

IoG

Communications Gateway

POWERFUL COMMUNICATIONS / COMPACT DESIGN



Providing the full benefits of DAQ IoE1 communications technology, the IoG remote serves as an automation gateway processor for the Callisto™ network, managing information received from intelligent electronic devices (IEDs) as well as data from other Callisto nodes. The unit features a surface mount PCB design and is housed in a clean, compact package, making it ideal for installation in confined spaces.

Operating in a stand-alone configuration or in conjunction with other Callisto nodes, the IoG supports communication with multiple master stations and offers powerful data processing applications, including programmable logic and SOE recording.

The IoG offers four on-board communication ports that are configurable as RS485 or RS232 circuits. To accommodate the need for additional ports, multiple IoG remotes may be combined within a Callisto network. A library of supported protocols enables the IoG to communicate with devices in their native language, providing an automation solution that is open in design and manufacturer independent.

KEY FEATURES

- Multi-port communications with master stations and IEDs
 - 4 serial ports
 - Flexible configurations
- Compact, stand-alone remote powered by 9-28VDC
- User-configurable automation applications, including programmable logic, file archiving, and SOE recording
- Extensive protocol library
- Open solutions approach allows simple integration of devices from multiple manufacturers
- Communication with remotely-sited satellite RTUs over modem lines, radio, fiber, packet radio, or dial-up networks
- Pass-Thru-Port (PTP) for seamless configuration of third party devices
- Local printer support for alarm logging and SOE recording
- Interface to real-time clock or global positioning system (GPS)

The Callisto IoG remote offers the renowned data management advantages of DAQ communications technology in a small, stand-alone package.

PROCESSING

Processor

- 12MHz Intel 80C188 Microcontroller
 - 8 bit data bus
 - 20 bit address bus
 - 2 DMA channels
 - Direct addressing to 1MB memory and 64KB I/O

Operating System

- Industry standard Nucleus RTX real-time, multi-tasking system
- Simple integration of user-defined applications and algorithms

Memory

- Intel 80C188
 - 128K x 8 Flash Memory (2)
 - 128K x 8 EPROM
 - 128K x 8 RAM (3)
 - 1K x 1 Serial EEPROM

Time Synchronization

- Real time clock maintains time and date during loss of power
- 12.288 MHz Crystal Oscillator
- 1ppm crystal accuracy (1ms per 15 minute interval)
- Real time synchronization for all nodes on the LAN
- Maintains 1ms time-tagging accuracy for all events on the network

ADDITIONAL SPECIFICATIONS

Power

- Input power: 9-28 VDC
- Consumption: 1.5 watts

Isolation

- Electrical interference
 - Insulation/isolation: IEC 255-5
 - High frequency disturbance: IEC 255-22-1
 - Fast transient/burst: IEC 801-4
 - Electrostatic discharge: IEC 801-2

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COMMUNICATIONS

Serial Input/Output

- 4 independent serial communications ports, individually configurable as RS232 or RS485
- Up to 19.2 kbps, individually configurable per port
- Byte or bit-oriented protocols
- Support for external modems over leased line and/or PSTN circuits
- Fiber, radio, trunked radio, and packet radio media also supported

Local Area Network

- DAQ Voyager protocol operating on Callisto standard ArcNET LAN at speeds up to 2.5 megabits per second

Configuration

- Via CallistoView software package from any Callisto host node

PROTOCOL SUPPORT

Master Station and IED

- Conitel
- DNP 3.0
- Modicon MODBus
- PMS-91
- QUICS IV
- SES-92
- Landis & Gyr 8979

Master Station

- CDC Type I and Type II
- Harris 5000/6000
- IEC 870-5 Profile 103
- PG&E 2179

IED

- Cooper 2179
- Eaton Incom
- IEC 870-5 Profile 101 (Siemens)
- JEM 1
- PSE Quad 4 Meter
- Quantum Qdip
- Schweitzer Relay Protocol (221/251/351)
- SPABUS
- Transdata Mark V Meter

In addition to the protocols listed, DAQ can also accommodate special user requirements



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