

because every liquid is precious!

INTELLIGENT CAPACITANCE LEVEL INDICATOR MPILC...Series



SALIENT FEATURES:

- ◆ Microprocessor based system for higher degree of reliability and stable operation in noisy environment due to intelligent digital communication between the electronic insert and the evaluation unit.
- ◆ All parameters programmable via Five keys and Five multipurpose LED displays.
- ◆ Calibration possible without completely filling and emptying the vessel
- ◆ Galvanically isolated 4 to 20mA output available for connecting to PLC
- ◆ Three relays for programming three levels independently or as pump control logic. Three potential free change over relay output contacts.
- ◆ Built-in universal power supply for 90 to 260 V AC or 24V DC operation.

APPLICATIONS:

Suitable for continuous level measurement in conductive or non-conductive liquids, powdered or granular materials of homogeneous composition having stable dielectric constant. Successfully used for monitoring and controlling the level in vessels containing water, oil, chemicals and foodstuffs in processing plants.

PRINCIPLE OF OPERATION:

The measuring electrode and the container wall (or grounding probe) form an electrical capacitor with the material as the dielectric. A change in the material level of the container causes a change in the capacitance. This change is measured and processed by the microcontroller in the electronic insert and digitally communicated to the evaluation unit on a 2-wire interconnection. The advanced data transfer renders a noise free validated signal for further processing by the microcontroller in the evaluation unit. A galvanically isolated 4 to 20mA output proportional to the level change is available for connection to PLC, as also three potential free relay output contacts for signaling or control.

MEASURING SYSTEM

It consists of an evaluation unit, an electronic insert and a probe. The probe is mounted from the top of the vessel and it comprises a sense electrode, electrically isolated from the metallic tank by means of a suitable insulator. The sense electrode and the vessel wall serve as the two electrodes of a capacitor with the service material as the dielectric. A change in material level causes a change in the dielectric, which in turn causes the value of this tank capacitor to change. An accurate measurement of this change affords an indirect measure of level of the material in the tank.

TECHNICAL SPECIFICATIONS: EVALUATION UNIT:

Housing	Cast aluminium, weather proof, stoving enamel painted, suitable for back panel/wall mounting
Cable entry	3 Nos. ½" BSP / NPT
Tolerable ambient temp.	-20°C to +60°C
Power supply	90 to 260V AC 50Hz and 24V DC
Power consumption	3.5VA (approx.)
Zero setting range	30 to 1000 pF
Utilizable span	Minimum 10% of zero setting to 4500 pF
Indication range	-50% to 150% on multipurpose 5 digit 0.5" LED
Accuracy	+/- 1-2% of Full Measuring Span
Programming interface	5 Push Button Keys
Analog output	4 to 20 mA galvanically isolated into Max 1K Ohm load for 24V DC user supply. Max 800 Ohm for internal isolated supply.
Output	3 sets of potential free change over contacts rated at 6A, 230V AC, 50Hz for non-inductive loads
Switching delay	Programmable up to 99 sec.
Fail-safe	High/Low field programmable

PRE-AMPLIFIER (electronic insert) LDC 117:

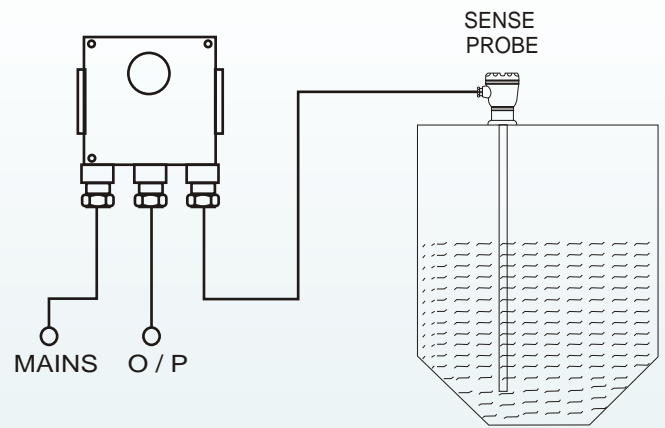
Housing	Plastic with electronics potted with Epoxy Compound, mounted in Probe Head
Operating Temp.	-20 to +80 deg.C
Supply	18 V DC at 10mA max.(short circuit safe)
Measuring Frequency	50 to 250 KHz

PROBE :

Probe Head Mounting	Cast Al. Weather proof Flanged or screwed as per requirement
Length	150 to 3000 mm Rigid, greater than 3000mm flexible
Insulation	Part / Full PTFE (upto 200°C), Part Ceramic (upto 400°C)

- NB:** 1) Reference probe required for non metallic tanks.
2) Grounding tube required for turbulent liquids and irregular tank shapes
3) 2-core screened cable required for electronic insert to Evaluation unit interconnection up to 1 Km (user's scope)

EVALUATION UNIT



MODEL SELECTION

MPILC Series LEVEL TRANSMITTER WITH 03 SET POINTS

ENCLOSURE

- W - WEATHER PROOF (FOR ELECTRONICS & PROBE)
- F - WEATHER PROOF FOR ELECTRONIC & FLAME-PROOF FOR PROBE (suitable for GAS GR.IIA & IIB)

SERVICE TEMPERATURE

- S - STANDARD UP TO 80°C
- H - HIGH TEMP. (probe with cooling standoff)

PROBE TYPE

- 1 - STANDARD
- 2 - EXTRA STRONG
- 3 - SUPER STRONG
- 4 - HEAVY DUTY (Part Ceramic Insulated)

SENSE/EXTENSION ELEMENT TYPE

- RP - PART INSULATED ROD PROBE
- RF - FULL INSULATED ROD PROBE
- FP - PART INSULATED FLEXIBLE ROPE PROBE
- FF - FULL INSULATED FLEXIBLE ROPE PROBE

PROBE MOUNTING ARRANGEMENT*

- T - THREADED
- F - FLANGED
- O - OTHER

PROBE INSULATION MATERIAL

- P - PTFE
- C - CERAMIC
- O - OTHER

WETTED PARTS & MOUNTING MATERIAL

- MS - MS (PLATED)
- S4 - SS 304
- S6 - SS 316
- SL - SS 316L

MPILC W S I RF T P S 4

Probe Length required

*Specify Mounting Size & type (NPT, ANSI, DIN, JIS, SMS, Tri-clip or Other)

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