



DIN 70mm

Features :

- ▶ Modular PLC with Pluggable / Independent Display
- ▶ Flexible I/O Card Selection for customized applications
- ▶ Expandable Architecture via I/O Expansion Modules
- ▶ RS485 Communication - MODBUS RTU Protocol
- ▶ Real-Time Clock (RTC) with Time Switch Function
- ▶ Serial Printing Support*
- ▶ Windows-Based Software for Ladder Programming and HMI Configuration



Technical specifications

Display Specifications		MiBRX-DSP-4M-8-2-08-A	MiBRX-DSP-4M-0-1-06-A
Display Type	LCD (Backlit)		7 segment LED
No of Characters / Digits	2 Lines x 8 Characters		1 Red
Font Size / LED bank	5 x 7 mm		6 Red LEDs
No. of Keys	5 keys (4 user configurable)		1 key
No of IO Slots			4
<i>Note : Refer to the IO card and base module compatibility guidelines to ensure effective and valid IO card combinations.</i>			
Digital Input Specifications		MiBRX-4M-1-1-1-230V	MiBRX-4M-1-1-1-24VDC
No. of Inputs	4+1* Inputs (including 1 Fast Input Channel) + As per Card Configurations: 2 / 4 / 6 inputs		
Input Type	PNP		
Voltage Range	5-30V DC		
Input Current	2mA @12V		
Debounce Time	Programmable 1-255ms (Default: 10ms)		
Isolation (Power ↔ input)	Yes		
Isolation (CPU ↔ input)	Yes for Isolated cards		
Protection against Polarity Inversion	Yes		
Timer Accuracy	0.1% or 2ms (Whichever Greater)		
Response Time	Typical 1m sec (Based on ladder scan time) & 100μ sec for fast Input		
Fast Input			
No. of Channels	1 (FC0 - DI0 & DI1)		
Max Speed	5 kHz		
Operating Mode	Unidirectional / Bidirectional / Quadrature / Dual Uni (5kHz for all) / None		
* Digital input can be configured as analog input (0-10V)			
Analog Input Specifications			
No. of Channels	1 NTC + Card Configurations: 1 / 2 / 3 Inputs		
Input Type	J, K, T, R, S, C, E, B, N, L, U, W, PLTNL, mVolt (-5 to 65mV), 0-10V, 0-20mA, NTC, PTC, RTD		
Accuracy	0.25% ±1°C (TC), 0.1% ±1°C (RTD) at 25°C, ±0.25% of FS. ±1 count for AI's, ±2°C for NTC		
Resolution	12 Bit		
Conversion Time	TC - 100ms, RTD - 300ms, 0-10V - 100ms, 0-20mA - 100ms, NTC - 100ms		
Linearity	0.10%		
Max Non-Destructive Input	AIV= 17V, AII=31mA		
Channel-to-Channel Isolation	NO		
Reverse Polarity Protection	TC - YES, RTD - N/A, 0-10V - YES, 0-20mA - YES, NTC - YES		
Input Impedance	TC - >330KΩ, RTD - >510KΩ, 0-10V - >330KΩ, 0-20mA - >100Ω, NTC - >2KΩ		
Digital Output Specifications			
No. of Outputs	As per Card Configurations: 2 / 3 / 4 / 5 (NO) type Relay		
Contact Rating	5A @250V AC (resistive load), 5A @30V DC (resistive load)		
Relay Type	SPST		

Isolation (CPU ↔ Output)	2.5kV
Isolation (Output ↔ Output)	NA
Response Time	20ms
Mechanical Life	5 Million Operations

Note : Use of RO and AO cards are limited in 230VAC variants. Mixed usages for RO/AO limits are auto-managed in Selpro settings or refer to product manual for details

Digital Output - Transistor

No. of Outputs	As per Card Configurations: 4 Transistorized
Output Rating	100mA @24V DC (current sourcing output), 18-30V DC (External Supply)
Output type	PNP (Source)
Short Circuit Protection	Yes
Isolation (CPU ↔ Output)	2.5kV
Isolation (Output ↔ Output)	No
Polarity Inversion Protection	Yes
Response Time	10ms
Nominal Load	240Ω (likely referring to the typical load resistance)
Breaking Current	110mA (maximum current that can be interrupted)

