



Lfv310-xxgbvxnrl

Lfv300

LEVEL SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	Part no.
LFV310-XXGBVXNRL	6049133

Other models and accessories → www.sick.com/LFV300

Detailed technical data

Features

Medium	Fluids
Measurement	Switch
Probe length	117 mm
Process pressure	-1 bar ... 64 bar
Process temperature	-50 °C ... +150 °C
Fill material density	0.5 g/cm ³ ... 2.5 g/cm ³

Performance

Accuracy of sensor element	± 2 mm
Reproducibility	≤ 1 mm
Viscosity	0.1 mPas ... 10,000 mPas
Response time	500 ms

Electronics

Power consumption	5 mA ... 30 mA
Initialization time	< 2 s
VDE protection class 1	✓
Connection type	½" NPT
Output signal	Double relay (DPDT)
Supply voltage	Double relay (DPDT): 20 V DC ... 72 V DC / 20 V AC ... 253 V AC
Hysteresis	2 mm
Output current	> 10 µA; < 3A AC, 1A DC
Inductive load	750 VA 54 W
Capacitive load	750 VA 54 W
Contact load	Min. 50 mW / max. 750 VA, 54 W
Enclosure rating	IP66 / IP67
Temperature drift	0,03 mm/K

Mechanics

Wetted parts	Stainless steel 316L (optional Ra ≤ 0.8 µm)
---------------------	---

Process connection	G 3/4 A PN 64 / 1.4404
Housing material	Plastic
Sensor material	Stainless steel 1.4404

Ambient data

Ambient operating temperature	-40 °C ... +70 °C
Ambient storage temperature	-40 °C ... +80 °C

Classifications

ECl@ss 5.0	27273202
ECl@ss 5.1.4	27273202
ECl@ss 6.0	27273202
ECl@ss 6.2	27273202
ECl@ss 7.0	27273202
ECl@ss 8.0	27273202
ECl@ss 8.1	27273202
ECl@ss 9.0	27273202
ECl@ss 10.0	27273202
ECl@ss 11.0	27273202
ETIM 5.0	EC002654
ETIM 6.0	EC002654
ETIM 7.0	EC002654
UNSPSC 16.0901	41111938

