DATASHEET

Modbus Plus Communication Module
MVI56-MBP

The MVI56-MBP Modbus Plus Communication Module allows ControlLogix compatible processors to interface easily with other Modbus Plus protocol compatible devices.

The Modbus Plus module is a powerful module designed with both Master and Slave support, enabling easy connection to other Modbus devices (Modicon processors and many others).

Compatible devices include not only Modicon PLCs (which all support the Modbus Plus protocol) but also a wide assortment of end devices licensed through the ModConnect Program. The MVI56-MBP module acts as an input/output module between the Modbus Plus network and the ControlLogix backplane. The data transfer from the ControlLogix processor is asynchronous from the actions on the Modbus Plus network. A 4000-word register space in the module exchanges data between the processor and the Modbus Plus network.

These modules allow platforms to connect directly on Modbus Plus networks as a peer. In addition, the modules act as slaves to processors that must read/write data from the module's memory.

Crossing all industrial boundaries, potential applications include the connection of processors to Modicon processors, and the connection of Modbus Plus speaking devices such as drives, relays, and power monitor hardware to the ControlLogix backplanes.

Features

♦ Single Slot - 1756 backplane compatible

♦ Local or remote rack

♦ The MVI56-MBP is recognized as an Input/Output module and has access to processor memory for data transfer between processor and module.

♦ Ladder Logic is used for data transfer between module and processor.

♦ Configuration data obtained through user-defined ladder. Sample ladder file included.

Functional Specifications

- Communication parameters (Config port only)
  - Baud: 57,600 (fixed)
  - Parity: none (fixed)
  - Stop: 1 (fixed)

- Modbus Plus ports
  - Memory usage is user definable
  - Support for the storage and transfer of up to 4,000 registers across the backplane
  - 100 word reads and writes (max. allowed)
  - Supports all five levels of Modbus Plus routing
  - Software configurable parameters Node address: 1 to 64
  - Global out size: 0 to 32 words
  - Global in size: 0 to 32 words
  - Module data transfer: 0 to 4,000 words
  - Master command count: 0 to 200 commands

- Function codes accepted (as a Slave): 1, 2, 3, 4, 5, 6, 15, 16
- Function codes transmitted (as a Master): 3, 16

Global Data Specifications

The MBP module actively exchanges global in (32 words max. per node) and global out (32 words max.) data on the Modbus Plus network. Priority is given to these data types to provide a high speed mechanism for the transfer of control data.

Modbus Slave Mode Specifications

- Supports broadcast commands from host
- Communication error codes returned to ladder logic

Modbus Master Mode Specifications

- Command list support of up to 200 commands
- Conditional and continuous command list polling
- Each command list entry is fully configurable for function register to/from addressing and word/bit count/word and byte swap
- Event driven bit and register write commands (ladder logic controlled)
- Supports sending of broadcast commands
- Communication status error codes returned to ladder logic on a per command basis

Hardware Specifications

Specification	Description
Backplane Current Load	800 mA @ 5 V DC 3mA @ 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	Module Status Backplane Transfer Status Application Status Serial Activity
Debug/Configuration port (CFG)	
CFG Port (CFG)	RJ45 (DB-9M with supplied cable) RS-232 only
Application ports (PRT1 & PRT2)	
Modbus Plus Connector	Two DB9 Female Standard Modbus Plus connectors
Shipped with Unit	RJ45 to DB-9M cable 6-foot RS-232 configuration cable

Agency Approvals & Certifications

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Ordering Information

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MVI56-MBP

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