Analog Output Specifications

No. of Channels	As per Card Configurations: 1 / 2
Output Range	0-10V DC / 0-20mA DC
Resolution	12 Bits
Load limit	0-10V DC ≥1 kΩ, 0-20mA ≤500Ω
Digital Resolution	0.0-100.0% = 0-10.000V DC, 0.0-100.0% = 0-20.000mA
Conversion Time	100ms
Isolation (CPU ↔ Output)	Yes for Isolated cards
Isolation (Output ↔ Output)	No
Output Error @25°C	±0.25% of Full Scale
Linearity	0.10%

Note : Use of RO and AO cards are limited in 230VAC variants. Mixed usages for RO/AO limits are auto-managed in Selpro settings or refer to product manual for details

Programming & Memory

Programming Software	Windows-Based Ladder & HMI Configuration
Program Memory	240 KB
Data Memory	32 KB
EEPROM	8 KB
Upload Memory	NA
Max Objects	5000 (Subject to Memory Availability)
Min scan Time	200μs
Typical scan Time	1 ms (Depends on Ladder Logic Complexity)

Note : Set jumpers as per the manual for PD & Wi-Fi Card before use.

Functional Features

Timer Operational Modes	On Delay, Off Delay, Special Timer (Up/Down), Pulse Timer, 1ms Timer*
Counter Modes:	Up Counter, Down Counter, Up/Down Counter, Special [Up/Down] Counter
Other Functional Blocks:	Array, For Next, Totalizer, Rate Totalizer, Analog Input, Scaling, FTC, Hysteresis, PIDT, Rampsoak, Communication
Memory Retention	10 years (2 KB)
Real-Time Clock (RTC)	Yes
Clock drift	Maximum ±4 seconds per day

*Limited to 4 Nos

Communication Port

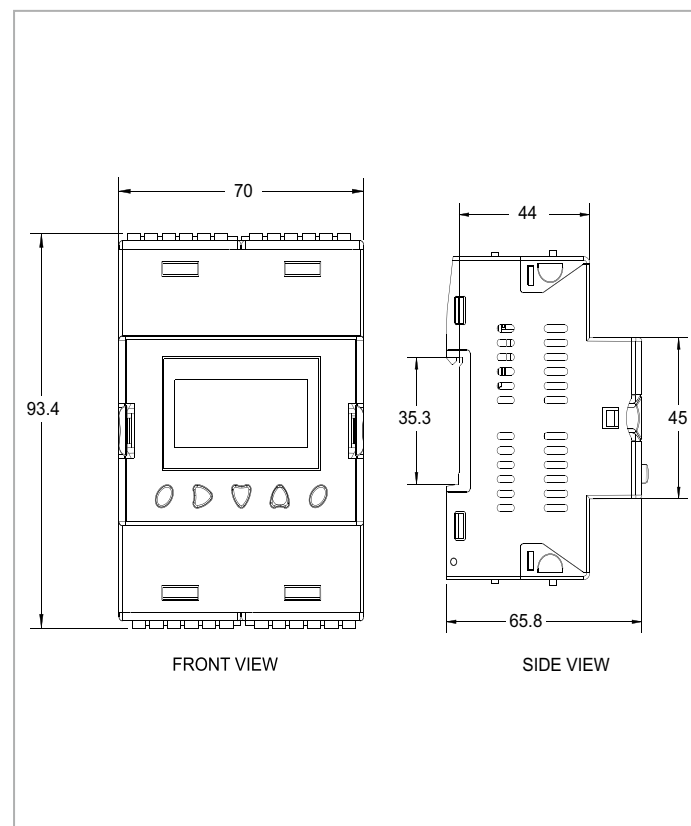
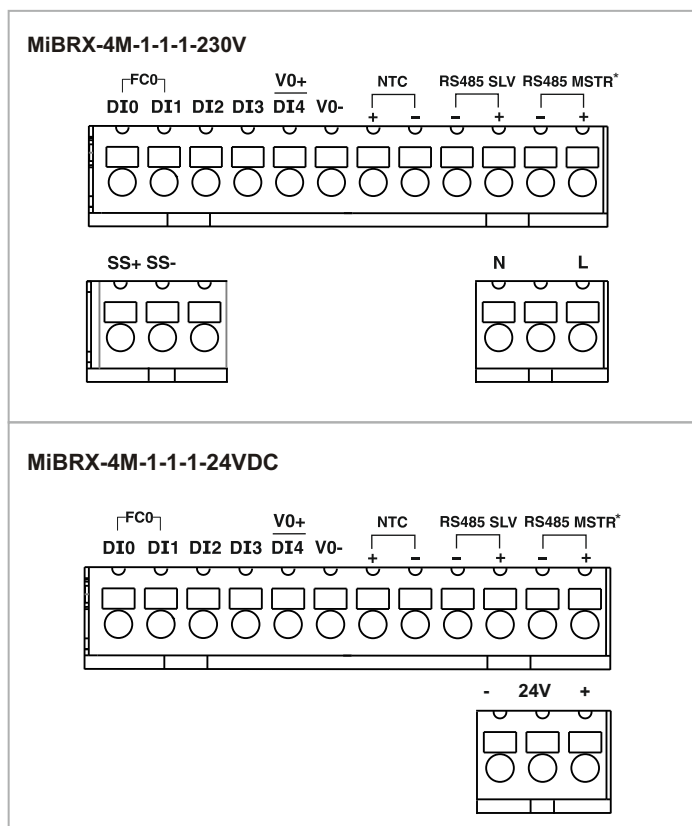
Communication Port	RS485 [Slave], RS485 [Master] for Expansion
Communication Protocol	MODBUS RTU
Connector	2 Wire

