DATASHEET

Modbus TCP/IP Client/Server Enhanced Communication Module with Reduced Data Block

MVI56E-MNETR

The Modbus TCP/IP Client/Server Enhanced Communication Module with Reduced Data Block allows Rockwell Automation ControlLogix processors to interface easily with Modbus TCP/IP-compatible devices, such as Modicon Programmable Automation Controllers (PACs) and a wide variety of Modbus TCP/IP-compatible instruments and devices.

The MVI56E-MNETR utilizes a reduced Input/Output (I/O) data block for transferring data to and from a ControlLogix processor. This reduced data block makes it ideal for use in remote rack applications over ControlNetTM. For EtherNet/IPTM applications where bandwidth is not an issue, it is strongly recommended to use the MVI56E-MNETC.

MVI56E-MNETR enhancements include local and remote configuration and diagnostics through the module's Ethernet port, and an on-board web server for access to module documentation and sample program files.

Features	Benefits
Backward-Compatible	♦ Upgrade earlier MVI56-MNETR modules without changing existing ladder logic programs or module configurations ♦ Enhanced features and flexibility without incurring expensive reprogramming costs
RSLogix™ 5000 Integrated	♦ Module communication is integrated within RSLogix 5000 using a sample Add-On Instruction (AOI) or sample ladder logic file ♦ No additional programming and/or configuration software are required
Reduced Input/Output Image Size	♦ Uses less bandwidth on process control networks like ControlNet™ or EtherNet/IP™ ♦ Optimizes communication for more efficient remote rack installations, especially when using redundant ControlLogix® processors
Graphical User Interface Software	♦ ProSoft Configuration Builder (PCB) provides online or offline configuration and online diagnostics using the high-speed Ethernet port ♦ CIPconnect®-enabled, allows remote configuration and diagnostic access across multiple bridged EtherNet/IP and ControlNet networks using Rockwell Automation 1756-ENxT and 1756-CNB network interface modules
ProSoft Discovery Service	♦ ProSoft Discovery Service, a software utility to locate MVI56E modules on the network and assign a temporary IP address for easy configuration

Configuration

ProSoft Configuration Builder (PCB) provides a graphical configuration tool for quick and easy management of module configuration files, as well as viewing communication and module diagnostic information.

CIPconnect technology routes connections over multiple EtherNet/IP or ControlNet paths, allowing you to manage the module from remote locations.

The MVI56E-MNETR Setup Guide, with the sample configuration, provides step-by-step instructions on how to move data through the module from the MNET network to the processor.

General Specifications

- Reduced I/O image size designed specifically to optimize remote rack implementations
- Backward compatible with previous MVI56-MNET versions
- Single-slot 1756 ControlLogix backplane compatible
- 10/100 Mbps auto crossover detection Ethernet configuration and application port
- User-definable module data memory mapping of up to 5000 16-bit registers
- CIPconnect-enabled network configuration and diagnostics monitoring using ControlLogix 1756-ENxT and 1756-CNB modules and EtherNet/IP pass-through communication
- ProSoft Configuration Builder (PCB) software supported, a Windows-based graphical user interface providing simple product and network configuration
- Sample ladder logic and Add-On Instructions (AOI) are used for data transfer between module and processor
- 4-character, alpha-numeric, scrolling LED display of status and diagnostics data in plain English – no cryptic error or alarm codes to decipher
- ProSoft Discovery Service (PDS) software used to locate the module on the network and assign temporary IP address
- Personality Module - a non-volatile, industrial-grade Compact Flash (CF) card used to store network and module configuration, allowing quick in-the-field product replacement by transferring the CF card

Modbus TCP/IP Specifications

- ProSoft Technology's Modbus TCP/IP implementation (MNET) includes both Client (Master) and server (slave) capabilities
- Modbus data types overlap in the module's memory database, so the same data can be conveniently read or written as bit-level or register-level data.
- Configurable floating-point data movement is possible, including support for Enron or Daniel® floating-point formats

Modbus TCP/IP Server (Slave)

- Supports ten independent server connections for Service Port 502 (MBAP)
- Supports ten independent server connections for Service Port 2000 (Encapsulated)
- Accepts Modbus Function Codes 1, 2, 3, 4, 5, 6, 8, 15, 16, 17, 22 and 23
- Module data can be derived from other Modbus server devices on the network through the Client or from the ControlLogix processor

Modbus TCP/IP Client (Master)

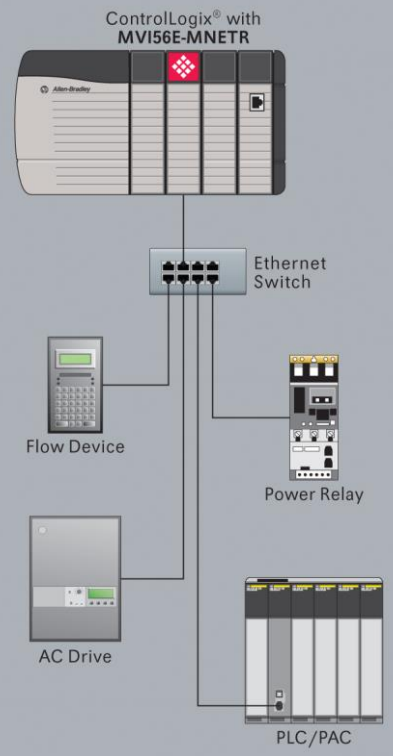
- Actively reads data from and writes data to Modbus TCP/IP devices, using MBAP or Encapsulated Modbus message formats
- Transmit Modbus Function Codes 1, 2, 3, 4, 5, 6, 7, 15, and 16
- Offers one Client connection with up to 100 commands to talk to multiple servers
- ControlLogix processor can be programmed to use special functions to control the activity on the Client by actively selecting commands to execute from the command list (Command Control) or by issuing commands directly from the ladder logic (Event Commands)

Status Data

- Error codes, counters, and module status available from module memory through the server, through the Client, or through the ladder logic and controller tags in RSLogix™ 5000

Functional Specifications

- The MVI56E-MNETR transfers data in smaller I/O blocks than the MVI56E-MNET, which makes it ideal for installations in remote racks or where bandwidth is limited.
- Works well with redundant ControlLogix Programmable Automation Controllers (PACs) using ControlNet
- Module appears to the ControlLogix processor as an input/output (I/O) module
- 40-word scheduled I/O image blocks used for data transfers allow module to use significantly less bandwidth than the MVI56E-MNET
- Retrieving module status and executing special functions (Event Commands, Command Control, etc.) are supported in ladder logic by special block transfer codes



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	30g Operational 50g Non-operational Vibration: 5g from 10 Hz to 150 Hz
Relative Humidity	5% to 95% (without condensation)
LED Indicators	Application Status (APP) Module Status (OK) (ERR) Not Used
4-Character, Scrolling, Alpha-Numeric LED Display	Shows Module, Version, IP, Application Port Setting, Port Status, and Error Information
Debug/Configuration/Application Ethernet port (E1)	
Ethernet Port	10/100 Base-T, RJ45 Connector, for CAT5 cable Link and Activity LED indicators Auto-crossover cable detection

Agency Approvals & Certifications

Please visit our website: www.prosoft-technology.com

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MVI56E-MNETR

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