Modbus Master/Slave to DF1 Master/Slave Gateway
5102-MCM4-DFCM4

This module is fully configurable, allowing any of its four serial ports to be configured as either a Master or Slave utilizing either the DF1 or Modbus Protocols. This provides a great deal of application flexibility as the module can be used as a data concentrator (when configuring all four ports for the same protocol) or the module database can be shared between the DF1 and Modbus networks to allow the module to work as a bridge between the two different protocols. 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 to DF1 Master/Slave Gateway

5102-MCM4-DFCM4

The ProLinx Modbus Master/Slave to DF1 Master/Slave Gateway creates a powerful connection between Modbus Master/Slave and DF1 Master/Slave networks and devices. This stand-alone DIN-rail mounted protocol gateway provides four serial ports, each individually configurable as a Modbus or DF1 Master or Slave.

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.

The DEM protocol driver is designed to provide a tightly integrated communications interface between other protocols of the ProLinx platform and the Honeywell DE instruments. Compatible DE devices include a large array of field devices including pressure, temperature, metering, and many other instruments.

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

DF1 Master/Slave

The DF1 Master/Slave Protocol driver provides extensive support for both Master and Slave implementations of the protocol. The serial port on the gateway is user-configurable to support the DF1 protocol (Master or Slave, Error Checking, Baud rate, etc).

General Parameters

Communication parameters	Local Station ID: 0 to 254 Ports 1 to 3 Baud Rate: 110 to 115K baud Stop Bits: 1 Data Size: 8 bits Parity: None, Even, Odd RTS Timing delays: 0 to 65535 ms
Error Checking	BCC and CRC
Miscellaneous	Full hardware handshaking control, providing radio, smart modem and Multi-drop support Floating point data supported

DF1 Master Protocol Specifications

The ports on the module can be individually configured as Master ports. When configured in master mode, the DFCM module is capable of reading and writing data to remote DF1 devices.

DF1 Master Driver

DF1 Modes	Full-Duplex – Master (Module generates commands) Half-Duplex – Polling
Command List	Up to 100 commands 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)

DF1 Slave Protocol Specifications

The ports on the module can be individually configured to support the Slave mode of the DF1 protocol. When in slave mode, the module can accept DF1 commands from a master to read/write data stored in the module's internal registers.

DF1 Slave Driver

DF1 Modes	Full Duplex – Slave (not peer mode) Half Duplex – Polled
Configurable parameters per slave port	Data Table File Start (File N[x] 0 to 999) Data Table File Size (1 to 1000 words) Data Table location in database (0 to 3999)

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	–20 to 50°C (–4 to 122°F)
Storage Temperature	–40 to 85°C (–40 to 185°F)

Specification	Description
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
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-MCM4-DFCM4   Modbus Master/Slave to DF1 Master/Slave Gateway

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

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