Dataforth Announces Cutting-Edge Industrial Data Acquisition & Control System

The new MAQ®20 Industrial Data Acquisition and Control System now available from Dataforth Corporation of Tucson, Arizona, incorporates more than 25 years of the company's design excellence and quality in the process control industry. This high performance, highly flexible system was developed for a wide range of applications including factory and process automation, machine automation, military and aerospace, power and energy, oil and gas, and environmental monitoring.

The initial MAQ®20 system offering is a family of DIN rail mounted, programmable, multi-channel, industrially rugged signal conditioning input and output modules and communication modules. Modules mount on the industry standard 35x7.5mm gull-wing DIN rail; a backbone mounts within the rail to provide power and communication interconnections between the communication modules and each I/O module.

"The MAQ®20 system offers the lowest cost per channel and is so powerful, flexible, and compact," says Robert Smith, VP of Sales and Marketing. "Just one communication module can interface to up to 24 input and output modules to create a system with as many as 384 channels that fits within a standard 19" instrumentation rack!"

Each I/O module has a 1500Vrms isolation barrier between the field-side and system-side wiring while some models offer per-channel isolation. All field wiring terminals are heavily protected against overload and accidental connection of incorrect signals, as well as ESD.

Processors within each module make this distributed system extremely powerful.

The system includes:

- Communication Modules: Offered in two models covering the standard industrial buses Ethernet, RS-232, RS-485, and USB with host software interfaces to the system using Modbus TCP/IP or RTU protocol
- Analog Input Modules: Interface to a wide range of standard industrial sensors and equipment and offer up to 16 channels of input, each of which can be independently configured
    - Process Voltage, Process Current & Thermocouple Input Modules offer 8-channel differential input or 16-channel single-ended input for precise measurement of voltage and current signals; they also offer 8-channel measurement of five thermocouple types including accurate cold junction compensation and linearization. All channels are individually configurable for range, alarm limits, and averaging.
    - RTD Input Modules interface to 2- or 3-wire sensors including six RTD types and potentiometers. Modules offer six channels, each configurable for range, alarm limits, and averaging.
    - Strain Gage Input Modules connect to full bridge sensors, have narrow or wide bandwidth filtering and offer four channels, each configurable for range, alarm limits, and averaging.
    - Frequency Input Module accepts zero crossing and TTL signals with frequencies of 500Hz to 100kHz and provides a DC stimulus for contact sensors. This module has four channels, each configurable for range and alarm limits.

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- Analog Output Modules: Process Current or Voltage Output models are used to drive valves, perform other crucial process operations, and provide up to eight channels of 300Vrms channel-to-channel isolated output which can be independently configured
- Discrete Input/Output Modules: Provide five channels of input and five channels of output per module and offer advanced special functions as well as alarm capability; they accept 3 to 60VDC input and provide 3 to 60VDC output at 3A, or 90 to 280VAC/VDC input and 24 to 280VAC output, also at 3A

The System Backbone resides within the DIN rail used for module mounting and provides power to and data interface between the communication module and the I/O modules.

Key MAQ®20 features include:

- Industry's lowest cost per channel
- 1500Vrms channel-to-bus isolation
- ±0.035% accuracy
- Wide operating temperature, -40°C to +75°C
- Stability 50ppm/°C of reading typical
- Process-oriented communication
- 240Vrms continuous input protection
- ANSI/IEEE C37.90.1 transient protection
- ReDAQ® Shape monitoring & control software
- Heavy Industrial CE and ATEX Certification pending, UL Class I, Division 2, Groups A, B, C, D pending
- Burn-in Qualification 48 hours at 75ºC, powered and loaded
- Manufactured per RoHS Directive 2002/95/EC

To power the system, a 7-34VDC power source is connected to the communication module. Regulated and protected supplies within the module then provide power both to the internal circuits and to all modules in the system. When many high power I/O modules are used in a system, load-sharing power boost modules can be installed in standard I/O module slots to provide the necessary additional power.

I/O module dimensions (h x w x d) are 4.51” x 0.60” x 3.26” (114.6mm x 15.3mm x 82.8mm); the communication modules measure 4.51” x 1.11” x 3.26” (114.6mm x 28.2mm x 82.8mm).

The MAQ®20 Industrial Data Acquisition and Control System is supported by Dataforth’s ReDAQ® Shape for MAQ®20 software. This out-of-the-box software enables users to create, save, and open graphical user interface projects for test, process, data collection and data analysis applications. ReDAQ® Shape for the MAQ®20 also provides the most effective way to configure and customize MAQ®20 functions for specific application requirements. Just three easy steps are required to create data acquisition and control projects, and toolbox tools are easily moved, re-sized, cut, copied, pasted, and deleted.

About Dataforth

Dataforth was established in 1984 and is the world leader in data acquisition and control, signal conditioning and data communication products for industrial applications. Worldwide, our products provide rugged signal and data integrity and wide spectrum accuracy. All Dataforth products are manufactured in the USA and have been RoHS Compliant since 2006. The Dataforth Quality Management System is ISO9001:2008 registered.

For additional information, call 800-444-7644 toll-free or email sales@dataforth.com.