IEC 60870-5-103 Master Communication Module
PTQ-103M

The PTQ-103M IEC Master module has been designed for applications where field devices supporting the IEC 60870-5-103 protocol must communicate with a Quantum processor. These devices include breakers, relays, sub-station Communication Modules and other serial communication devices. As such, the IEC Master module is a powerful solution for applications in Water/Wastewater, Power, and in the Oil and Gas industries.

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IEC 60870-5-103 Master Communication Module

PTQ-103M

The IEC 60870-5-103 Master Communication Module allows Quantum backplane I/O compatible processors to interface easily with IEC 60870-5-103 compatible devices. Devices commonly supporting the protocol include relays, breakers, sub-station Communication Modules and other serial communication devices used in power monitoring.

Features and Benefits

The PTQ-103M supports up to 32 total field devices between the module's two IEC 60870-5-103 Master ports. The module's communication ports can each be independently configured, allowing two separate field networks to be implemented. The field device data is exchanged between the ProTalk module and the Quantum processor over the backplane.

The PTQ-103M 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: 0x, 1x, 3x, 4x
- High speed data transfer across backplane provides quick data update times.
- Sample function blocks available.

Hardware Specifications

Specification	Value
Backplane Current Load	800 mA @ 5 V
Operating Temperature	0 to 60°C (32 to 140°F)

Specification	Value
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-103M module supports the IEC 60870-5-103 protocol to the following specifications:

- The IEC 60870-5-103 communication driver is built in accordance to the approved IEC specification
- User-definable module memory usage
- The module has two independent master ports, each configurable via a simple configuration file
- Supports up to 32 sessions (controlled devices) between the two ports
- Supports up to five sectors (separate databases) for each session, with individual database definition for each sector
- Total of 1000 user configurable commands to control data transfer to/from devices (controlled devices)
- Supports clock synchronization from/to the processor
- Event data received from the Control Devices updates the module database (Date and Time stamping is not stored or used by module)
- Class 1 and Class 2 delay parameter are configurable for each session
- An IEC Interoperability Document for the module is available from the web site, which fully documents data types supported by the module

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.