



# LBV320-XXHND RAMX03000

LBV300

VIBRATING LEVEL SWITCH

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

| Type                  | Part no. |
|-----------------------|----------|
| LBV320-XXHNDRAMX03000 | 6038555  |

Other models and accessories → [www.sick.com/LBV300](http://www.sick.com/LBV300)

### Detailed technical data

#### Features

|                              |                           |
|------------------------------|---------------------------|
| <b>Medium</b>                | Bulk solids               |
| <b>Measurement</b>           | Switch                    |
| <b>Probe length</b>          | 3,000 mm                  |
| <b>Process pressure</b>      | -1 bar ... 6 bar          |
| <b>Process temperature</b>   | -40 °C ... +150 °C        |
| <b>Fill material density</b> | ≥ 0.008 g/cm <sup>3</sup> |
| <b>Particle size</b>         | < 10 mm                   |
| <b>Tensile strength</b>      | ≤ 3,000 N                 |

#### Performance

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

#### Electronics

|                               |   |
|-------------------------------|---|
| <b>Power consumption</b>      | 5 mA ... 30 mA  |
| <b>Initialization time</b>    | < 2 s   |
| <b>VDE protection class 1</b> | ✓   |
| <b>Connection type</b>        | M20 x 1.5   |
| <b>Output signal</b>          | Double relay (DPDT)   |
| <b>Supply voltage</b>         | Double relay (DPDT): 20 V DC ... 72 V DC / 20 V AC ... 253 V AC |
| <b>Hysteresis</b>             | 10 mm   |
| <b>Output current</b>         | > 10 μA; < 3A AC, 1A DC   |
| <b>Inductive load</b>         | 750 VA 54 W   |
| <b>Capacitive load</b>        | 750 VA 54 W   |
| <b>Contact load</b>           | Min. 50 mW / max. 750 VA, 54 W                                  |
| <b>Enclosure rating</b>       | IP66 / IP67   |

Mechanics

|                           |   |
|---------------------------|---|
| <b>Process connection</b> | 1 1/2" NPT PN 25 / stainless steel 316L |
| <b>Housing material</b>   | Aluminum                                |
| <b>Sensor material</b>    | Stainless steel 316L, 318LN, PUR        |

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 |

Type code

LBV320 type code

**Certification**

|    |  |
|----|--|
| XX | without  |
| CX | ATEX II 1G, ½ G, 2G Ex ia IIC T6                     |
| CK | ATEX II 1G, ½ G, 2G Ex ia IIC T6+ATEX II 1/2D IP6X T |
| GX | ATEX II ½ D IP6X T                                   |

**Execution / Process temperature**

|   |  |
|---|--|
| C | Cable PUR, detection of solids in water / -20 °C... +80 °C |
| H | Cable FEP / -40 °C ... +150 °C                             |
| T | Cable PUR / -20 °C ... +80 °C                              |

**Process connection / Material**

|          |   |
|----------|---|
| XX       | Without / 316L                                |
| GD       | Thread G 1 ½ A, PN 16 / 316L                  |
| ND       | Thread 1 ½" NPT, PN 16 / 316L                 |
| EF       | Flange DN 50, PN 40, form C, DIN 2501 / 316L  |
| No error | Flange DN 80, PN 40, form C, DIN 2501 / 316L  |
| ZF       | Flange DN 100, PN 6, form C, DIN 2501 / 316L  |
| MF       | Flange DN 100, PN 16, form C, DIN 2501 / 316L |
| OF       | Flange DN 100, PN 40, form C, DIN 2501 / 316L |
| QF       | Flange DN150, PN 16, form C, DIN 2501 / 316L  |
| 2F       | Flange DN 200, PN 10, form C, DIN 2501 / 316L |

|    |  |
|----|--|
| EB | Flange DN 50, PN 40, EN 1092-1, form B1 / 316L |
| HA | Flange 2", 150 lb RF, ANSI B16.5 / 316L        |
| HE | Flange 2", 150 lb FF, ANSI B16.5 / 316L        |
| IA | Flange 2", 300 lb RF, ANSI B16.5 / 316L        |
| OA | Flange 3", 150 lb RF, ANSI B16.5 / 316L        |
| OE | Flange 3", 150 lb FF, ANSI B16.5 / 316L        |
| PA | Flange 3", 300 lb RF, ANSI B16.5 / 316L        |
| JA | Flange 3 1/2", 150 lb RF, ANSI B16.5 / 316L    |
| SA | Flange 4", 150 lb RF, ANSI B16.5 / 316L        |
| UA | Flange 4", 300 lb RF, ANSI B16.5 / 316L        |
| AU | Flange DN 50, 10K RF, JIS / 316L               |
| BU | Flange DN 80, 10K RF, JIS / 316L               |
| CU | Flange DN 100, 10K RF, JIS / 316L              |

**Electronics**

|   |  |
|---|--|
| C | Contact-free switch 20 ... 253 V AC (DC)           |
| R | Relay (DPDT) 20 ... 72 V DC / 20 ... 253 V AC (3A) |
| T | Transistor (NPN/PNP) 10 ... 55 V DC                |
| N | NAMUR signal                                       |

**Housing / Enclosure rating**

|   |  |
|---|--|
| K | Plastic / IP 66, IP 67                                   |
| A | Aluminum / IP 66, IP 67                                  |
| V | Stainless steel (investment casting) 316L / IP 66, IP 67 |
| 8 | Stainless steel (electropolished) 316L / IP 66, IP 67    |

**Cable entry / Male connector connection**

|   |                     |
|---|---------------------|
| M | M20 x 1.5 / Without |
| N | 1/2" NPT / Without  |