Type code

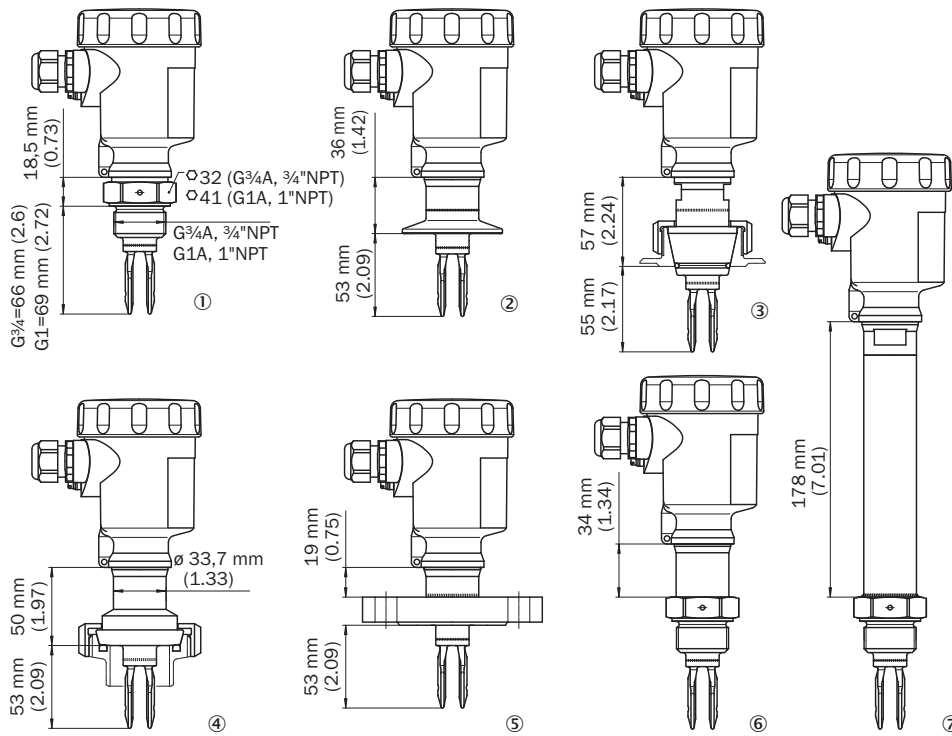
LFV310 type code

Certification	
XX	Without
XA	WHG authorization
CA	ATEX II 1G, 1/2G, 2G Ex ia IIC T6 Ga, Ga/Gb, Gb +WHG
DA	ATEX II 1/2G Ex db IIC T6...T2 Ga/Gb +WHG
Process connection / Material (see below)	
Spacer / Process temperature	
X	Without / -50 °C ... +150 °C
T	With / -50 °C ... +250 °C
Housing / Cable gland	
P	Plastic IP 66, IP 67 / M20 x 1.5
N	Plastic IP 66, IP 67 / 1/2" NPT
M	Aluminum IP 66, IP 67 / M20 x 1.5
U	Aluminum IP 66, IP 67 / 1/2" NPT
V	Stainless steel (investment casting) 316L, IP 66, IP 67 / M20 x 1.5
A	Stainless steel (investment casting) 316L, IP 66, IP 67 1/2" NPT
8	Stainless steel (electropolished) 316L, IP 66, IP 67 / M20 x 1.5
9	Stainless steel (electropolished) 316L, IP 66, IP 67 / 1/2" NPT
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

