



DATASHEET

Modbus Master/Slave Communication Module MVI56-MCM

The MVI56 Modbus Master/Slave Communication Module allows Rockwell Automation® ControlLogix® processors to interface easily with other Modbus protocol compatible devices.

The module acts as an Options module between the Modbus network and the ControlLogix backplane. Compatible devices include not only Modicon® PLCs (almost all support the Modbus protocol) but also a wide range of process and control devices from a variety of manufacturers. Many SCADA packages also support the Modbus protocol.



Features	Benefits
Licensed Backplane Technology	<ul style="list-style-type: none"> ◆ Manufactured under license from Rockwell Automation® ◆ High-speed data transfer between MVI56 module and ControlLogix processor ◆ Installs as a Generic 1756 module, sample ladder logic included ◆ View module data and status in RSLogix™ 5000 controller tags
Modbus slave protocol interface	<ul style="list-style-type: none"> ◆ Emulate Modbus slave device on each individually-configurable application port ◆ Supports Modbus RTU and Modbus ASCII protocol versions ◆ Floating-point data movement supported, including support for Enron, Daniel®, and other implementations ◆ Suitable for SCADA and field device interface applications
Easy to Configure and Monitor	<ul style="list-style-type: none"> ◆ Configure and monitor parameters and data in RSLogix ◆ LED diagnostics for at-a-glance health check ◆ Easy to use menu-driven hardware and protocol diagnostics ◆ View module database contents through serial connection to desktop PC
Backed by ProSoft Technology	<ul style="list-style-type: none"> ◆ 20-year history of delivering high-quality, reliable solutions designed with you in mind ◆ Free, unlimited, worldwide Technical Support by phone for pre-sale, set-up, or troubleshooting support helps you get going sooner and stay running longer ◆ Three-Year Warranty ensures reliability and protects against equipment failures ◆ Free ProSoft software tools tightly integrate with our hardware...a simple and quick, total solution to help you make our products fit your applications

Configuration

All module configuration is defined in the Sample Ladder Logic. The sample ladder is fully commented, and includes user defined data types, ladder rungs and controller tags. For most applications, the sample ladder can be used without modification. The Sample Program is found at: www.prosoft-technology.com.

General Specifications

- Single Slot - 1756 backplane compatible
- Local or remote rack
- The module is recognized as an Input/Output module and has access to processor memory for data transfer between processor and module
- Ladder Logic is used for data transfer between module and processor.
- Configuration data obtained through user-defined ladder. Sample ladder file included

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)

Functional Specifications

Modbus Master

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

Command List	Up to 100 commands 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 module.

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



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Hardware Specifications

Specification	Description
Backplane Current Load	800 mA @ 5 Vdc 3 mA @ 24 Vdc
Operating Temperature	0°C to 60°C (32°F to 140°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Shock	30 g operational 50 g non-operational Vibration: 5 g from 10 Hz to 150 Hz
Relative Humidity	5% to 95% (without condensation)
LED Indicators	Module Status Backplane Transfer Status Application Status Serial Activity
Debug/Configuration port (CFG)	
CFG Port (CFG)	RJ45 (DB-9M with supplied cable) RS-232 only
Application ports (PRT1 & PRT2)	
Full hardware handshaking control, providing radio, modem and multi-drop support	
Software configurable communication parameters	Baud rate: 110 to 115,200 baud, depending on protocol RS-232, 485 and 422 Parity: none, odd or even Data bits: 5, 6, 7, or 8 Stop bits: 1 or 2 RTS on/off delay: 0 to 65535 milliseconds
App Ports (P1, P2) (Serial modules)	RJ45 (DB-9M with supplied cable) RS-232 handshaking configurable 500V Optical isolation from backplane
Shipped with Unit	RJ45 to DB-9M cables for each port 6-foot RS-232 configuration cable

Agency Approvals & Certifications

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Ordering Information

To order this product, please use the following:

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MVI56-MCM

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