

SUNSENS

SSN231 Capacitive Immersion-Type Level Meter

SSN231 投入式液位变送器

USER MANUAL

用户手册

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1 General Description

Dry ceramic capacitive transmitter, IP68 Protection, Suitable for level measurement of normal pressure vessel. SSN231 Capacitive Immersion-type Level meter adopt dry ceramic capacitive sensor, with protective cast aluminum of stainless-steel enclosure so has IP68 protection.

The measured medium acts directly on the hard and anti-corrosive ceramic measuring diaphragm and makes the diaphragm a slight displacement converted into changes in capacitance in proportional with pressure and then converted into standard 4-20mA output by the thick-film circuit.

The advanced technique is used to compensate for temperature of the diaphragm. Stability > 0.015% when temperature change 10/K with effective over pressure protection, long term over pressure will neither affect instruments linearity and accuracy nor damage it.

Its unique design includes small and light construction, easy to mount, alternative 3.5" LCD and 0-100% local indicator, and Ex design. It can be used in special measured medium and environments.

SSN231 Capacitive Immersion-type Level meter adopt dry ceramic capacitive diaphragm, contact directly with measured medium, can measure level in vessel, river and power plant.

$$L=P \cdot \delta \cdot g.$$

SSN231 Capacitive Immersion-type Level meter use special cable which length is no limited to connect transmitter with secondary instrument or power supply. Copper or stainless-steel tube can also be used within level of 6 m.

2 Technical Data

Measuring range: 1.0kPa~40MPa normal pressure

Measured medium: Liquid and suspended mixture

Accuracy: $\pm 0.2\%$, $\pm 0.5\%$ of pressure measurement

Non-sensitive area: None

Output signal: 4-20mA 2-wire system

Power supply: 12-45VDC (24 V normal)

15-30VDC for intrinsic safety type

Ex-Protection: Common type Intrinsic safety (ia II C T6)

Protection: IP 68

Construction: Sensor-Electric circuits – Cable

Medium temp: -20~+80 °C (nonfreezing)

Storage temp: 40~+60 °C

Cable material: Special PVC cable, Copper ,1Cr18Ni9Ti

Load: According to power supply. $R \leq 50(V-12)$

Stability: In transmitter's accuracy within 6 months

Load effect: No effect when power supply is stable

Power supply effect: $< \pm 0.005\%/V$ of output

Sealing material: Viton, PTFE

Wet part material: 1Cr18Ni9Ti, others

3 Mounting

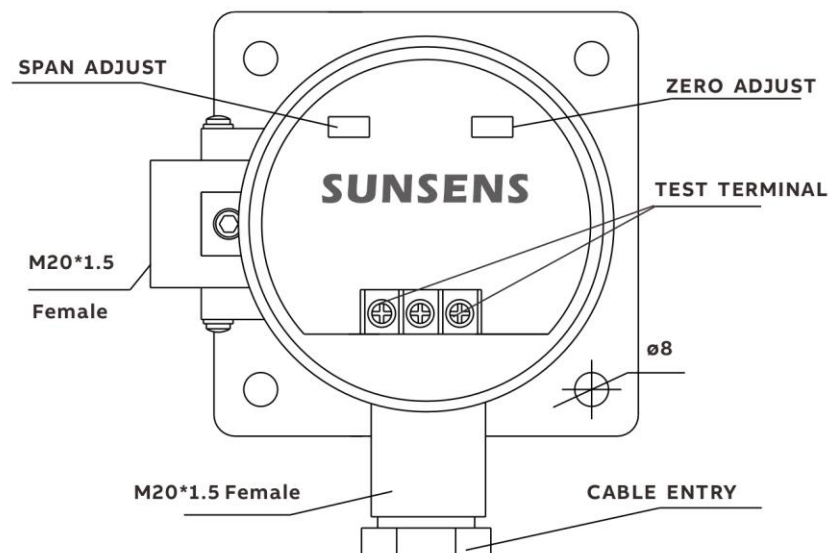
It's easy to mount SSN231 Capacitive Immersion-type Level meter.

Fix the cable of transmitter on the measured equipment or wall nearby, then put transmitter and part cable in the measured vessel into measured level through measuring hole.

The transmitter's end should be put under the measured level's zero 10 mm.

4 Wiring:

The connection is illustrated in the following chart:



Connection Terminal Diagram

5 Notes

- ◆ Measuring conditions such as range, temperature, Ex-proof and corrosive should be coordinate with instruments.
- ◆ For the measured medium which has high viscosity or much mess, measuring probe should be mount as horizontal and low as possible. For high corrosive medium, choose anti-corrosive instrument.
- ◆ Ex-proof type's mounting should obey the relevant rulers, thus make the whole circuit has explosion proof function.
- ◆ To avoid destroy sealing, do not screw instrument's sealing nut. If adjustment or maintain is necessary, please return it to manufacture.