



96 x 96

FEATURES

- ▶ 4x16 - character LCD display.
- ▶ Built-in HMI.
- ▶ User-friendly Windows-based configuration software.
- ▶ All analog channels configurable for PID control.
- ▶ Master & Slave communication with MODBUS (RS232/RS485 selectable)
- ▶ Battery Backup and RTC

SPECIFICATIONS

DISPLAY	
Display type	Character LCD (backlit).
No. of lines	4.
Characters per line	16.
Characters font	5 x 8 mm
Contrast adjustment	Factory set.
KEYBOARD	
No. of keys	18 (10 numeric keys).
No. of configurable keys	14.
DIGITAL INPUT	
No. of Digital Inputs	Dependent on Card Selection (Refer table 1.0)
Input Type	PNP
Input Voltage Range	11 - 28 VDC (abs. max.: 30 VDC)
Response Time	1x0-1x3 (4 inputs) - 0.1 ms Others - 10 ms.
Isolation	2 kV
Operating Modes/Frequency	Bidirectional, Unidirectional: 7.5 kHz Quadrature: 2.5 kHz
Maximum Count	10 digits
DIGITAL OUTPUT - Relay / Transistor	
No of Relay / Transistor O/P	Dependent on Card Selection (Refer table 1.0)
Relay (NO type) Contact Rating	4ch / 8ch: 5 A resistive @ 240 VAC 11ch: 3 A resistive @ 240 VAC
Minimum Switching Time	10 ms
Transistorised O/P Rating	For 4 / 8 / 11 channels: NPN Type: 30 V 10 mA For 14 channels: PNP Type: 30 V, 100 ma
Isolation	2 kV
Short circuit protection	Yes
Max Switching Freq.	1 kHz
ANALOG INPUT	
No of Inputs / Type	Dependent on Card Selection (Refer table 1.0)
ANALOG OUTPUT	
No. of Analog Output	2
Output Type	4-20 mA / 0 - 10 V (factory set)
Resolution	12 bit
Conversion Time	100 ms
Linearity Error	0.1 %

FUNCTIONAL SPECIFICATIONS

Programming Method	Windows based software for ladder program & HMI configuration
Memory	Data memory: 16K Code memory: 256K
No of objects	Maximum 5000 (as per memory)
Minimum Scan Time	200 µsec

FUNCTIONAL BLOCKS

Timer	On delay, off delay, Pulse, Up timer, Down timer, (10 ms)
Counter	Up counter, down counter, Up/down counter (up to 10 digits)
Other Blocks	PID Control, Analog input, Analog output, Time switch, Communication
Communication Ports	RS232/485 ports (master/slave)
Communication Protocol	MODBUS
Memory Retention	10 years
RTC	Yes
Supply Voltage	85-270 VAC/DC, 24 VDC
Temperature	Operating: 0 to 50° C Storage: -20 to 50° C
Humidity	95%
Weight	564 gms

Dimensions

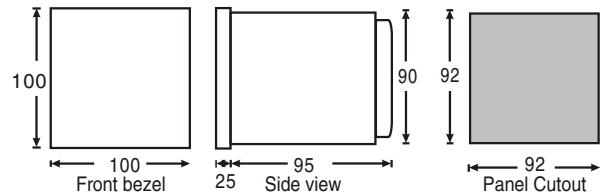


Table 1.0

I/O combinations available	
Slot 1 Digital Input Cards	8 Digital Input
	13 Digital Input
	19 Digital Input + 1 Quad
Slot 2 Digital output Cards	8 Digital Output
	11 Digital Output
	14 Transistor Output, 100mA
Slot 3 Digital / Analog Mixed I/O Cards	Digital Mixed I/O: 8DI + 4DO
	6 Channel Analog I/P: AI 06 (Thermocouple/RTD type) <small>(factory set-to be specified while ordering)</small>
	6 Channel Analog I/P: AI 06 (Voltage/current type) <small>(factory set-to be specified while ordering)</small>
	2 Channel Analog Input: AI 02 (universal input)
Slot 4 Power Supply	Analog Mixed I/O: 4AI + 2AO
	85 to 270 VAC/DC 24 VDC

ORDERING INFORMATION

Order Code Format

MM3010 - - - -
 Card 1 Part No. Card 2 Part No. Card 3 Part No. Power supply code



CARD 1 - Digital input card	
Configuration	Part no. of card
8 Digital Input	DI08
13 Digital Input	DI13
19 Digital Input + 1 Quad	DIQ19



CARD 3 - Digital / Analog mixed input card	
Configuration	Part no. of card
Digital Mixed I/O: 8 DI + 4 DO	MD08, R04 (only relay type output available)
6 Analog Inputs TC/RTD Type	AI06 - TC/RTD
6 Analog Inputs Voltage / Current Type	AI06 - V/I
2 Analog Inputs Universal type	AI02
Analog Mixed I/O 4AI + 2AO	MA-104, O02



CARD 2 - Digital output card	
Configuration	Part no. of card
8 Digital Output	Relay type - DR08
	Transistor - DT08
11 Digital Output	Relay type - DR11
	Transistor - DT11
14 Transistor Output, 100mA	DT14



CARD 4 - Power supply	
Configuration	Part no. of card
85 to 270 VAC/DC	270V
24 VDC	24V

Ordering example:

Order code: MM3010 - DI13 - DR11 - AI02 - 270V

Configuration:

Digital inputs: 13

Digital outputs: 11

Analog inputs: 2

Supply voltage: 85 to 270V AC/DC.

Accessories (to be ordered separately):

Communication cable:

Part no. - ACH-001.

Windows-based software for ladder programming:

Part no. - ACD-002

Relay card

Part no. - AR - 04 - 5A - NO

Power Supply module

Part No. 1) AP-24V-300mA

RS485 to RS232 converter

Part no. - AC - RS485 - RS232 - 01