DH-485 to Modbus Master/Slave Gateway

5102-DH485-MCM3

The ProLinx DH-485 to Modbus Master/Slave Gateway creates a powerful connection between devices on a Modbus network and a DH-485 master or slave device. This stand-alone DIN-rail mounted protocol gateway provides one DH-485 Master or Slave configurable serial port and three Modbus Master or Slave configurable serial ports.

The DH-485 protocol driver supports the Master and the Slave modes of the protocol on each port, providing powerful data transfer capability with Rockwell Automation PLCs and HMIs. All DH-485 ports are individually configurable. User configurable data mapping make the interface an easy to use and powerful data transfer tool.

The Modbus protocol driver supports Master and Slave implementations of the protocol. All Modbus serial ports are individually configurable, providing a very powerful and flexible host or device interface solution.

DH-485

The DH-485 protocol in its native form is a peer to peer token passing network. The ProLinx DH-485 driver accesses the network functioning either as a Master or as a Slave.

General Protocol Information	
Error Checking	BCC and CRC
Communication Parameters	Local Station ID: 0 to 31 Port 0 Baud Rate: 110 to 38.4K baud Port 1 Baud Rate: 110 to 19200 baud Stop Bits: 1 or 2 Data Size: 7 or 8 bits Parity: None, Even, Odd RTS Timing delays: 0 to 65535 ms

DH-485 Slave Mode

In Slave mode, the module accepts commands from one or more Masters to read/write data stored in the module's internal data memory. In this mode, the ProLinx unit is answering DH-485 commands and has the appearance of an SLC processor to the network.

DH-485 Master Mode

In Master mode, the ProLinx DH-485 driver will actively gather data from other devices on the network, controlling the read/write data transfer between the gateway and other DH-485 devices, such as SLC processors. Data transfer can be initiated and executed with the other devices without any ladder logic being required in the Rockwell Automation slave hardware.

DH485 Functioning as a Master	
Command List	Up to 100 command per master port, each fully configurable for function, slave address, register to/from addressing and word/bit count
Polling of command list	User configurable polling of commands, including disabled, continuous and on change of data (write only)

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The DH485-MCM modules are the ideal solution for the many applications where Modbus connectivity can be used to integrate a DH-485 device into a system. The DH-485 gateway is a powerful module designed with both Master and Slave support, enabling easy connection to Rockwell Automation PLCs (CLX, SLC, PLC, CPLX, and similar devices). In combination with the Modbus device support, the module provides a very powerful interface to the many Modbus devices which are in use in the industrial marketplace today. Applications for the module are found in most industries, especially Manufacturing, Oil and Gas, Electrical Power and Food Processing.

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Modbus Master/Slave

The Modbus driver provides extensive support for both the Master and the Slave implementations of the protocol. The serial port(s) on the gateway can be individually configured to support the Modbus protocol (Master or Slave, RTU or ASCII, Baud rate, etc.).

General Parameters – Modbus Protocol	
Communication parameters	Baud Rate: 110 to 115K baud Stop Bits: 1 or 2 Data Size: 7 or 8 bits Parity: None, Even, Odd RTS Timing delays: 0 to 65535 ms
Error Checking	RTU mode (binary) with CRC-16 ASCII mode with LRC error checking
Floating Point	Floating point data movement supported, including configurable support for Enron implementation
Function Codes	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 Master	
Command List	Up to 100 command per master port, each fully configurable for function, slave address, register to/from addressing and word/bit count.
Polling of command list	Configurable polling of command list, including continuous and on change of data, and dynamically user or automatic enabled.
Modbus Slave	
Node address	1 to 247 – software selectable

General Specifications

The ProLinx Communication Modules provide connectivity for two or more dissimilar network types. The modules, encased in sturdy extruded aluminum, are stand-alone DIN-rail mounted protocol gateways, providing communication between many of the most widely used protocols in industrial automation today.

Hardware Specifications

Specification	Description
Power Supply	24 VDC nominal 18 to 36 VDC allowed Positive, Negative, GND Terminals 2.5 mm screwdriver blade
Current Load	500 mA max@ 24 VDC
Operating Temperature	0 to 50°C (32 to 122°F)
Storage Temperature	–40 to 85°C (–40 to 185°F)
Relative Humidity	5 to 95% (non-condensing)
Dimensions	Standard: 5.20H x 2.07W x 4.52D in. (13.2cmH x 5.25cmW x 11.48cmD) Extended: 5.20H x 2.73W x 4.52D in. (13.2cmH x 6.934cmW x 11.48cmD)
LED Indicators	Power and Module Status Application Status Serial Port Activity LED Serial Activity and Error LED Status
Configuration Serial Port	DB-9M RS-232 only No hardware handshaking

Specification	Description
Ethernet Port (Ethernet modules only)	RJ45 Connector Link and Activity LED indicators
Application Serial Ports	RS-232/422/485 RS-232 handshaking configurable RS-422/485 screw termination included
Serial Port Isolation	2500V RMS port signal isolation per UL 1577 3000V DC min. port to ground and port to logic power isolation
Shipped with Each Unit	Mini-DIN to DB-9M serial cables 4 ft RS-232 configuration cable 2.5mm screwdriver CD (docs and Configuration utility) RS-422/485 DB-9 to Screw Terminal Adaptor (1 or 4, depending on ports)

ProSoft Configuration Builder

ProSoft Configuration Builder (PCB) provides a quick and easy way to manage module configuration files customized to meet your application needs. PCB is not only a powerful solution for new configuration files, but also allows you to import information from previously installed (known working) configurations to new projects.

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:

5102-DH485-MCM3   DH-485 to Modbus Master/Slave Gateway

Note:

The 5102-DH485-MCM3 is in a Final Sales Period of two years, effective October 14, 2008 until October 14, 2010. Thereafter, the product will continue to be supported until October 14, 2014. Recommended replacement product is the 5201-MNET-DH485 Modbus TCP/IP Client/Server to DH485 Master/Slave Communication Gateway.

For more information on the Product Retirement Program, please visit: http://www.prosoft-technology.com/products/product_retirement_program

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