



Grown...to meet challenges

30+ years in Process Control Instrumentation

## MPILC - Microprocessor-based Level Controller

Version 2.1

MPILC consists of an electronic evaluation unit, an insert and a probe. It has a remote display for 0 – 100% read-out. It also has three potential-free relay contacts which can be programmed for independent switching or for pump control action.

### Principle

The probe is mounted from the top of the vessel and it comprises of a sense electrode which is 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 acting as the dielectric. A change in the 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 the level of the material in the tank.



**Approvals** CE Marking, RoHS Compliance, Flameproof Enclosure (Gas Groups IIA, IIB, IIC) , CCOE, ISI

### Features

- Calibrate without completely filling and emptying the tank
- Three relays for programming three levels independently
- Programmable via 2 1/2 digit, 7-segment LED display
- Galvanically isolated 4-20mA output for connecting to PLC
- Built-in universal power supply: 90-260 V AC and 24 V DC

### Applications

- Switch pumps off when tank is full, to avoid overflow
- Maintain a constant level to avoid material wastage
- Switch off pumps when running dry
- Identify empty tank to avoid wear-tear, production stoppage

### Why Sapcon

- Sapcon ~ Synonymous with Level Measurement.
- Pioneers in this field with over 32 years of expertise.
- Understanding your problems, always ready with solutions.
- Masters in customization.
- Offering accelerated delivery, saving your inventory costs.

### Parts

The parts of MPILC are explained in Figure 1. All dimensions are in millimeters.

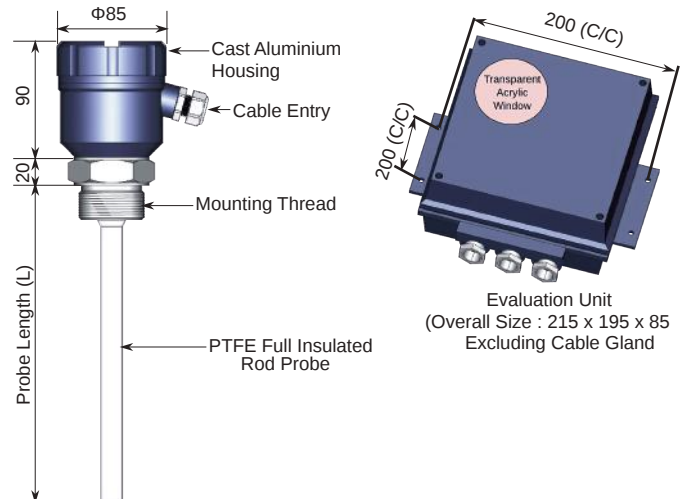


Figure 1: Parts of MPILC

## SAPCON INSTRUMENTS PVT. LTD.

An ISO 22000 company

131 Palshikar Colony, Indore, Madhya Pradesh, PIN - 452004, India

+91-731-4757575 (100 lines) Fax: +91-731-2475475

www.sapconinstruments.com Email: sales@sapcon.in





## Technical Specifications

### Evaluation unit

<b>Housing:</b>	Cast aluminium, weatherproof, stoving enamel painted, suitable for back panel / wall mounting
<b>Cable entry:</b>	3 Nos. 1/2" BSP / NPT
<b>Temperature:</b>	Ambient: -20°C to 60°C
<b>Power supply:</b>	90 to 260 V AC 50Hz; 24 V DC
<b>Power consumption:</b>	3.5 VA (approximately)
<b>Zero setting range:</b>	30 to 1000 pF
<b>Utilizable span:</b>	Minimum 10% of zero setting to 4500 pF
<b>Indication range:</b>	-50% to 150% on multipurpose 5 digit 0.5" LED
<b>Accuracy:</b>	+/- 1-2% of Full Measuring Span
<b>Programming interface:</b>	5 Push Button Keys
<b>Analog output:</b>	4 to 20 mA galvanically isolated into Max 1K Ohm load for 24V DC user supply; Max 800 Ohm for internal isolated supply
<b>Output:</b>	3 sets of potential free change over contacts rated at 6A, 230V AC, 50Hz for non-inductive loads
<b>Switching delay:</b>	Programmable up to 99 seconds
<b>Fail-safe:</b>	Field Selectable
<b>Minimum:</b>	Fail-safe Low
<b>Maximum:</b>	Fail-safe High
<b>Electronics</b>	
<b>Housing:</b>	Plastic with electronics potted with Epoxy Compound, mounted in Probe Head
<b>Operating Temperature:</b>	-20 to +80°C
<b>Supply:</b>	18 V DC at 10mA max.(short circuit safe)
<b>Measuring Frequency:</b>	50 to 250 KHz
<b>Probe</b>	
<b>Probe Head:</b>	Cast aluminium weatherproof
<b>Mounting:</b>	Threaded / Flanged (as required)
<b>Length:</b>	Rigid: 150 to 3000 mm, Flexible: greater than 3000mm
<b>Insulation:</b>	Part / Full PTFE: up to 200°C, Part Ceramic: up to 400°C

## Mounting Arrangement

The mounting arrangement for MPILC is shown in Figure 2.

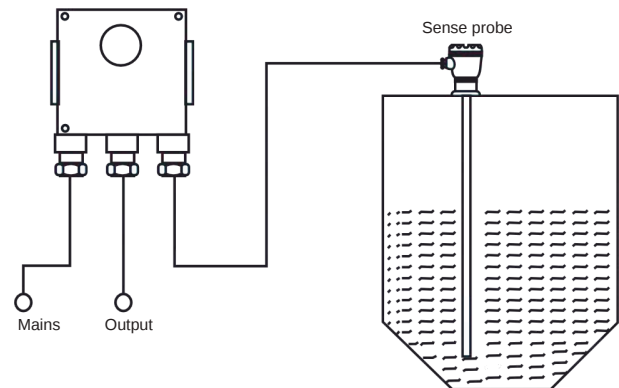


Figure 2: Mounting Arrangement for MPILC

## Model Selection

### MPILC SERIES LEVEL TRANSMITTER WITH 3 SET POINTS

<b>ENCLOSURE</b>	W- WEATHERPROOF SQUARE F- FLAMEPROOF (GAS GROUP IIA & IIB)
<b>SERVICE TEMPERATURE</b>	S- STANDARD UPTO 80° C H- HIGH TEMPERATURE (PROBE WITH STANDOFF)
<b>SENSE / EXTENSION ELEMENT TYPE</b>	RP- PART INSULATED ROD PROBE RF- FULL INSULATED ROD PROBE FP- PART INSULATED FLEXIBLE ROPE PROBE FF- FULL INSULATED FLEXIBLE ROPE PROBE
<b>PROBE MOUNTING ARRANGEMENT</b>	T- THREADED F- FLANGED O- OTHERS
<b>PROBE INSULATION MATERIAL</b>	P- PTFE C- CERAMIC O- OTHERS
<b>WETTED PARTS</b>	MS- MS (PLATED) S4- SS 304 S6- SS 316 SL- SS 316L

MPILC W S RF T P S4

## Connect to us

Management: +91 98260 80207 ashwin@sapcon.in

Customer Support: +91 80850 77767 support@sapcon.in