

Eagle Quantum™ Premier Controller

EQ300X

DESCRIPTION

The Eagle Quantum™ Premier Controller is a microprocessor based module that performs all the communication and control functions for the fire and gas system. The controller is approved as an annunciation and releasing device for fire alarm systems.

The Local Operating Network/Signaling Line Circuit (LON/SLC), through which all field devices communicate, starts and ends its loop at the Controller. The Controller continuously monitors the field devices on the LON/SLC and performs the logic functions needed to generate the appropriate output(s).

The Controller performs both static and user programmable logic operations. Static logic activates built-in annunciation circuits, consisting of both visible and audible alarms, per ANSI NFPA 72.

Programmable logic allows the Controller to be customized to perform a variety of complex logic operations. Using Det-Tronics Safety System Software (S³), the Controller can be programmed to implement any cross-zone monitoring, voting, or timed operations that might be needed in a fire suppression system.

The Controller is used in conjunction with Det-Tronics software to configure the system as well as to provide information on an ongoing basis to external systems such as PLCs and DCSs. A dedicated RS-232 serial port is provided for system configuration. The Controller also has an RS-485 port that communicates using the MODBUS RTU protocol. An optional dual media ControlNet™ board is available and provides Allen Bradley compatibility.

The Controller features an on-board audible alarm for local notification, as well as 12 LEDs for indicating system status conditions. A vacuum fluorescent text display indicates the current status of the system, including address, tag number and device status. In addition, the Controller generates the heartbeat signal that tests for LON/SLC integrity, provides time and date information to field devices, and monitors for the presence of all configured field devices.



FEATURES

- Approved annunciation and releasing device per NFPA 72
- Meets FM/CSA guidelines as an approved gas system
- Programmable logic
- Two electrically isolated serial ports
- Transformer isolation of network ports
- Utilizes MODBUS and Allen Bradley ControlNet protocols
- ControlNet interface (optional)
- Safety System Software (S³)
- Eight programmable relay outputs
- Eight digital inputs
- Enhanced display and control functions
- Four-line, 20 character alphanumeric display
- LED status indicators
- Fault tolerant communication loop
- Extensive built-in diagnostics
- Real time clock
- Supports up to 246 field devices
- FM/CSA/CE/CENELEC

SPECIFICATIONS

INPUT VOLTAGE—

24 vdc nominal, 18 to 30 vdc. 10% overvoltage will not cause damage to the equipment.

POWER REQUIREMENTS—

9 watts nominal, 12 watts maximum.

I/O PORTS—

The Controller provides two electrically isolated serial ports, which can be active simultaneously. Port 1 is a RS-232 port used for system configuration. Port 2 is a RS-485 port that supports MODBUS RTU protocol.

An optional dual media ControlNet board is available. This provides a ControlNet interface, which enables users to monitor status information as well as configure various controller parameters.

Two 78.5 kb LON/SLC ports provide the start and end of the communication loop for the detection devices. The wiring is transformer coupled for enhanced EMI immunity. The LON/SLC is monitored for ground faults.

UNSUPERVISED OUTPUTS (8 Relays)—

Dry Contact Rating: 1 ampere at 30 vdc maximum. SPDT normally open/normally closed contact, configurable for normally energized or de-energized (de-energized is the default mode).

TROUBLE OUTPUT—

SPDT normally open/normally closed contact. Non-configurable, normally energized only.

RELAY RESPONSE TIME—

Output relays actuate in <0.1 second after acknowledging an alarm command message.

UNSUPERVISED DIGITAL INPUTS (8 Channels)—
Two state input (on/off).

TEMPERATURE RANGE—

Operating: -40°F to $+185^{\circ}\text{F}$ (-40°C to $+85^{\circ}\text{C}$).
Storage: -40°F to $+185^{\circ}\text{F}$ (-40°C to $+85^{\circ}\text{C}$).
Excluding communication port optional modules.

HUMIDITY RANGE—

0 to 95% RH, non-condensing.

MOUNTING—

DIN rail or panel mount specified at the time of order.

VIBRATION—

Meets FM 3260, ANSI/ISA 12.13.01, CSA C22.2 #152, EN61779-1.

CERTIFICATION—

FM / CSA: Class I, Div. 2, Groups A, B, C, D (T4).
Class I, Zone 2, Group IIC (T4).
Performance verified.
CENELEC/CE: ATEX/EMC Directive Compliant.
Performance verified per EN 61779-4.
CE 0539 Ex II 3 G
EEx nC IIC T4
DEMKO 02 ATEX 133867U
T4 (Tamb = -40°C to $+85^{\circ}\text{C}$).

Special conditions for safe use:

The device shall be installed in an enclosure that complies with all relevant requirements of EN 50021: 1999, and provides a degree of ingress protection of at least IP54. The device may only be installed, connected or removed when the area is known to be non-hazardous.

SHIPPING WEIGHT (Approximate)—

2 pounds (0.9 kilograms).

DIMENSIONS—

See Figure 1.

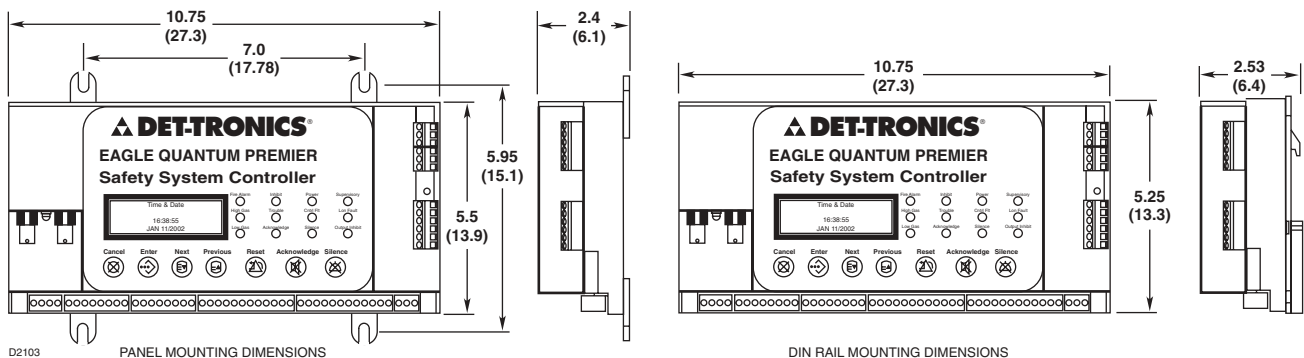


Figure 1—Dimensions of Controller in Inches (Centimeters)



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Specifications subject to change without notice.