



IEC 60870-5-104 Server to DF1 Master/Slave Gateway

5201/5202-104S-DFCM(4)

The ProLinx IEC60870-5-104 Server to DF1 Master/Slave Gateway creates a powerful connection between devices on an IEC 104 network and DF1 devices. This stand-alone DIN-rail mounted protocol gateway provides one Ethernet port and up to four serial ports.

The 104S module accepts commands from an attached master unit on the network and generates unsolicited messages.

The DF1 protocol driver supports Master or Slave implementations of the protocol on each DF1 port. All DF1 ports are individually configurable.

IEC 60870-5-104 Server

Operating in the Server mode, the protocol driver accepts commands from an IEC-60870-5-104 Client to read/write data stored in the module's internal registers.

The 104S module acts as an input/output module between the IEC 60870-5-104 Ethernet network and many of the other serial and network protocols, as well as several proprietary interfaces.

General specifications include:

- User-definable module memory usage
- Protocol implementation conforms to the IEC 60870-5-104 specification with fully configurable parameters
- SNTP (Simple Network Time Protocol) timestamping for detailed logging of data transactions.

The 104S module accepts commands from an attached master unit on the network and generates unsolicited messages. These last sets of messages are either spontaneous or cyclic. Data transferred to the host is derived from the module's internal database. The remote master device can control data in the database and hence the devices connected using the other protocol in the module using standard control messages supported in the protocol. The remote master device uses the fully-configured databases in the module to control outputs and monitor inputs.

IEC 60870-5-104 Server

Configurable Parameters	
	Override StartDT
	Clear queue on close
	t1 timeout set value
	t2 timeout set value
	t3 timeout set value
	k (maximum queue)
	w (latest ack threshold)
	Time DB Offset

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The 104S-DFCM modules are the ideal solution for the many applications where IEC 104 Server connectivity can be used to integrate DF1 Master/Slave devices into a system. The IEC60870-5-104 Server gateway is a powerful module designed with both Client and Server support, enabling easy connection to Rockwell Automation PLCs (CLX, SLC, PLC, CPLX, and similar devices). In combination with the DF1 Master/Slave device support, the module provides a very powerful interface to the many DF1 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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All ProSoft Technology® products are backed with unlimited technical support. Contact our worldwide Technical Support team directly by phone or email:

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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:

5201-104S-DFCM	IEC 60870-5-104 Server to
5202-104S-DFCM4	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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