



Patents applied worldwide

FEATURES

- Flexible Card Selection
- Compact PLC with User Selectable HMI
- Windows based User Friendly Selpro Software for Ladder Programming
- RTC with Time Switch function (Optional)
- RS485 based Master & Slave Communication

SPECIFICATIONS

SUPPLY VOLTAGE		90-270V AC/DC 50/60Hz			
Sensor Supply (SS)		24V@ 50mA			
I/O Card Slots		6			
RTC		Yes (Optional)			
FIXED INPUTS (Max. Counting Frequency: 50Hz)					
Input Type		PNP			
Input Voltage Range (V+)		5-30V DC			
No. of Inputs		10 Digital Inputs incl. 1 Fast Input Channel 1 Configurable Analog Input (0-10VDC)			
Response Time		10 ms max.			
Isolation		No			
FAST COUNTER INPUT (On Fixed card)					
Input Type		PNP			
No. of Digital Inputs		2 (Uni) / 1(Bi / Quad) / 11 Standard Digital Inputs			
Operating Modes / Frequency		Unidirectional / Bidirectional / Quadrature / Dual Uni (5kHz for All)			
CH	DI	MODE			
		UNI	BI	QUAD	DUAL UNI
CH0	DIO	RT	RT	1 st IP *	RT
	DI1	STD IP	Direction	2 nd IP*	T

* 90° Phase shift signals ; RT - Rate Totalizer ; T - Totalizer ; STD IP - Standard Input

DIGITAL OUTPUT - RELAY (On Fixed card)

Number of Relay Outputs	4
Contact Rating	NO Type : (5A resistive @ 230V AC / 30V DC)
Isolation	2.5 kV
Initial Max. Contact Resistance	100mΩ (@1A, 6V DC)
Switching Time	20ms max.

COMMUNICATION

Communication Port	1. PORT 1 - RS485 Slave (MODBUS RTU) 2. PORT 2 - RS485 Master (MODBUS RTU) For Expansion
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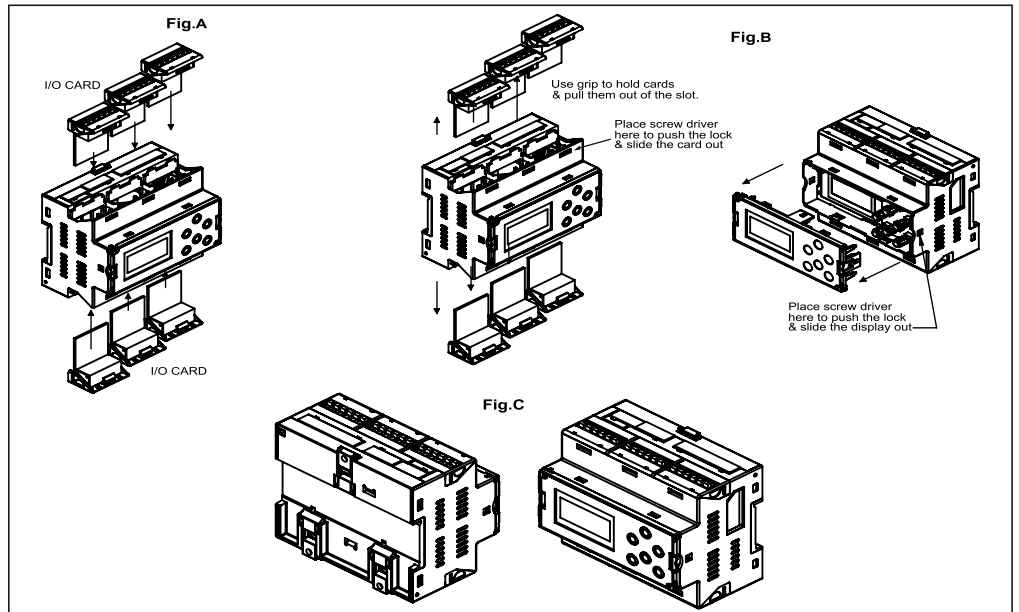
ENVIRONMENTAL CONDITIONS

Temperature	Operating : 0 to 55°C ; Storage : -20 to 70°C
Humidity (non-condensing)	10% to 95% RH
Enclosure	Din Rail Mounting
Weight	270 grams (Without I/O cards)

