DATASHEET

Modbus TCP/IP Multi Client Enhanced Communication Module for Remote Chassis
MVI56E-MNETCR

The MVI56E Modbus TCP/IP Multi Client Enhanced Communication Module for Remote Chassis allows Rockwell Automation® ControlLogix® Programmable Automation Controllers (PACs) to interface easily with 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 clients.

MVI56E enhancements include configuration and management through the module's Ethernet port, CIPconnect® technology for bridging though ControlNet™ and EtherNet/IP™ networks, and has a web server to access on-board documentation, Add-On Instructions, and sample program files.

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

Features	Benefits
Supports up to 30 Clients	♦ Faster response for multi server applications ♦ Reduces network traffic ♦ Minimizes impact to other server communications when one server device goes off-line
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.	♦ Programatically 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 OEM saving you money ♦ Allows support of IT and Automation network segmentation
Web-enabled Ethernet port	♦ The module has a built-in web server for easy access to documentation, module status, and to update firmware
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), supplied with the module, 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-MNETCR Setup Guide, with the sample configuration, provided step-by-step instructions on how to move data through the module from the Modbus TCP/IP Client network to the processor.

inRAx®

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 5000, 16-bit registers

- 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

- Internal web server provides access to product documentation, module status, diagnostics, and firmware updates

- 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
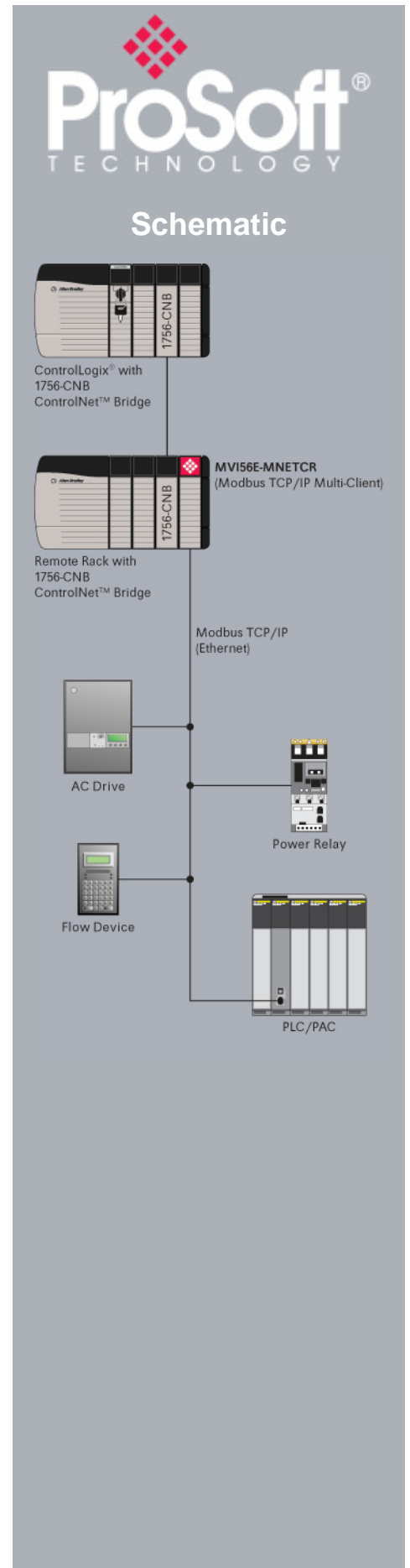
Modbus TCP/IP Client (Master)

The MVI56E-MNETC is a client-only module that will operate on a Local or Remote rack. This module was created to improve performance when controlling multiple servers on a Modbus TCP/IP network. The module supports up to 30 clients with up to 16 commands for each client.

- 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

- Offers 30 Client connection with up to 16 commands to talk to multiple severs

- 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 issuing commands directly from the ladder logic (Event Commands)

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 (command control, event commands, 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

- Supports up to 30 clients with up to 16 commands for each client

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

Schematic

ControlLogix® with
1756-CNB
ControlNet™ Bridge

MVI56E-MNETCR
(Modbus TCP/IP Multi-Client)

Remote Rack with
1756-CNB
ControlNet™ Bridge

Modbus TCP/IP
(Ethernet)

AC Drive

Power Relay

Flow Device

PLC/PAC

Hardware Specifications

Specification	Description
Backplane Current Load	800 mA @ 5 V DC 3 mA @ 24V DC
Operating Temperature	0° to 60°C (32° to 140°F)
Storage Temperature	-40° to 85°C (-40° to 185°F)
Shock	30g Operational 50g non-operational Vibration: 5 g from 10 to 150 Hz
Relative Humidity	5% to 95% (non-condensing)
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
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
Shipped with Unit	5-foot Ethernet straight-through cable

Agency Approval & Certification

ANSI / ISA	ISA 12.12.01 Class I Division 2, GPs A, B, C, D
CSA/cUL	C22.2 No. 213-M1987
CSA CB Certified	IEC61010
ATEX	EN60079-0 Category 3, Zone 2 EN60079-15

$\langle \text{Ex} \rangle$ SA $_c$ $_{us}$ $C \, \epsilon$ $_c (UL)_{us}$ **RoHS**

243333   E183151