

EtherNet/IP™ to IEC 60870-5 104 Client Gateway 5201-DFNT-104C

The ProLinX EtherNet/IP™ to IEC 60870-5-104 Client gateway creates a powerful connection between an EtherNet/IP network and IEC 104 server devices. This stand-alone DIN-rail mounted protocol gateway provides one Ethernet port.

The EtherNet/IP protocol 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 IEC 60870-5-104 client protocol implementation allows the transfer of monitored and control data to remote servers.



Features	Benefits
Powerful network integration	<ul style="list-style-type: none"> ◆ Allows movement of data between dissimilar networks using two communication protocols on one gateway ◆ Protocols share access to a common memory database to exchange data between networks ◆ View diagnostic data for both networks from a single configuration/debug port
EtherNet/IP Client and Server	<ul style="list-style-type: none"> ◆ Integrate with widely available Rockwell Automation and 3rd party products and services worldwide ◆ Client/server Explicit Messaging communication supported ◆ 5 server connections ◆ 3 client connections supporting 100 communication commands per client
IEC60870-5-104 Client	<ul style="list-style-type: none"> ◆ 4 connections for remote servers ◆ Supports up to 2 Common ASDU Addresses per server ◆ Supports monitored and control data ◆ Supports up to 500 commands to the remote servers ◆ Timestamp events are available to the other protocol through the mailbox feature

Configuration

ProSoft Configuration Builder (PCB) provides a PC-based software configuration solution for management of gateway configuration files, as well as viewing communication and network diagnostics.

PCB is not only a powerful solution for new configuration files, but also allows you to import information from previously installed (known working) configurations into new projects.

General Specifications - ProLinx

ProLinx Communication gateways provide connectivity for two or more dissimilar network types. The gateways, 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.

General Specifications – IEC 60870-5-104C

The ProLinx family EtherNet/IP to IEC 60870-5-104 Client communications module creates a powerful connection between an EtherNet/IP network and IEC 104 server devices. The module is a stand-alone DIN-rail mounted protocol gateway that provides one Ethernet port.

General Specifications - EtherNet/IP™

The EtherNet/IP™ protocol is one of the primary connectivity tools used by different Rockwell Automation® platforms.

- ◆ The Explicit Messaging aspect of the protocol has been implemented to provide asynchronous data transfer between the ProLinx gateway and Rockwell Automation hardware.
- ◆ Supported PLC Types PLC-2®, PLC-3®, PLC-5®, SLC™500, ControlLogix®, CompactLogix™, and MicroLogix™
- ◆ Messaging Types As a Client, PCCC Explicit Messaging
As a Server, PCCC or CIP Explicit Messaging
- ◆ Command Sets PLC-2/PLC-3/PLC5 Basic Command Set
PLC5 Binary Command Set
PLC5 ASCII Command Set
SLC500 Command Set

EtherNet/IP™ Server

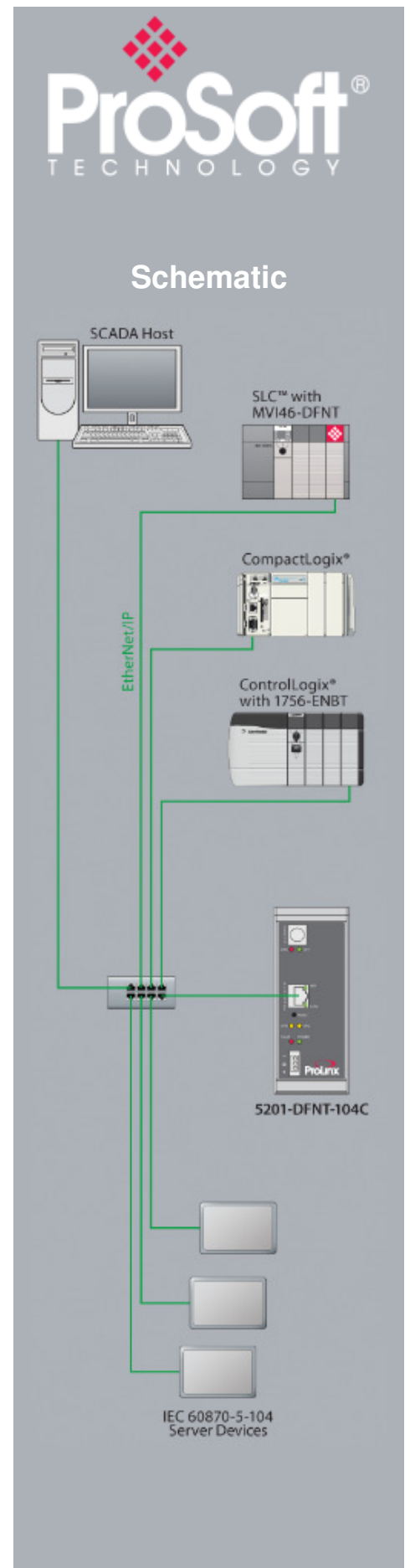
In server mode, the gateway accepts commands from one or more Clients to read/write data stored in the gateway's internal registers.