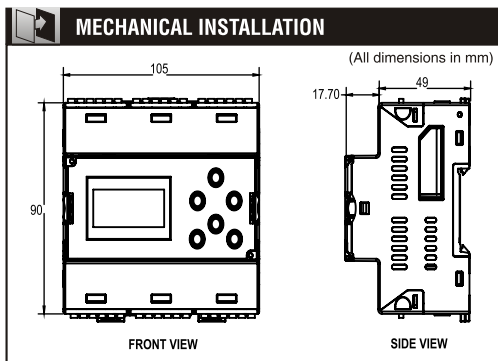
CONFIGURABLE I/O CARD SPECIFICATIONS

DATA LOGGING (Optional)			
Memory Storage	1MB		
Minimum Logging Interval Time	10 Sec		
Data Retention	10 Years		
DIGITAL OUTPUT - RELAY			
Contact Rating	NO Type (5A Resistive @ 230V AC / 30V DC)		
Isolation	2.5 kV		
Initial Max. Contact Resistance	100mΩ (@ 1A 6V DC)		
Max. Switching Time	20ms Max.		
DIGITAL OUTPUT - TRANSISTOR			
Transistor Rating	PNP Type : 24V, 100mA		
Switching Time	10ms Max.		
ANALOG INPUT			
Sensors	J, K, T, R, S, C, E, B, N, L, U, W, PLTN II, RTD MVOLT (0-60mV), VOLT (0-10V), CURR (0-20mA)		
Resolution	12 Bits	0 - 10V	2.5mV (1 Count)
		0 - 20mA	5µA
		TC / RTD	0.1° C (Note : 1° C for R & S Type)
Conversion Time	100 msec.		
Accuracy @ 25°C	0.25% of Full Scale		
ANALOG OUTPUT			
Output Type	Current: 0-20mA ; Voltage: 0-10V		
Resolution	14 Bits		
Conversion Time	10 msec.		
Linearity Error	0.1%		

Note : Refer I/O Card & Display Card Datasheets for detailed specifications



1. Insert the I/O card as shown in Fig. A.
2. Fig. C shows a fully assembled MiBRX-6M unit with LCD display module.
3. To remove the card from the slot, use a screw driver to push the lock & slide the card out as shown in Fig. B.
4. To remove the display module, use a screw driver to push the lock and pull it out, refer Fig. B.



CAUTION

The equipment in its installed state must not come in close proximity to any heating sources, caustic vapors, oils, steam, or other unwanted process by-products.

EMC GUIDELINES

1. Use twisted input power cables with shortest possible connections.
2. Layout of connecting cables shall be away from any internal EMI source.

MAINTENANCE

1. To avoid blockage of ventilation holes, clean the equipment regularly using a soft cloth.
2. Do not use Isopropyl Alcohol or any other organic solvent for cleaning.

INSTALLATION INSTRUCTIONS

CAUTION

1. This equipment, being built-in-type, normally becomes a part of the main control panel and the terminals do not remain accessible to the user after installation.
2. Conductors must not come in contact with the internal circuitry of the equipment else it may lead to a safety hazard that may endanger life or cause electrical shock to the operator.
3. Circuit breaker or mains switch must be installed between the power source and supply terminals to facilitate power 'ON' & 'OFF' function.
4. The equipment shall not be installed in environmental conditions other than those specified in this manual.
5. Since this equipment forms a part of the main control panel, its output terminals get connected to the host equipment. Such equipment shall also comply to EMI / EMC and safety requirements like CE standard procedure.
7. Thermal dissipation of the equipment is met through ventilation holes provided on the housing of the equipment. Obstruction of these ventilation holes may lead to a safety hazard.
8. The output terminals shall be loaded strictly as per the values / range specified by the manufacturer.

ELECTRICAL PRECAUTIONS DURING USE

Electrical noise generated by switching of inductive loads can create momentary disruption, erratic display, latch up, data loss or permanent damage to the instrument.

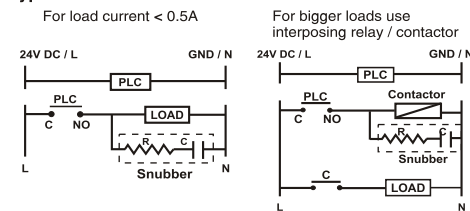
To reduce noise :

Use of MOV / Snubber circuit across load / contactors of the unit are recommended.

1. MOV Part No. : AP-MOV-03
2. Snubber Part No. : APRC-01

NOTE : Below mentioned diagram is applicable only for 230V relay outputs.

Typical Connections For Loads :



NOTE : Use snubber as shown above to increase life of internal relay. Use separate shielded wires for inputs.

