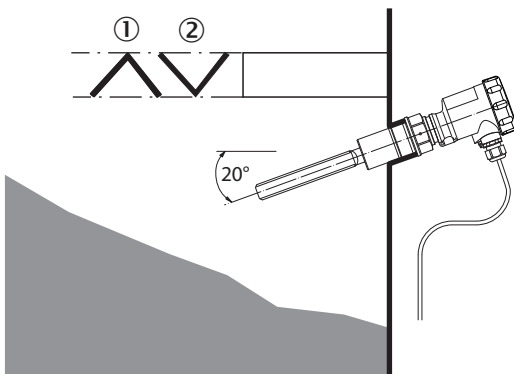


Instruction for installation Flow orientation of the tuning fork



- ① Marking with screwed version  
② Direction of flow

Instruction for installation Horizontal mounting



- ① Protective sheet  
② Concave protective sheet for abrasive solids

Recommended accessories

Other models and accessories → [www.sick.com/LBV3xx](http://www.sick.com/LBV3xx)

|                  | Brief description                                                                                                                                                                                                                                                             | Type               | part no. |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------|
| Mounting systems |                                                                                                                                                                                                                                                                               |                    |          |
|                  | <ul style="list-style-type: none"><li>• <b>Description:</b> Locking screw connection, process pressure –1 bar to 16 bar, process connection G 2 A, inner thread G 1 1/2 A</li><li>• <b>Material:</b> Stainless steel</li><li>• <b>Details:</b> Stainless steel 316L</li></ul> | BEF-MU-316G20-ALBV | 5322462  |

|                                                                                   | Brief description                                                                                             | Type                    | part no. |
|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|-------------------------|----------|
| Power supply units and power supply cables                                        |                                                                                                               |                         |          |
|  | <ul style="list-style-type: none"><li><b>Description:</b> Transistor (PNP/NPN); 10 V DC ... 55 V DC</li></ul> | ECD-RE-LB-<br>VPNP-0001 | 6038667  |

## 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)