



IEC 60870-5-104 Server to PROFIBUS DP Slave Gateway 5205-104S-PDPS

The IEC 60870-5-104 Server to PROFIBUS DP Slave Gateway creates a powerful connection between devices on an IEC 104 network and PROFIBUS DP Master devices. This stand-alone DIN-rail mounted gateway provides one PROFIBUS DP-V0 Slave DB9F port and one IEC 104 Server Ethernet port.

The 104S gateway accepts and responds to commands from a network-connected Client (Master) and can also autonomously generate unsolicited messages for cyclic or event-driven data transmission. Firmware versions 3.00 and later support a wider range of IEC 60870-5-104 Edition 2 data types and Causes of Transmission than previously offered.

The PROFIBUS Slave protocol supports the PROFIBUS DP-V0 implementation, providing powerful data transfer capability between the ProLinx gateway and a PROFIBUS DP Master. With relatively few options to adjust, the PROFIBUS DP Slave configuration is quick, simple, and easily accomplished using the provided ProSoft Configuration Builder software.



Features	Benefits
Powerful network integration	<ul style="list-style-type: none"> ◆ Move 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
IEC 60870-5-104 Server protocol interface	<ul style="list-style-type: none"> ◆ Adds an IEC 60870-5-104 Server (Slave) Input and Output link to a PROFIBUS DP network ◆ IEC 60870-5-104, Edition 2 Data Types and extended Cause of Transmission Support ◆ Advanced Event Buffer control parameters allow better data bandwidth utilization
PROFIBUS DP-V0 Slave protocol interface	<ul style="list-style-type: none"> ◆ Adds PROFIBUS DP Slave device monitoring and control to a IEC 60870-5-104 network ◆ Easy configuration - GSD file provided ◆ PROFIBUS Slave status may be stored in gateway database and retrieval by either protocol
ProSoft Configuration Builder software included	<ul style="list-style-type: none"> ◆ Graphical drag-and-drop configuration tool for simple module configuration ◆ Easy-to-use diagnostics window with menu-driven hardware and protocol diagnostics ◆ View module database contents through serial connection to a desktop PC
Backed by ProSoft Technology®	<ul style="list-style-type: none"> ◆ 20-year history of delivering high-quality, reliable solutions designed with you in mind ◆ Free, unlimited, worldwide Technical Support by phone for pre-sale, set-up, or troubleshooting support helps you get going sooner and stay running longer ◆ Three-Year Warranty ensures reliability and protects against equipment failures

Configuration

ProSoft Configuration Builder (PCB) provides a PC-based software configuration solution for quick and easy 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® Communication Gateways provide connectivity for two or more dissimilar network types. The gateways, encased in sturdy extruded aluminum, are stand-alone DIN-rail mounted solutions that provide data transfer between many of today's most widely used industrial automation protocols.

General Specifications - 104S Server

Operating in Server mode (only), the 104S protocol implementation accepts commands from an IEC-60870-5-104 Client to read data stored in or write data into the gateway's internal database memory registers. The 104S implementation is also capable of generating unsolicited messages. Unsolicited messages can be either spontaneous (event-driven) or cyclic (timing-driven) communication.

The remote Client device uses the fully-configurable gateway memory database to control outputs and monitor inputs to devices on the IEC 104 network. Changes to the gateway database can also be used to transfer monitoring and control data to devices connected to the gateway using another installed network protocol. The 104S gateway thus provides a data transfer solution between an IEC 60870-5-104 Ethernet network and other serial and Ethernet network protocols, as well as proprietary interfaces.

General specifications include:

- User-definable database memory usage, based on data types and point counts
- Protocol implementation conforms to the IEC 60870-5-104 specification with fully-configurable parameters
- SNTP (Simple Network Time Protocol) time-stamping for detailed logging of data transactions (events)

General Specifications – PROFIBUS DP Slave

The PROFIBUS DP-V0 Slave driver provides a powerful and easy-to-use interface between a PROFIBUS DP network and other networks. This slave implementation gives access to up to 244 bytes of PROFIBUS Input data and up to 244 bytes of PROFIBUS Output data, with a maximum configurable limit of 400 total data bytes. These Input and Output data areas are fixed in the ProLinx Gateway's data memory, allowing the user to monitor or manipulate this data with either of the installed gateway protocols.

Functional Specifications

IEC-60780-5-104 Server Functional Specifications

Supported Message Types	Accepts Client Monitor and Control Messages Generates Timed Data Transmission Messages Generates Event Data Transmission 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_RC_NA C_BO_NA C_SE_NA, NB & NC
Maximum number of points (per Data Type)	1000 Points for all Supported Data Types, except 50 Points for Types M_ME_NC and C_SE_NC 4000 total data words, maximum	
Event Message Support	Event Messages with or without Time Stamp Event Buffers up to 99 Events per Data Type Event Report Options: Latest Only or Multiple	
Configurable Parameters	Restricted IP Address Access List Supports "t0" Ethernet Connection Timeout Data Freeze Start and Freeze Interval Cyclic Data Transmission Time Data Type Priority Queues Data Validity Bit Checking and Timeout Control Bit Pulse On/Off Time And more...	



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PROFIBUS DP Slave Functional Specifications

GSD File	PRLX05A5.GSD Available on ProSoft Solutions DVD, or downloadable from ProSoft Technology® web site
Communication parameters	Baud Rate: 9.6 kbps to 12 Mbps
Supported I/O length	244 bytes Input data 244 bytes Output data 400 total data bytes, maximum
Supported PROFIBUS DP-V0 features	Freeze Mode Sync Mode Auto Baud Setting
Configurable Parameters	PROFIBUS Node Address: 0 to 125 Data byte swapping Action on loss of PROFIBUS connection Communication Fail Timeout Multiplier

Hardware Specifications

Specification	Description
Power Supply	24 VDC nominal 18 to 32 VDC allowed Positive, Negative, GND Terminals
Current Load	500 mA max @ 32 VDC max
Operating Temperature	-4° F to 122° F (-20° C to 50° C)
Storage Temperature	-40° F to 185° F (-40 to 85° C)
Relative Humidity	5% to 95% (without condensation)
Dimensions	Standard: 5.20 in H x 2.07 in W x 4.52 in D (13.2 cm H x 5.25 cm W x 11.48cm D) Extended: 5.20 in H x 2.73 in W x 4.52 in D (13.2 cm H x 6.934 cm W x 11.48cm D)
LED Indicators (On all gateways)	Power & Hardware Fault Configuration & 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)	10Base-T half-duplex RJ45 Connector Link and Activity LED indicators Electrical Isolation 1500 V RMS at 50 Hz to 60 Hz for 60 sec, applied as specified in IEC 60950: Section 5.3.2, 1991 Ethernet Broadcast Storm Resiliency = less than or equal to 5000 [ARP] frames-per-second for less than or equal to 5 minutes duration
Application Serial Port(s) (Serial protocol gateways only)	RS-232/422/485 RS-232 handshaking configurable Note: The number of serial application ports depends on the gateway type, and the combination of protocols.
Serial Port Isolation	2500 V RMS 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 ProSoft Solutions DVD (docs and Configuration utility) RS-422/485 DB-9 to Screw Terminal Adaptor for each serial application port (serial protocols only)

Agency Approvals & Certifications

UL/cUL	ISA 12.12.01 Class I, Div 2 Groups A, B, C, D
cUL	C22.2 No. 213-M1987



Additional Products

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

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