

DATASHEET

Distributed Network Protocol (DNP3) Gateway PLX51-DNPS

The PLX51-DNPS gateways provide intelligent routing between DNP3 (Distributed Network Protocol) and either EtherNet/IP™ or Modbus® protocols. The gateways support Ethernet and Serial communications.

PLX51-DNPS gateway is the DNP3 Outstation or Slave.

The PLX51-DNPS is configured using the ProSoft Technology PLX50 Configuration Utility. The utility can be downloaded from www.prosoft-technology.com

The PLX51-DNPS allows the user to integrate DNP3 devices over a secure link into a Logix system with minimal effort. No copying or mapping of data in the Logix controller is required as the PLX51-DNPS writes directly into Logix tags.

The PLX51-DNPS allows users to integrate the gateway into a Modbus TCP/IP or serial network. The gateway supports Modbus TCP/IP Client and Server and Modbus RTU protocols.

The PLX51-DNPS module provides DNP3 Secure Authentication 5 which enables the user to connect DNP3 devices to a Logix platform securely. The module also provides a range of diagnostics, statistics and a DNP3 traffic analyzer to assist with fault-finding.



Features

- ◆ Support DNP3 Secure v5
- ◆ Supports EtherNet/IP, Modbus Master and Slave protocols (TCP/IP and RTU)
- ◆ Supports DLR for EtherNet/IP Networks
- ◆ On board storage for 900,000 DNP3 Events
- ◆ Support for unsolicited reporting
- ◆ Disaster recovery via the microSD Card
- ◆ DNP3 Level 3 compliant

Configuration

- ◆ The PLX50 Configuration Utility software is used for configuration and troubleshooting of the module. The stand-alone configuration utility allows users to define the setup and configuration of the PLX51-DNPS gateway, connections with controllers and devices.
- ◆ The configuration utility can be downloaded from www.prosoft-technology.com

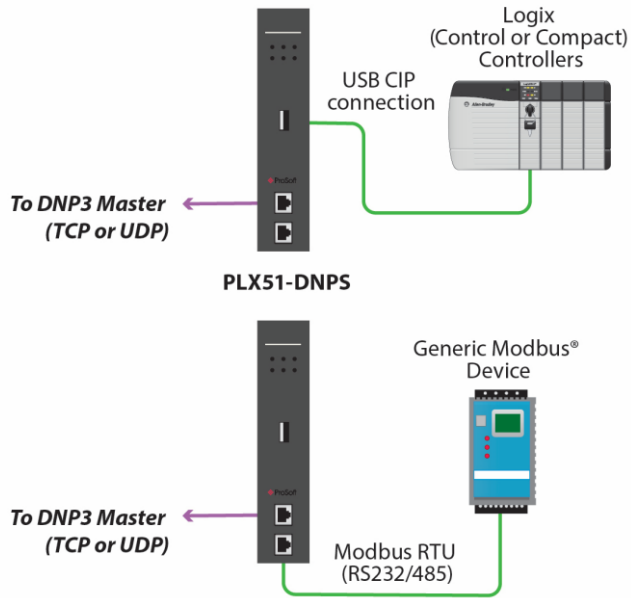


Figure 1 – Flexible connection to Programmable Automation Controllers (PACs)

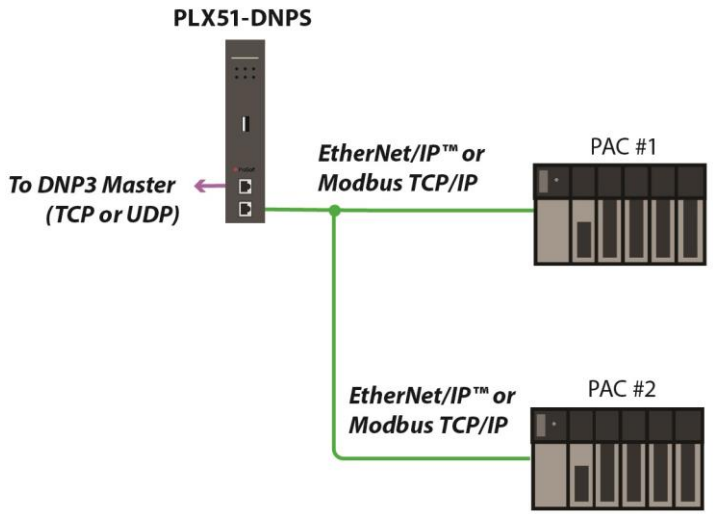


Figure 2 – A single gateway can connect to multiple PACs

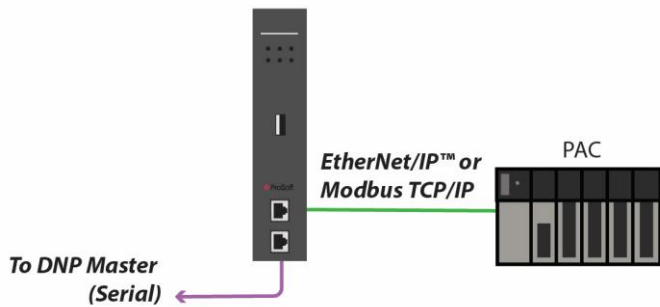


Figure 3 – PLX51-DNPS supports serial or Ethernet connection to DNP3 SCADA Master

