IoG3
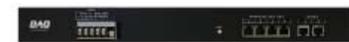
Communications Gateway
POWERFUL AND SECURE DATA MANAGEMENT

The Callisto IoG3 remote offers the data management advantages of DAQ communications technology in a stand-alone, 1U rack-mount package.

Front view of module showing LED indicator panel for serial, modem, and ethernet communications.

Rear view of module showing power connections, reset switch, and communication ports.

Providing the full benefits of DAQ IoE3 communications technology, the IoG3 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, all while adding a new layer of security to your SCADA system. Operating in a stand-alone configuration or in conjunction with other Callisto nodes, the IoG3 supports communication with multiple master stations and offers powerful data processing applications, including programmable logic and SOE recording. Built-in security features include remote authentication, secure passwords, encrypted protocols (OpenVPN, HTTPS, SSH, SFTP), firewall protection, and syslog event management. Connected to an Active Directory authentication system, the IoG3 provides logging for audits.

Housed in a 1U rack-mount enclosure, the IoG3 offers dual Gigabyte Ethernet connections and four on-board communication ports that are configurable as RS485 or RS232 circuits. A library of supported protocols enables the IoG3 to communicate with devices in their native language, providing an automation solution that is open in design and manufacturer independent.

KEY FEATURES

- 1U rack-mounted stand-alone remote powered by 120VAC, 125/48/24/12VDC
- Multi-port communications with master stations and IEDs
  - Dual Gigabit Ethernet ports
  - 4 serial ports
- Gigabit Ethernet interface supports SCADA protocols over TCP/IP
- User-configurable automation applications, including programmable logic, file archiving, and SOE recording
- Built-in USB port for event retrieval/ storage
- Extensive protocol library
- Interface to real-time clock or global positioning system (GPS)

- Secured integration to Active Directory authentication system for user management, including LDAP and SAML
- Open solutions approach allows simple integration of devices from multiple manufacturers
- Communication with remotely-sited satellite RTUs over modem lines, radio, fiber, packet radio, dial-up networks, or on-board cellular
- GPS time sync using IRIG codes
- Local printer support for alarm logging and SOE recording

DAQ
ELECTRONICS

PROCESSING

Processor
- 1000 MHz ARM Cortex A9

Operating System
- Embedded Linux

Memory
- 512 MB RAM
- 512 MB Flash

Database
- Embedded SQL Lite

Time Synchronization
- Real time clock maintains time and date during loss of power
- 1ppm crystal accuracy (1ms per 15 minute interval)
- Real time synchronization for all nodes on the system/network
- Maintains 1ms time-tagging accuracy for all events on the network

COMMUNICATIONS

Serial Input/Output
- Dual Gigabit Ehernet ports
- 4 independent serial communications ports, individually configurable as RS232 or RS485
- Up to 115200 baud, individually configurable per serial port
- Byte or bit-oriented protocols
- Support for external modems over leased line and/or PSTN circuits
- On-board cellular communication
- Fiber, radio, trunked radio, and packet radio media also supported
- Protocols operate independently per port

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

The IoG3 comes equipped with :

- DNP 3.0, IP and Secure Authentication V5
- MODBus

Additional protocols are available upon request, including:

- Conitel
- CDC Type I and Type II
- Cooper 2179
- Eaton Incom
- Harris 5000/6000
- IEC 870-5 Profile 101 and 103
- Landis & Gyr 8979
- PG&E 2179
- PMS-91
- QUICS IV
- SES-92
- Transdata Mark V Meter

DAQ can also accommodate special user requirements.

ADDITIONAL SPECIFICATIONS

Power
- Input power: 120VAC, 125/48/24/12VDC
- Consumption: 1.5 watts

Isolation
- Surge withstand: 5kV ANSI/IEEE C37.90.2002 SWC using IoE2, IoET1
- 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

Environmental
- Operating range: -20 to +70˚C
- Storage range: -20 to +70˚C
- Relative humidity: 5 to 95% non-condensing
- Vibration: 5 to 65Hz

Dimensions
- 17.4" L x 6.6" W x 1.7" H (44.2cm x 16.9cm x 4.3cm)

Packaging
- 1U rack-mount enclosure

DAQ ELECTRONICS

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