ProSoft TECHNOLOGY

Where Automation Connects.

inRAx®

MVI46-MCM

SLC Platform

Modbus Communication Module

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USER MANUAL

5.1.2 Hardware Specifications

Specification	Description
Backplane Current Load	800 ma @ 5V (from backplane)
Operating Temperature	0 to 60°C (32 to 140°F)
Storage Temperature	-40 to 85°C (-40 to 185°F)
Shock	30g operational, 50g non-operational
Relative Humidity	5% to 95% (non-condensing)
Vibration	5 g from 10150 Hz
Processor	Compatible with Rockwell Automation SLC 5/02 M0/M1 capable processors or newer
LED indicators	Module status, Backplane transfer status, Application status, Serial activity and error LED status
Debug/Configuration port (CFG)	
CFG Port (CFG)	RJ45 (DB-9M with supplied cable) RS-232 only
Configuration Connector	RJ45 RS-232 Connector (RJ45 to DB-9 cable shipped with unit)
Application Ports	
Application Serial port (PRT1, PRT2) (Serial Modules)	Two RJ45 RS-232/422/485 Application ports

5.1.3 General Specifications - Modbus Master/Slave

Communication parameters	Baud Rate: 110 to 115K baud Stop Bits: 1 or 2 Data Size: 7 or 8 bits Parity: None, Even, Odd RTS Timing delays: 0 to 65535 milliseconds	
Modbus Modes	RTU mode (binary) with CRC-16 ASCII mode with LRC error checking	
Floating Point Data	Floating point data movement supported, including configurable support for Enron, Daniel®, and other implementations	
Modbus Function Codes Supported	1: Read Coil Status 2: Read Input Status 3: Read Holding Registers 4: Read Input Registers 5: Force (Write) Single Coil 6: Preset (Write) Single Holding Register 8: Diagnostics (Slave Only, Responds to Subfunction 00)	15: Force(Write) Multiple Coils 16: Preset (Write) Multiple Holding Registers 17: Report Slave ID (Slave Only) 22: Mask Write Holding Register (Slave Only) 23: Read/Write Holding Registers (Slave Only)

5.1.4 Functional Specifications

Modbus Master

A port configured as a virtual Modbus Master actively issues Modbus commands to other nodes on the Modbus network, supporting up to 100 commands on each port. The Master ports have an optimized polling characteristic that polls slaves with communication problems less frequently.

Command List	Up to 100 command per Master port, each fully configurable for function, slave address, register to/from addressing and word/bit count.
Polling of command list	Configurable polling of command list, including continuous and on change of data, and dynamically user or automatic enabled.
Status Data	Error codes available on an individual command basis. In addition, a slave status list is maintained per active Modbus Master port.

Modbus Slave

A port configured as a Modbus slave permits a remote Master to interact with all data contained in the module. This data can be derived from other Modbus slave devices on the network, through a Master port, or from the SLC processor.

Node address	1 to 247 (software selectable)
Status Data	Error codes, counters and port status available per configured slave port