



Level Meter L11 – Submersible Level Indicator

Float magnetic level gauge for continuous or discrete level measurement of liquids with optional temperature sensor

- Remote data transmission
- Use in potentially explosive atmospheres
- Rugged and versatile design
- Reasonable price

HART
COMMUNICATION PROTOCOL



Use

Level gauge L 11 is used for level measurement of liquid in opened and pressure tanks. This level gauge makes possible to measure also flicking and whirling levels, aggressive, toxic and flammable mediums. Position of a float with magnet is via magnetic field transferred to the sensor located in a guide tube. The level indicator can be equipped with mono stable contact (SP0) or bi-stable contact (SP1 – minimum NO, SP2 – maximum NO, SPP). Height of the switching points has to be specified at the order and cannot be user modified. It can also be equipped with the SP4 sensor with 4-20 mA output. Digital communication is also possible including HART, Foundation Fieldbus, Modbus, ProfiBus and other protocols. Additional temperature sensor is also available. Placement and the type of the sensor is user specified. Options can be combined allowing multiple outputs in one device.

Product benefits

- Simple, robust and proven stainless steel design
- Ability to make parts in contact with the medium of PP, PVDF, PVC, Hastelloy or other materials in case of corrosive substances
- Pressure resistant and gas-tight separation and measurement and indicators
- The device is approved for use in potentially explosive atmospheres of pressure vessels and boilers
- The instrument can measure liquid interface
- Each device is pressure tested and verified. Calibration and strict functional tests are also performed on every device at the factory.
- It is possible to combine multiple measurements in one device (temperature, limit switch, continuous level sensing)

Manufacturer type number

L11 / ... / ... / ... / ... / ... / ...
 0 1 2 3 4 5

E.g. L11 / 2000 / DDN125-PN16 EN1092 / N / 2SP1NO SP4HART5mm ST4-20 / NO / HP

0 Length of the guide bar (mm)

1 Equipment connection

A Thread G1"

B Flange DN50/PN16

C Thread other (specify)

D Flange other (specify)

2 Material

N Stainless steel 1.4541

PP Polypropylene

other material by request

3 Data communication of measured merits – quantity and type of contacts

SP0 Monostable contact

SP1 - min (SP2 NO / NC contact based on the float position, SPST or SPDT
 - max) SPP configuration, LV1(175VDC 0,5 A), LV2 (250VDC 1A), HV (400 VDC 3A)

SP4 Ohmic output with several transmitters available (4-20mA, HART, Foundation Fieldbus, Modbus, ProfiBus and other protocols). Accuracy ranges (5, 10, 15, 20 mm)

ST Temperature sensing (Pt100, Pt1000, Thermocouple) with several transmitters available (4-20mA, HART, Foundation Fieldbus, Modbus, ProfiBus and other protocols)

