

# Multi Loop Controller

MLC46



|                                |  |
|--------------------------------|--|
| Advanced Process Controller    | Capacitive Touch Keys                            |
| 32 DI's, 16DO's, 8 AI's, 4AO's | Easy operation and remote configuration with HMI |
| Interface to DCS / PLC         | MODBUS TCP/IP / MODBUS RTU                       |

MLC46 Multi loop controller is designed to measure & control the process parameters like Temperature, Pressure, Level etc to meet the process control requirements.

It incorporates 8 Analog Input (AI) channels, 32 Digital Input (DI) channels and 16 Digital Output (DO) channels which supports output type for relay, 4 Analog Output channels for 4-20mA for retransmission/ Control output (PI) and RS485 MODBUS RTU. It contains Touch keys and Alphanumeric LCD Display.

## Features

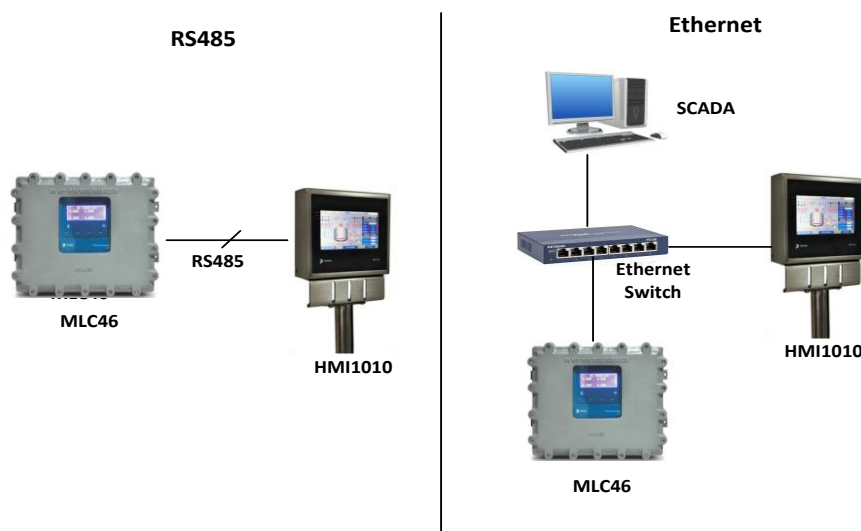
- Capacitive Touch keys operation
- MODBUS TCP/IP / MODBUS RTU
- Analog input type (4-20mA)-8no's
- DO's (12no's-24V & 4no's-Potential free)
- DI's (25no's-24V & 7no's 230V AC)
- Quad 4-20mA output
- Supports multiple DI & DO's for relay control outputs
- 4-20mA retransmission output or control output (PI) for Process Value / Set Value

- Alphanumeric LCD display interface
- Industrial standard high-speed RS485 communication for HMI
- Industrial standard high-speed Ethernet communication for PLC/DCS/SCADA
- Non-volatile Flash memory for storing program parameters
- Hardware debugging incorporated for DI, DO, AI, AO

## Applications

- Process control
- Reactor utility control
- SFHTS control

## Network Architecture



# Specifications

## Technical

|  |  |            |             |
|--|--|------------|-------------|
| Model No                                 | MLC46-X-X-X-X-X-X                                  |            |             |
| Analog Input Type                        | 4-20mA- 8no's                                      |            |             |
| Measuring Range, Accuracy and Resolution | Measuring Range                                    | Resolution | Accuracy    |
|  | -1.999 to 9.999                                    | 0.001      | 0.1% of FSR |
|  | -19.99 to 99.99                                    | 0.01       |             |
|  | -199.9 to 999.9                                    | 0.1        |             |
| -1999 to 9999                            | 1  |            |             |
| Digital Input                            | 24VDC-25no's, 230V AC-7no's                        |            |             |
| Analog Outputs                           | 4-20mA (500Ohms of Max load)- 4no's                |            |             |
| Digital Output                           | NO NC (Relays) 24VDC-12no's & Potential free-4no's |            |             |
| Calibration                              | Zero & Span through keypad                         |            |             |
| Display                                  | 16 Character *4 line Alphanumeric LCD              |            |             |
| Scan rate                                | 1 Sec  |            |             |
| Communication                            | RS485 for HMI                                      |            |             |
|  | Ethernet for PLC / DCS                             |            |             |
| Control Type                             | On/Off, PID  |            |             |
| Control Modes                            | Retransmission & PI for 4-20mA                     |            |             |
| Keypad                                   | Capacitive Touch Keys                              |            |             |
| Security                                 | Password protected programming mode                |            |             |

