IEC 60870-5-104 Server to DNP 3.0 over Ethernet Gateway
5201-104S-DNPSNET

The 104S-DNPSNET modules are the ideal solution for the many applications where IEC 104 Server connectivity can be used to integrate DNP 3.0 DF1 Master or Slave devices into a system. The IEC60870-5-104 Server gateway is a powerful module designed with Server support, enabling easy connection to an IEC 104 master device. In combination with the DNP over Ethernet device support, the module provides a very powerful interface to the many DNP 3.0 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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IEC 60870-5-104 Server to DNP 3.0 over Ethernet Gateway

5201-104S-DNPSNET
The ProLinx IEC60870-5-104 Server to DNP 3.0 over Ethernet creates a powerful connection between devices on an IEC 104 Server network and a DNP device. The module is a stand-alone DIN rail-mounted protocol gateway that provides one Ethernet port.

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

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.

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

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)
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:

5201-104S-DNPSNET   IEC 60870-5-104 Server to DNP 3.0 over Ethernet 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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