SM Magnetostrictive sensing with 4-20 mA HART output

4 Field of application

NO Standard

EX For ambient with explosion hazard

ZO Impure, settling and crystallising liquids

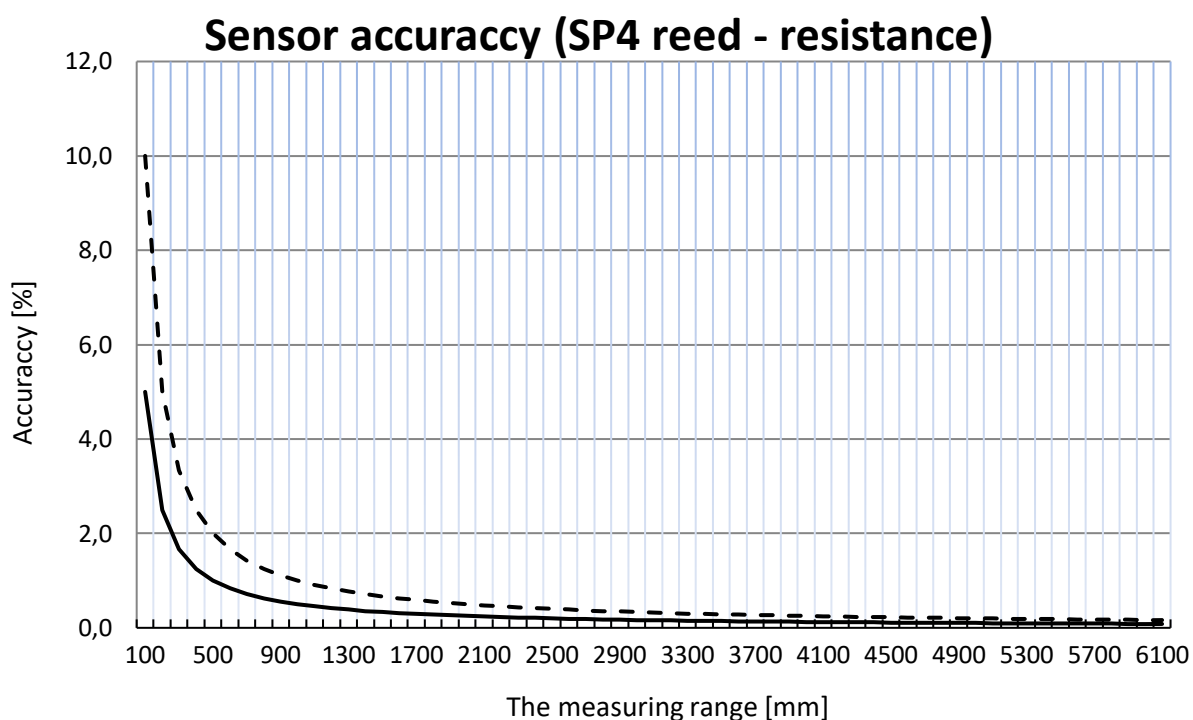
5 Special types

HP High pressure (specify)

HT High temperature (specify)

Technical data

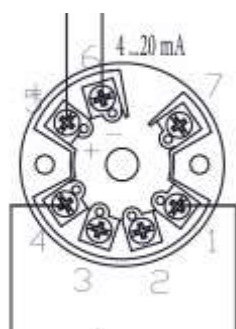
Medium	liquids, liquefied gases
Measurement range Standard Stainless steel type Type PVC, PP By request Stainless steel type	 From 0,1 to 9 m From 0,1 to 6 m From 0,1 to 16 m
Accuracy	± 5 mm, 10mm, 15mm, 20mm (SP4)
Viscosity Standard	>5000 m.Pa.s
Maximum allowable operational pressure depends on material type, PN flanges and float resistance	1,6 MPa standard for stainless steel type 0,2 - 0,8 MPa standard for PP type (higher by request)
Assembly position	Vertical
Max. temperature of measured liquid Standard	From -20 to +135 °C Higher by request
Material type	Stainless steel, PP, PVC, other by request
Connection Standard By request	By means of flanges G1" From DN 50 to 200/PN 16 or PN 40, several standards (ASME, EN1092, GOST etc.)
Electrical outputs SP4 Ambient temperature Power Accuracy range Output ST SM Ambient temperature Power Accuracy range	Reed – resistance float position sensor -40 ... + 130°C (process 200°C – optional) 8 ... 36 VDC 5 mm, 10 mm, 15mm, 20mm 4-20 mA (Foundation Fieldbus, Modbus, ProfiBus and other protocols) Temperature sensor Magnetostrictive float position sensor -40°C ... +85°C (process -65°C ... +450°C) 8 ... 30 VDC (0.1mm, 0.2mm, 0.5mm, 0.75mm, 2mm)
Limit contacts	NO / NC contact based on the float position, SPST or SPDT configuration, LV1(175VDC 0,5 A), LV2 (250VDC 1A), HV (400 VDC 3A)



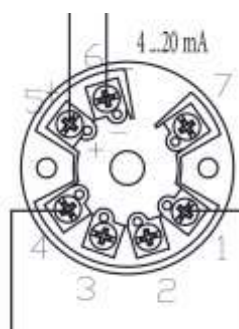
Connection examples

Standard connection head is equipped with M20x1,5 cable gland. And can hold up to two transmitters or connection rails.

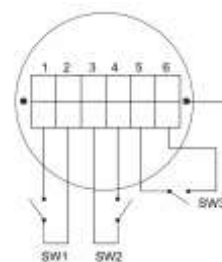
SP4



PT100



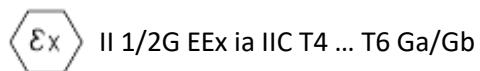
Limit switches



Use in potentially explosive environments

The device is certified according to ATEX 94/9 EC directive. Number of certificate is FTZU 05 ATEX 0017X.

Device is marked:



And should be used according to valid legislative and manual of use.

Ordering

When ordering please state:

- Kind of medium, concentration in %
- Density, viscosity
- Temperature and pressure
- Measured range and the length of guide bar
- Units
- Electrical outputs
- Connection type, thread or flange DN/PN