OEV	Flange, DN 50, PN 40, form F, DIN 2501 / 316L	FJV	Flange, DN 100, PN 16, form C, DIN 2501 / 316L
PEV	Flange, DN 50, PN 40, form N, DIN 2501 / 316L	MJV	Flange, DN 100, PN 16, form D, DIN 2501 / 316L
IEV	Flange, DN 50, PN 40, form E, DIN 2501 / 316L	OJV	Flange, DN 100, PN 16, form F, DIN 2501 / 316L
UEV	Flange, DN 50, PN 40, V13, DIN 2501 / 316L	PJV	Flange, DN 100, PN 16, form N, DIN 2501 / 316L
EEV	Flange, DN 50, PN 40, R13, DIN 2501 / 316L	FKV	Flange, DN 100, PN 40, form C, DIN 2501 / 316L
ONV	Flange, DN 50, PN 64, form F, DIN 2501 / 316L	OKV	Flange, DN 100, PN 40, form F, DIN 2501 / 316L
INV	Flange, DN 50, PN 64, form E, DIN 2501 / 316L	PKV	Flange, DN 100, PN 40, form N, DIN 2501 / 316L
HNV	Flange, DN 50, PN 64, form L, DIN 2501 / 316L	UKV	Flange, DN 100, PN 40, V13, DIN 2501 / 316L
IYV	Flange, DN 50, PN 100, form E, DIN 2501 / 316L	PSV	Flange, DN 100, PN 64, form N, DIN 2501 / 316L
HYV	Flange, DN 50, PN 100, form L, DIN 2501 / 316L	ISV	Flange, DN 100, PN 64, form E, DIN 2501 / 316L
FGV	Flange, DN 65, PN 40, form C, DIN 2501 / 316L	IUV	Flange, DN 100, PN 100, form E, DIN 2501 / 316L
OGV	Flange, DN 65, PN 40, form F, DIN 2501 / 316L	HUV	Flange, DN 100, PN 100, form L, DIN 2501 / 316L
l1V	Flange, DN 65, PN 40, form E, DIN 2501 / 316L	OZV	Flange, DN 125, PN 16, form F, DIN 2501 / 316L
FIV	Flange, DN 80, PN 40, form C, DIN 2501 / 316L	FLV	Flange, DN 125, PN 40, form C, DIN 2501 / 316L
OIV	Flange, DN 80, PN 40, form F, DIN 2501 / 316L	F4V	Flange, DN 150, PN 6, form C, DIN 2501 / 316L
PIV	Flange, DN 80, PN 40, form N, DIN 2501 / 316L	FPC	Flange, DN 25, PN 40, form B1, EN1092-1 / 316L
FJC	Flange, DN 100, PN 16, form B1, EN1092-1 / 316L	IPC	Flange, DN 25, PN 40, form B2, EN1092-1 / 316L
FKC	Flange, DN 100, PN 40, form B1, EN1092-1 / 316L	EPC	Flange, DN 25, PN 40, form F, EN1092-1 / 316L
OKC	Flange, DN 100, PN 40, form C, EN1092-1 / 316L	F3C	Flange, DN 25, PN 63, form B1, EN1092-1 / 316L
PKC	Flange, DN 100, PN 40, form D, EN1092-1 / 316L	IWC	Flange, DN 25, PN 100, form B2, EN1092-1 / 316L
PSC	Flange, DN 100, PN 63, form D, EN1092-1 / 316L	FCC	Flange, DN 40, PN 40, form B1, EN1092-1 / 316L
ISC	Flange, DN 100, PN 63, form B2, EN1092-1 / 316L	ICC	Flange, DN 40, PN 40, form B2, EN1092-1 / 316L
FMC	Flange, DN 150, PN 16, form B1, EN1092-1 / 316L	FEC	Flange, DN 50, PN 40, form B1, EN1092-1 / 316L
FVC	Flange, DN 150, PN 40, form B1, EN1092-1 / 316L	OEC	Flange, DN 50, PN 40, form C, EN1092-1 / 316L
IVC	Flange, DN 150, PN 40, form B2, EN1092-1 / 316L	PEC	Flange, DN 50, PN 40, form D, EN1092-1 / 316L
WPM	Flange 1" 150 lb RF, ANSI B16.5 / 316L	IEC	Flange, DN 50, PN 40, form B2, EN1092-1 / 316L
ANV	Flange 1" 300 lb RF, ANSI B16.5 / 316L	UEC	Flange, DN 50, PN 40, form E, EN1092-1 / 316L
AQV	Flange 1" 600 lb RF, ANSI B16.5 / 316L	EEC	Flange, DN 50, PN 40, form F, EN1092-1 / 316L
YQV	Flange 1" 600 lb LG, ANSI B16.5 / 316L	ONC	Flange, DN 50, PN 63, form C, EN1092-1 / 316L
AAV	Flange 1 ½" 150 lb RF, ANSI B16.5 / 316L	FIC	Flange, DN 80, PN 40, form B1, EN1092-1 / 316L
ABV	Flange 1 ½" 300 lb RF, ANSI B16.5 / 316L	IIC	Flange, DN 80, PN 40, form B2, EN1092-1 / 316L
3BV	Flange 1 ½" 300 lb SM, ANSI B16.5 / 316L	ARV	Flange 1 ½" 600 lb RF, ANSI B16.5 / 316L
ACV	Flange 2" 150 lb RF, ANSI B16.5 / 316L	AYV	Flange 3 ½" 150 lb RF, ANSI B16.5 / 316L
QCV	Flange 2" 150 lb FF, ANSI B16.5 / 316L	AIV	Flange 4" 150 lb RF, ANSI B16.5 / 316L
1CV	Flange 2" 150 lb ST, ANSI B16.5 / 316L	WIV	Flange 4" 150 lb LT, ANSI B16.5 / 316L
2CV	Flange 2" 150 lb SG, ANSI B16.5 / 316L	AJV	Flange 4" 300 lb RF, ANSI B16.5 / 316L
3CV	Flange 2" 150 lb SM, ANSI B16.5 / 316L	BJV	Flange 4" 300 lb RJF, ANSI B16.5 / 316L
ADV	Flange 2" 300 lb RF, ANSI B16.5 / 316L	YJV	Flange 4" 300 lb LG, ANSI B16.5 / 316L
BDV	Flange 2" 300 lb RJF, ANSI B16.5 / 316L	WJV	Flange 4" 300 lb LT, ANSI B16.5 / 316L
1DV	Flange 2" 300 lb ST, ANSI B16.5 / 316L	AUV	Flange 4" 600 lb RF, ANSI B16.5 / 316L
YDV	Flange 2" 300 lb LG, ANSI B16.5 / 316L	BUV	Flange 4" 600 lb RJF, ANSI B16.5 / 316L
WDV	Flange 2" 300 lb LT, ANSI B16.5 / 316L	TCR	Flange 6" 150 lb RF, ANSI B16.5 / 316L
AOV	Flange 2" 600 lb RF, ANSI B16.5 / 316L	BKV	Flange 6" 150 lb RJF, ANSI B16.5 / 316L
BOV	Flange 2" 600 lb RJF, ANSI B16.5 / 316L	ALV	Flange 6" 300 lb RF, ANSI B16.5 / 316L
YOV	Flange 2" 600 lb LG, ANSI B16.5 / 316L	AMV	Flange 8" 150 lb RF, ANSI B16.5 / 316L
BZV	Flange 2" 900 lb RJF, ANSI B16.5 / 316L	VPV	Flange 1" BS.10 Table E / 316L
AEV	Flange 2 ½" 150 lb RF, ANSI B16.5 / 316L	VAV	Flange 1 ½" BS.10 Table E / 316L
AFV	Flange 2 ½" 300 lb RF, ANSI B16.5 / 316L	VHV	Flange 3 ½" BS.10 Table E / 316L
AGV	Flange 3" 150 lb RF, ANSI B16.5 / 316L	JBV	Flange DN40, 10K, JIS / 316L
QGV	Flange 3" 150 lb FF, ANSI B16.5 / 316L	JCV	Flange DN50, 10K, JIS / 316L
AHV	Flange 3" 300 lb RF, ANSI B16.5 / 316L	JGV	Flange DN80, 10K, JIS / 316L
ATV	Flange 3" 600 lb RF, ANSI B16.5 / 316L	JIV	Flange DN100, 10K, JIS / 316L

