



Modbus Master/Slave Communication Module

MVI69-MCM

Applications using the Modbus Communication Module can be found in many industrial sectors and in the following applications

- Foreign device data concentrator
- Pipelines and offshore platforms
- Food processing
- Mining
- Pulp and paper
- SCADA communications
- Supports Enron version of Modbus protocol for floating point data transactions

How to Contact Us: Sales and Support

All ProSoft Technology® products are backed with unlimited technical support. Contact our worldwide Technical Support team directly by phone or email:

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Modbus Master/Slave Communication Module

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The MVI69 Modbus Communication Module allows CompactLogix processors to interface easily with other Modbus protocol compatible devices.

Compatible devices include not only Modicon PLCs (which all support the Modbus protocol) but also a wide assortment of end devices. The module acts as an input/output module between the Modbus network and the CompactLogix processor. The data transfer from the processor is asynchronous from the actions on the Modbus network. A 5000-word register space in the module exchanges data between the processor and the Modbus network.

Features and Benefits

The MVI69 Modbus Master/Slave Communications module is designed to allow CompactLogix processors to interface easily with Modbus protocol-compatible devices and hosts.

Many host SCADA applications support the Modbus protocol, while devices commonly supporting the protocol include several PLCs, as well as many other third party devices in the marketplace. (For a partial list of devices that speak Modbus, please visit the ProSoft Tested section of the ProSoft web site).

General Specifications

- Single Slot - 1769 backplane compatible
- 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. Sample ladder file included.
- Configuration data obtained from configuration text file downloaded to module. Sample configuration file included.
- Supports all CompactLogix processors: L20/L30/L31/L32/L35, L43 and L45 (L43 and L45 supported with RSLogix 5000 v16.03 or later)
- Also supports MicroLogix 1500 LRP

Hardware Specifications

Specification	Description
Dimensions	Standard 1769 Single-slot module
Current Load	800 mA max@ 5 VDC Power supply distance rating of 2
Operating Temp.	0 to 60°C (32 to 140°F)
Storage Temp.	-40 to 85°C (-40 to 185°F)
Relative Humidity	5% to 95% (non-condensing)
LED Indicators	Battery and Module Status Application Status Serial Port Activity CFG Port Activity

Specification	Description
CFG Port (CFG)	RJ45 (DB-9F with supplied cable) RS-232 only No hardware handshaking
App Ports (P1,P2) (Serial modules)	RS-232, RS-485 or RS-422 (jumper selectable) RJ45 (DB-9F 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

Functional Specifications

Type	Specifications
Communication parameters (configurable)	CFG Port: Baud Rate: 57600 baud Ports 1,2: Baud Rate: 110 to 115K baud Stop Bits: 1 or 2 Data Size: 5 to 8 bits Parity: None, Odd, Even 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 implementation

Modbus Slave Protocol Specifications

The ports on the MVI69-MCM module can be individually configured to support the slave mode of the Modbus protocol. When in slave mode, the module can accept Modbus commands from a master to read/write data stored in the module's internal registers. This data is easily transferred to the CompactLogix processor's data registers.

Modbus Slave Driver

Node Address	1 to 247 (software selectable)
Status Data	Error codes, counters, and port status available per configured slave port starting at memory register 4400
Modbus Function Codes	1: Read Output Status 2: Read Input Status 3: Read Multiple Data Registers 4: Read Input Registers 5: Write Single Bit 6: Write Single Data Register 8: Diagnostics 15: Write Multiple Bits 16: Write Multiple Data Register

Modbus Master Protocol Specifications

The ports on the MVI69-MCM module can be individually configured as Master ports. When configured in master mode, the MCM module is capable of reading and writing data to remote Modbus devices, enabling the CompactLogix platform to act as a SCADA sub-master, or a device data concentrator.

Modbus Master Driver

Command List	Up to 100 commands per master port, each fully configurable for function, slave address, register to/from addressing and word/bit count
Status Data	Error codes available on an individual command basis. In addition, a slave status list is maintained per active Modbus master port
Polling of Command List	Configurable polling of command list, including continuous and on change of data
Modbus Function Codes	1: Read Output Status 2: Read Input Status 3: Read Multiple Data Registers 4: Read Input Registers 5: Write Single Bit 6: Write Single Data Register 15: Write Multiple Bits 16: Write Multiple Data Register

Additional Products

ProSoft Technology offers a full complement of hardware and software solutions for a wide variety of industrial communication platforms.

Compatible products in the inRAX product line also include:

Modbus TCP/IP Client Server Communication Module for CompactLogix / MicroLogix (MVI69-MNET)

Modbus TCP/IP Client Communication Module for CompactLogix / MicroLogix (MVI69-MNETC)

Visit our web site at <http://www.prosoft-technology.com> for a complete list of products.

Ordering Information

To order this product, please use the following:

MVI69-MCM Modbus Master/Slave Communication Module

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