Number of Connections	5
Supported PLC Types	PLC2, PLC5, SLC and ControlLogix file types supported
Internal Database	Data Table File Size: 100 or 1000 words Data Table File Start: N10 to N109 (based on file size set to 100) or N10 to N19 (based on file set to 1000)
CIP Services Supported	0x4C - CIP Data Table Read 0x4D - CIP Data Table Write

EtherNet/IP™ Client

In Client mode, the gateway controls the read/write data transfer between the gateway and other EtherNet/IP devices.

Number of Clients Supported	1
Command List	Support for 100 commands per Client, each configurable for command type, 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).
Other Configurable Parameters	Number of Commands (up to 100 per Client) Min Command Delay Response Timeout Retry Count Command Error Pointer



Functional Specifications - IEC 60870-5-104 Client

- ◆ Operating in the Client mode, the gateway generates commands to a server device to read/write data stored in the gateway's internal registers.
- ◆ The IEC 60870-5-104 Client communication protocol is built in accordance to the approved IEC specification.
- ◆ The gateway functions as a Client on the network supporting monitored and control data from IEC 60870-5-104 servers on the network.
- ◆ The gateway supports unsolicited messages, either cyclic or spontaneous.
- ◆ The gateway supports clock synchronization commands.
- ◆ The gateway supports Group interrogation (Global, General 1 to 16, Global Counters, Counters 1-4).
- ◆ The gateway supports up to 4 Client connections.

Supported Message Types	Accepts Client Monitor and Control Messages Supports all Edition 2 Causes of Transmission	
Supported Data Types	Monitor Points: M_SP_NA M_DP_NA M_ST_NA M_BO_NA M_ME_NA, NB, NC M_IT_NA	Control Points: C_SC_NA C_DC_NA C_BO_NA C_RC_NA C_SE_NA, NB, NC
Maximum number of points (per Data Type)	1000 Points for all Supported Data Types, except 4000 total data words, maximum	
Maximum number of commands	500 commands maximum for all four clients	
Event Message Support	Timestamp events are transferred to the other protocol through the mailbox feature.	
Configurable Parameters	t1 timeout set value t2 timeout set value t3 timeout set value k (maximum queue) w (latest ack threshold)	



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Hardware Specifications

Specification	Description
Power Supply	24 Vdc nominal 18 Vdc to 32 Vdc allowed Positive, Negative, GND Terminals 2.5 mm screwdriver blade
Current Load	500 mA maximum @ 32 Vdc maximum
Operating Temperature	-4°F to 122°F (-20°C to 50°C)
Storage Temperature	-40°F to 185°F (-40°C to 85°C)
Relative Humidity	5% to 95% RH with no condensation
Dimensions (Height x Width x Depth)	Standard: 5.20 in x 2.07 in x 4.52 in (13.2 cm x 5.25 cm x 11.48 cm) Extended: 5.20 in x 2.73 in x 4.52 in (13.2 cm x 6.934 cm x 11.48 cm)
LED Indicators (On all gateways)	Power and Hardware Fault Configuration and Application Communication Status Serial Configuration Port Activity and Error
Configuration Serial Port	DB-9M RS-232 only No hardware handshaking
Ethernet Port (Ethernet protocol gateways only)	10 Base-T half-duplex RJ45 Connector Link LED and Activity LED indicators Electrical Isolation 1500 Vrms at 50 Hz to 60 Hz for 60 seconds, applied as specified in section 5.3.2 of IEC 60950: 1991 Ethernet Broadcast Storm Resiliency = less than or equal to 5000 [ARP] frames-per-second and less than or equal to 5 minutes duration
Application Serial Port(s) (Serial protocol gateways only)	RS-232/422/485 RS-232 handshaking configurable RS-422/485 DB-9 to Screw Terminal Adapter Note: The number of serial application ports depends on the gateway type, and the combination of protocols.
Serial Port Isolation	2500 Vrms port signal isolation per UL 1577 3000 Vdc min. isolation port to ground and port to logic
Shipped with Each Unit	Mini-DIN to DB-9M serial cables 4-foot RS-232 configuration cable 2.5 mm screwdriver CD (docs and configuration utility) RS-422/485 DB-9 to Screw Terminal Adapter for each serial application port (serial protocols only)

Agency Approvals and Certifications

CB Safety	
ATEX	<Ex> II 3 G Ex nA IIC T4 X -20°C ≤ Ta ≤ 50°C
CE	
cULus	For Label & User Manual: <cULus> E183151 Class I Div 2 Groups A,B,C,D T6 -30°C ≤ Ta ≤ 60°C



E183151



Additional Products

ProSoft Technology® offers a full complement of hardware and software solutions for a wide variety of industrial communication platforms.

For a complete list of products, visit our web site at:
www.prosoft-technology.com

Ordering Information

To order this product, please use the following:

EtherNet/IP™ to IEC 60870-5-104 Client Gateway

5201-DFNT-104C

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