Transmission Mode	Half Duplex	
Transmission Speed	2400, 4800, 9600, 19200, 38400, 57600, 115200 bps	
Data Bits	7 or 8	
Parity	None, Odd, Even, Space, Mark	
Stop Bits	1 or 2	
Environmental Specifications		
Operating Temp	0°C to 55°C	
Storage Temp	-20°C to 70°C	
Humidity	10% to 95% RH (Non-condensing)	
IP rating	Display: IP50, Terminals: IP20	
Mechanical Specifications		
Weight	150 grams	
Mounting	DIN Rail Mountable	
Dimensions in mm (WHD)	70 x 94 x 67	
Auxiliary Supply Specifications		
Supply Voltage	With Retention: 180-270V AC @50/60 Hz Without Retention: 90-270V AC @50/60 Hz	18-30V DC
Inrush Current	5A	2.3A
Power Consumption	6VA	6W
Polarity Inversion Protection	YES	
Isolation (Power ↔ Communication)	NO	
Source Supply Output	24V DC, 50mA	-

Note: A maximum of 25 variables of type VAR_IN_OUT and VAR_OUTPUT (each 32-bit) can be retained when operating at 110V.

Terminal Connections

Dimensions (All are in mm)



Ordering information

Product code	Description	Certification
MiBRX-4M-1-1-1-230V	MiBRX 4M Base module - 230VAC - 4 Slots, 5DI (incl 1FI, 1AI-V), NTC, RTC, Master	
MiBRX-4M-1-1-1-24VDC	MiBRX 4M Base module - 24VDC - 4 Slots, 5DI (incl 1FI, 1AI-V), NTC, RTC, Master	

Supported display modules

Product code	Description	Certification
MiBRX-DSP-4M-0-1-06-A	MiBRX Display 4M - Blind, 6 LED	
MiBRX-DSP-4M-8-2-08-A	MiBRX Display 4M - LCD Text (8x2)	
MiBRX-DSP-AP-4M	MiBRX 4M Adapter Plate for Extending display	

Accessories (To Be Ordered Separately)

Product Code	Description
Power Supplies	
RPS60-24-CE	60W, 24V/2.5A DIN rail mounted power supply in plastic housing - CE Certified
Cables & Communication Accessories	
AC-USB-RS485-02	Protocol Converter Cable – USB to RS485 (2 wire)
For MODBUS Networking	
AC-USB-RS485-03	Protocol Converter Cable – USB to RS485 (RJ25)
ACH-004-CE-RoHS	Expansion Cable – RJ25 to RJ25 (6Pin)
AC-IOEXP-03-CE-RoHS	Communication adapter
Relay Modules	
ERLYMD-2-1-S8-1CO-24V-CE-RoHS	8 Channel 1 Change Over, Communication based
Expansion modules on Master RS485	
EXP FLEX 2M	MiBRX 4M Adapter Plate for independent display
EXP FLEX 2M V3	Expansion Cable – RJ25 to RJ25 (6Pin)
For Extending Display (*Use external power supply)	
MiBRX-DSP-AP-4M	MiBRX 4M Adapter Plate for independent display
ACH-004-CE-RoHS	Expansion Cable – RJ25 to RJ25 (6Pin)
MiBRX-DSP-IND-96-8-0-00-B	MiBRX Independent Display 96x96 - Customized, 14 & 7 Seg, Bar Graphs, Speedometer
MiBRX-DSP-IND-96-8-0-00-C*	MiBRX Independent Display 96x96 - 3.5 Inch Graphic Touch
MiBRX-DSP-IND-96-8-2-16-B	MiBRX Independent Display 96x96 - LCD Text (16x2)
MiBRX-DSP-IND-96-8-4-16-B	MiBRX Independent Display 96x96 - LCD Text (16x4)
Software - www.selec.com/software	
Selpro	Windows-based software for ladder logic and built-in HMI programming
USB to Serial Driver	USB to Serial cable drivers

