# 

# LBV310-XXBGDT8NX LBV300

SICK Sensor Intelligence.

**LEVEL SENSORS** 

# LBV310-XXBGDT8NX | LBV300

LEVEL SENSORS



# Ordering information

Туре	Part no.
LBV310-XXBGDT8NX	6038069

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

Illustration may differ



# Detailed technical data

MediumBuik solidsMeasurementSwitchProbe length20 mmProbe length20 mmProcess pressure-1 bar 25 barProcess temperature-50 °C + 250 °CProcess temperature> 0.0008Particel size> 0.0008Particel size> 10 mmRepeatability\$ 5 mmRepeatability5 5 mmRepeatability\$ 5 VpnPover consumption< 10 mAInitialization time\$ 5 VpnPotection class 2VDE protection class 2Signal voltage HIGHU v.3Signal voltage HIGHU v.3Signal voltage HIGH< 10 mmSignal voltage HIGH< 10 mSignal voltage HIGH< 10 m <t< th=""><th>Features</th><th></th></t<>	Features	
Probe length     220 mm       Process pressure     -1 bar 25 bar       Process temperature     -50 °C + 250 °C       Fill material density     ≥ 0.008       Particle size     <10 mm       Performance        Accuracy of sensor element     ± 10 mm       Repeatability     \$5 mm       Report time     500 ms when covered / 1,000 ms when uncovered       Electronics        Prove consumption     <10 mA       Initialization time     <2 s       Power consumption     <10 mA       Initialization time     <2 s       VDE protection class 2     ✓       Initialization time     <2 s       Supply voltage     Volt free transistor output PNP/ NPN: 10 VDC 55 VDC       Hysteresis     10 mm       Signal voltage HIGH     Uv - 3 V       Signal voltage LOW     <1 V       Output current     <300 mA       Inductive load     <1 H       Capacitive load     100 nF       Enclosure rating     P66 / IP67	Medium	Bulk solids
Process pressure     -1 bar 25 bar       Process temperature     -50 °C +250 °C       Fill material density     >0.008       Particle size     <10 mm       Performance        Accuracy of sensor element     ± 10 mm       Repeatability     \$5 mm       Response time     500 ms when covered / 1.000 ms when uncovered       Electronics        Residual ripple     \$5 Vpp       Power consumption     <10 mA       Initialization time     <2 s       VDE protection class 2     ✓       Supply voltage     Volt-free transistor output PNP/ NPN: 10 V DC 55 V DC       Hysteresis     10 mm       Signal voltage HIGH     UV -3 V       Signal voltage LOW     <10 mA       Inductive load     \$1 H       Capacitive load     \$1 H       Signal voltage LOW     \$1 O m       Output current     <300 mA       Inductive load     \$1 H       Capacitive load     \$1 H       Capacitive load     \$10 PG / PG	Measurement	Switch
Process temperature     -50 °C+250 °C       Fill material density     ≥ 0.008       Particle size     < 10 mm       Performance        Accuracy of sensor element     ± 10 mm       Repeatability     ≤ 5 mm       Reponse time     500 ms when covered / 1,000 ms when uncovered       Electronics        Power consumption     < 5 Vpp       Power consumption     < 10 mA       Initialization time     < 2 s       VDE protection class 2     ✓       VDE protection class 2     ✓       Signal voltage HGH     Uv - 3 V       Signal voltage LGW     < 10 v       Output current     < 300 mA       Inductive load     < 1 H       Capacitive load     < 1 H       Capacitive load     < 1 H       Capacitive load     < 1 H	Probe length	220 mm
Fill material density   2 0.008     Particle size   < 10 mm     Performance   < 10 mm     Accuracy of sensor element   \$ 10 mm     Repeatability   \$ 5 mm     Response time   500 ms when covered / 1,000 ms when uncovered     Electronics      Residual ripple   \$ 5 Vpp     Power consumption   < 10 mA     Initialization time   < 2 s     VDE protection class 2   ✓     Electrical connection   ¼" NPT     Supply voltage   Volt-free transistor output PNP/ NPN: 10 V DC 55 V DC     Hysteresis   10 mm     Signal voltage LOW   < 1 V     Output current   < 300 mA     Inductive load   <1 H     Capacitive load   10 nF     Enclosure rating   100 nF     Enclosure rating   100 nF     Enclosure rating   100 nF	Process pressure	-1 bar 25 bar
Particle size<10 mmPerformance±10 mmAccuracy of sensor element±10 mmRepeatability<5 mmResponse time500 ms when covered / 1,000 ms when uncoveredElectronicsResidual ripple<5 VppPower consumption<10 mAInitialization time<2 sVDE protection class 2Electrical connection½* NPTSupply voltageVolt/ree transistor output PNP/ NPN: 10 VDC 55 V DCHysteresis10 mmSignal voltage HIGHUv -3 VSignal voltage LOW<1 VOutput current<300 mACapacitive load10 mFEnclosure ratingIP 66 / IP 67	Process temperature	-50 °C +250 °C