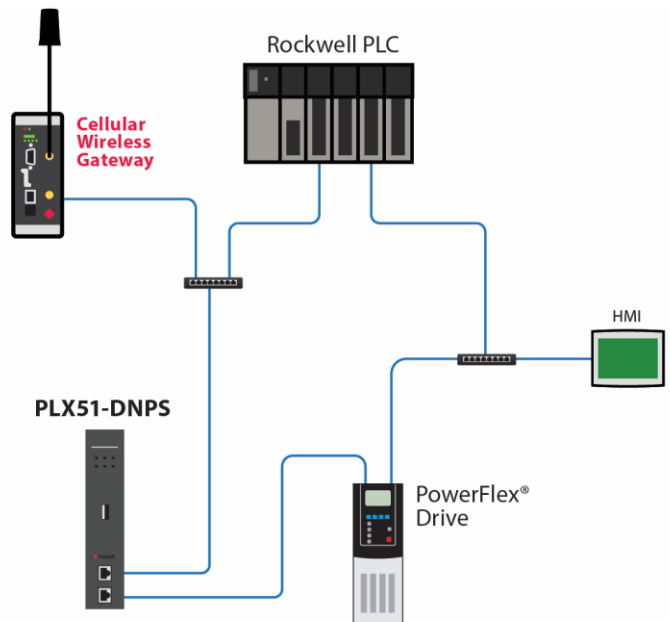


Figure 4 – PLX51-DNPS supports Device Level Ring (DLR)

Specifications

DNP3

Mode Supported	Slave
Application Functions Supported	Read Write Select Before Operate Direct-Operate Direct-Operate-No-Response Authentication Request and Response Unsolicited Response
DNP3 Secure Authentication	Yes (v5)
DNP3 Events Supported	Yes
DNP3 Class Supported	0, 1, 2, 3
DNP3 Groups and Variations	Yes (see manual and Device profile document)
DNP3 Unsolicited Responses	Yes
DNP3 Time Sync	Yes
DNP3 Objects*	Binary, 16-bit Analog, 32-bit Analog
Event Buffer	900,000 (100,000 per DNP3 Group)
DNP3 Secure Authentication**	Pre-shared key change method supported AES-128 and AES-256 Key Wrap Algorithms supported HMAC-SHA-1, HMAC-SHA-256, AES-GMAC MAC Algorithms supported Aggressive Mode supported

*Please refer to the DNP Slave Device Profile document and product manual for a full list of all supported functions.

**Please refer to the product manual for a detailed description on DNP3 Secure Authentication v5 .

EtherNet/IP

Connector	RJ45
Conductors	CAT5 STP/UTP
ARP Connections	Max 250
TCP Connections	Max 250
CIP Connections	Max 10
Communications Rate	10 / 100 Mbps
Duplex Mode	Full / Half / Auto Negotiate
Auto MDIX	Yes
Embedded Switch	Yes, 2 x Ethernet ports

Modbus

Mode	Client or Server
Connector	RJ45
Conductors	CAT5 STP/UTP
ARP Connections	Max 40
TCP Connections	Max 40
Communications Rate	10 / 100 Mbps
Duplex Mode	Full / Half / Auto Negotiate
Auto MDIX	Yes



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Physical

Enclosure Rating	IP20, NEMA/UL Open Type, DIN Rail Indoor-Use Only
Dimensions (H x W x D)	5.86 x 1.33 x 4.56 in 149 x 34 x 116 mm
Ethernet Port	(2) 10 / 100 Base-T, RJ45 connector
Serial Port	(2) RS232, RS485 (9-way terminal)
USB	(1) USB2.0, Type A Recommended USB Cable: Type-A (male) to Type-B (male)
microSD Card	Yes

Electrical

Power	Input: 10 to 32V DC, (121 mA @ 24 VDC)
Power Consumption	3.1 W (Including full load on USB of 200mA) 300 mA maximum
USB Power	5V, maximum load of 200 mA (1W)
Connector	3-way terminal
Earth connection	Yes, terminal based

Environmental

Operating Temperature	IEC 60068 -4°F to +158°F (-20°C to +70°C)
Relative Humidity	IEC 60068-30 5% to 95%, with no condensation
Altitude	<2000 m

Hardware

Earth Connection	Yes, terminal based
Emissions	IEC61000-6-4
ESD Immunity	EN 61000-4-2
Radiated Immunity	IEC 61000-4-3
EFT/B Immunity	IEC61000-4-4
Surge Immunity	IEC61000-4-5
Conducted RF Immunity	IEC 61000-4-6

Agency Approvals & Certifications

Please visit our website: www.prosoft-technology.com



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Ordering Information

To order this product, please use the following:

Distributed Network Protocol (DNP3) Gateway

PLX51-DNPS

To place an order, please contact your local ProSoft Technology distributor. For a list of ProSoft Technology distributors near you, go to: www.prosoft-technology.com and select *Where to Buy* from the menu.