



LBV310-XXCNDTKNX

LBV300

VIBRATING LEVEL SWITCH

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	Part no.
LBV310-XXCNDTKNX	6038139

Other models and accessories → www.sick.com/LBV300

Detailed technical data

Features

Medium	Bulk solids
Measurement	Switch
Probe length	220 mm
Process pressure	-1 bar ... 25 bar
Process temperature	-50 °C ... +150 °C, detection of solids in water
Fill material density	≥ 0.008 g/cm³
Particle size	< 10 mm

Performance

Accuracy of sensor element	± 10 mm
Reproducibility	≤ 5 mm
Response time	500 ms when covered / 1,000 ms when uncovered
MTBF	4,61*10^6 h

Electronics

Residual ripple	≤ 5 V _{pp}
Initialization time	< 2 s
VDE protection class 2	✓
Connection type	½" NPT
Output signal	1 x PNP/NPN
Supply voltage	Volt-free transistor output PNP/ NPN: 10 V DC ... 55 V DC
Hysteresis	10 mm
Output current	< 300 mA
Inductive load	≤ 1 H
Capacitive load	100 nF
Enclosure rating	IP66 / IP67

Mechanics

Process connection	1 1/2" NPT PN 25 / stainless steel 316L
Housing material	Plastic

Sensor material	Stainless steel 1.4404
------------------------	------------------------

Ambient data

Ambient operating temperature	-40 °C ... +80 °C
Ambient temperature, storage	-40 °C ... +80 °C

Classifications

ECLASS 5.0	27273202
ECLASS 5.1.4	27273202
ECLASS 6.0	27273202
ECLASS 6.2	27273202
ECLASS 7.0	27273202
ECLASS 8.0	27273202
ECLASS 8.1	27273202
ECLASS 9.0	27273202
ECLASS 10.0	27273202
ECLASS 11.0	27273202
ECLASS 12.0	27273106
ETIM 5.0	EC002654
ETIM 6.0	EC002654
ETIM 7.0	EC002654
ETIM 8.0	EC002654
UNSPSC 16.0901	41111938

Type code

LBV310 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 1/2 D IP6X T
LX	ATEX II 1G, ½ G, 2G Ex d IIC T6
LK	ATEX II ½ G, 2G Ex d IIC T6+ATEX II 1/2 D, 2D IP6X
GX	ATEX II ½ D IP6X T

Execution / Process temperature

A	Standard / -50 °C ... +150 °C
B	With spacer / -50 °C ... +250 °C
C	Detection of solids in water / -50 °C ... +150 °C

Process connection / Material

GD	Thread G 1 ½ A, PN 25 / 316L
ND	Thread 1 ½" NPT, PN 25 / 316L
EF	Flange DN 50, PN 40, form C, DIN 2501 / 316L
No er- ror	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 DN 150, 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

LBV310-XXCNDTKNX | LBV300

VIBRATING LEVEL SWITCH

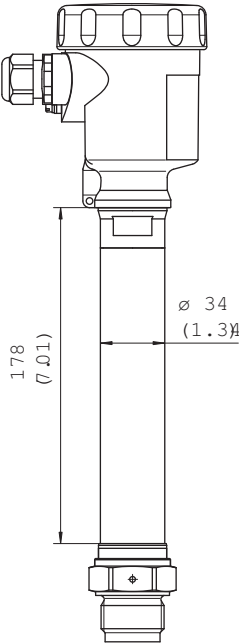
OE	Flange 3", 150 lb FF, ANSI B16.5 / 316L
PA	Flange 3", 300 lb RF, ANSI B16.5 / 316L
JA	Flange 3 1/2", 150 lb RF, ANSI B16.5 / 316L
SA	Flange 4", 150 lb RF, ANSI B16.5 / 316L
UA	Flange 4", 300 lb RF, ANSI B16.5 / 316L
AU	Flange DN 50, 10K RF, JIS / 316L
BU	Flange DN 80, 10K RF, JIS / 316L
CU	Flange 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 ... 55V 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

LBV310 -										X
----------	--	--	--	--	--	--	--	--	--	---

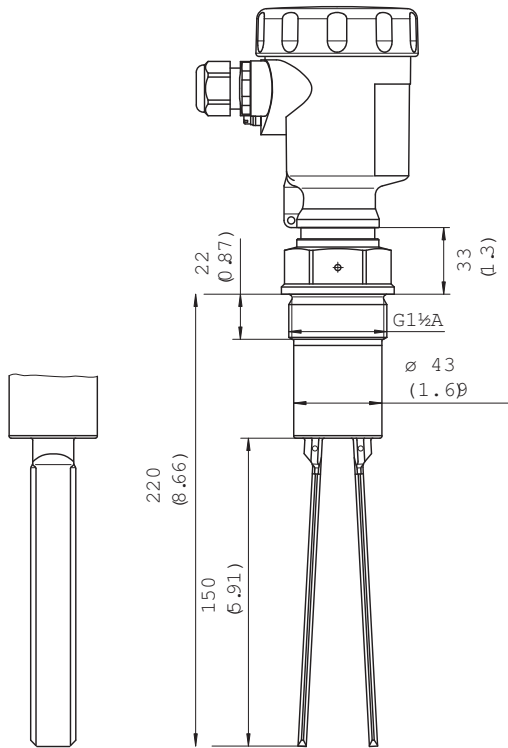
Not all variants of the type code can be combined!

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

Temperature adapter

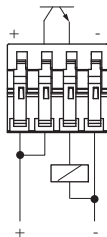


LBV310 threaded version G 1½ A (DIN ISO 228/1)

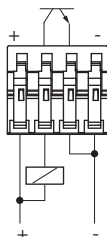


Connection diagram

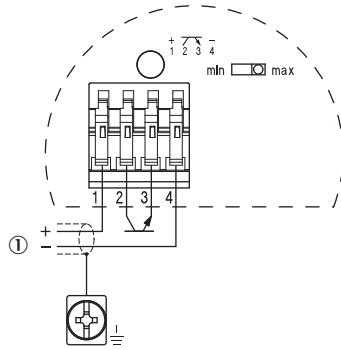
PNP action



NPN action

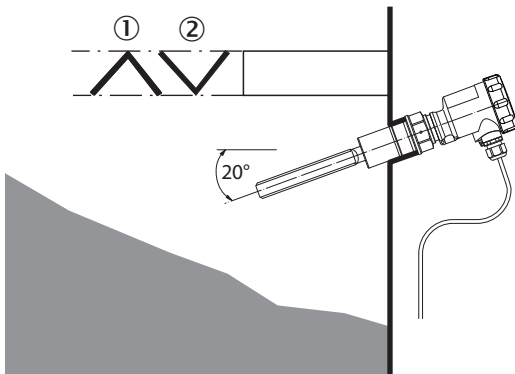


Transistor connection diagram



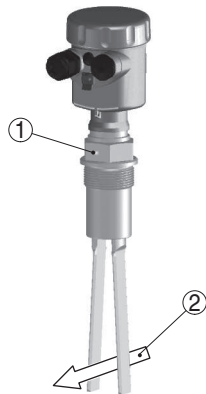
Instruction for installation

Horizontal mounting



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

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

	Brief description	Type	Part no.
Electronic modules			
	Transistor (PNP/NPN): 10 V DC ... 55 V DC	ECD-RE-LB-VPNP-0001	6038667
Mounting brackets and plates			
	BEF-MU-316G20-ALBV	BEF-MU-316G20-ALBV	5322462

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