Performance     Accuracy of sensor element   ± 10 mm     Repeatability   \$ 5 mm     Response time   500 ms when covered / 1,000 ms when uncovered     Electronics   \$ 5 Vpp     Residual ripple   \$ 5 Vpp     Power consumption   < 10 mA     Initialization time   < 2 s     VDE protection class 2   /     Electrical connection   ½* NPT     Supply voltage   10 mm     Signal voltage HIGH   Uv - 3 V     Signal voltage LOW   <1 V     Output current   < 300 mA     Inductive load   <1 H     Capacitive load   100 nF     Enclosure rating   IP66 / IP 67	Fill material density	≥ 0.008
Accuracy of sensor element± 10 mmRepeatability≤ 5 mmResponse time500 ms when covered / 1,000 ms when uncoveredElectronicsResidual ripple≤ 5 VppPower consumption< 10 mA	Particle size	< 10 mm
Repeatability\$ 5 mmResponse time500 ms when covered / 1,000 ms when uncoveredElectronicsElectronicsResidual ripple\$ 5 VppPower consumption\$ 5 VppInitialization time\$ 2 sVDE protection class 2✓Electrical connection½" NPTSupply voltage10 mmHysteresis10 mmSignal voltage HIGHUv -3 VOutput current< 300 mA	Performance	
Response time500 ms when covered / 1,000 ms when uncoveredElectronicsResidual ripple $\leq 5 V_{pp}$ Power consumption<10 mAInitialization time<2 sVDE protection class 2✓Electrical connection½" NPTSupply voltageVolt-free transistor output PNP/ NPN: 10 V DC 55 V DCHysteresis10 mmSignal voltage HIGHUv -3 VOutput current<300 mAInductive load<1 HCapacitive load00 n FEnclosure ratingD66 / IP 67	Accuracy of sensor element	± 10 mm
Electronics     Residual ripple   \$5 Vpp     Power consumption   <10 mA     Initialization time   <2 s     VDE protection class 2   ✓     Electrical connection   ½* NPT     Supply voltage   Volt-free transistor output PNP/ NPN: 10 V DC 55 V DC     Hysteresis   10 mm     Signal voltage HIGH   Uv -3 V     Output current   <300 mA     Inductive load   ≤1 H     Capacitive load   100 nF     Enclosure rating   IP 66 / IP 67	Repeatability	≤ 5 mm
Residual ripple< 5 VppPower consumption< 10 mAInitialization time< 2 sVDE protection class 2VIE protection class 2Volt free transistor output PNP/ NPN: 10 V DC 55 V DCSupply voltageVolt-free transistor output PNP/ NPN: 10 V DC 55 V DCHysteresis10 mmSignal voltage HIGHUv -3 VOutput current< 300 mAInductive load< 1 HCapacitive load100 nFEnclosure ratingIP 66 / IP 67	Response time	500 ms when covered / 1,000 ms when uncovered
Power consumption< 10 mAInitialization time< 2 sVDE protection class 2VDE protection class 2Electrical connection½" NPTSupply voltageVolt-free transistor output PNP/ NPN: 10 V DC 55 V DCHysteresis10 mmSignal voltage HIGHUv -3 VOutput current< 300 mAInductive load< 1 HCapacitive load100 nFEnclosure ratingIP 66 / IP 67	Electronics	
Initialization time< 2 sVDE protection class 2VDE protection class 2Ver NPTSupply voltageVolt-free transistor output PNP/ NPN: 10 V DC 55 V DCHysteresis10 mmSignal voltage HIGHUv -3 VOutput current< 300 mAInductive load< 1 HCapacitive load100 nFEnclosure ratingP 66 / IP 67	Residual ripple	≤ 5 V <sub>pp</sub>
VDE protection class 2✓Electrical connection½" NPTSupply voltageVolt-free transistor output PNP/ NPN: 10 V DC 55 V DCHysteresis10 mmSignal voltage HIGHUv -3 VSignal voltage LOW<1 VOutput current<300 mAInductive load<1 HCapacitive load100 nFEnclosure ratingIP 6/ IP 67	Power consumption	< 10 mA
Flectrical connection½" NPTSupply voltageVolt-free transistor output PNP/ NPN: 10 V DC 55 V DCHysteresis10 mmSignal voltage HIGHUv -3 VSignal voltage LOW<1 V	Initialization time	<2s
Supply voltageVolt-free transistor output PNP/ NPN: 10 V DC 55 V DCHysteresis10 mmSignal voltage HIGHUv -3 VSignal voltage LOW<1 V	VDE protection class 2	1
Hysteresis10 mmSignal voltage HIGHUv -3 VSignal voltage LOW<1 V	Electrical connection	1⁄2" NPT
Signal voltage HIGHUv -3 VSignal voltage LOW<1 V	Supply voltage	Volt-free transistor output PNP/ NPN: 10 V DC 55 V DC
Signal voltage LOW<1 V	Hysteresis	10 mm
Output current< 300 mA	Signal voltage HIGH	Uv -3 V
Inductive load ≤ 1 H   Capacitive load 100 nF   Enclosure rating IP 66 / IP 67	Signal voltage LOW	<1V
Capacitive load 100 nF   Enclosure rating IP 66 / IP 67	Output current	< 300 mA
Enclosure rating IP 66 / IP 67   Mechanics	Inductive load	≤1H
Mechanics	Capacitive load	100 nF
	Enclosure rating	IP 66 / IP 67
Process connection G 1½ A PN 25	Mechanics	
	Process connection	G 1½ A PN 25