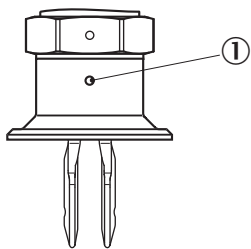
Dimensional drawing (Dimensions in mm (inch))

LFV310



- ① Thread
- ② Tri-Clamp
- ③ DN 25 cone
- ④ Bolting D 40
- ⑤ Flange
- ⑥ Gas-tight leadthrough
- ⑦ Temperature adapter

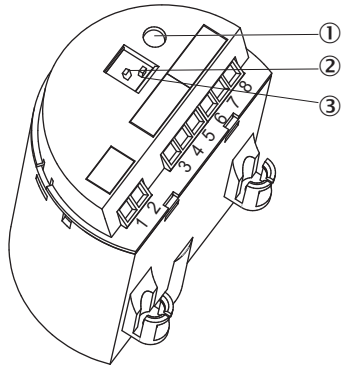
Marking on the welded flange



- ① Marking

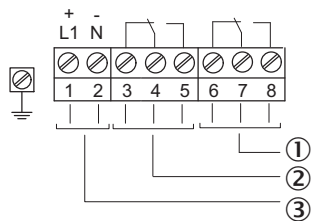
Connection diagram

Relay - electronic module



- ① Signal lamp (LED)
- ② DIL switch for mode adjustment
- ③ DIL-switch for sensitivity adjustment

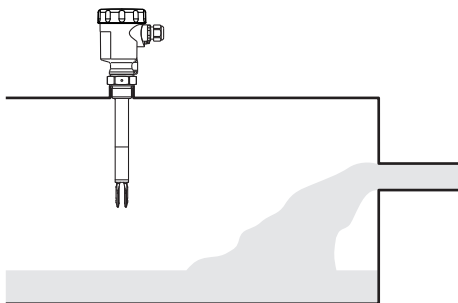
Relay connection diagram (single chamber housing)



- ① Relay output
- ② Relay output
- ③ Supply voltage

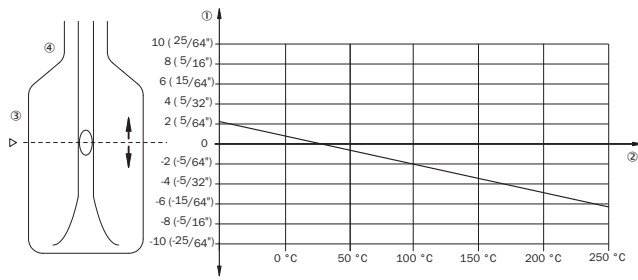
Instruction for installation

Inflowing medium



Characteristic curve







Influence of the process temperature on the switching point



- ① Shifting of the switching point in mm (in)
- ② Process temperature in °C (°F)
- ③ Switching point at reference conditions (notch)
- ④ Tuning fork

Recommended accessories

Other models and accessories → www.sick.com/LFV300

	Brief description	Type	Part no.
Flanges			
	Welded flange/welded connector, DIN11851-1, DN25 / PN40, Stainless steel 1.4404	BEF-FL-851D25-LFV2	5321527
	Welded flange/welded connector, process connection G 1, Stainless steel 1.4404	BEF-FL-GEWG10-LFV2	4054605
	Welded flange/welded connector, G 3/4 process connection, Stainless steel 1.4404	BEF-FL-GEWG34-LFV2	4054604
	Welded flange/welded connector, process connection Tri-Clamp 1", Stainless steel 1.4404	BEF-FL-TCLI10-LFV2	5321678
	Welded flange/welded connector, process connection Tri-Clamp 2", Stainless steel 1.4404	BEF-FL-TCLI20-LFV2	5321679
Mounting brackets and plates			
	BEF-MU-316G10-ALFV	BEF-MU-316G10-ALFV	5322463
Electronic modules			
	Double relay (DPDT): 20 V DC ... 72 V DC / 20 ... 250 V AC	ECD-RE-LFVREL-0001	6038671

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