'C' Programmable Application Development Module with Ethernet

PTQ-ADMNET

The PTQ-ADMNET module is the ideal solution for the many applications where Ethernet connectivity must be added to a Quantum system.

The ADMNET solution is a powerful module designed with both Client and Server support. This broad support enables the module to function as a data collection sub-master, or to be a powerful slave as a remote off an HMI host. Applications for the module are found in most industries, especially Manufacturing, Oil and Gas, Electrical Power and Food processing.

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PTQ-ADMNET

The ProTalk Application Development Ethernet Communication Module is a Quantum backplane compatible module that allows Modicon Quantum processors to interface with protocols that support Ethernet compatible devices and hosts. Devices commonly supporting the protocol include Rockwell Automation PLCs, and host HMI systems.

Features and Benefits

The PTQ-ADMNET module acts as an input/output module between the Ethernet Explicit Messaging network, and the Quantum backplane. Data transfer from the Quantum processor is asynchronous from the actions on the Ethernet network. A 4000-word register space in the module exchanges data between the processor and the Ethernet network.

The PTQ-ADMNET 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
- 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: 3x, 4x
- High speed data transfer across backplane provides quick data update times
- Sample ladder file available

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

Specification	Value
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 LED Serial Activity and Error LED Status
Debug/Configuration Port (Debug)	
CFG Port (DEBUG)	DB-9M PC Compatible RS-232 only No hardware handshaking
Application Ports	
Application Ethernet port	RJ45 Connector Link and Activity LED indicators Electrical Isolation 1500 V rms at 50 Hz to 60 Hz for 60 s, applied as specified in section 5.3.2 of IEC 60950: 1991 Ethernet Broadcast Storm Resiliency = less than or equal to 5000 [ARP] frames-per-second and less than or equal to 5 minutes duration
Application Serial Ports	(PRT2, PRT3) 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

Functional Specifications

The PTQ-ADM API Suite allows software developers access to the top layer of the Quantum backplane and serial ports. The PTQ-ADMNET API suite accesses the Ethernet port.

Both APIs can be easily used without having detailed knowledge of the module's hardware design. The PTQ-ADMNET API Suite consists of the Ethernet Port API, which provides access to the Ethernet network. Applications for the PTQ-ADMNET module may be developed using industry-standard DOS programming tools and the appropriate API components.

The PTQ-ADMNET module has two application serial ports, which are isolated for field interfaces, and one Ethernet port.

- CFG: debug/configuration RS-232
- PRT1: Application RS-232, RS-422 or RS-485
- PRT2: Application RS-232, RS-422 or RS-485
- Ethernet Port

PRT1 and PRT2 are jumper configured for direct or multi-drop field communication. The application program can be written to control the two application ports independently, allowing maximum flexibility in the design.

General Protocol Specifications

- Allows software developers to access Quantum / Unity backplane and Serial/Ethernet ports without needing detailed knowledge of the module's hardware design
- API library functions are specified using the 'C' programming language syntax

- Supports multi-threaded applications
- Compatible compilers (16-bit DOS target)
  - o Digital Mars C++ V8.49 (included)
  - o Borland C++ V5.02

- Operating System - General software DOS 6-XL
- Flash ROM program space: 896 KB
- RAM program and data space: 640 KB
- Compact Flash socket: Up to 64 MB

ADM API Libraries

Each API provides a library of function calls. This library supports any programming language that is compatible with the Pascal calling convention.

- Initialization - Open and close the API
- Debug Port - Debug port user interface
- Database - Read and write data to database
- Timer - Start and check timers
- Backplane - Transfer data over the backplane
- LED - Set user LED indicators
- Flash - Parse configuration files
- Miscellaneous - Configure the console

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:

Generic ASCII Ethernet Interface Module (PTQ-GEC)

Visit our web site at http://www.prosoft-technology.com for a complete list of products.