Level Transmitter With Analog Output

- Length up to 3 meters
- Stainless Steel and Teflon Wetted parts
- Analog Output
- Field Calibration
- Non Conductive Liquids

CONSTRUCTION

Capacitance type level transmitter consists of Teflon coated stainless steel electrode, stainless steel mounting adapter and Weatherproof cast aluminum enclosure containing electronics.

OPERATING PRINCIPLE

Capacitance between electrode and ground is given by

$$C = K \times L \times \epsilon_r$$

where,

K = Constant depends upon the geometry of Construction .

L = Length of the electrode assembly

ϵ_r = Relative permittivity of dielectric medium of Capacitor.

When no liquid is present in the tank , air covers the area between electrode and shield as shown in fig (1). ϵ_r is equal to one for air medium, hence capacitor is given by

$$C = K \times L$$

When liquid is present in the tank , liquid covers the area between electrode and shield to the extent of liquid level as shown in fig (2). Capacitance is given by

$$C = K \times L \times (x + y\,\epsilon_r)$$

where,

x = % of L for air column inside electrode

y = % of L for liquid column inside electrode

ϵ_r = Relative permittivity of liquid medium.

Electronics inside the enclosure calculate this change in the capacitance and provide linear industry standard analog output (0…10V DC or 4…20mA).

TYPICAL APPLICATIONS

Consider our transmitters for all your continuous liquid level monitoring needs like Diesel , fuels, petrochemical liquids and many more.

LIMITATIONS

Capacitance type liquid level transmitter does not work with nonconductive liquids and liquid with high viscosity.

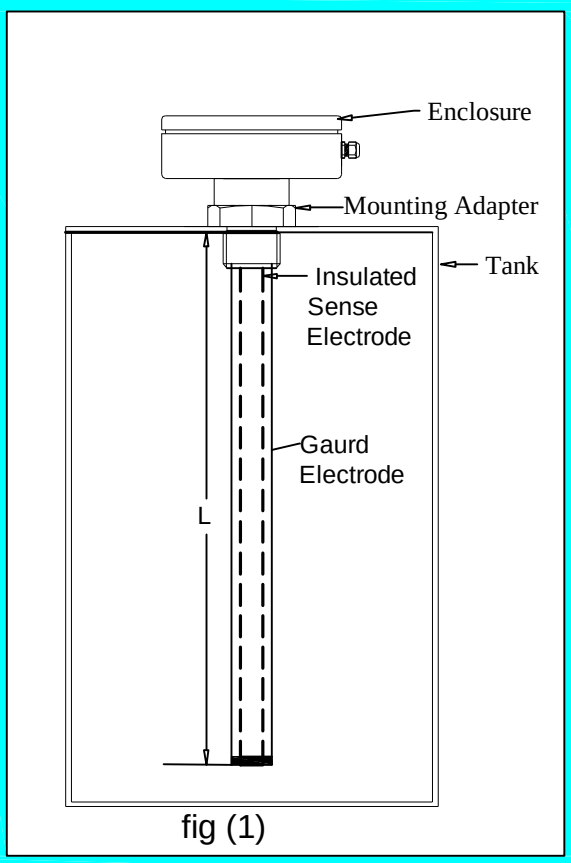


fig (1)