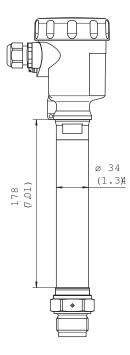
# LBV310-XXBGDT8NX | LBV300

LEVEL SENSORS

Housing material	Stainless steel (electropolished)
Sensor material	Stainless steel 1.4404
Ambient data	
Ambient operating temperature	-40 °C +80 °C
Ambient storage temperature	-40 °C +80 °C
Classifications	
ECI@ss 5.0	27273202
ECI@ss 5.1.4	27273202
ECI@ss 6.0	27273202
ECI@ss 6.2	27273202
ECI@ss 7.0	27273202
ECI@ss 8.0	27273202
ECI@ss 8.1	27273202
ECI@ss 9.0	27273202
ETIM 5.0	EC002654
ETIM 6.0	EC002654
UNSPSC 16.0901	41111938

# Dimensional drawing (Dimensions in mm (inch))

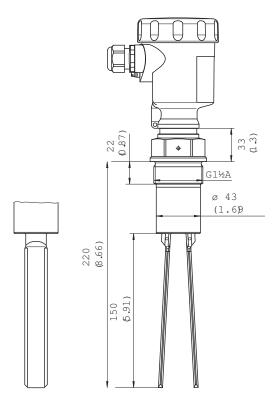
Temperature adapter



# LBV310-XXBGDT8NX | LBV300

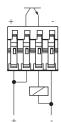
LEVEL SENSORS

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

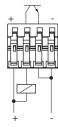


# **Connection diagram**

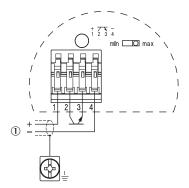
PNP action



NPN action

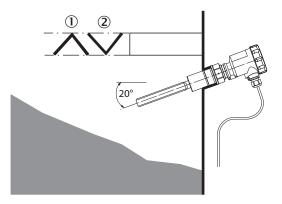


Transistor connection diagram



### Instruction for installation

Horizontal mounting



Protective sheet
Concave protective sheet for abrasive solids

### **Recommended accessories**

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

	Brief description	Туре	Part no.		
Mounting brackets and mounting plates					
	Locking screw connection, process pressure –1 bar to 16 bar, process connection G 2 A, inner thread G 1 1/2 A, stainless steel 316L	BEF-MU-316G20- ALBV	5322462		
Electronic modules					
	Transistor (PNP/NPN): 10 V DC 55 V DC	ECD-RE-LB- VPNP-0001	6038667		

# 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



Online data sheet

