Measurement Canada approval No. AG-0545C (gas flow measurement)

Class 1, Division 2, Groups A, B, C, and D Hazardous Locations.

Liquid and Gas Flow Computer

PTQ-AFC

The PTQ-AFC module is the ideal solution for the many applications where hydrocarbon flow and SCADA communication must be added to the Quantum platform.

Applications using the PTQ-AFC module can be found mainly in the oil and gas industrial sectors.

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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Liquid and Gas Flow Computer

PTQ-AFC

The Liquid & Gas Flow Computer Module is a Quantum backplane compatible module that allows Quantum processors to easily support flow applications with 16 meter runs performing measurement of hydrocarbon gases or liquids using AGA 3, 7, 8 and API 2540 measurement standards.

Features and Benefits

The PTQ-AFC is an in-rack Liquid & Gas Flow Computer Module for the Quantum platform. The PTQ-AFC Flow computer module supports 16 meter channels for the measurement of hydrocarbon gases and liquids using currently accepted industry measurement standards.

The module calculates flow rates, accumulated volumes, accumulated mass and accumulated energy (heating value). The calculation results are transferred back to the Processor memory for use in the application ladder program or for transfer back to a SCADA host.

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
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
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

Functional Specifications

The AFC module operates as a powerful flow computer module, augmenting the operation of the Quantum processor by providing a dedicated and accurate set of flow calculations; the results of which are easily available to process monitoring and control applications developed in the Quantum.

The module is highly configurable, allowing each of the 16 meter runs to be individually set up to meet the specific requirements of an application. Some of the configurable parameters include:

Configurable options

- Gas analysis concentrations for any or all 21 components
- Up to 4 separately totalized product streams per meter, dynamically switchable by the processor
- Physical data for all meter runs including orifice and pipe diameters, selection of type of taps and tap location
- Reference pressure, temperature and local atmospheric conditions
- Default process and operating parameters including DP threshold for flow cutoff
- Metric or imperial units
- User selectable units for totalizers and flow rates on a per channel basis
- Resettable and non-resettable totalizers for every meter channel
- Process I/O: analog inputs (pressure, temperature, diff pressure) from analog modules and pulse inputs from pulse/frequency input modules in Quantum I/O rack
- Number of meter channels: 16 differential (AGA3) or linear (AGA7) Gas; MPMS 12.2 Liquid
- Calculation methods: AGA3-1992, AGA 7, AGA8-1992 (detail characterization method), API MPMS Ch12.2 API 2540
- Meter scan time under 1 second for all 16 channels
- Product measurement: hydrocarbon gases and liquids
- Data archiving: For each meter run, hourly for two days (48 records) and daily for one month (35 records) under default configuration, with optional extended archives up to 1440 hourly (60 days) and 1440 daily. Archive size and contents are fully configurable. All archived data is available in the onboard Modbus memory.
- Event log report for all security sensitive configuration data (for example, orifice diameter) are date and time stamped and mapped to the local Modbus memory map. This data can be imported into any spreadsheet program and saved to disk or printed as hard copy

Modbus interface

- The two Modbus slave ports allow the unit to be used as a SCADA interface and to broaden access to the AFC module's data table
- Either port may be configured for RTU or ASCII Modbus mode
- Modbus table may be re-mapped for user assigned contiguous register polling from a SCADA master (up to 20,000 registers)
- Port 3 can be configured as a Modbus Master port to poll data from a remote chromatograph device

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-AFC	Liquid and Gas Flow Computer

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

Distributors:
Place your order by email or fax to:

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