



LBV311-XXAZFRAMX

LBV301

VIBRATING LEVEL SWITCH

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	Part no.
LBV311-XXAZFRAMX	6070465

Other models and accessories → www.sick.com/LBV301

Detailed technical data

Features

Medium	Bulk solids
Measurement	Switch
Probe length	160 mm
Process pressure	-1 bar ... 16 bar
Process temperature	-50 °C ... +150 °C
Fill material density	≥ 0.02 g/cm ³

Performance

Accuracy of sensor element	± 10 mm
Reproducibility	≤ 5 mm
Response time	500 ms when covered / 1,000 ms when uncovered
MTBF	4,17*10 ⁶ h

Electronics

Power consumption	5 mA ... 30 mA
Initialization time	< 2 s
VDE protection class 1	✓
Connection type	M20 x 1.5
Output signal	Double relay (DPDT)
Supply voltage	Double relay (DPDT): 20 V DC ... 72 V DC / 20 V AC ... 253 V AC
Hysteresis	10 mm
Output current	> 10 µA; < 3A AC, 1A DC
Enclosure rating	IP66 / IP67

Mechanics

Process connection	Flange DN 100 PN 6 Form C, DIN2501/ 316L
Housing material	Aluminum
Sensor material	Stainless steel 316L, 318S

Ambient data

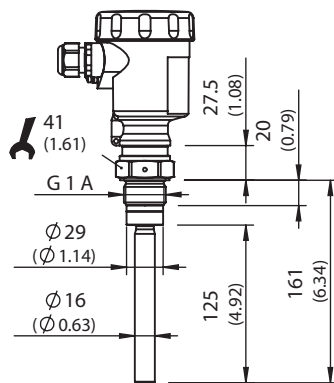
Ambient operating temperature	-40 °C ... +70 °C
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Process connection / Material

GC	Thread G 1, DIN 3852-A, PN 16 / 316L	EF	Flange DN 50, PN 40, form C, DIN 2501 / 316L
GR	Thread G 1, DIN 3852-A, PN 16 / 316L, Ra < 0.8 µm	4F	Flange DN 65, PN 16, form C, DIN 2501 / 316L
GG	Thread G 1 ½, DIN 3852-A, PN 16 / 316L	No error	Flange DN 80, PN 40, form C, DIN 2501 / 316L
GP	Thread G 1 ½, DIN 3852-A, PN 16 / 316L, Ra < 0.8 µm	ZF	Flange DN 100, PN 6, form C, DIN 2501 / 316L
NC	Thread 1" NPT, ASME B1.20.1, PN 16 / 316L	MF	Flange DN 100, PN 16, form C, DIN 2501 / 316L
NR	Thread 1" NPT, ASME B1.20.1, PN 16 / 316L, Ra < 0.8 µm	OF	Flange DN 100, PN 40, form C, DIN 2501 / 316L
NH	Thread 1 ¼" NPT, ASME B1.20.1, PN 16 / 316L	3F	Flange DN 125, PN 6, form C, DIN 2501 / 316L
NI	Thread 1 ¼" NPT, ASME B1.20.1, PN 16 / 316L, Ra < 0.8 µm	QF	Flange DN 150, PN 16, form C, DIN 2501 / 316L
NG	Thread 1 ½" NPT, ASME B1.20.1, PN 16 / 316L	2F	Flange DN 200, PN 10, form C, DIN 2501 / 316L
NP	Thread 1 ½" NPT, ASME B1.20.1, PN 16 / 316L, Ra < 0.8 µm	EB	Flange DN 50, PN 40, EN 1092-1, form B1 / 316L
CT	Tri-Clamp 1 ½" / 316L, Ra < 0.8 µm	DA	Flange 1 ½" 150 lb RF, ANSI B16.5 / 316L
CV	Tri-Clamp 2" / 316L, Ra < 0.8 µm	EA	Flange 1 ½" 300 lb RF, ANSI B16.5 / 316L
CQ	Tri-Clamp 2 ½" / 316L, Ra < 0.8 µm	HA	Flange 2" 150 lb RF, ANSI B16.5 / 316L
CM	Tri-Clamp 3 ½" / 316L, Ra < 0.8 µm	IA	Flange 2" 300 lb RF, ANSI B16.5 / 316L
RP	Pipe connection DN 40, PN 40, DIN 11851 / 316L, Ra < 0.8 µm	OA	Flange 3" 150 lb RF, ANSI B16.5 / 316L
RF	Pipe connection DN 40, PN 40, DIN 11864-1, form A / 316L, Ra < 0.8 µm	OE	Flange 3" 150 lb FF, ANSI B16.5 / 316L
RH	Pipe connection DN 65, PN 25, DIN 11851 / 316L, Ra < 0.8 µm	PA	Flange 3" 300 lb RF, ANSI B16.5 / 316L
TV	Tuchenhagen Varivent DN 32.1 ½", PN 25 / 316L, Ra < 0.8 µm	PE	Flange 3" 300 lb FF, ANSI B16.5 / 316L
C2	Bundle clamp DN 40, PN 40, DIN 11864-3, form A / 316L, Ra < 0.8 µm	JA	Flange 3 ½" 150 lb RF, ANSI B16.5 / 316L
BF	Flange DN 32, PN 40, form C, DIN 2501 / 316L	SA	Flange 4" 150 lb RF, ANSI B16.5 / 316L
DF	Flange DN 40, PN 40, form C, DIN 2501 / 316L	UA	Flange 4" 300 lb RF, ANSI B16.5 / 316L
AU	Flange DN50 10K RF, JIS / 316L	BU	Flange DN80 10K RF, JIS / 316L
HU	Flange DN65 10K RF, JIS / 316L	CU	Flange DN100 10K RF, JIS / 316L

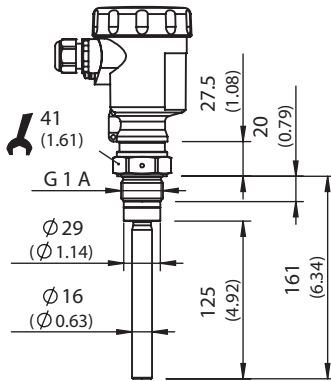
Dimensional drawing (Dimensions in mm (inch))

LBV311 threaded version G 1 ½ A



All dimensions in mm (inch)

LBV311 threaded version G 1 A



All dimensions in mm (inch)

LBV311 temperature adapter -50 °C ... +250 °C



All dimensions in mm (inch)

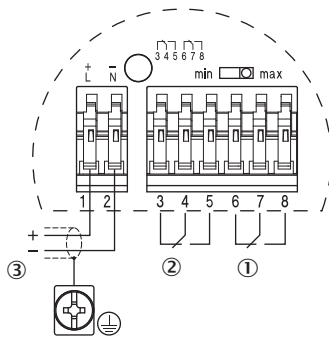
LBV311 threaded version Tri-Clamp



All dimensions in mm (inch)

Connection diagram

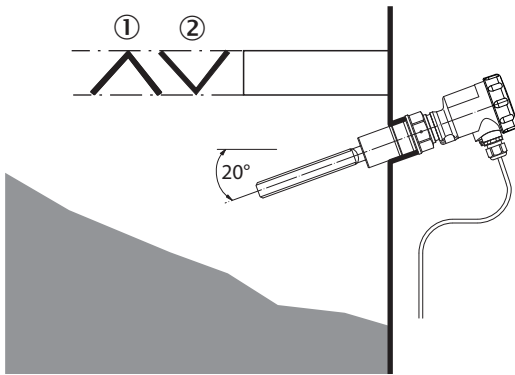
Double relay connection diagram



- 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

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