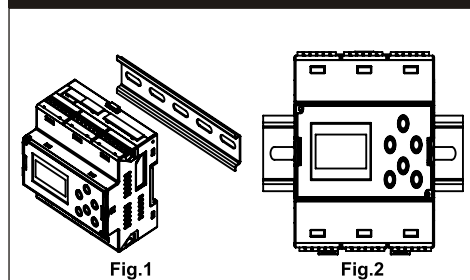
SAFETY PRECAUTIONS

This manual is meant for personnel involved in wiring installation, operation and routine maintenance of the equipment. All safety related conditions, symbols and instructions that appear in this operating manual or on the equipment must be strictly followed to ensure operator and instrument safety. Any misuse may impair the protection provided by the equipment.

⚠ Read complete instructions prior to installation and operation of the unit.

⚠ Risk of electric shock.

MOUNTING



1. Snap the controller onto the DIN Rail as shown in Fig. 1 above.
2. When properly mounted, the controller is squarely placed on the DIN Rail as shown in Fig. 2.

WIRING INSTRUCTIONS

CAUTION

1. To prevent risk of electric shock, power supply to the equipment must be kept OFF while wiring.
2. Terminals and electrically charged parts must not be touched when the power is ON.
3. Wiring shall be done strictly according to the terminal layout provided in the operating manual.
4. To eliminate electromagnetic interference, use short wire with adequate ratings and twists of equal size.
5. The power supply connection cable must have a cross section of 1sq.mm or greater and insulation capacity of at least 1.5kV.

FUNCTIONAL DETAILS

MiBRX is a modular PLC with User Selectable HMI. The user can configure the product, it's I/O slots and display type using SELPRO software.

SELPRO has two sections:

1. Ladder Logic Programming section
2. Selec Machine Interface, used for configuration of HMI.

This software is provided with the product. For details of the software and configuration method, please refer to its User Manual provided along with the product.

Note: Ensure Card inserted in any Slot is the same one configured.

ORDERING INFORMATION

Logic & Power Supply

ORDER CODE	DESCRIPTION
MiBRX-6M-1-1-1-230V	230V POWER SUPPLY WITH RTC
MiBRX-6M-1-0-0-230V	230V POWER SUPPLY WITHOUT RTC & MASTER

SUPPORTED I/O CARDS

MiBRX-SC-DI04	4 Digital Input
MiBRX-SC-DI06	6 Digital Input
MiBRX-SC-RO03	3 Relay Output
MiBRX-SC-RO04	4 Relay Output
MiBRX-SC-TO04	4 Transistor Output
MiBRX-SC-DI02-RO02	2 Digital Input & 2 Relay Output
MiBRX-SC-DI02-TO02	2 Digital Input & 2 Transistor Output
MiBRX-SC-AI02-V	2 Analog Input (Voltage)
MiBRX-SC-AI02-I	2 Analog Input (Current)
MiBRX-SC-AI01-V-I	1 Analog Input (Voltage & Current)
MiBRX-SC-AO01V/I	1 Analog Output (Voltage/Current)
MiBRX-SC-AI02-RTD	2 Analog Input RTD (PT100)
MiBRX-SC-AI02-PT1000	2 Analog Input (PT1000)
MiBRX-SC-AI02-TC	2 Analog Input TC
MiBRX-SC-AI02-NTC	2 Analog Input (NTC)
MiBRX-SC-AI02-PTC	2 Analog Input (PTC)
MiBRX-SC-LC02	2 Load Cell Input

SUPPORTED DISPLAY CARDS

MiBRX-DSP-6M-8-2-08-A
MiBRX-DSP-IND-96-8-4-16-B
MiBRX-DSP-IND-96-8-2-16-B
MiBRX-DSP-IND-96-8-0-00-B

ACCESSORIES

Accessories for Communication

- AC-USB-RS485-03 (USB to 6-pin RJ25 Jack)
- AC-USB-RS485-02 (USB to 2-pin Open Wire)
- AC-IOEXP-03 (Port Expansion Adapter)

Windows-Based Software for Ladder Programming

ACD-005

- Relay Module :
- 1) RLYMD-1-S4-1CO-24VDC
 - 2) RLYMD-1-S4-2CO-24VDC
 - 3) RLYMD-2-S8-1CO-24VDC
 - 4) RLYMD-2-S8-2CO-24VDC
 - 5) RLYMD-2-1-S8-1CO-24VDC

INTERNAL MEMORY

Data Memory	32 KB
Code Memory	240 KB
EEPROM	4 KB

TERMINAL CONNECTION



SERVICE DETAILS

This device contains no user serviceable parts and requires special equipment and specialized engineers for repair.

Please contact service center for repair on the following numbers:
Tel. No. : + 91-7498077172 | Email : service@selec.com

NO WARRANTY ON UNIT DAMAGED DUE TO WRONG POWER SUPPLY

(Specifications are subject to change, since development is a continuous process)

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