



## 'C' Programmable Application Development Module

### PTQ-ADM

The PTQ-ADM module is the ideal solution where serial connectivity must be added to the Quantum platform, or where a proprietary algorithm must be protected. Applications using the ADM module include:

- Bar Code Scanner interface
- Legacy ASCII protocol connections
- Terminal Port Emulation
- Printer Driver (Alarm/Status printer)
- Customized Serial Communications

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

## 'C' Programmable Application Development Module

### PTQ-ADM

The Application Development Module is a Quantum backplane compatible module that allows user-developed 'C' applications to operate on the Quantum platform. A great way to speed up custom ASCII data communications or to protect a proprietary algorithm, the ADM is a powerful tool for the Quantum platform.

### Features and Benefits

The ADM module is a single-slot, backplane compatible solution for the Quantum platform that supports user-developed applications. 'C' code applications are developed using Digital Mars or Borland/Microsoft 16-bit development tools, downloaded to, and then debugged on the module.

The ProTalk module is a powerful platform for the Quantum family of 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	Description
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)

Specification	Description
LED Indicators	Module Status Backplane Transfer Status Serial Port Activity LED Serial Activity and Error LED Status
Configuration Serial Port (PRT1)	DB-9M PC Compatible RS-232 only No hardware handshaking
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

### Ladder Logic Requirements

For most applications, ladder logic programming is not required to accomplish data transfer. Instead, the ProTalk module takes advantage of a backplane transfer method that allows data mapping and data transfer to be controlled via configuration in the ProTalk module.

As a result, the only ladder requirements are associated with some optional module control functions (Coldboot, Warmboot, Command Control, and others)

### Functional Specifications

The PTQ ADM API Suite allows software developers to access the Quantum backplane and serial ports without needing detailed knowledge of the module's hardware design.

### Serial Port API Functions

The serial port API provides a common interface to the serial ports across all of the PTQ hardware platforms. Functions include configuring, opening, closing, controlling and monitoring the serial port, and sending and receiving serial data

### Backplane API Functions

The backplane API provides an interface to transfer data between the module and the processor over the backplane. Functions include initialization, configuration, direct I/O access, synchronization, messaging, and control of the console and LEDs.

### ADM API Functions

The ADM API provides an interface to initialize the API, control the debug port, read and write data to the database, start and check timers, transfer data over the backplane, parse configuration files, set user LED indicators, and configure the console.

## Module Specifications

### Module

- Memory Usage is completely user-configurable, supporting the storage and transfer of up to 5000 registers to/from the control processor
  - Floating-point data movement support
- Development Environment

- Operating system: General software DOS 6-XL
- Compatible compilers (16-bit DOS target)
  - Digital Mars C++ V8.49 (included)
  - Borland C++ V5.02

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