# CERTIFICATE OF CONFORMITY

FM Approvals

1. **FIRE PROTECTION EQUIPMENT**
2. **Certificate No:** **FM24US0128**
3. **Equipment:** **Eagle Quantum Premier System**
   **(Type Reference and Name)**
4. **Name of Listing Company:** **Detector Electronics, LLC**
5. **Address of Listing Company:** **6901 West 110th St, Minneapolis, Minnesota 55438, United States of America**
6. The examination and test results are recorded in confidential report number:

   3013398 dated 20th February 2003

7. FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval Standards and other documents:

   FM 3010:2021, FM 3260:2021, FM 3600:2022, FM 3611:2021, FM 3615:2022, FM 3810:2018, ANSI/UL 864:2014

8. This certificate relates to the design, examination and testing of the products specified herein. The FM Approvals surveillance audit program has further determined that the manufacturing processes and quality control procedures in place are satisfactory to manufacture the product as examined, tested and Approved.
9. Approval Guide Listing Category:

   Automatic Releases for Extinguishing Systems and Other Fire Protection Equipment
   Automatic Releases, Preaction and Deluge Sprinkler Systems
   Local Protective Signaling, Fire
   Release Control Panel Compatibility

**Certificate issued by:**

J.E. Marquedant

**27 June 2025**

J.E. Marquedant
VP, Manager - Electrical Systems

Date

To verify the availability of the Approved product, please refer to www.approvalguide.com



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10. **Description of Equipment:**

Eagle Quantum Premier System. Programmable flame detection release and signaling control. Consists of the following.
EQ3XXX Series Controller [Main Applic. Firmware 008983-001 Rev. U, 010256-001 Rev. U or 008997-002 Rev. U (246 device versions, Redundant configuration) ; 010256-001 Rev. U (16 device versions, Redundant configuration); 010256-010 Rev. U or 008983-010 Rev. U (150 device versions, Redundant configuration) ] with signaling line circuit, Class X, {referred to as local operating network (LON)}; Approved versions: EQ3001 (005, 016, 150) D (P) N (C, D) N (S, E) A ( F, T, T-C, W, W-C) ; operates on 18 to 30 V dc; operating temperature of -40° to 176 °F (-40° to 80 °C). Uses EQ2230RSP RS485 EMI Filter, operating temperature range of -40 to 176°F (-40° to +80°C), to provide protection against field wiring transients on RS-485 ports.
Redundant and controller-to-controller configurations both use optional Serial Interface Board or Ethernet Interface Board; redundant configuration also uses EQ3LTM LON Termination Modules. The controller-to-controller configuration can use single-mode fiber optic cable meeting IEC 60793-2:2003 Category B1.3 for controller interconnection with the Moxa Technologies Co., Ltd., TCF-142-S -SC (ST) Fiber Converters which operate on 18 to 30 V dc, operating temperature of 32° to 140°F (0° to 60°C) or multimode fiber optic cable for controller interconnection with the Phoenix Contact PSI-MOS-RS485W2/FO 850 T Fiber Optic Converters (DEC P/N 000499-063) which operate on 18 to 32 V dc, operating temperature of 32° to 131°F (0° to 55°C).
The controller contains ports for optional connection to supplemental equipment, not covered by the Approval, including Operator Interface Station (OIS) using Safety System Software (S3) and Allen Bradley hardware via ControlNet and Ethernet Device Level Ring (DLR) communication protocols. The optional EQ2001 EQP Monitor (Firmware 014353-001 Rev B), versions EQ2001 D (or P) NNF, connects to the COM2 terminal of an EQ3XXX controller allowing remote access to system LON diagnostics; it provides no Approved fire protection functionality.
The EQ2220 Ground Fault Monitor (GFM), Approved versions: EQ2220 D A (W), provides ground fault monitoring in systems that use 24 Vdc input power. GFM rated input voltage range is 18 to 30 V dc; operating temperature of -40° to 185°F (-40° to 85°C).
Signaling line circuit uses following addressable devices:
EQ3700 D (P) A (F, W) Discrete Input/Output (DCIO) Module (Firmware Channel Driver 013902-002, Rev. A or 013902-003. Rev. A; LON CPU, 013903-002 Rev. A or 013903-003. Rev. A), operates on 18 to 30 V dc, operating temperature of -40° to 185°F (-40° to 85°C). EQ3700 DCIO provides 8 input/output circuits that can be configured for Class B initiating device circuits, Class B notification appliance circuits, or releasing operation.
EQ3710 D (P) A (F, T, W) Analog Input Module (AIM) (Firmware Channel Driver 013902-002, Rev. A or 013902-003. Rev. A; LON CPU, 013903-002 Rev. A) or 013903-003. Rev. A operates on 18 to 30 V dc, operating temperature of -40° to 185°F (-40° to 85°C); EQ3710AIM provides 8, supervised 4-20 mA input circuits for connection of compatible detectors.
EQ3720 D (P) A (F, W) Relay Module (Firmware 007785-002 Rev. B, 012589-001, Rev. A), operates on 18 to 30 V dc, operating temperature of -40° to 185°F (-40° to 85°C);
EQ3730 D (P) A (F, T, W) Enhanced Discrete Input/Output (EDIO) Module (Firmware Channel Driver 013902-002, Rev. A or 013902-003. Rev. A; LON CPU, 013903-002 Rev. A or 013903-003. Rev. A), operates on 18 to 30 V dc, operating temperature of -40° to 185°F (-40° to 85°C). EQ3730EDIO provides 8 input/output circuits that can be configured for Class B or Class A initiating device circuits, Class B or Class A notification appliance circuits, or releasing operation.