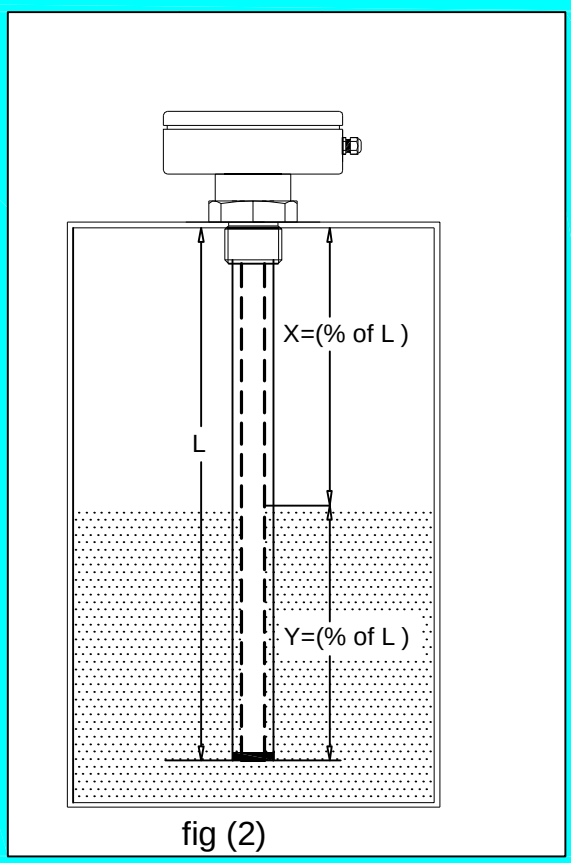
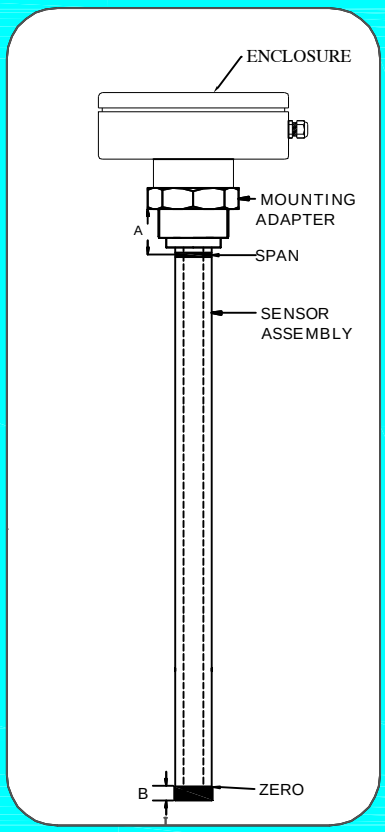
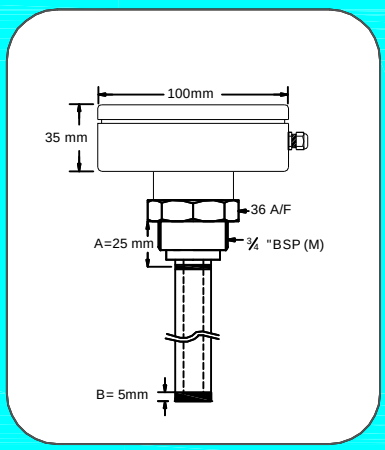


fig (2)

TECHNICAL DATA

Overall Length	: 300 mm to 3000 mm
Measuring Error	: ±0.1% of Span
Output Temperature Co-efficient	: 50 PPM / %C
Ambient Temperature	: -10°C to +70°C
Liquid Temperature	: 25° to +125°C
Maximum Pressure	: Atmospheric
Process Connection	: ¾ " BSP (M)
Protection Category	: Weather Proof IP66 to IS:2147
Cable Entry	: M12 Gland with 3 Core 5 mtr.Free Cable
Output	: 0...10V DC (3 Wire) 4.....20mA (3 Wire)
Span Suppression	: 30% of Span
Zero Elevation	: 25% of Span
Excitation Voltage	: 24V DC ± 10%
Power Consumption	: 60mA (Max)
Loop Resistance	: Max 1000 Ohms (For excitation Voltage of 21V) for 4...20mA output
Load Resistance	: Not less than 10K Ω for 0...10V output





ORDERING INFORMATION

LT / O -___ / L - ___ /

Level Transmitter with Analog Output

Output Type

VO : Voltage Output 0...10V DC
CO : Current Output 4...20mA

Overall Length ' L ' (in mm)

ex. Level Transmitter with 0...10V DC Output of length 1000 mm.
LT /O- VO / L-1000/

NOTE: In case of any other mounting type required like flange etc, please consult us

since continuous development is our policy, the above specification and details may change without prior notice.