



# LBV320-XTGDRAMX02200

LBV300

VIBRATING LEVEL SWITCH

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

Type	Part no.
LBV320-XXTGDRAMX02200	6038412

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>	2,200 mm
<b>Process pressure</b>	-1 bar ... 6 bar
<b>Process temperature</b>	-20 °C ... +80 °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>	G 1½ A PN 25
<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

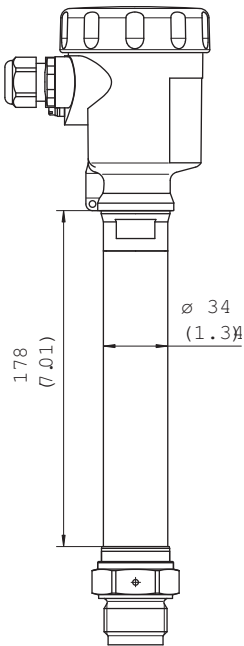
Length 480 up to max. 80,000 mm

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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

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



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