



Model Number

LVL-T1-G3S-E5PG-NA-EMS

Features

- Level limit switch for liquids
- Process connection G1A
- Rugged stainless steel housing
- External test option using test magnet
- Due to its compact construction, it can be directly connected to a miniature contactor, magnet operated valve or programmable logic control (PLC)
- Highly visible status LEDs

Description

The symmetrical vibrating probe vibrates at its resonance frequency. If it is submerged in liquid, this resonance frequency changes, and the electronics activate an electronic switch.

The Vibracon LVL-T1 can be operated in minimum or maximum closed circuit safety, i. e. the electronic switch closes by obtaining the limit level, by fault and by power failure.

Technical Data

Application

Description level limit switch for application in storage tank, stirring container and pipeline with liquids

Output characteristics

Signal on alarm Output locked
Fail-safe mode Minimum/maximum closed circuit safety, determined by the way of connection

Switching time when covering the sensor approx. 0.5 s, when uncovering the sensor approx. 1.0 s

Load output E5 (the load is switched via a transistor and a separate connection):
- transient (1 s): max. 1 A, max. 55 V (overload and short-circuit protection)
- continuous: max. 350 mA, max. 0.5 μ F at 55 V, max. 1 μ F at 24 V
- residual voltage < 3 V (with closed transistor)
- residual current < 100 μ A (with open transistor)

Auxiliary energy

Electrical connection output E5:
Should be used in conjunction with programmable logic controllers (PLC), positive signal on the sensor switch output (PNP).

The protective circuit is implemented in the connection.

Supply voltage 10 ... 55 V DC
Current consumption < 15 mA
Residual ripple 1.7 V_{ss} at 0 ... 400 Hz
Reverse polarity protection yes

Measurement accuracy

Hysteresis approx. 4 mm with vertical mounting

Operating conditions

Installation conditions
Installation position any position, see section mounting position
Ambient conditions
Ambient temperature -40 ... 70 °C (-40 ... 158 °F)
Storage temperature -40 ... 85 °C (-40 ... 185 °F)
Process conditions
Medium temperature -40 ... 150 °C (-40 ... 302 °F)
Process pressure (static pressure) -1 ... 40 bar (-14.5 ... 580.2 psi)
Density min. 0.7 g/cm³
Viscosity max. 10000 mm²/s (10000 cSt)

Mechanical specifications

Degree of protection IP65/IP67 with connector (PG11 cable gland)

Mechanical construction

Mass approx. 450 g
Material process connection and vibration fork: stainless steel 1.4571/316Ti
housing: stainless steel 1.4404/316L
housing cover: PPSU
connector: PA
plug seal: Elastomer
flat seal ring for process connection G1A: elastomer fibre, asbestos-free, unaffected by oils, solvents, vapour, weak acids and alkalis
Surface quality R_a < 3.2 μ m/80 grit
Process connection cylindrical thread G1A in acc. with DIN ISO 228/1 with flat seal 33 x 39 in acc. with DIN 7603
Electrical connection 4-pin plug connection in acc. with DIN 43650-A, ISO 4400 with cable gland PG11, for cable diameter 6 ... 9 mm (0.24 ... 0.35 in), max. conductor cross section 1.5 mm²

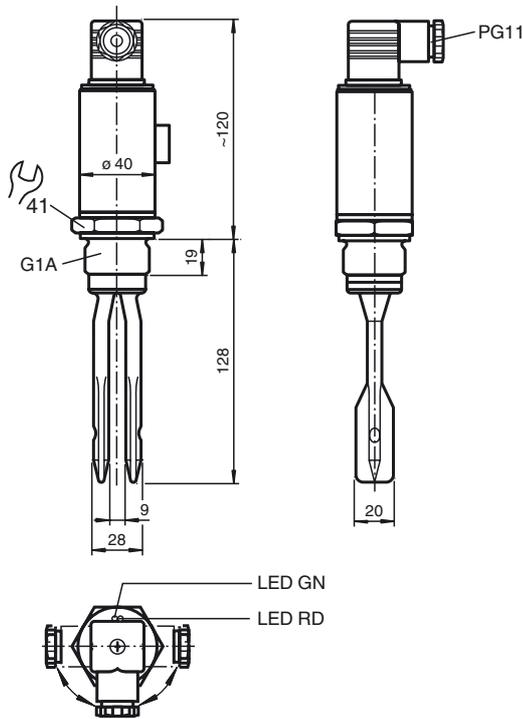
Indication and operation

Display elements The LED display is on the connection side.
green LED: indication of ready to operate
red LED: switch indication circuit cut off
Function test function test with test magnet:
Put the testing magnet to the shown location (see graph). The vibration fork reacts with the test magnet as in the case of covering with fluid.

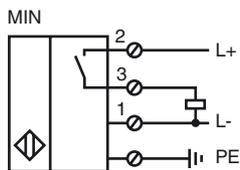
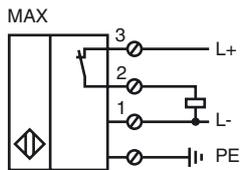
General information

Directive conformity
Directive 89/336/EEC (EMC) emitted interference to EN 50081-1 and EN 61326, class B equipment
noise immunity to EN 50082-2 (field strength 10 V/m) and EN 61326, annex A (industrial sector)
Conformity
Electromagnetic compatibility NE 21
Degree of protection EN 60529
Climate class EN 60068, part 2-38, fig. 2a
Supplementary documentation see www.pepperl-fuchs.com
Supplementary information Statement of Conformity, Declaration of Conformity, Attestation of Conformity and instructions have to be observed where applicable. For information see www.pepperl-fuchs.com.

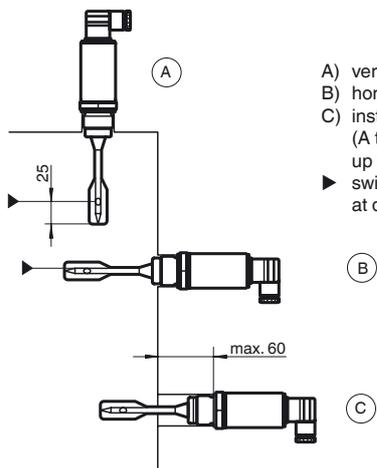
Dimensions



Electrical Connection



Mounting position



- A) vertical installation
 - B) horizontal installation
 - C) installation in 1" nozzles
- (A to C for the entire viscosity range up to 10000 mm²/s)
- switching point depending on the installation direction at density 0.7 g/cm³

Release date: 2014-03-19 15:56 Date of issue: 2014-03-19 262209_eng.xml



Release date: 2014-03-19 15:56 Date of issue: 2014-03-19 262209_eng.xml

Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

Pepperl+Fuchs Group
www.pepperl-fuchs.com

USA: +1 330 486 0001
fa-info@us.pepperl-fuchs.com

Germany: +49 621 776 4411
fa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091
fa-info@sg.pepperl-fuchs.com