Supported I/O Cards

IO Cards	Description	Certification
MiBRX-SC-DI0X**	MiBRX Slot Card - 4 / 5 / 6 Digital Inputs	CE 
MiBRX-SC-DI05-230V AC	MiBRX Slot Card - 5 Digital Inputs 230V (AC)	CE 
MiBRX-SC-TO04	MiBRX Slot Card - 4 Transistor Outputs	CE 
MiBRX-SC-RO0X*	MiBRX Slot Card - 2 / 3 / 4 / 5 Relay Outputs	CE 
MiBRX-SC-DI02-TO02	MiBRX Slot Card - 2 Digital inputs & 2 Transistor Outputs	CE 
MiBRX-SC-DI02-RO03	MiBRX Slot Card - 2 Digital Inputs & 3 Relay Outputs	CE 
MiBRX-SC-AI0X-V **	MiBRX Slot Card - 2 / 3 Analog Inputs - Voltage	CE 
MiBRX-SC-AI0X-I **	MiBRX Slot Card - 2 / 3 Analog Inputs - Current	CE 
MiBRX-SC-AI02-V-I **	MiBRX Slot Card - 2 Analog Inputs - 1 Voltage & 1 Current	CE 
MiBRX-SC-AI02-TC **	MiBRX Slot Card - 2 Analog Inputs - Thermocouple	CE 
MiBRX-SC-AI03-2TC-1I-ISO	MiBRX Slot Card - 3 Analog Inputs - 2 Thermocouple (Isolated) & 1 Current (Isolated)	CE 
MiBRX-SC-AI02-RTD **	MiBRX Slot Card - 2 Analog Inputs - RTD	CE 
MiBRX-SC-AI03-2RTD-1I-ISO-P	MiBRX Slot Card - 3 Analog inputs - 2 RTD (Isolated) & 1 Current (Isolated), With Pluggable Terminals	CE 
MiBRX-SC-AI02-PT1000	MiBRX Slot Card - 2 Analog Inputs - PT1000	CE 
MiBRX-SC-AI02-NTC	MiBRX Slot Card - 2 Analog Inputs - NTC	CE 
MiBRX-SC-AI02-PTC	MiBRX Slot Card - 2 Analog Inputs - PTC	CE 
MiBRX-SC-DI02-AI01-T	MiBRX Slot Card - 2 Digital Inputs & 1 Analog Input - TC/RTD	CE 
MiBRX-SC-AO01V/I *	MiBRX Slot Card - 1 Analog Output (Voltage/Current)	CE 
MiBRX-SC-AO02-V-I *	MiBRX Slot Card - 2 Analog Outputs - 1 Voltage & 1 Current (Isolated)	CE 
MiBRX-SC-AO02-X-ISO *	MiBRX Slot Card - 2 Analog Outputs - Voltage / Current (Isolated)	CE 
MiBRX-SC-FI02	MiBRX Slot Card - 2 Fast Inputs (10KHz)	CE 
MiBRX-SC-FO01-TO02-N	MiBRX Slot Card - 1 Fast Output (200KHz) & 2 Transistor Output (NPN)	CE 
MiBRX-SC-LC02	MiBRX Slot Card - 2 Analog Inputs - Load Cell (24 Bit)	CE 
MiBRX-SC-DL	MiBRX Slot Card - Datalogging (2MB) & RTC	CE 
MiBRX-SC-WIFI	MiBRX Slot Card - WIFI	CE 
MiBRX-SC-PD	MiBRX Slot Card - Portable Downloader	CE 

*Pluggable card variant available

** Pluggable + Isolated (ISO) variant available

e.g., MiBRX-SC-DI0X-ISO, MiBRX-SC-DI0X-P

Note:

1. Non-Isolated DI cards supports only in Non-ISO variant.

2. Pluggable variant is not available for MiBRX-SC-RO05.

3. Refer to the IO card and base module compatibility guidelines to ensure effective and valid IO card combinations.