DATASHEET

Modbus® TCP/IP Enhanced Communications Module – Client/Server

MVI56E-MNETC/MNETCXT

When you need Modbus® TCP/IP communications, the MVI56E-MNETC/MNETCXT is the module of choice. The Modbus TCP/IP Enhanced Communications Module allows Rockwell Automation® ControlLogix® Programmable Automation Controllers (PACs) to interface easily with Modicon® Programmable Automation Controller (PACs), as well as multiple Modbus TCP/IP server-compatible instruments and devices. The multi-client module improves performance when controlling multiple servers on a Modbus TCP/IP network, by supporting up to 30 Client connections. It also supports up to 40 server connections providing the ability to communicate with other DCS and SCADA systems. Both client and server functionality can run simultaneously, allowing the module to operate as a powerful data concentrator.

The MVI56E-MNETC and MVI56E-MNETCXT are functionally the same. The MVI56E-MNETC is designed for standard process applications. The MVI56E-MNETCXT 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.

MVI56E enhancements include configuration and management through the module's Ethernet port, and CIPconnect® technology for bridging though ControlNet™ and EtherNet/IP™ networks.

Features	Benefits
Supports up to 30 Client and 40 Server connections	♦ Faster response for multi-server applications ♦ Minimizes impact to other server communications when one server device goes offline ♦ Server capability provides access for HMIs, SCADA or DCS systems
RSLogix™ 5000 Integrated	♦ The module communication is integrated with RSLogix 5000 using a supplied Add-On Instruction (AOI) or ladder file ♦ No additional PAC/PLC programming required
Enable/disable commands easily from ladder logic	♦ Programmatically enable various networked devices and their functions to support multiple applications or recipes, without having to reconfigure the module
Remotely configure and diagnose problems	♦ Easy-to-use Windows-based configuration software connects through remote racks using EtherNet/IP and/or ControlNet via a 1756-ENxT and/or 1756-CNB interface module without requiring RSLinx, saving you money ♦ Allows support of IT and Automation network segmentation
MVI56 backward compatible	♦ Assists in extending current MVI56 applications by using newer technology that supports existing MVI56 ladder logic and module configuration

Configuration

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

Route connections over multiple EtherNet/IP or ControlNet paths allow you to manage the module from remote locations.

The MVI56E-MNETC/MNETCXT User Manual, 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-MNETC 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 10,000 16-bit registers
- CIPconnect-enabled network configuration and diagnostics monitoring using ControlLogix 1756-ENxT and 1756-CNB modules
- 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 for easy disaster recovery, allowing quick in-the-field product replacement by transferring the CF card

Modbus TCP/IP Specifications

- ProSoft Technology's Modbus TCP/IP implementation (MNETC) includes both client (master) and server (slave) capabilities

Modbus TCP/IP Server (Slave)

- Supports 30 independent server connections for Service Port 502 (MBAP)
- Supports 10 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)

- Offers 30 Client connections with up to 16 commands each to talk to multiple servers
- Actively reads data from and writes data to Modbus TCP/IP devices, using MBAP or Encapsulated Modbus message formats
- Transmits Modbus Function Codes 1, 2, 3, 4, 5, 6, 7, 15, and 16
- 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

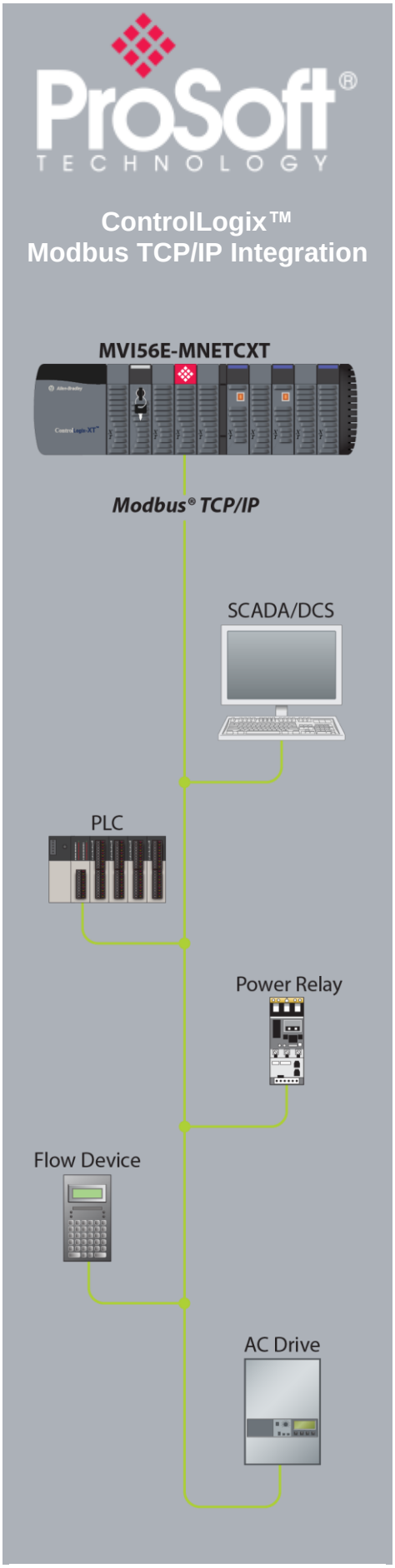
- Error codes, counters, and module status available from module memory through the server, through the Client, or through the ladder logic and controller tags in RSLogix™ 5000

Functional Specifications

- 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 supported, including support for Enron or Daniel® floating-point formats
- Special functions (Event Commands, Command Control, status, etc.) are supported by message transfer (unscheduled) using the MSG instruction
- Configurable parameters for the Client including a minimum response delay of 0 to 65535 ms and floating-point support

ProSoft® TECHNOLOGY

ControlLogix™ Modbus TCP/IP Integration



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-MNETCXT: -25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Extreme/Harsh Environment	MVI56E-MNETCXT comes with conformal coating
Shock	30g Operational 50g Non-operational Vibration: 5g from 10 Hz to 150 Hz
Relative Humidity	5% to 95% (without condensation)
LED Indicators	(ERR) Not Used 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
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

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: www.prosoft-technology.com

Ordering Information

To order this product, please use the following:

Modbus TCP/IP Multi Client Enhanced Communications Module

MVI56E-MNETC
MVI56E-MNETCXT

To place an order, please contact your local ProSoft Technology distributor. For a list of ProSoft Technology distributors near you, go to: www.prosoft-technology.com and select *Where to Buy* from the menu.