HART Multidrop Master Communication Module

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MVI56-HART

The HART protocol is supported by major instrument suppliers and the HART Communication Foundation (HCF).

Today, HART is the most widely used digital communications protocol for instruments in the process control industry. More than 105 manufacturers support HART with a choice of more than 170 different field instruments.

How to Contact Us: Sales and Support

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HART Multidrop Master Communication Module

MVI56-HART
The MVI56 HART Multidrop Master Communication Module is a ControlLogix backplane-compatible module that allows ControlLogix processors to interface easily with HART compatible devices. Devices commonly supporting the protocol include pressure, temperature, flow transmitters, as well as other similar instruments commonly found in the process (and other) industry.

HART® is a registered trademark of the HART Communication Foundation

Features and Benefits

The MVI56-HART Master Communication Module allows Rockwell Automation ControlLogix I/O compatible processors to easily communicate with HART slave devices. The MVI56-HART module interfaces up to 15 devices on each HART channel with the Rockwell Automation ControlLogix processor. Four channels on the module support master protocol commands to interface with slave devices on their own networks. Each port is individually configurable. Data is exchanged between the HART network and the Rockwell Automation ControlLogix processor backplane using the internal database contained in the module and direct control by the controller's ladder logic and pre-defined data objects (5000 registers maximum).

The MVI56-HART module is the perfect solution for industrial applications in chemical and refining operations, to gas and liquid distribution systems, and remote offshore monitoring stations are addressing virtually all aspects of control, data acquisition, and maintenance.

General Specifications

- Single Slot – 1756 backplane compatible
- The module 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. Sample ladder file included.
- Configuration data obtained from configuration text file downloaded to module. Sample configuration file included
- Local or remote rack

Hardware Specifications

Specification	Description
Backplane Current Load	800 mA @ 5 V
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)	
Full hardware handshaking control, providing radio, modem and Multidrop support	
Software configurable communication parameters	Baud rate: 110 to 115,200 baud, depending on protocol RS-232, 485 and 422 Parity: none, odd or even Data bits: 5, 6, 7, or 8 Stop bits: 1 or 2 RTS on/off delay: 0 to 65535 ms
App Ports (P1,P2) (Serial modules)	RJ45 (DB-9M with supplied cable) RS-232 handshaking configurable 500V Optical isolation from backplane
Shipped with Unit	RJ45 to DB-9M cables for each port 6-foot RS-232 configuration cable

Functional Specifications

The MVI56-HART module supports the HART Multidrop implementation of the protocol. Following are some general specifications for the module:

- Built in accordance to the HART Bell 202 Frequency Shift Keying (FSK) standard to superimpose digital signals at a low level on top of the 4 – 20mA
  o Four independent HART master ports that are completely user-configurable
  o Supports up to 15 devices per port
  o Point-to-point (slave address 0) or Multidrop (slave address 1 to 15) modes supported

- Supports 99 universal and common practice commands per port to control and monitor devices with integer, IEEE754 floating-point and packed ASCII character string data blocks
- Burst mode can be used for faster update of data from a single slave

- Supports an auto polling feature that will automatically collect data from each HART instrument on the channel and store the data in the module database
- Communication ports can be configured as a secondary master (that is, handheld configuration device)

Protocol Supported: HART protocol uses the Bell 202 standard frequency shift-keying (FSK) digital signal to communicate at 1200 baud, superimposed at a low level on the 4 to 20mA analog measurement signal.

Supported Function Codes: HART Universal Commands Set supported are 00-03, 06-09, and 11-22. HART Common Practice Commands Set supported are 33-83 and 105–110.

HART Network Communications: Supports four master channels. Each channel on the module is configured independently to emulate a HART master. Burst mode can be used for faster update of data from a slave device.

Command polling is also user-configurable, including disabled, continuous, on change of data (write only), and dynamically user or automatic enabled.

Status: Error codes returned by the HART protocol available on an individual command basis. In addition, a slave status list is maintained per active channel.

Additional Products

ProSoft Technology offers a full complement of hardware and software solutions for a wide variety of industrial communication platforms.

Visit our web site at http://www.prosoft-technology.com for a complete list of products.

Ordering Information

To order this product, please use the following:

MVI56-HART HART Multidrop Master Communication Module

To place an order, please contact your local ProSoft Technology distributor. For a list of ProSoft distributors near you, go to http://www.prosoft-technology.com