



Features:

- Compact PLC with built-in HMI.
- 4 line x 16 characters LCD display.
- User friendly Windows based software for ladder programming and HMI configuration
- Special IO expansion port

Size: 96mm x 96mm

IO Configuration Table

	MM3030-1	MM3030-2	MM3030-3
Power Supply	24V DC (-5% / +20%)		230V AC (-20% / +15%), 50Hz
Digital Inputs	10	10	8
Digital Outputs	8(Transistorized)	8(Transistorized)	6(Relay)
Analog Inputs	2 Input ; Voltage(0-10V) Current(0-20mA)	2 Input ; Voltage(0-10V) Current(0-20mA)	2 Input ; Voltage(0-10V) Current(0-20mA)
RTC	Yes (with 2 years battery life from the date of manufacture)		No
Communication Port	2 Ports : 1. RS232-DCE 2. IO630 Expansion port	2 Ports : 1. RS485-slave 2. RS485-master + IO630 Expansion Port	2 Ports : 1. RS232-DCE 2. IO630 Expansion Port
Protocol	1. Modbus RTU 2. Proprietary for IO630 Expansion	1. Modbus RTU for IO610 Expansion 2. Proprietary for IO630 Expansion	1. Modbus RTU 2. Proprietary for IO630 Expansion
Supported IO Expansion Module	IO630	IO630 & IO610	IO630
Selpro Model Selection	MM3030-1	MM3030-2	MM3030-3

Technical Specifications

Display

Display	LCD (backlight) 4 line x 16 characters. Font Size 5 x 7mm
No. of Keys	15 keys (10 numeric, 12 User Configurable)

Input Specifications

Digital Input	
Input Type	PNP
Input Voltage Range	11 - 28V DC (abs. max.: 30VDC) (for MM3030-1, MM3030-2) 5 - 16V DC (abs. max.: 30VDC) (for MM3030-3)
Response Time	Programmable upto 1 to 255ms from Front End (Default 10ms; Also depends on ladder execution time)
Isolation	4kV

Input Specifications

Fast Input		
No. of fast Input Channels	3 channels A) FC0 - IO & I1 - Rate / Totalizer B) FC1 - I2 & I3 - Rate / Totalizer C) FC2 - I4 & I5 - Totalizer	
Operating Modes / Frequency	Unidirectional / Bidirectional / Quadrature Modes	
Max Speed	Input no	Operating Mode
	I0, I1	Uni / Bi
	I0, I1	Quad
	I2, I3	Uni / Bi / Quad
	I4, I5	Uni / Bi / Quad
Frequency	20kHz (for MM3030-1, MM3030-2) 7.5kHz (for MM3030-3)	
Minimum Rate Measured	0.06Hz	
Maximum Count	32 bits	
Analog Section		
Input Type	2 input [AI0, AI1]	
Sensor	Voltage [0-10V], Current [0-20mA] [Selectable via jumper]	
Resolution	10 bit	
Accuracy	± 0.5% of full scale / ± 5 counts whichever greater	
Conversion time	100 msec	
Linearity	0.1 %	

Output Specifications

OUTPUT SECTION (for MM3030-1, MM3030-2)	
Output Type	O0 & O1 - NPN @24V DC 50mA, O2 - O7 PNP @24V DC 100mA
Isolation	4kV
Short Circuit Protection	Yes
Min. Switching Time	1ms [Also depends on Ladder scan time]
PWM Output	2 Channels @O0 & O1, Pulse width: multiples of 1 ms, Duty Cycle: 0.1% Least Count

Output Specifications

Pulse Output	2 Channels @ 00 & 01 50kHz -programming On & Off timers in 1µsec resolution, Programmable no of pulses.
OUTPUT SECTION (For MM3030-3)	
Relay Contact Rating	NO Type : 3A (Resistive @ 240VAC)
Isolation	4kV

Functional Features

Timer Operational Modes	On Delay Timer, Off Delay Timer, Up Timer / Down Timer [Special Timer]. 1ms Timer & Pulse Timer
Counter	Up Counter, Down Counter & Up/Down Counter [With & without over run]
Other Blocks	PID Control with auto tune, Totalizer, Rate totalizer, Hysteresis & Scaling.
Memory Retention	10 years (4k memory)
RTC	No

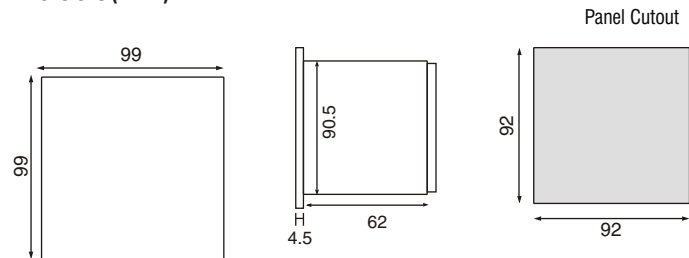
Functional Specifications:

