

INSTRUCTION & MAINTENANCE MANUAL

Capacitance Fuel Level Transmitter ' CFT '



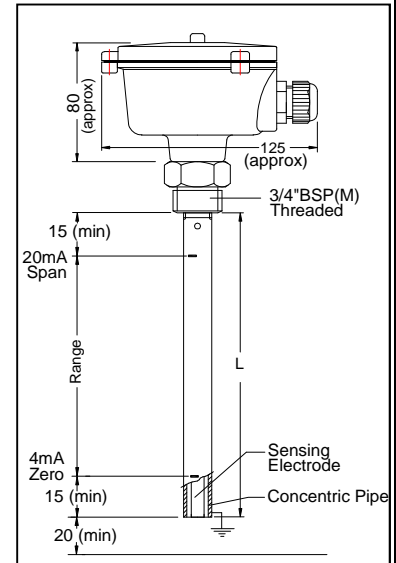
Pre Installation check -

- * Ensure that the probe sleeve is not damaged in transit.
- * Ensure that there is not any damage to electronics.
- * Ensure transmitter supplied is in accordance with specification.

Installation –

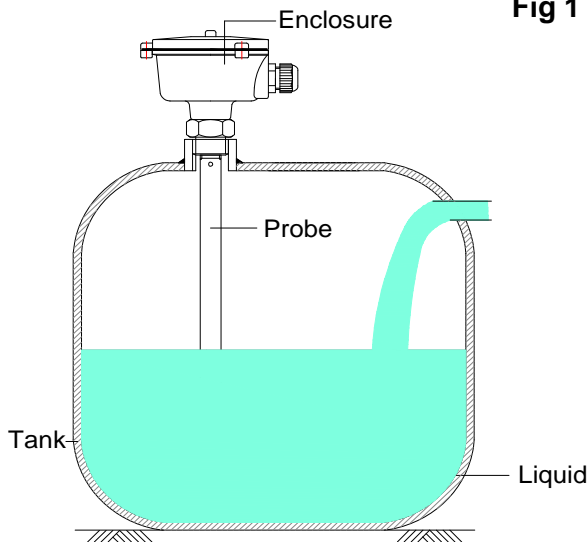
Transmitter is installed vertically from top.

1. Select suitable location for probe on tank where turbulence are minimum.
2. Probe should be located such that direct flow of material on the probe is avoided.
3. Ensure that process connection of level switch match with those on tank.
4. Electronics should be protected from direct sunlight in case of outdoor installation.



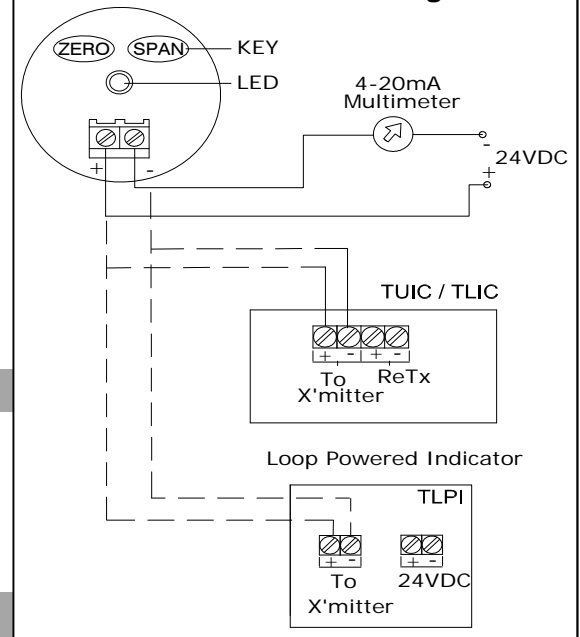
Installation

Fig 1



CFT

Fig 2a



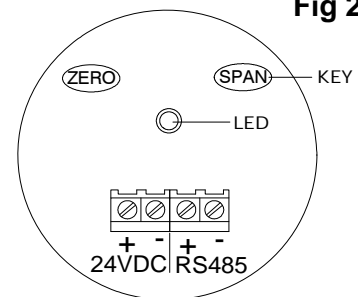
Termination & Wiring : Fig 2a & 2b

1. Power supply should be strictly **off** during wiring.
2. Connect proper supply of 24VDC to transmitter, ensuring correct polarity.
3. Ensure probe is duly earthed.

Precaution

1. Ensure power supply is rated & without fluctuations.
2. Ensure probe is duly earthed
3. Supply wiring should run away from power cable, contactor & drives.
4. Enclosure of transmitter is closed with its cover and gasket, cable should be full tight in cable gland ensuring no gap.
5. Before turning on the power supply, ensure all wiring is correct and completed.
6. Ensure cable termination is routed downwards before cable gland to prevent water seepage in enclosure.
7. Ensure operating temp & pressure does not exceed specified limits.

Fig 2b



Calibration

Transmitter should be calibrated at site with process medium to take into consideration actual value of its dielectric constant under operating conditions. Follow the procedure given to calibrate transmitter at site.

1. Wire the transmitter as given in fig.2
2. Switch on power supply (**24VDC**) and observe LED glows **on** and then **off**.
3. Fill tank to minimum level corresponding to o/p of **4mA**. Press both **Zero** and **Span** keys until LED is **on**. Release keys, LED turns **off**. After some duration, LED turns **on** and then **off**. Now transmitter is in **calibration mode**.
4. Press **Zero** key until LED switch **on** and then **off**. Now transmitter is set for **4mA** which can be confirmed through multimeter.
5. Now fill tank upto maximum level corresponding to o/p of **20mA**. Press both **Zero** and **Span** key until LED is **on**. Release keys, LED turns **off**. After some duration, LED turns **on** and then **off**. Now transmitter is in **calibration mode**.
6. Press **Span** key until LED switch **on** and then **off**. Now transmitter is set for **20mA** which can be confirmed through multimeter.
Now transmitter is calibrated to use under site condition.

Troubleshooting

Problem	Cause	Remedy
1.Improper output	a.Improper calibration or O/P current improper (non-linear) b.Temp, dielectric constant of liquid are out of specification. c. Conductive liquid in fuel/oil.	a.Recalibrate X'mitter. b. Check operating conditions If required cosult factory. c. Check & remove conductive liquid.
2.No output from X'mitter. or O/P current is more than 20mA.Contineously high level reading.	a.Wiring improper. b.No suppy or improper supply c.Loose process connection.	a.Do wiring as shown in fig.2 b.Give proper supply(from PLC/DCS,indicator)24VDC.Ensure there is no loose connection c.Recalibrate X'mitter.
3.Output from transmitter is low 4mA.or changes slowly as compaired to level.	a. Wrong calibration b. Probe is not suitable for liquid.	a. Recalibrate it b. Contact factory in case of doubt.
4.Variation in output	a. Check wiring	a. Ensure wiring is isolated from power cabels,contactor etc.

Periodic maintainance

1. Ensure all terminal screws are kept properly tightened.
2. During maintenance period ,switch off the supply.
3. After maintainance, ensure weatherproofness by closing enclosure with its cover and gasket.

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