



# LBV331-XXBGDRAMX1000

LBV301

LEVEL SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

Type	Part no.
LBV331-XXBGDRAMX1000	6083412

Other models and accessories → [www.sick.com/LBV301](http://www.sick.com/LBV301)

### Detailed technical data

#### Features

<b>Medium</b>	Bulk solids
<b>Measurement</b>	Switch
<b>Probe length</b>	1,000 mm
<b>Process pressure</b>	-1 bar ... 16 bar
<b>Process temperature</b>	-50 °C ... +250 °C, Temperature range with temperature adapter
<b>Fill material density</b>	≥ 0.02 g/cm <sup>3</sup>

#### 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>	4,17*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>Enclosure rating</b>	IP66 / IP67

#### Mechanics

<b>Process connection</b>	G 1½ A PN 16
<b>Housing material</b>	Aluminum
<b>Sensor material</b>	Stainless steel 316L, 318S

#### Ambient data

<b>Ambient operating temperature</b>	-40 °C ... +70 °C
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Not all variants of the type code can be combined!

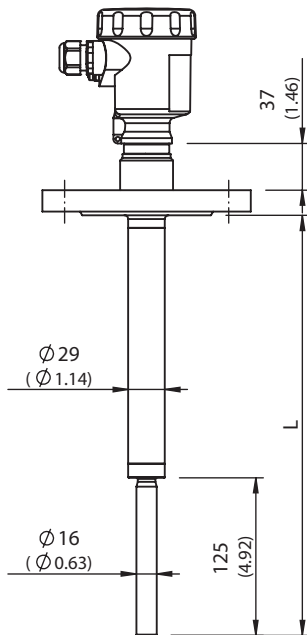
### Process connection / Material

GC	Thread G 1 (DIN 3852-A) PN 16 / 316L
GR	Thread G 1 (DIN 3852-A) PN 16 / 316L, Ra < 0.8µm
GD	Thread G 1 ½ (DIN 3852-A) PN 16 / 316L
GT	Thread G 1 ½ (DIN 3852-A) PN 16 / 316L, Ra < 0.8µm
ND	Thread 1 ½" NPT (ASME B1.20.1) PN 16 / 316L
NT	Thread 1 ½" NPT (ASME B1.20.1) PN 16 / 316L, Ra < 0.8µm
CT	Tri-Clamp 1 ½" / 316L Ra < 0.8µm
CV	Tri-Clamp 2" / 316L Ra < 0.8µm
CQ	Tri-Clamp 2 ½" / 316L Ra < 0.8µm
CM	Tri-Clamp 3 ½" / 316L Ra < 0.8µm
RP	Pipe connection, DN 40, PN 40, DIN 11851 / 316L Ra < 0.8µm
RF	Pipe connection, DN 40, PN 40, DIN 11864-1 form A / 316L Ra < 0.8µm
RH	Pipe connection, DN 65, PN 25, DIN 11851 / 316L Ra < 0.8µm
TV	Tuohenhagen Varivent, DN 32...1 ½", PN 25 / 316L Ra < 0.8µm
C2	Bundle clamp, DN 40, PN 40, DIN, 11864-3 form A / 316L Ra < 0.8µm
BF	Flange, DN 32, PN 40, form C, DIN 2501 / 316L
DF	Flange, DN 40, PN 40, form C, DIN 2501 / 316L
EF	Flange, DN 50, PN 40, form C, DIN 2501 / 316L
4F	Flange, DN 65, PN 16, 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, DIN2501 / 316L
OF	Flange DN 100, PN 40, form C, DIN2501 / 316L
3F	Flange DN 125, PN 6, form C, DIN2501 / 316L
QF	Flange DN 150, PN 16, form C, DIN2501 / 316L
2F	Flange DN 200, PN 10, form C, DIN2501 / 316L
EB	Flange DN 50, PN 40 EN1092-1 form B1 / 316L
DA	Flange 1 ½" 150 lb RF, ANSI B16.5 / 316L
EA	Flange 1 ½" 300 lb RF, ANSI B16.5 / 316L
HA	Flange 2" 150 lb RF, 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
PE	Flange 3" 300 lb FF, ANSI B16.5 / 316L
JA	Flange 3 ½" 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
HU	Flange DN 65, 10K RF, JIS / 316L
BU	Flange DN 80, 10K RF, JIS / 316L
CU	Flange DN 100, 10K RF, JIS / 316L

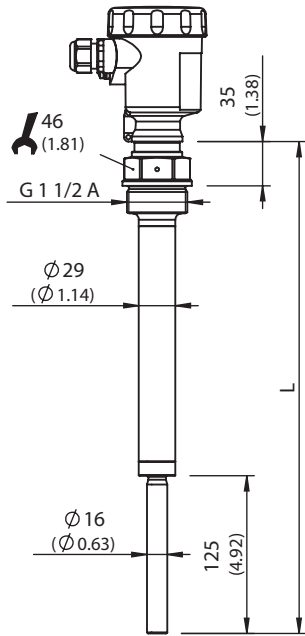
### Dimensional drawing (Dimensions in mm (inch))

LBV331 flange



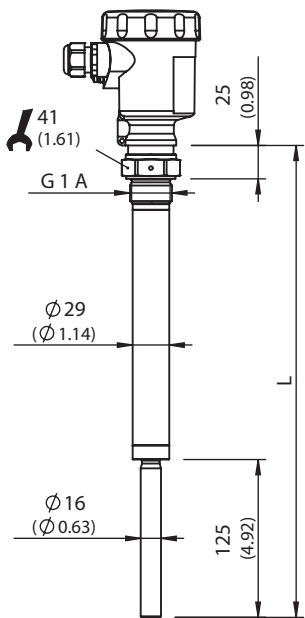
All dimensions in mm (inch)

LBV331 threaded version G 1 1/2 A



All dimensions in mm (inch)

LBV331 threaded version G 1 A



All dimensions in mm (inch)

### Connection diagram

Double relay connection diagram



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

### Instruction for installation

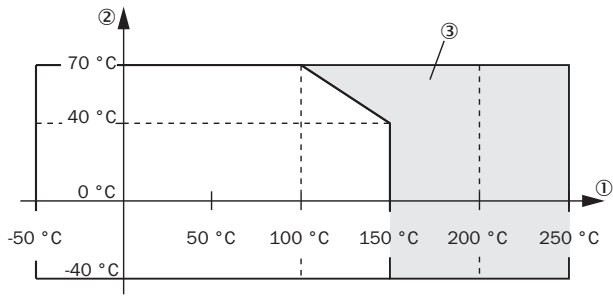
Horizontal mounting



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

### Characteristic curve

Ambient temperature - process temperature



- ① Process temperature in °C (°F)
- ② Ambient temperature in °C (°F)
- ③ Temperature range with temperature adapter

## SICK AT A GLANCE

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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.”

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