DF1 Half/Full Duplex Master/Slave Communication Interface Module
PTQ-DFCM

The PTQ-DFCM module is the ideal solution for many applications where DF1 Master/Slave protocol connectivity must be added to a Quantum system. The PTQ-DFCM module can be found in many industrial sectors and in the following applications:

- *Foreign device data concentrator*
- *SCADA System Pipelines and offshore platforms*
- *Food processing*
- *Mining*
- *Pulp and paper*

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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DF1 Half/Full Duplex Master/Slave Communication Module

PTQ-DFCM

The DF1 Master/Slave Communication Module is a Quantum backplane compatible module that allows Modicon Quantum processors to interface easily with DF1 protocol compatible devices and hosts. Devices commonly supporting the protocol include Rockwell Automation PLCs and power monitoring equipment, as well as several other third party devices in the marketplace.

Features and Benefits

The module has two serial ports supporting the DF1 protocol, with each port user configurable to act as a Master or as a Slave. Data transfer between the module and the Quantum processor is asynchronous to the DF1 network, with the module's internal database being used to exchange data between the Quantum processor and the DF1 network.

The PTQ-DFCM 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

DF1 ports

- Full and half duplex modes supported
- CRC and BCC error checking
- Full hardware handshaking control provides radio, modem and multi-drop support
- User-definable module memory usage, supporting the storage and transfer of up to 5000 registers to/from the control processor
- Up to 125 word read and write command lengths supported
- Floating point data movement supported

DF1 Master Protocol Specifications

The ports on the DF1 module can be individually configured as Master ports. When configured in master mode, the DFCM module is capable of reading and writing data to remote DF1 devices, enabling the processor to act as a SCADA sub-master.

- Command List: Up to 100 commands per Master port, each fully-configurable for function, slave address, register to/from addressing and word/byte count
- Status Data: Error codes available on an individual command basis. In addition, a slave status list is maintained per active master port

- Polling of Command List: User-configurable polling of commands, including disabled, continuous, and on change of data (write only)

DF1 Slave Protocol Specifications

The module accepts DF1 commands from an attached DF1 master unit. When in slave mode, the module can accept DF1 commands from a master to read/write data stored in the module's internal registers. This data can be derived from other DF1 slave devices on the network through a master port or from the processor and is easily transferred to the processor's data registers.

Tested Hardware Connections

Several hardware connections have been tested by ProSoft Technology or have been customer field tested. The following physical connections have been tested successfully:

- RA Panel view (Full Duplex point-point, DFCM as slave)
- RA Processors (Full/Half duplex, DFCM as either master or slave)
- RA Power Monitors (485 Half-Duplex DFCM as Master)

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.

Ordering Information

To order this product, please use the following:

PTQ-DFCM   DF1 Half/Full Duplex Master/Slave Communication Interface Module

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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