Programming Method	Windows based software for ladder programming and HMI configuration.
Memory	Data Memory : 16 kbytes Code Memory : 351 kbytes Upload Memory : 96 kbytes
Max. no. of Objects	5000 (As per memory)
Minimum Scan Time	200 µsec
Typical Scan Time	1 ms (Also depends on ladder programming)
Memory Retention	10 years (4k memory)

Environmental Specifications

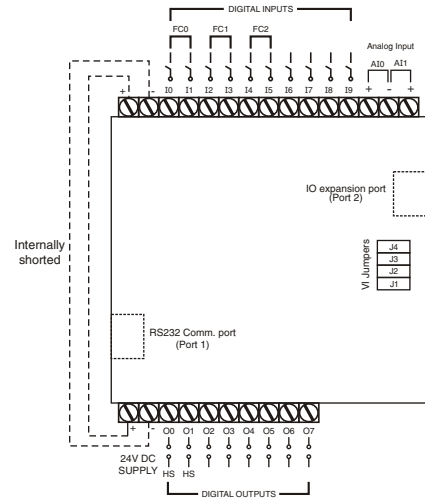
Temperature	Operating : 0 to 50 °C Storage : -20 to 60 °C
Humidity (non-condensing)	95% RH
Weight	348gms

Dimensions (in mm)



Terminal Connections

- For MM3030-1**
 - Port1- 6 Pin Jack (RS232)
 - Port2- 8 Pin Jack (IO Expansion)
- For MM3030-2**
 - Port1- 6 Pin Jack (RS485)
 - Port2- 8 Pin Jack (IO Expansion)



Jumper settings for Voltage & Current selection for Analog channels

Jumper No	Description
J1	For Voltage Channel 0
J2	For Current Channel 0
J3	For Voltage Channel 1
J4	For Current Channel 1

Port1 RS232 (for MM3030-1 and MM3030-3)

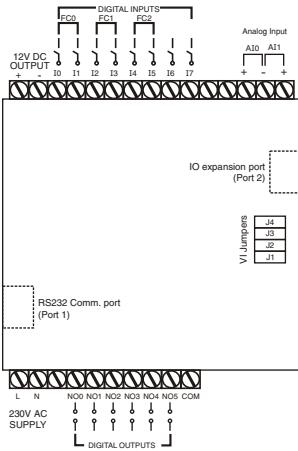
PIN	DESCRIPTION
1	NC
2	GND
3	TXD (RS 232)
4	RXD (RS 232)
5	GND
6	NC

Port 2 IO Expansion (for MM3030-1 and MM3030-3)

PIN	DESCRIPTION
1	NC
2	NC
3	GND
4	IO +ve
5	IO -ve
6	GND
7	NC
8	NC

Terminal Connections

For MM3030-3 Port1- 6 Pin Jack (RS232),
Port2- 8 Pin Jack (IO Expansion)



Jumper settings for Voltage & Current selection for Analog channels

Jumper No	Description
J1	For Voltage Channel 0
J2	For Current Channel 0
J3	For Voltage Channel 1
J4	For Current Channel 1

Port1 RS485 (for MM3030-2)

PIN	DESCRIPTION
1	RS485 +
2	NC
3	NC
4	NC
5	NC
6	RS485 -

Port2 IO Expansion (for MM3030-2)

PIN	DESCRIPTION
1	RS485 +
2	RS485 -
3	GND
4	IO +ve
5	IO -ve
6	GND
7	NC
8	NC

Ordering Information

Product	Order Code
MM3030-1	MM3030-1
MM3030-2	MM3030-2
MM3030-3	MM3030-3-P1

Accessories (To be ordered separately)

Communication cable	ACH-002
Windows-based software for ladder programming	ACD-003
4 Relay module	AR-04-5A-NO/NC (SPDT)
	AR-04-5A-NO (SPST)
IO Expansion Cable	ACH-003
IO Expansion Adapter	AC-IOEXP-01
Converters	
RS485 to RS232	AC-RS485-RS232-01 (Non Isolated)
	AC-RS485-RS232-ISO (Isolated)
USB to RS232	AC-USB-RS232-01
USB to RS485 (with jack)	AC-USB-RS485-03

Ordering information for IO630 Expansion Modules

(For MM3030-1, MM3030-2, MM3030-3).

IO630-8DI [8 Digital Inputs]
IO630-4RO [4 Relay Outputs]
IO630-4TO [4 Transistor Outputs]
IO630-2AI-VI [2 Analog inputs (Voltage / Current)]
IO630-2AI-TCR [2 Analog inputs (TC/RTD)]
IO630-2AO [2 Analog Outputs]
IO610 Expansion Modules (For MM3030-2)
IO610-8DI [8 Digital inputs]
IO610-4RO [4 Relay Outputs]
IO610-4TO [4 Transistor Outputs]
IO610-2AI-VI [2 Analog inputs (Voltage / Current)]
IO610-2AI-TCR [2 Analog inputs (TC / RTD)]
IO610-2AO [2 Analog Outputs]