



Features:

- Compact PLC with built-in HMI.
- Configurable LED display.
- Windows based software program for configuration.

Size: 48mm x 96mm

IO Configuration Table

	MM1010-T/R	MM1010-V/I	MM1010-1AI (T/R)-DR03	MM1012	MM1012-1	MM1012-2	MM1013	MM1015
Digital Inputs	8	8	—	6	6	6	8	10
Relay Outputs	5	5	3	4	4	4	5	6
Analog Inputs	1(TC/RTD)	1(V/I)	1(RTD)	2(T/R/V/I)	2(T/R/V/I)	2(T/R/V/I)	—	—
Analog Outputs	—	—	—	—	1(0-10V)	1(0-20mA)	—	—
Selpro Model Selection	MM1010-1	MM1010-2	MM1010-4	MM1012	MM1012	MM1012	MM1013	MM1015

Technical Specifications

Display

Display	7 segment LED
Digits	3 digit + [4 + 4] digit
No. of Keys	5 keys (4 user configurable)

Input Specifications

Digital Input	
Input Type	PNP
Input Voltage Range	11 - 28V DC (abs. max.: 30V DC)
Response Time	Programmable upto 1 to 255ms from Front End (Default 10ms; Also depends on ladder execution time)
Isolation	4kV
Analog Input	
No. of Inputs / Type	TC / RTD / 0-20mA / 0-10V [User selectable]
Sensors	J, K, T, R, S, C, E, B, N, L, U, W, PLTNL, RTD, mV (0-60mV), VOLTAGE (0-10V), CURRENT (0-20mA)
Resolution	16 bits
Accuracy	For TC inputs: 0.25% of full scale $\pm 1^\circ$ For R & S inputs: 0.5% of full scale $\pm 2^\circ$ (20 min of warm up time for TC inputs) For RTD inputs: 0.1% of full scale $\pm 1^\circ$ For V/I Inputs: $\pm 0.5%$ of full scale / ± 5 counts whichever greater
Conversion time	100 msec
Linearity	0.1%

Output Specifications

Digital Output - Relay

Contact Rating	NO type : 3A resistive @ 240V AC [For MM1010-24V] 5A resistive @ 240V AC
Isolation	4kV

Analog Output

Output Type	Current - 0-20mA Voltage - 0-10V
Resolution	14.5 bits
Conversion time	20 msec
Linearity error	0.1%

Functional Specifications:

Programming Method	Windows based software for ladder programming and HMI configuration.
Memory	Data memory: 16 kbytes Code memory: 223 kbytes
Max. no. of Objects	5000 (As per memory)
Minimum Scan Time	200 μ sec
Typical Scan Time	1 ms

Communication:

Communication Ports	RS485 port [slave]
Communication Protocol	MODBUS RTU

Functional Features

Timer Operational Modes	On Delay, Off Delay, Pulse, Special [Up/Down] Timer
Timer Resolution	1 ms (Accurate only for 1 msec Timer block)
Timer Display Format	Sec, Min, Hr, Day, Min.Sec, Hr.Min, Day.Hr.
Counter	Up Counter, Down Counter, Up/Down Counter, Special Up Down Counter
Other Blocks	PID Control with Autotune, Analog input, Rampsoak, FTC, Analog Output, Hysterisis, Scaling.
Memory Retention	10 years (4k memory)
RTC	No

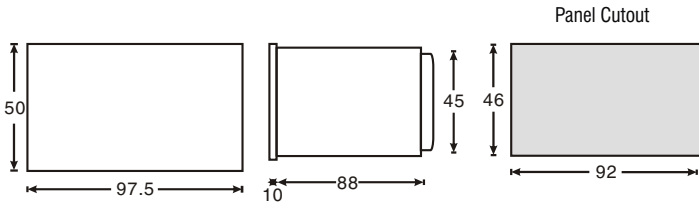
Supply Voltage

Supply Voltage	230V AC (-20% /+15%), 50Hz
[As per product selection]	24V DC (-5% / +20%)

Environmental Specifications

Temperature	Operating : 0 to 50 °C Storage : -20 to 60 °C
Humidity (non-condensing)	95% RH
Weight	258gms

Dimensions (in mm)