## Power Supply

|              |                       |
|--------------|-----------------------|
| Input Supply | 100 to 260V AC, 50 Hz |
|--------------|-----------------------|

## Physical

|                    |  |
|--------------------|--|
| Enclosure          | Flameproof for Zone1, Zone2 Gas Gr.IIA, IIB, IIC |
| Material           | Aluminium  |
| Weight             | 15Kg (Approx.)                                   |
| Dimensions (LxWxH) | 480x360x165mm                                    |
| Mounting           | Wall Mounting                                    |
| Cable Entries      | 38 No's ¾" ET                                    |
| Glands             | Not Provided (Order separately)                  |

## Environmental

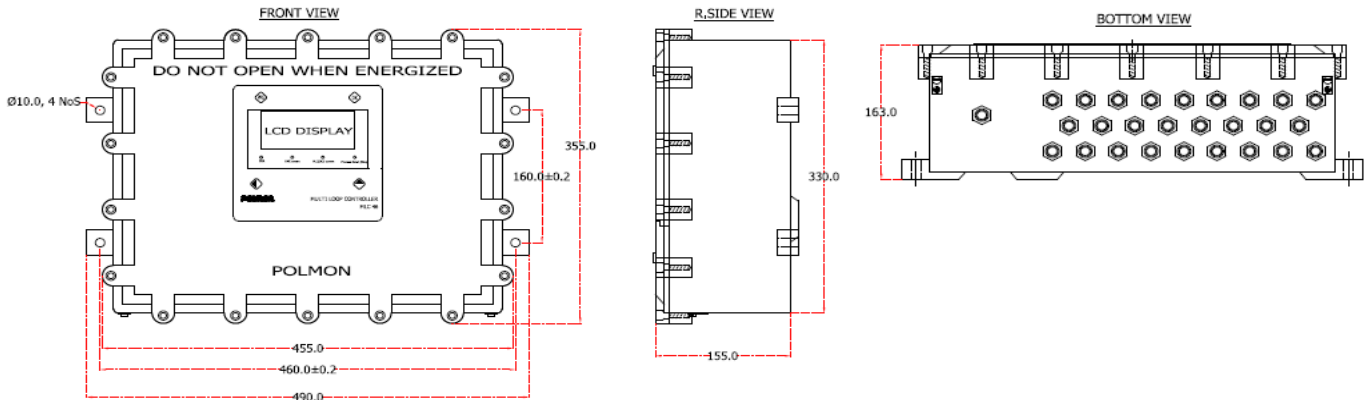
|                       |                          |
|-----------------------|--------------------------|
| Operating Temperature | 10 - 50°C                |
| Humidity              | 10-95%RH, Non-Condensing |

## Ordering Information for MLC46

| MLC46     | X              | X                | X  | X              | X                              | X          |
|-----------|----------------|------------------|--|----------------|--------------------------------|------------|
| Model No. | Enclosure Type | System Type      | Inputs & Outputs   | Keys           | Communication                  | Future use |
| MLC46     | F – FLP        | 1 – Customized # | X– DI: 24V DI's are 25No's<br>230V DI's are 7 No's<br>DO: 24V DO's are 12No's<br>C, NO DO's are 4 No's<br>AI: 8 No's AI'S are 4-20mA<br>AO: 4 No's AO'S are 4-20mA | 1 – Touch Keys | X – RS485-<br>MODBUS RTU       |            |
|           |                |                  | 1 – DI: All DI'S(32 No's) are 24V<br>DO : All DO'S(16 No's) are 24V<br>AI : All AI'S(8 No's) are 4-20mA<br>AO : All AO'S(4 No's) are 4-20mA                        |                | 1 – Ethernet-<br>MODBUS TCP/IP |            |

Note: # - Provide P&ID, Control Logic, Input and Output interface

## Mechanical Drawing of MLC46



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