

## DNP 3.0 Master/Slave Network Interface Module with Quality Flag for Quantum PTQ-DNPQ

The PTQ DNP 3.0 Master/Slave Communication Module is a single slot, backplane compatible DNP 3.0 interface solution for the platform. This module provides highly configurable support of both DNP 3.0 Master and Slave implementations (level 2 minimum), allowing the many SCADA and field devices supporting the DNP protocol to be integrated into the powerful platform. 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 platform. The module acts as an input/output module between the DNP network and the backplane. The data transfer from the 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.



### Features

### Benefits

Asynchronous Data Transfer	<ul style="list-style-type: none"> <li>◆ 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.</li> </ul>
Licensed Backplane Technology	<ul style="list-style-type: none"> <li>◆ The PTQ-DNPQ 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.</li> </ul>
Backed by ProSoft Technology <sup>®</sup>	<ul style="list-style-type: none"> <li>◆ Industrial data communications experts who understand your protocols, devices, and applications</li> <li>◆ Three year standard warranty</li> </ul>

## Configuration

ProSoft Configuration Builder (PCB) provides a PC-based software configuration solution for quick and easy management of module 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

- 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
- 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 all common Quantum programming packages, including Concept (version 2.6 or higher), Unity Pro (version 2.2 or higher), ProWORX (version 2.20 or later), and ModSoft
- Quantum data types supported: 0x, 1x, 3x, 4x
- High speed data transfer across backplane provides quick data update times
- Does not currently support Hot-Standby processors or applications

## Functional Specifications

The module has two DNP protocol ports that can be configured to operate in a Master/Slave or Slave/Slave redundant port configuration. User defined internal register space is 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.

### DNP 3.0 Slave Protocol Specifications

The DNP Slave port accepts DNP commands to control and monitor data stored in the module's DNP Slave databases. If a DNP Master port is configured, a portion of the slave databases can be derived from or can control IED devices connected to the DNP master port.

- Report-by-Exception data is logged to the module's database
- Supports unsolicited messaging
- Each DNP point type is user configurable by point
- Class assignments are completely user-definable on a Type and point basis (BI, AI, FI, DI point types)
- Supports clock synchronization from a master or from the processor
- 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
- Configurable event buffer transmission threshold based on count and/or time since last event transmission
- Collision avoidance for redundant port switching
- Special modem AT command string and timing support for dialing out on redundant port

### DNP 3.0 Master Protocol Specifications

The DNP 3.0 Master port can be configured as a virtual DNP Master device that actively issues user-defined DNP commands to nodes on the network.

- Supports 300 user defined commands
- Master port logically supports up to 40 slave devices
- Individual command configuration includes conditional or continuous polling, Poll Delay Time
- Slave status and Command status available for transfer to the processor
- Event data received from the slave devices updates the module database (Date and Time stamping is not stored or used by module)
- Special command handling for Digital Output CROB under processor control for pulse output control
- Supports Report-by-Exception and Unsolicited Responses on a Time Interval basis or on a user determined Event Count basis. Analog and Binary input points are supported

### DNP 3.0 ports (PRT1 & PRT2)

- User-definable module memory usage
- Full radio, modem and multi-drop support
- Support for the storage and transfer of all DNP data types across the backplane



## 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](http://www.prosoft-technology.com)

## Ordering Information

To order this product, please use the following:

## DNP 3.0 Master/Slave Network Interface Module with Quality Flag for Quantum

PTQ-DNPQ

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](http://www.prosoft-technology.com) and select Distributors from the menu.

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Specifications subject to change without notice.

## Hardware Specifications

Specification	Value
Backplane Current Load	1100 mA maximum @ 5 Vdc $\pm$ 5%
Operating Temperature	0°C to 60°C (32°F to 140°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Relative Humidity	5% to 95% (without condensation)
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
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### 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
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## Agency Approvals & Certifications

CSA/cUL	C22.2 No. 213-1987
CSA CB Certified	IEC61010
ATEX	EN60079-0 Category 3, Zone 2 EN60079-15



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