Terminal Connections

MM1010-T/R-24V

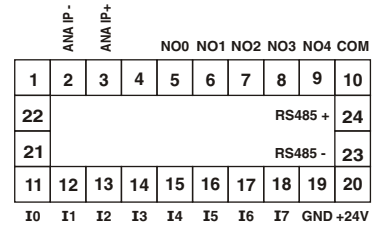
For TC/RTD

MM1010-T/R-230V

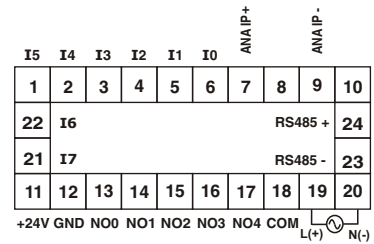
For TC/RTD

Terminal Connections

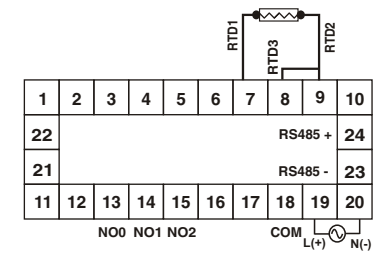
MM1010-V/I-24V



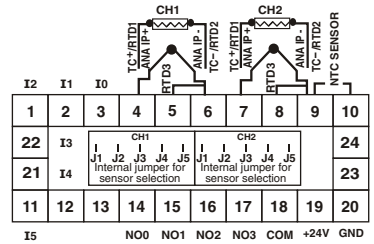
MM1010-V/I-230V



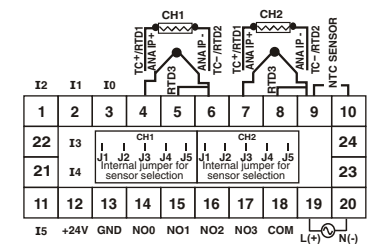
MM1010-1AI(T/R)-DR03-230V



MM1012-24V

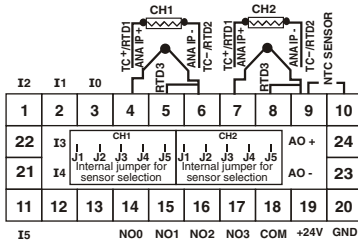


MM1012-230V

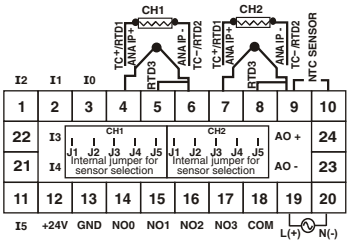


Terminal Connections

MM1012-1/2-24V



MM1012-1/2-230V



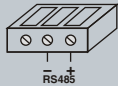
RS485 for downloading and networking

Reference for analog input type selection

RS485 on side terminal

For TC/RTD Short J4 & J5

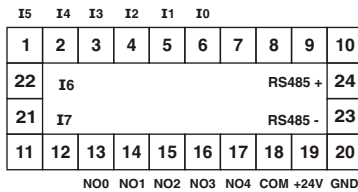
From Front



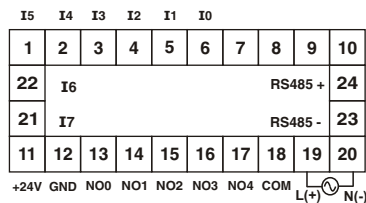
For Volt Short J3 & J4

For Current Short J1 & J2

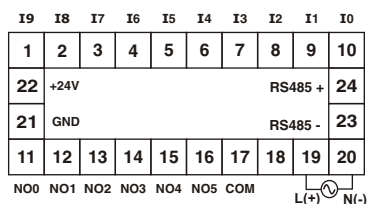
MM1013-24V



MM1013-230V



MM1015-230V



Ordering Information

Product	Order Code
MM1010-1	MM1010-T/R-24V
	MM1010-T/R-230V
MM1010-2	MM1010-V-24V
	MM1010-V-230V
	MM1010-I-24V MM1010-I-230V
MM1010-4	MM1010-1AI(T/R)-DR03-230V
MM1012	MM1012-24V
	MM1012-230V
MM1012-1	MM1012-1-24V
	MM1012-1-230V
MM1012-2	MM1012-2-24V
	MM1012-2-230V
MM1013	MM1013-24V
	MM1013-230V
MM1015	MM1015-230V

Accessories (To be ordered separately)

Communication cable	ACH-001 (D-Type 9 Pin Cable)
Windows-based software for ladder programming	ACD-003
Power Supply Module	PS-CF-24V-1.1A
Converters	
RS485 to RS232	AC-RS485-RS232-01 (Non Isolated)
	AC-RS485-RS232-ISO (Isolated)
USB to RS485 (with wire)	AC-USB-RS485-02