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EQ3730EDIO is compatible with following 2-wire detection devices: Kidde-Fenwal CPD-7054(D), PSD-7157(D), with base models: 2-Wire, 2-WRB, 2WRLT; Edwards 700 Series 711U & 721UT.
EQ3780HSDM D (P) T High Speed Deluge Module (HSDM) (Firmware 014071-001 Rev. B & 014070-001 Rev. B) operates on 18 to 30 V dc, operating temperature of -40° to 167°F (-40° to 75°C). EQ3780HSDM provides up to12 channels/circuits, six input and six output, that can be configured for Class B or Class A operation. Outputs intended for releasing operation. P/N 000128-191 Manual Disconnect Switch can be used on releasing circuits. EQ3700 DCIO, EQ3730EDIO (SIL), and EQ3780HSDM can provide 24 V dc rated releasing circuits.
EQ3750 Addressable Smoke and Heat (ASH) Module/EQ3760 Addressable Smoke (ASM) Module. EQ3750/EQ3760 D A (F, W). Firmware 010202-002 Rev. C & 010203-002 Rev. B. Operate on 18 to 30 V dc, operating temperature of -40° to 185°F (-40° to 85°C). Both provide a single Class A, Class B, or Class X signaling line circuit for use with Apollo Fire Detectors Ltd devices with XP95A, Discovery/Core protocol over Signaling Line Circuit (SLC). (Max devices ASH: 64; ASM: 100): Input/out circuits of Apollo devices 55000-765, -806, -820, -825 must be installed in conduit and not exceed 20 ft in length.
EQ24xxNE Network Extender (Firmware FT5000 P/N 715-0141-51, FW125) operates on 18 to 30 V dc, operating temperature of -40° to 167°F (-40° to 75°C) ; EQ24xxPLR Physical Layer Repeater operates on 18 to 30 V dc, operating temperature of -40° to 167°F (-40° to 75°C). Approved versions of EQ24 a b NE, EQ24 a b PLR, signaling line circuit devices have following identifiers: a: 0, 1, 5, 6; b: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9; c: blank, S.
LON Output versions of X3301xxx14 (22) xx, X3302xxx14xx Multispectrum IR Flame Detectors and X3301 (or 2)xxx34 (44)xx Flame Detectors with X7050 xWatch Camera, X2200xxx14xx UV Flame Detector, X9800xxx14xx IR Flame Detector, X5200xxx14xx UV/IR Flame Detector and X2200 (X5200, X9800) xxx34 (44)xx Flame Detectors with X7050 xWatch Camera. Model C7050B UV flame detector used with the EQ22xxUVHT electronics module. (See separate listings under Fire Detection, Flame-Actuated for additional details.)
PointWatch Eclipse (PIRECL) Infrared Hydrocarbon Gas Detector. LS2000 Open Path type detector. (See separate listings under Gas Detection Instruments for additional details).
The EQ3700, EQ3710, EQ3720, EQ3730, EQ3750, EQ3760, EQ3780, EQ2220GFM, and EQ3LTM Module are suitable for installation in hazardous (classified) indoor locations.
System operates on EQ2110PS Power Supply (LaMarche A36D-10-24V-A1), EQ2111PS Power Supply (LaMarche A36D-10-24V-5BL1), EQ2130PS Power Supply (LaMarche A36D-30-24V-ABD1), EQ2131PS Power Supply (LaMarche A36D-30-24V-5BL1), EQ2175PS Power Supply (LaMarche A36D-75-24V-ABD1), EQ2176PS Power Supply (LaMarche A36D-75-24V-5BL1), EQP2120PS(-B) Power Supply (Phoenix Contact QUINT-PS-1AC/24DC/20), EQ3900RPS (uses EQP2120PS).
The EQ2110PS / EQ2111PS, EQ2130PS / EQ2131PS, and EQ2175PS / EQ2176PS, operating temperature of 32° to 122°F (0° to 50°C), provide the system with 24 V dc power derived from 120/208/220/240 V ac, 60/50 Hz input power and provide 24 or 90 hour standby battery using batteries of maximum capacities of 100, 300, and 750 AH, respectively, with supervision via the EQ2100PSM Power Supply Monitor (Firmware 006662-013 Rev. E).
The EQP2120PS(-B) provides the system with nominal 24.5 V dc (24.5 – 28 V dc) power derived from 120/220 V ac, 60/50 Hz input power and operates in pairs, one connected to the primary supply and the other to the secondary supply source; the secondary source is separately provided and must be of adequate capacity, be continuously powered, and comply with NFPA 72 requirements as acceptable to the authority having jurisdiction. Up to 8 primary power supplies can be operated in parallel to provide increased capacity with the same number of secondary power supplies also connected. The EQP2410PS(-P) DC-DC Voltage Converter (Phoenix Contact QUINT-PS- 24DC/24DC/10) can be connected to the secondary power supply source and used with the EQP2120PS(-P). It is a dc voltage regulator that provides the system with nominal 24.5 V dc (24.5 – 28 V dc) power derived from a 24 V dc input supply. The Redundancy Module, P/N 009934-100 (-200, -003, -004) is

