



DeviceNet Scanner/Slave Module

PTQ-DNET

The DeviceNet network is based on the producer consumer network model allowing for real-time control data exchange, configuration capabilities exclusive from control performance, and collection of data at regular intervals or based on-demand. Industries using DeviceNet:

- Water/Wastewater
- Factory Automation applications
- Automotive
- Food Processing/packaging
- Conveyors
- Other high speed applications

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:

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DeviceNet Scanner / Slave Module

PTQ-DNET

The DeviceNet Scanner/Slave Module is an interface between DeviceNet slave devices and a Schneider Electric Quantum platform processor.

DeviceNet is a low-level network that provides connections between simple industrial devices (sensors, actuators) and higher-level devices (controllers). DeviceNet is based on the Common Industrial Protocol (CIP) and shares all the common aspects of CIP with adaptations to fit the message frame size of DeviceNet.

The DeviceNet Scanner/Slave supports complete specifications according to CAN bus and ISO 11898 standards and the Common Industrial Protocol (CIP) for the upper layers of their network protocol.

Features and Benefits

- Allows connection for a single DeviceNet network
- Connect up to 63 slave devices
- Supports either Scanner or Slave modes
- Supports Auto Device Replacement (ADR); consists of Node Recovery and Configuration Recovery
 - Node Recovery - this feature causes the node number of the replacement device to be automatically changed to the node number of the original device. The replacement device's node number must be writable over the DeviceNet network and must initially be set to 63
 - Configuration Recovery - this feature causes the replacement device's configuration to be made identical to the original device. The replacement device's configuration must be writable over the DeviceNet network. Configuration Recovery files are stored in the master scanner that is communicating with the original device through RSNetWorx for DeviceNet
- Provides processor module status and access to scanner network diagnostic tables such as node idle, node status, and node fault information
- Acts as an I/O data server for explicit peer-to-peer messaging
- DeviceNet bandwidth can be saved by not transferring I/O values unless a change-of-state (COS) has occurred
- DeviceNet transfer of I/O data can be scheduled (cyclic data)

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
- Rockwell Automation's RSNetWorx for DeviceNet Configuration Software is supported. (Available from ProSoft Technology as Part Number PSW-RSNetWorx-DNET)

- 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.
- Quantum data types supported: 0x, 1x, 3x, 4x
- High speed data transfer across backplane provides quick data update times.
- Sample function blocks available.

Hardware Specifications

Specification	Value
Power Consumption	DeviceNet Current Load: 50 mA (max.) Backplane Current Load: 0.8A @ 5V dc max.
Communication Rates	125 Kbits/s, 250 Kbits/s, 500 Kbits/s
Messaging Capabilities	Master: Poll, strobe, COS, or cyclic Explicit: Initiate and respond
Isolation	Optical isolation between: Backplane and channel 1 1 M resistor from Channels 1 to chassis
Immunity Radiated Fields	10V/m, 27...1000 MHz
Module Location	Quantum local I/O chassis
Network Address	00 to 63
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.	270 x 30 x 170 mm (10.6 x 1.2 x 6.7 in)
Weight	0.9 kg (1.9 lb)
Certifications	UL, CE, C-Tick, CSA Class I Div 2 Hazardous

Functional Specifications

Module has been tested and certified according to ODVA guidelines to guarantee proper interoperability on a DeviceNet network.

- **DeviceNet Data:**
 - Strobe, poll, COS, or cyclic I/O data
 - Configurable data parameters include: Complete data mapping between PLC scan and I/O image tables and DeviceNet devices
 - Background poll rate
 - Strobe or poll for each node
- **PLC Processor-to-Scanner Communication**
 - Synchronous Transfer: 973 Input Words and 990 Output words, plus status and control data

- Easy-to-use drag and drop configuration view via DeviceNet Configuration Software PSW-DNET, with Ethernet to DeviceNet bridge (PSFT-1788-EN2DN)
- Unity Pro and Concept Function Blocks provided
- **Electronic Keying** allows the scanner to match device by device type, vendor, product code and major revision for I/O exchange
- **Embedded EDS** - allows the EDS to be retrieved directly from the module
- **Slave Mode** - allows the scanner to act as a slave to another scanner
- **Auto Scan** - enables the scanner to automatically generate a scan list of devices on the network
- Supports **CIP Explicit Messaging** via PLC ladder logic
- Quantum 140 CPU 311 10 not supported

Additional Products

ProSoft Technology offers a full complement of hardware and software solutions for a wide variety of industrial communication platforms. Visit our web site at <http://www.prosoft-technology.com> for a complete list of products, including:

PTQ-DFNT	EtherNet/IP Client/Server Communication Module.
PSW-RSNetWorx-DNET	RSNetWorx for DeviceNet Configuration Software (Rockwell Automation part number 9357-DNETL3)
PSFT-1788-EN2DN	Ethernet to DeviceNet bridge (PSFT-1788-EN2DN) (Rockwell Automation part number RA 1788-EN2DN)

Ordering Information

To order this product, please use the following:

PTQ-DNET	DeviceNet Scanner/Slave Communication Module
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The PTQ-DNET DeviceNet module set in scanner mode requires configuration software not included with the module but available from ProSoft Technology. Please see part number PSW-RSNetWorx-DNET and PSFT-1788-EN2DN data sheets for additional information.

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>

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