

## Modbus TCP/IP Client/Server Enhanced Communication Module for ControlLogix® MVI56E-MNET/MNETXT

The MVI56E Modbus TCP/IP Client/Server Enhanced Communication Module allows Rockwell Automation® ControlLogix processors to interface easily with Modicon Programmable Automation Controllers (PACs) and a wide variety of Modbus TCP/IP-compatible instruments and devices.

MVI56E enhancements include local and remote configuration and diagnostics through the module's Ethernet port, and CIPconnect® technology for bridging through Rockwell Automation ControlNet and EtherNet/IP networks.

The MVI56E-MNET and MVI56E-MNETXT are functionally the same. The MVI56E-MNET is designed for standard process applications. The MVI56E-MNETXT is designed for the Logix-XT™ control platform, allowing it to operate in extreme environments. It tolerates higher operating temperatures, and has a conformal coating to protect it from harsh or caustic conditions.



Features	Benefits
Backward-Compatible	<ul style="list-style-type: none"> <li>◆ Upgrade earlier MVI56-MNET modules without changing existing ladder logic programs or module configurations</li> <li>◆ Enhanced features and flexibility without incurring expensive reprogramming costs</li> </ul>
For Extreme Environments (MVI56E-MNETXT only)	<ul style="list-style-type: none"> <li>◆ Conforms to the EN60079-0 and EN60079-15 standards for applications in caustic and extreme temperature environments</li> <li>◆ Operates in temperature extremes from -25°C to 70°C (-13°F to 158°F)</li> <li>◆ Conformal coating protects against caustic or corrosive environmental elements</li> </ul>
RSLogix 5000 Integrated	<ul style="list-style-type: none"> <li>◆ Module communication is integrated within RSLogix™ 5000 using a sample (AOI) or sample ladder logic file</li> </ul>
Graphical User Interface Software	<ul style="list-style-type: none"> <li>◆ ProSoft Configuration Builder (PCB) provides online or offline configuration and diagnostics using the high-speed Ethernet port</li> <li>◆ 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</li> </ul>
ProSoft Discovery Service	<ul style="list-style-type: none"> <li>◆ Software utility to locate MVI56E modules on the network and assign a temporary IP address for easy configuration</li> </ul>

### Configuration

ProSoft Configuration Builder (PCB) provides a graphical configuration tool for quick 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-MNET/MNETXT Setup Guide, with the sample configuration, provides step-by-step instructions on how to move data through the module from the Modbus TCP/IP network to the processor.

## General Specifications

- ◆ 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)

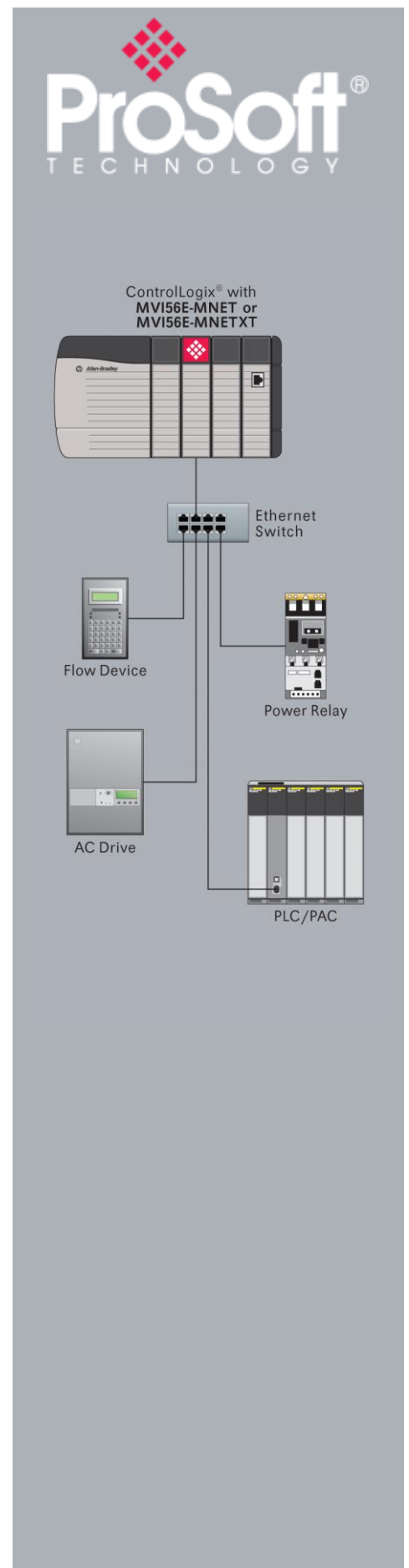
- ◆ Actively reads data from and writes data to Modbus TCP/IP devices, using MBAP or Encapsulated Modbus message formats
- ◆ Transmit Modbus Function Codes 1, 2, 3, 4, 5, 6, 7, 15, and 16
- ◆ Offers one Client connection with up to 100 commands to talk to multiple servers
- ◆ ControlLogix processor can 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-MNET and MVI56E-MNETXT are functionally identical. The MVI56E-MNET is for normal process and control environments. The MVI56E-MNETXT is conformal coated for extra protection in harsh or caustic environments and operates in extreme high or low temperature environments.
- ◆ Both modules transfer data in the largest possible I/O image block sizes, which optimizes data throughput and update time.
- ◆ Both modules appear to the ControlLogix processor as input/output (I/O) modules, rather than communication modules.
- ◆ Both modules work well in local rack applications and may be used in remote rack applications. (For information on a remote rack optimized, reduced data block version of the MNET module, look for the MVI56E-MNETR.)
- ◆ Retrieving module status and executing special functions (command control, event commands, 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) - MVI56E-MNET -25°C to 70°C (-13°F to 158°F) - MVI56E-MNETXT
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% RH, with no condensation
LED Indicators	Battery Status (ERR) Application Status (APP) Module Status (OK)
4-Character, Scrolling, Alpha-Numeric LED Display	Shows Module, Version, IP, Application Port Setting, Port Status, and Error Information
<b>Debug/Configuration/Application Ethernet port (E1)</b>	
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](http://www.prosoft-technology.com)



## Additional Products

ProSoft Technology® offers a full complement of hardware and software solutions for a wide variety of industrial communication platforms. For a complete list of products, visit our web site at:

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## Ordering Information

To order this product, please use the following:

## Modbus TCP/IP Client/Server Enhanced Communication Module for ControlLogix®

MVI56E-MNET  
MVI56E-MNETXT

To place an order, please contact your local ProSoft Technology distributor. For a list of ProSoft Technology distributors near you, go to:

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