DNP 3.0 Slave Communication Module

PTQ-DNPS

The ProTalk DNPS 3.0 Slave Communication Module (PTQ-DNPS) is a Quantum backplane compatible module that allows Quantum processors to interface easily with DNP 3.0 compatible devices and hosts. Devices commonly supporting the protocol include relays, breakers, sub-station Communication Modules and other serial devices most commonly associated with power monitoring.

Features and Benefits

The module supports DNP Subset Level 2 features and some of the Level 3 features allowing the many SCADA and field devices supporting the DNP protocol to be integrated into the Quantum platform. The module acts as an input/output module between the DNP network and the Modicon backplane. The data transfer from the Quantum processor is asynchronous from the actions on the DNP network. Databases are user defined and stored in the module to hold the data required by the protocol.

The PTQ-DNPS module is a powerful communication interface for Quantum platform processors. Developed under license from Schneider Electric, the module incorporates proprietary backplane technology that enables powerful data access to the Quantum processor.

General Specifications

- Single Slot - Quantum backplane compatible
- The module is recognized as an Options module and has access to PLC memory for data transfer
- Configuration data is stored in non-volatile memory in the ProTalk module
- Configuration software for Microsoft Windows XP, 2000 and NT is included with the module.
- Up to six modules can be placed in a rack
- Local rack - The module must be placed in the same rack as processor.
- Compatible with common Quantum / Unity programming tools.
  - o UnityPro XL
  - o Concept
  - o ProWORX
- Quantum data types supported: 3x, 4x
- High speed data transfer across backplane provides quick data update times.
- Sample ladder file available.

DNP 3.0 Slave Communication Module
PTQ-DNPS

The PTQ-DNPS module is the ideal solution for many applications where DNP 3.0 Slave protocol connectivity must be added to a Quantum system.

The DNPS solution is designed to address the expanding interest in the DNP 3.0 protocol. The protocol was developed for the Power Utility industry and is recommended by the IEEE for RTU-IED communication applications. Additional industrial applications are quickly arising in the Water/Wastewater and Oil and Gas industries.

How to Contact Us: Sales and Support

All ProSoft Technology® products are backed with unlimited technical support. Contact our worldwide Technical Support team directly by phone or email:

Asia Pacific
+603.7724.2080, asiapc@prosoft-technology.com
Languages spoken include: Chinese, Japanese, English

Europe - Middle East - Africa
+33 (0) 5.34.36.87.20, support.EMEA@prosoft-technology.com
Languages spoken include: French, English

North America
+1.661.716.5100, support@prosoft-technology.com
Languages spoken include: English, Spanish

Latin America (Sales only)
+1.281.298.9109, latinam@prosoft-technology.com
Languages spoken include: Spanish, English

Brasil
+55-11.5084.5178, eduardo@prosoft-technology.com
Languages spoken include: Portuguese, English

ProTalk®

Hardware Specifications

Specification	Value
Backplane Current Load	800 mA @ 5 V
Operating Temperature	0 to 60°C (32 to 140°F)
Storage Temperature	-40 to 85°C (-40 to 185°F)
Relative Humidity	5% to 95% (non-condensing)
Vibration	Sine vibration 4-100 Hz in each of the 3 orthogonal axes
Shock	30G, 11 mSec. in each of the 3 orthogonal axes
Dimensions (HxWxD), Approx.	250 x 103.85 x 40.34 mm 9.84 x 4.09 x 1.59 in
LED Indicators	Module Status Backplane Transfer Status Serial Port Activity Serial Activity and Error Status
Debug/Configuration Port (Debug)	
CFG Port (DEBUG)	DB-9M PC Compatible RS-232 only No hardware handshaking
Application Ports	
Application Serial Ports (PRT1, PRT2)	DB-9M PC Compatible RS-232/422/485 jumper selectable RS-422/485 screw termination included RS-232 handshaking configurable 500V Optical isolation from backplane
Certifications	cULus, ATEX, CE

Functional Specifications

The PTQ-DNPS module supports the DNP 3.0 protocol with a minimum of Level 2 functionality. DNP protocol Subset Definitions for the Slave drivers are available in the module's User Manual.

The module has two DNP protocol ports that can be user configured to operate in a Slave/Slave redundant port configuration.

The module has 4000 words of user defined internal register space that are accessible to the protocol driver and to the Quantum processor memory.

Redundant Slave Port Operation

When configured in the Slave/Slave port configuration, the module's slave ports operate in a primary and secondary fashion. In this mode, a single host polls the module via redundant physical layer connections. Several methods are supported to automatically switch between the primary and secondary slave ports.

DNP 3.0 Slave Protocol Specifications

The DNP Slave port(s) accepts DNP commands to control and monitor data stored in the module's DNP Slave databases.

- Report-by-Exception data is logged to the module's database
- Supports unsolicited messaging
- Each DNP point type is user configurable by point

- Total point counts must be configured so that Class 0 responses do not exceed 2048 bytes in size
- Class assignments are completely user-definable on a Type and point basis (BI, AI, FI, DI point types)
- The analog inputs are class and deadband configurable on a point basis for all formats (integer, float, double float)
- Supports clock synchronization from a master or from the Quantum
- Support for four octet-strings are supported (object type 110) in the slave driver to return version and other module information
- Up to 400 events are stored for Floats, Binary In, Analog In and Double Inputs
- In addition to the module generated events, AI and BI events can be generated in the Quantum and transferred to the module (useful with external timestamping hardware)
- Configurable event buffer transmission threshold based on count and/or time since last event transmission
- Collision avoidance algorithm per DNP organization for redundant port switching (redundant slave mode)
- Special modem AT command string and timing support for dialing out on redundant port (redundant slave mode)

Additional Products

ProSoft Technology offers a full complement of hardware and software solutions for a wide variety of industrial communication platforms. Compatible products in the ProTalk product line also include:

DNP 3.0 Master/Slave Communication Module (PTQ-DNP)

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:

PTQ-DNPS   DNP 3.0 Slave Communication Module

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

Distributors:
Place your order by email or fax to:

North American / Latin American / Asia Pacific
orders@prosoft-technology.com,
fax to +1 661.716.5101

Europe
europe@prosoft-technology.com,
fax to +33 (0) 5.61.78.40.52