

MnACQ-2600

Miniature Network Data Acquisition and Encoding Unit

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Key Features

- Network-based data acquisition and encoding unit
- Includes Fast Ethernet 100BASE-T port for:
 - + acquisition setup and configuration
 - + SNMP status/control
 - + acquisition data transport
 - + time synchronization using IEEE 1588 time (supports 2002 and 2008)
- Plug-in modularity and expandability; accepts up to 31 plug-in signal conditioning/converter modules; able to condition most sensor/transducer types

Applications

- Flight test instrumentation
- Ethernet based network distributed systems
- System safety monitoring

Overview

The MnACQ-2600 is a miniature networked encoding unit that processes and delivers packetized data to designated network nodes.

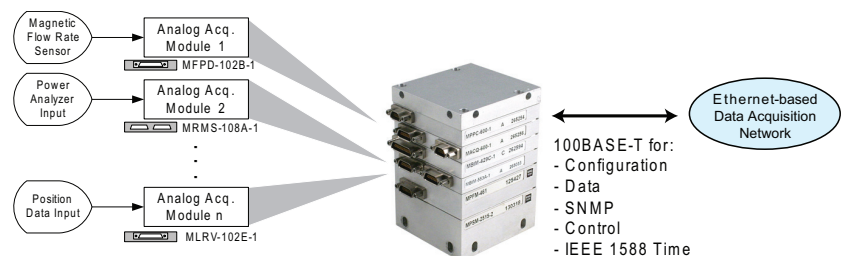
It consists of an IEEE 1588 time and Ethernet overhead module, as many as 31 signal conditioning/converter modules, a Power Architecture® processor module, a +28 VDC +/-4 VDC power supply (versions available to deliver up to 230 watts), and a supporting end plate. An advanced processor, 1 GB of DRAM memory and 256 MB of flash memory combine to provide a high performance solution in a small package.

Any of Curtiss-Wright's commercial signal conditioning/converter modules are fully compatible, including the ability to condition and encode sensor/transducer data for transmission on Ethernet. Data resolution typically ranges from 12-16 bits per word, with sample rates ranging as high as 1.25 MSPS.

The MnACQ-2600 handles an extremely wide range of sensors and transducers. This stacked arrangement of modules has a primary internal communication bus called the "R-Bus" (Remote Bus) that is used to transfer power, control, configuration, and data among the modules. Power supplies are available in configurations optimized to support a variety of combinations of modules.

Additional features

- Acquisition bandwidth up to 1.25 MSPS
- HTTP web interface for dynamic parameter adjustment
- SNMP MIB for statistics monitoring
- Available in environmentally sealed or unsealed package
- Small installation footprint
- Microsoft Windows application software included



MnACQ-2600 Block Diagram (typical module configuration shown)

Specifications

Physical

- Dimensions (W x H): 2.50" x 2.63" (63.50mm x 66.80mm)
 - + length of stack depends on the number of plug-in signal conditioning/converter modules and the type of power supply that has been installed
 - + typical length runs from approximately 5" to 18.1" (127.00mm to 459.74mm)
- Connectors: Various MDM connectors and mating connectors

Environmental

- Operating temperature: -40° to +85° C (box ambient)
- Storage temperature: -55° to +100° C
- Random vibration: 15 grms, 20 to 2,000 Hz, 10 minutes, any axis
- Acceleration: 25 g, indefinite duration, any axis
- Shock: 15 g, half-sine, 11 mS, 6 shocks, any axis
- Humidity: 5-95% RH, non-condensing
- Altitude: 0 to +70,000 ft
- EMI/EMC: Per MIL-STD-461

General

- Power supply input: +28 VDC +/- 4 VDC
- EMI filter: Provides full ohmic isolation
- Power consumption: 15 Watts to 230 Watts, depending on the number and types of modules used in the acquisition unit
- System safety: On-board voltage and temperature monitoring
- System speed: Operates at rates up to 20.0 Mbps (1.25 MSPS); actual speed is based on the kinds of plug-in signal conditioning/converter modules used in the stack

IEEE 1588 Time Support

- Operation type: IEEE 1588 2002 and 2008, slave mode
- Timing sync: < 300 nsec from nearest master node
- Internal clock: 2 PPM over temperature range; free-running function during PTP packet loss
- Time source: External IEEE 1588 grandmaster

Network Port

- Port: 100BASE-T Ethernet
- Coupling: Transformer coupled
- Data packets: Acquisition data packetized for transmission over the network fabric
- Multicast address: User may assign up to 256 addresses

Interface Port

- Serial port: RS-232/422 engineering test/debug, 1PPS signal derived from network

Ordering Information

- MnACQ-2600-30: Miniature Acquisition Unit with 30 watt power supply
- MnACQ-2600-60: Miniature Acquisition Unit with 60 watt power supply
- MnACQ-2600-230: Miniature Acquisition Unit with 230 watt power supply

Note: plug-in signal conditioning/converter modules ordered separately