



EtherNet/IP to DNP 3.0 over Ethernet Gateway

5201-DFNT-DNPSNET

The DFNT-DNPSNET modules are the ideal solution for joining EtherNet/IP and DNP over Ethernet networks. This Ethernet to Ethernet gateway is a powerful module designed with both Client and Server support for each protocol, enabling easy connections between the dissimilar network types. The module utilizes a shared database so that the two protocols can quickly and easily transfer data between themselves. Applications for the module are found in most industries, especially Manufacturing, Oil and Gas, Electrical Power and Food Processing.

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EtherNet/IP to DNP 3.0 over Ethernet Gateway

5201-DFNT-DNPSNET

The ProLinx EtherNet/IP to DNP over Ethernet Gateway creates a powerful connection between devices on EtherNet/IP and DNP over Ethernet networks. This stand-alone DIN-rail mounted protocol gateway provides one Ethernet port.

The EtherNet/IP protocol driver supports the Explicit Messaging implementation of the protocol. User-configurable as both a Client and a Server, the EtherNet/IP port is a very powerful data transfer tool.

The ProLinx module supports the DNP 3.0 protocol as a server using the TCP and UDP protocols using service port 20000. This port is fully configurable.

EtherNet/IP

The EtherNet/IP protocol is one of the primary connectivity tools to the different Rockwell Automation platforms. The Explicit Messaging aspect of the protocol (only) has been implemented in the ProLinx units to provide the data transfer link between the ProLinx units and the Rockwell Automation hardware.

General Protocol Information

Messaging	PCCC on CIP Explicit Messaging supported
Miscellaneous	125 word read and write data lengths Floating point data supported

EtherNet/IP Server Specifications

In Server mode, the module accepts commands from one or more clients to read/write data stored in the module's internal registers.

EtherNet/IP Server Specifications

Connections	Five independent TCP server sockets permit remote clients to interact with all data contained in the module.
Data File	Data Table File Start – Fixed at N10 Data Table File Size – 100 or 1000 words
CIP Services Supported	0x4C – CIP Data Table Read 0x4D – CIP Data Table Write

EtherNet/IP Client Specifications

In Client mode, the module controls the read/write data transfer between the gateway and other EtherNet/IP devices. Data transfer can be initiated and executed without any ladder programming being required in the Rockwell Automation hardware.

EtherNet/IP Client Specifications

General	One client
Command List	Support for 100 commands, each configurable for command, IP 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).

DNP 3.0 TCP/IP Server

The DNPSNET protocol driver exists as a single service port (DNPSNET port 20000) implementation that supports a single TCP port connection and multiple UDP ports on a TCP/IP Ethernet network. The DNPSNET port operates as a server, supporting the DNP 3.0 protocol in a Level 2 implementation using the DNP User Group recommended extension for use on LAN/WAN.

General Parameters

Internal Database	Binary Inputs: 8000 points (500 words) Analog Inputs: 500 points Counters: 250 (500 words) Binary Outputs: 2000 points (125 words) Analog Outputs: 500 points
DNP Mode	DNP 3.0 Slave – Level 2

DNP Server

Service Port	20000
Protocols	TCP (1 connection) and UDP
Node address	0 to 65534 (software selectable)

The DNPSNET module accepts DNP commands to control and monitor the data stored in the DNP databases. These data are passed between the module and the other protocol on the ProLinx module.

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)
Relative Humidity	5 to 95% (non-condensing)

Specification	Description
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-DFNT-DNPSNET EtherNet/IP to DNP 3.0 over Ethernet Gateway

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