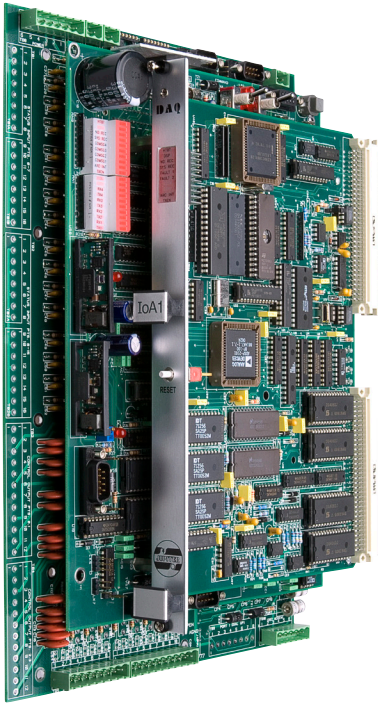


# Elara III

## Remote Terminal Unit

### VERSATILE DISTRIBUTED AUTOMATION TECHNOLOGY



*Incorporating analog and digital I/O capability, the Callisto™ Elara III remote provides a compact, cost-effective solution for complex SCADA applications*

Providing a sophisticated platform for high-speed data management and IED integration, the powerful Elara III remote incorporates analog and digital input/output capability to meet fixed point count requirements. Along with support for programmable automation applications, including centralized ladder logic, the unit offers 9 analog inputs, 16 status/alarm inputs, 8 command outputs configurable as 4 on/off pairs, and 4 serial data ports.

The remote houses on-board power supplies and an integrated termination card providing physical connections for wiring and conditioning of all I/O connections. Port configurations include RS232, RS485, Bell 202 1200-baud modem, and dial-up modem with support for both synchronous and asynchronous, byte or bit-oriented protocols. The Elara III also provides the foundation for DAQ's advanced switch control products, including the Capacitor Bank Controller (CBC), which provides time-sensitive capacitor switching by automatically correcting for line disturbance, and the Callisto™ Switch Controller (CSC), which seamlessly interfaces with off-the-shelf distribution line switches.

### KEY FEATURES

- Multi-port communications with master stations and IEDs
- Ideal for new/retrofit pole mount or distributed substation applications
- Combines the functionality of Callisto IoA1, IoC1, IoD1, and IoE1 processing modules
  - 9 analog inputs (AC or DC)
  - 8 command relay outputs, configurable as 4 on/off pairs with select-before-operate protection
  - 16 status/alarm inputs
  - 4 communications ports
- Selective extraction of IED data
- User-configurable automation applications, including programmable logic, file archiving, and SOE recording
- Extensive protocol library
- Direct 24VDC/VAC input power
- Communication with remotely-sited satellite RTUs over modem lines, radio, fiber, packet radio, or dial-up networks
- Local printer support for alarm logging and SOE recording

## MEASUREMENTS / COMMANDS

### Inputs

- 16 digital inputs, individually configured to monitor status, alarm, or Form A/C accumulator inputs
- Opto-isolation: >1.5kV input to input and input to ground
- Surge withstand: 5kV ANSI/IEEE C37.90.1989 SWC using termination module

### Outputs

- 8 command outputs, configurable as 4 on/off pairs with select-before-operate or 8 direct operate commands
- 2.2kV AC isolation: coil to contact and contact to contact (off-board relays): 1000V RMS contact to coil (on-board relays)
- Surge withstand: 5kV ANSI/IEEE C37.90.1989 SWC (off-board relays)

### Analog Calculations

- Average and RMS volts and amps
- Neutral current
- Single and three phase watts, VARS, VA, PF
- Positive, negative, and zero sequence voltages
- 0 through 15th harmonic and THD for voltage and current
- Single and three phase watt hours, VAR hours, and VA hours

## 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, synchronous or asynchronous protocols
- On-board Bell 202 and CCITT V231200 baud modem for private circuit operation
- Support for external modems over leased line and/or PSTN circuits
- Fiber, radio, trunked radio, and packet radio media also supported
- Modem isolation: 2w/4w 500V transformer isolation with 300V gas tubes in primary

### 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

## ADDITIONAL SPECIFICATIONS

### Power

- 24VDC, 48VDC, 120VDC
- 110VAC

### 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

### 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

- Standard 4-layer Double EuroCard PCBs
- 7 7/8" x 10 3/8" (200mm x 265mm)

