



## Modbus TCP/IP Client Server Communication Module MVI46-MNET

*With the growing trend of Ethernet technology in the industrial marketplace, this product has a wide variety of application uses.*

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## Modbus TCP/IP Client/Server Communication Module

### MVI46-MNET

The MVI46 Modbus TCP/IP Communication Module is designed to allow SLC processors to interface easily with other Modbus TCP/IP protocol-compatible devices using client and server functionality.

Compatible devices include not only Modicon processors (which support the Modbus TCP/IP protocol) but also a wide assortment of other clients and server devices.

### Features and Benefits

The MVI46-MNET module is a single slot solution that provides a powerful connection between Rockwell Automation's SLC processor and Modbus TCP/IP network applications.

The TCP/IP Modbus network applications include those networks hosted by Modicon Quantum processors, networks controlled by operator interface software packages, and the growing number of manufactured devices that support this protocol. The module acts as an input/output module between the Modbus TCP/IP network and the Rockwell Automation backplane. The data transfer from the processor is asynchronous from the actions on the Modbus TCP/IP network. A 5000-word register space in the module exchanges data between the processor and the Modbus TCP/IP network.

- Support for the storage and transfer of up to 5000 registers to/from the SLC processor using M0/M1 data file transfer
- User-definable module memory usage
- 10/100 MB Ethernet compatible interface
- Configurable parameters for the client and server applications and floating point support

### General Specifications

- Single Slot – 1746 backplane compatible (Local or extended I/O rack only. Remote rack not supported)
- The module is recognized as an Input/Output module and has access to processor memory for data transfer between processor and module using M0/M1 files
- Ladder Logic is used for data transfer between module and processor. Sample ladder file included
- Configuration data obtained from configuration text file downloaded to module. Sample configuration file included

## Hardware Specifications

| Specification          | Description                                                                                                                                  |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| Backplane Current Load | 800 ma @ 5V (from backplane)                                                                                                                 |
| Operating Temperature  | 0 to 60°C (32 to 140°F)                                                                                                                      |
| Storage Temperature    | –40 to 85°C (–40 to 185°F)                                                                                                                   |
| Relative Humidity      | 5 to 95% (non-condensing)                                                                                                                    |
| Shock                  | 30g operational, 50g non-operational                                                                                                         |
| Vibration              | 5 g from 10150 Hz                                                                                                                            |
| LED indicators         | Module status, Backplane transfer status, Application status, Serial activity (debug port), Ethernet link and activity, and error LED status |

### Debug/Configuration port (CFG)

|                         |                                                                            |
|-------------------------|----------------------------------------------------------------------------|
| CFG Port (CFG)          | RJ45 (DB-9M with supplied cable)<br>RS-232 only<br>No hardware handshaking |
| Configuration Connector | RJ45 RS-232 Connector (RJ45 to DB-9 cable shipped with unit)               |

### Application Ports

|                                  |                                                    |
|----------------------------------|----------------------------------------------------|
| Ethernet Port (Ethernet Modules) | RJ45 Connector<br>Link and activity LED indicators |
|----------------------------------|----------------------------------------------------|

## Functional Specifications

### General Protocol specifications

| Type                                  | Specifications                                                                                                                                                                    |
|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Floating Point Data                   | Floating point data movement supported, including configurable support for Enron implementation                                                                                   |
| Modbus Server Protocol Specifications | The server driver supports connections to Modbus TCP/IP clients supporting Service Port 502 using the standard MBAP protocol, and clients supporting Modbus on Service Port 2000. |

### Modbus Server Protocol Specifications

The server driver supports connections to Modbus TCP/IP clients supporting Service Port 502 using the standard MBAP protocol, and clients supporting Modbus on Service Port 2000.

### General

- Supports five independent server connections for Service Port 502
- Supports five independent server connections for Service Port 2000
- All data mapping begins at Modbus register 40001.

### Status Data

Error codes, counters, and port status available

## Modbus Function Codes

| Code | Description                  |
|------|------------------------------|
| 1:   | Read Output Status           |
| 2:   | Read Input Status            |
| 3:   | Read Multiple Data Registers |
| 4:   | Read Input Registers         |
| 5:   | Write Single Bit             |
| 6:   | Write Single Data Register   |
| 15:  | Write Multiple Bits          |
| 16:  | Write Multiple Data Register |

### Modbus TCP/IP Client

The client driver supports the active reading and writing of data with Modbus TCP/IP compatible devices.

One client connection available (connect up to 100 servers/devices using the available 100 master commands)

### 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 TCP/IP Client Module (MVI46-MNETC)

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To order this product, please use the following:

**MVI46-MNET**      Modbus TCP/IP Client Server Communication Module

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January 23, 2007