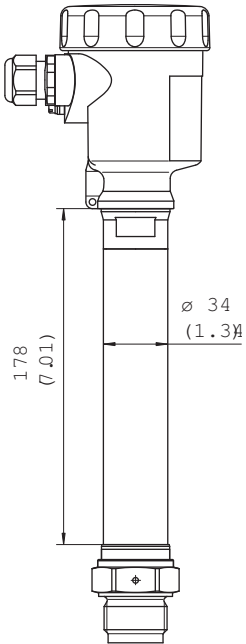
**Length 480 up to max. 80,000 mm**

LBV320 - | | | | | | | X

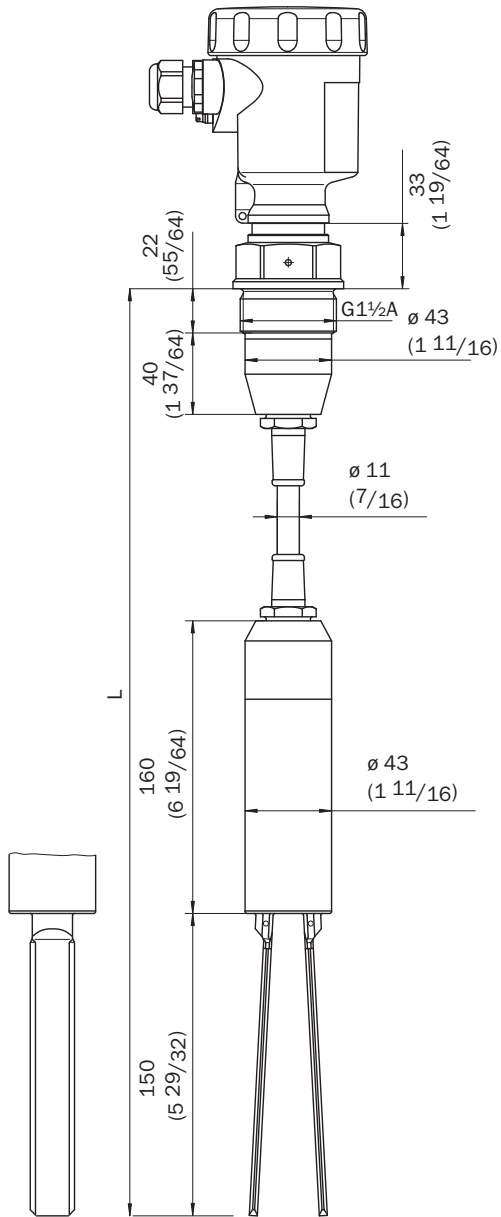
Not all variants of the type code can be combined!

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

Temperature adapter



LBV320 with PUR suspension cable, threaded version G 1½ A (DIN ISO 228/1)



### Connection diagram

Double relay connection diagram



- ① Relay output
- ② Relay output
- ③ Power supply

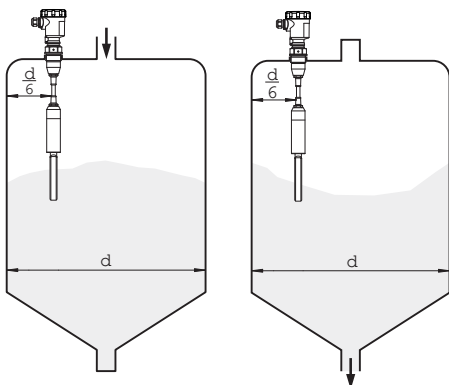
### Instruction for installation

Horizontal mounting

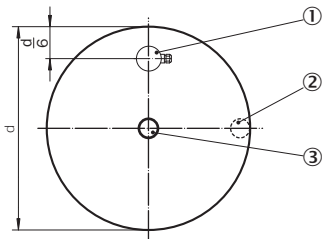
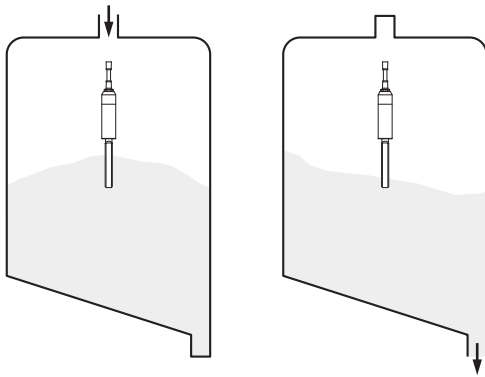


- ① Protective sheet
- ② Concave protective sheet for abrasive solids

LBV320 Filling and emptying centered

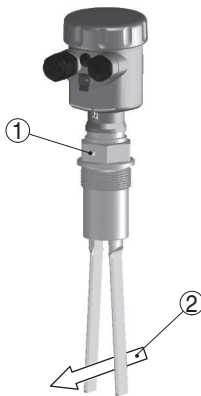


Filling in the center, emptying laterally



- ① LBV320
- ② Discharge opening
- ③ Filling opening


Flow orientation of the tuning fork



- ① Marking with screwed version
- ② Direction of flow

### Recommended accessories

Other models and accessories → [www.sick.com/LBV300](http://www.sick.com/LBV300)

|   | Brief description  | Type                | Part no. |
|---|--|---------------------|----------|
| Electronic modules  |  |                     |          |
|  | Double relay (DPDT): 20 V DC ... 72 V DC / 20 ... 250 V AC | ECD-RE-LB-VREL-0001 | 6038666  |

# LBV320-XXHNDRAMX03000 | LBV300

VIBRATING LEVEL SWITCH

|                              | Brief description  | Type               | Part no. |
|------------------------------|--------------------|--------------------|----------|
| Mounting brackets and plates |                    |                    |          |
|                              | BEF-MU-316G20-ALBV | BEF-MU-316G20-ALBV | 5322462  |



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