Modbus Master/Slave Communication Module for Remote Chassis

MVI56-MCMR

Applications using the Modbus Communication Module can be found in many industrial sectors, including:

- *Foreign device data concentrator*
- *Pipelines and offshore platforms*
- *Food processing*
- *Mining*
- *Pulp and paper*
- *SCADA communications*

How to Contact Us: Sales and Support

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Modbus Master/Slave Communication Module for Remote Chassis

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The MVI56 Modbus Master/Slave Communication Module with Reduced Data Block allows ControlLogix 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.

This module uses a small I/O data area for data transfer between the module and the ControlLogix processor, making it ideal for ControlNet or Ethernet applications with the module in a remote rack.

Features and Benefits

The MVI56 Modbus Master/Slave Communications module with reduced data block is designed to allow ControlLogix processors to interface easily with Modbus protocol-compatible devices and hosts.

The module acts as an input/output module between the Modbus network and the ControlLogix 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.

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 Technology web site).

General Specifications

- Single Slot - ControlLogix backplane compatible
- Designed especially for remote rack implementations
- The module is recognized as an Input/Output module and has access to processor memory for data transfer
- Ladder Logic is used for data transfer between module and processor. Sample Ladder File included
- Configuration data obtained from configuration file downloaded to module. Sample configuration file included

Hardware Specifications

Specification	Description
Backplane Current Load	800 mA @ 5 V DC 3mA @ 24V DC
Operating Temperature	0 to 60°C (32 to 140°F)
Storage Temperature	-40 to 85°C (-40 to 185°F)

Specification	Description
Shock	30g Operational
	50g non-operational
	Vibration: 5 g from 10 to 150 Hz
Relative Humidity	5% to 95% (non-condensing)
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

Functional Specifications

The MVI56-MCMR transmits smaller data packets than the MVI56-MCM, which makes it ideal for remote rack or where bandwidth is limited

- 40 word data blocks (scheduled)
- Status is passed by request using the MSG instruction
- Pass-through not supported
- Special functions (command control, event commands, status, etc.) are supported by message transfer (unscheduled) using the MSG instruction

Some of the general specifications include:

- Support for the storage and transfer of up to 5000 registers to/from the ControlLogix processor's data files
- Module memory usage that is completely user definable
- Two ports to emulate any combination of Modbus master or slave device
- Supports Enron version of Modbus protocol for floating point data transactions

Slave Specifications

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 ControlLogix processor. The MVI56-MCMR module accepts Modbus function code commands of 1, 2, 3, 4, 5, 6, 8, 15, 16, 17, 22 and 23 from an attached Modbus master unit.

Master Specifications

A port configured as a virtual Modbus master device on the MVI56-MCMR module actively issues Modbus commands to other nodes on the Modbus network. One hundred (100) commands are supported on each port. Additionally, the master ports have an optimized polling characteristic that polls slaves with communication problems less frequently. The ControlLogix processor can be programmed to control the activity on the port by actively selecting commands from the command list to execute or issuing commands directly from the ladder logic.

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 Master/Slave Communication Module (MVI56-MCM)

Modbus Plus Communication Module for ControlLogix (MVI56-MBP)

Modbus TCP/IP Client Server Communication Module for ControlLogix (MVI56-MNET)

Modbus TCP/IP Client Communication Module for ControlLogix (MVI56-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:

MVI56-MCMR	Modbus Master/Slave Communication Module for Remote Chassis

To place an order, please contact your local ProSoft Technology distributor. For a list of ProSoft distributors near you, go to http://www.prosoft-technology.com

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