connected to the supply outputs. Operating temperature range for the EQP2120PS(-B), EQP2410PS(-P), and P/N 009934-100 (-200, -003, -004) is -25°C to 55°C (-13°F to 131°F).
The EQ3900RPS is an enclosure mounted combination of two EQP2120PS and a Redundancy Module with operating temperature of -4 to 122 °F (-20° to 50 °C), which provides the system with 24 V dc power derived from 120/220 V ac, 60/50 Hz input; it is subject to the same restrictions as the EQP2120PS supplies.
The EQ3800 Power Distribution Module (PDM), Approved versions: EQ3800 N A (W), provides 24 V dc power when supplied by two independent, continuously powered, nominal 24 V dc power sources acceptable to the authority having jurisdiction. PDM rated input and output voltage range is 18 to 30 V dc; operating temperature of -40° to 176°F (-40° to 80°C).
The EQ3XXX Controller, EQ3700, EQ3710, EQ3720, EQ3730, EQ3750, EQ3760, EQ3780, EQ2220GFM, EQ3LTM, and EQ3800 are installed within Det-Tronics enclosures. Combinations of the enclosures with their contained modules have EQ3900E (G, N) designations.
The EQ3900G enclosures are for use in indoor, non-hazardous locations and have a voltage range of 20.4 to 26.4 V dc and an operating temperature range of 32° to 122°F (0° to 50°C) for the enclosures and all devices installed therein. Output relays, DEC P/N's 000123-196, -197, -198, -199 are used with the EQ3900G.
The EQ3900E and EQ3770EIO enclosures have been evaluated for suitability for Class I, Div. 1 locations and the EQ3900N enclosures have been evaluated for suitability for Class I, Div. 2 locations. The EQ3900RPS has been evaluated for suitability for Class I, Div. 1 locations.
When assembled by Det-Tronics, installation can also be within other locked enclosures that are suitable for the application and acceptable to the authority having jurisdiction; such enclosures are not covered by this Approval. For further EQ3900E (G, N) and EQ3900RPS details, see the Eagle Quantum Premier listing under COMBUSTIBLE GAS DETECTORS, Fixed.
Models 000523-009, -010 are defined, enclosure mounted, EQP System configurations [operating temperature range -4°F( -20°C) to 120°F (49 °C)] that are suitable for Class I, Division 2, hazardous (classified) locations. For further details on the products herein, see the Eagle Quantum Premier listing under COMBUSTIBLE GAS DETECTORS, Fixed. Information concerning hazardous (classified) locations suitability appears in that listing; it will only appear in detail in this listing for products with no gas detection functionality.

