

CAPACITANCE TYPE LEVEL TRANSMITTER
KET-100C SERIES

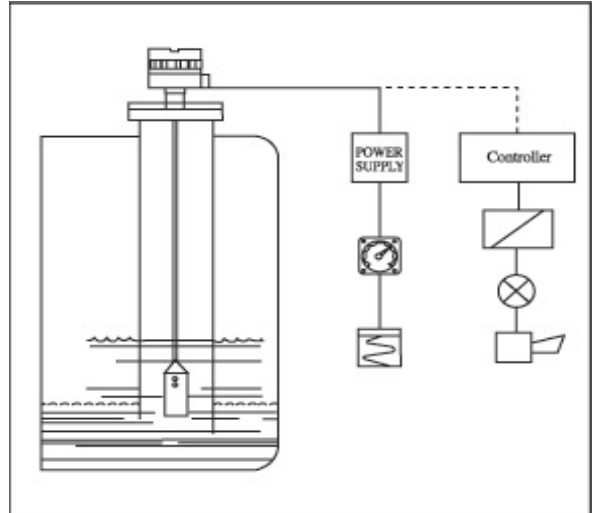


LEADER OF CONTROL

Capacitance Type Level Transmitter KET-100C

General

KOSMO E&T Capacitance Type Level Transmitter is installed in the tanks or vessels of explosion-proof area, can continuously measure the level of material in the vessel using the dielectric constant of the material in the vessel, and continuously convert it into the electric signal.



Feature

- It can detect a variety of the liquid level.
- This product(instrument) can be used semipermanently since it has a solid structure and hasn't the moving part.
- It can be used to the vessel equipped with an agitator.
- It is available to high and low viscous liquid and a highly corrosive liquid.
- Installation and operation are simple.

Official worldwide distributor



KOSMO E&T Co., Ltd.
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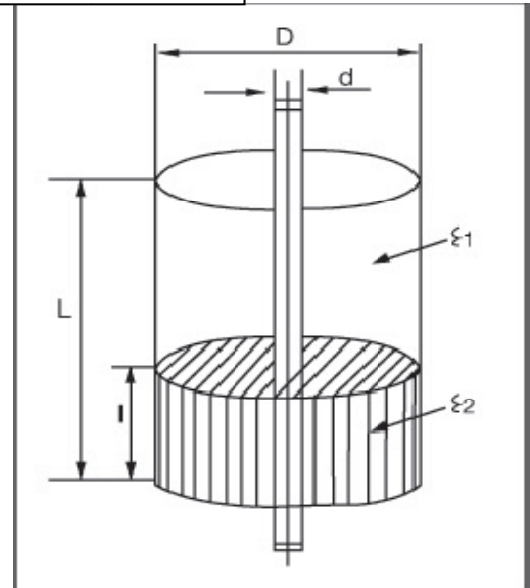
Operation Principle

When there are two conductors insulated each other, the value of capacitance formed between two conductors is determined according to the sizes of two conductors, relative location of two conductors and the dielectric constant of material between two conductors.

Under the condition that air of dielectric constant ϵ_1 exists in the space between two concentric conductors, lower part of the space between two conductor is filled with materials of dielectric constant ϵ_2 as shown below, the change of capacitance is expressed as follows.

$$\Delta = \frac{(\epsilon_2 - \epsilon_1) \times I}{\log_{10} D/d} \quad [\text{PF}]$$

Since $\frac{(\epsilon_2 - \epsilon_1)}{\log_{10} D/d}$ is constant value as an initial condition, and set this value as K, ΔC becomes a function of level of material only. Therefore, level I can be obtained through the measurement of ΔC .



Specification

Power Supply	14-48 V DC
Power Consumption	Max. 20mA
Output Signal	4-20 mA DC
Measuring Frequency	1 MHz
Measuring Range	20~2000pF

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Accuracy	0.5% FS
Operating Temperature	STD : -20 ~ +60°C High Temp. : upto 150
Operation Pressure	STD : 10kgf/cm ² Max: 20kgf/cm ²
Connection	STD. 1" PT
Cable Gland	1/2 " PT(F)

Instrument appearance measurement

Capacitance Type Level Transmitter Probe selection method.

Probe has to be selected according to the service condition and the material of tanks.

Select the Model in accordance with the service condition on reference to variously designed **Probe Models** as follows.

