Wireless DF1 Master/Slave Gateway
6201-WA-DFCM

The WA-DFCM modules are the ideal solution for the many applications where wireless connectivity can be used to integrate DF1 devices into a system. Data is exchanged between devices and/or networks using a shared common database and an efficient but powerful wireless protocol. This common database provides the "backbone" communications for various field devices using different networks. Applications for the module are found in most industries, especially Manufacturing, Oil and Gas, Electrical Power and Food Processing.

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Wireless DF1 Master/Slave Gateway

6201-WA-DFCM
The ProLinx Wireless DF1 Master/Slave Gateway creates a powerful wireless connection between DF1 Slave devices.

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

The PWP modules offer one-to-one or one-to-many interconnect scenarios. Data is exchanged between devices and/or networks using a shared common database and an efficient but powerful wireless protocol. This common database provides the "backbone" communications for various field devices using different networks.

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)

ProSoft Wireless Protocol

ProSoft Wireless Protocol (PWP) offers versatility where a mix of control devices requires cooperation with each other. This involves sharing of information across the applications regardless of device or network type, often at high speed, and with high reliability. Wireless bandwidth utilization is optimized by using efficient communication methods. The protocol supports Unicast, Broadcast and Multicast group messaging. Efficiency is based on the fact each device on the "wireless" network can produce these types of messages and each device determines which of these messages to consume.

General Specifications – Radio Modules

These modules utilize a full function wireless network card, supporting RF data rates up to 11 Mbps. The modules function as a client, providing an ultra-fast wireless solution for the most demanding industrial applications.

These modules allow you to connect various field devices using different networks or protocols and share data between these devices "over-the-air." This is accomplished by exchanging shared common database information over-the-air with ProSoft Technology's efficient but powerful wireless protocol.

Specification	Description
Frequency	2.4 GHz band (2400 to 2483.5 MHz)*
Wireless medium	DSSS – Direct Sequence Spread Spectrum (802.11b)
Output power	32 mW (15 dBm)
Channel data rates	11, 5.5, 2, 1 Mbps
Channels – user selectable	1 through 11* **
Security	PWP + WEP 64/128 Encryption with WEP key rollover management
Antenna Ports	(2) RP-SMA connectors, automatic antenna diversity
Bit Error Rate (BER)	Better than 10–5

* Varies with country regulation
** Some European countries such as France allow fewer channels

Hardware Specifications

Specification	Description
Power Supply	24 VDC nominal, 18 to 36 VDC allowed. Positive, Negative, GND Terminals
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)
Relative Humidity	5 to 95% (non-condensing)

Specification	Description
Dimensions	**Standard:** 5.20H x 2.07W x 4.52D inches (13.2cmH x 5.25cmW x 11.48cmD) **Extended:** 5.20H x 2.73W x 4.52D inches (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, RF Link Status, RF Data Status
Configuration Serial Port	Mini-DIN RS-232 only No hardware handshaking
Application Serial Ports	Mini-DIN, RS-232/422/485 RS232 handshaking configurable RS422/485 screw termination included
Antenna Ports	Two RP-SMA connectors, with automatic antenna diversity.
Port Isolation	2500V Opto-Isolators 500V Power Supply Isolation
Shipped with each unit	Mini-DIN to DB-9M cables per serial port, 4 ft RS-232 configuration cable, 2.5mm screwdriver, CD (docs and Configuration utility), RS-422/485 DB9 to Screw Terminal Adaptor (1 to 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.

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