Eagle Quantum Premier System. (See description under AUTOMATIC RELEASES FOR EXTINGUISHING SYSTEMS AND OTHER FIRE PROTECTION EQUIPMENT.)

Eagle Quantum Premier (EQP) System. Releasing circuit operation provided by EQ3700 Discrete Input/Output (DCIO) Module, EQ3730 Enhanced Discrete Input/Output (EDIO) Module, and EQ3780HSDM High Speed Deluge Module. EQ3XXX Series Controller has Class X signaling line circuit, (referred to as local operating network [LON]). EQ3730EDIO and EQ3780HSDM can be configured for Class A initiating device circuits.

Refer to the Release Control Panel Compatibility Section of the Approval Guide to determine the Release Panel Group and allowed solenoid power ratings. The EQP System Instructions Manual identifies compatible solenoid valves and installation limitations.

Power supplies EQ2110PS / EQ2111PS, EQ2130PS / EQ2131PS, and EQ2175PS / EQ2176PS use batteries of maximum capacities of 100, 300, and 750 AH, respectively, to provide 90 hours of emergency power. Power Supply EQP2120PS(-B) operates in primary/secondary pairs; EQP2410PS(-P) DC-DC Voltage Converter can

be used as secondary power supply subject to Instructions Manual limitations. Use of the EQP2120PS(-B) requires a continuously supplied source of secondary power acceptable to the authority having jurisdiction. (See also description under AUTOMATIC RELEASES FOR EXTINGUISHING SYSTEMS AND OTHER FIRE PROTECTION EQUIPMENT.)

11. **Test and Assessment Procedure and Conditions:**

    This Certificate has been issued in accordance with FM Approvals US Certification Requirements.

12. **Schedule Drawings**

    A copy of the technical documentation has been kept by FM Approvals.

13. **Certificate History**

    Details of the supplements to this certificate are described below:

| Date | Description |
|---|---|
| 19 June 2024 | Original Issue. reference RR241338 |
| 1 November 2024 | Supplement 1:<br>Report Reference: RR243442 dated 1 November 2024.<br>Description of the Change(s): correct software version of EQ3710 |
| 24 March 2025 | Supplement 2:<br>Report Reference: RR245169 dated 24 March 2025.<br>Description of the Change(s): update listing text per previous manual updates |
| 13 May 2025 | Supplement 3:<br>Report Reference: RR245538 dated 13 May 2025.<br>Description of the Change(s): Removed statement limiting initiating device circuits to 20ft and be installed in conduit. Appropriate testing was done in projects PR453875 & PR451962 Clause 4.26.2.4 and passed accordingly. |
| 27 June 2025 | Supplement 4:<br>Report Reference: RR246470 dated 27 June 2025.<br>Description of the Change(s): Added statement regarding 20 ft requirement and installing in conduit that was accidentally removed from part of listing. |





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