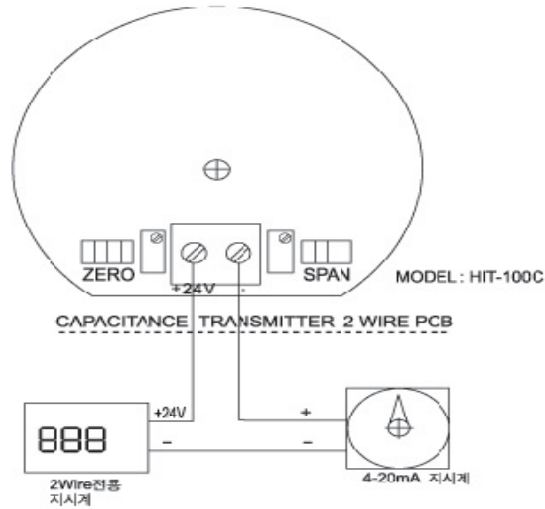
KET-100C-B	KET-100C-W	KET-100CG	KET-100C-D
Liquid and aqueous solution	Liquid and aqueous solution	Nonconducting Tank	Nonconducting Tank / Chemical

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Connection



Installation

1. When material of the tank is electronically conductive, it should be checked if the grounding is perfect between the head of sensor and the tank.

The Sensor should not be installed at incoming path of material to be measured.

2. When material of the tank is not electronically conductive (concrete, plastic, wood, etc) and it has low-dielectric constant, it should be grounded with the head of sensor using the grounding tube.

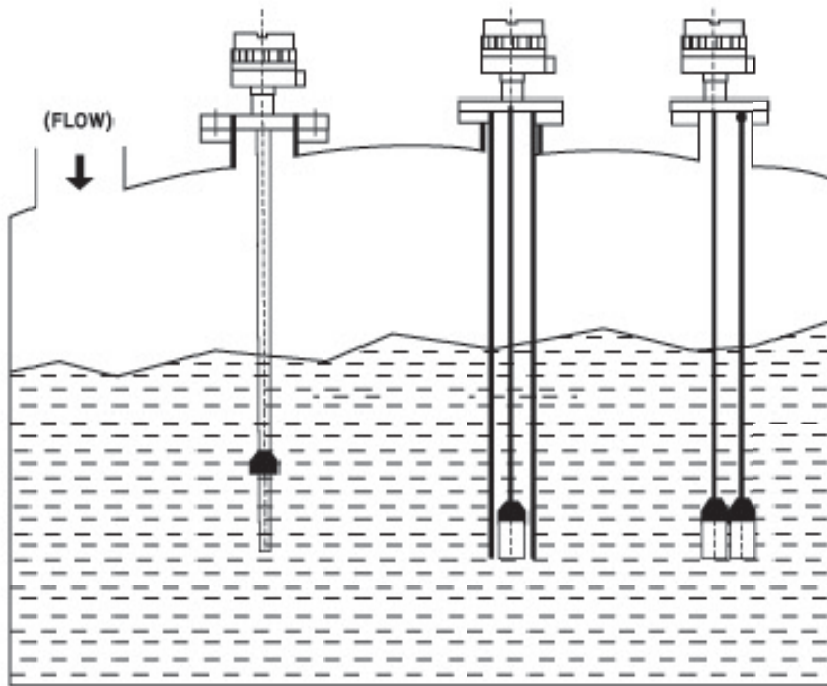
Also, if the material is moved due to its fluidity, the sensor should be protected using the grounding tube.

3. When material of the tank has low-conductor of electricity and low-dielectric constant, it should be installed using the supply electrode available for grounding

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Order Codes

* Wet Part Material

- 1 : SUS 304 (ROD + TEFLON)
- 2 : SUS 304 (WIRE + TEFLON)
- 3 : SUS 316 (ROD + TEFLON)
- 4 : SUS 316 (WIRE + TEFLON)
- OPTION: A : Protection Tube SUS 304
- B : Double Probe
- C : Probe with Ground Tube

* Enclosure

- 0 : Weather Proof

* Pressure Temperature

- 0 : ATM, 80°C
- S : Special Version

* Mounting Size & Material

- 1 : Screw size PT 1 & SUS 304
- 2 : Flange Size JIS 50A 10K RF & SUS 304
- S : Special Version

* Head Material

- A : ADC 12
- S : Special Version

* Measuring Length

- 1 : Rod Type Per Additional 100mm
- 2 : Wire Type Per Additional 100mm
- S : Special Version

* Output Signal

- A : 4-20mA DC

* Conduit Conn.

- 1 : PF 1/2"
- S : Special Version

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