Flexible, Reliable, Functional Safety System

The Det-Tronics Eagle Quantum Premier (EQP) system is a configurable, distributed, intelligent safety system that is flexible enough to provide flame and/or gas detection with alarm signaling, notification, extinguishing agent release, and/or deluge operation.

System components are integrated on a reliable, fault-tolerant digital communication network. Ideally suited for harsh industrial applications, the system has extended functionality and hazardous location ratings:

Functionality:

- Addressable smoke and heat detection for living quarters and control rooms
- Device calibration data and event logging
- Programmable logic
- Editable logic diagrams resident in the controller
- Optional controller operation redundancy
- Extensive advanced diagnostics
- Safety System Solutions (S^3) software

Certificates and Approvals:

- FM certified to ANSI/NFPA 72-2010 and ANSI/NFPA 33
- FM certified to combustible and low-concentration ppm gas detection
- Loss Prevention Certification Board (LPCB) approval to EN54 and EN12094
- Multiple hazardous locations certifications
- exida/TüV certified SIL-2
- US Coast Guard type approval
- Lloyds Register of Shipping type approval

Experience at Work for You

When you choose a Det-Tronics fire and gas safety system, you receive more than a flexible, function-rich solution. Throughout your project, our systems-project personnel work with you to design and maintain a system that keeps you safe and satisfied — your safety goals become our safety goals.

Whether your application requires fire detection, gas detection, or a certified extinguishing agent release system, our advanced products and personnel provide the safety-system solution that fits your needs.

Project Management:
A project manager oversees the project schedule and communications to ensure your goals are met in a timely manner.

Project Engineering:
Our project engineers design cabinets, maintain drawings, and conduct factory acceptance testing to ensure the system functions to your specifications.

Systems Manufacturing:
Det-Tronics builds and tests your system to meet the quality standards you require.

Customer Service:
Our global service network is available around the clock to support you.

Field Service:
Factory-trained and experienced staff can visit your site to perform preventative maintenance and answer questions.

Formal Training:
At your site or ours, factory-certified trainers can deliver hands-on technical training for your operators and maintenance personnel.

Detector Electronics Corporation
6901 West 110th Street
Minneapolis MN 55438 USA

952.941.5665 or 800.765.3473 ph
952.829.8750 fax
www.det-tronics.com
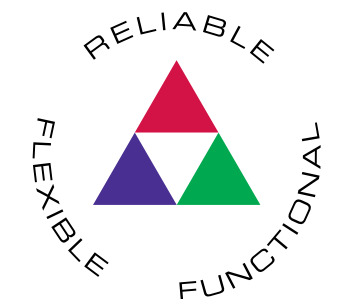det-tronics@det-tronics.com

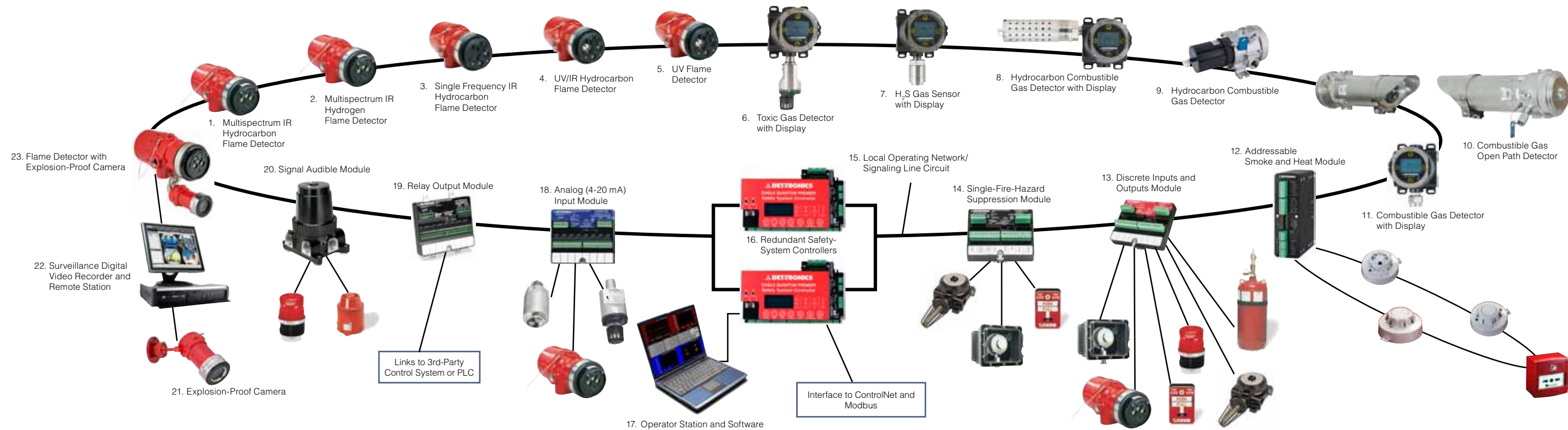92-1037-10.0

DET-TRONICS®

A UTC Fire & Security Company

Eagle Quantum Premier®
Fire and Gas Safety System

EQP

Approved for industrial process areas, living quarters, and control-room environments

RELIABLE
FLEXIBLE
FUNCTIONAL

FM APPROVED   CSA   Ex   CE

DET-TRONICS®
A UTC Fire & Security Company

A Modular Fire and Gas Safety System

1. Multispectrum IR Hydrocarbon Flame Detector
2. Multispectrum IR Hydrogen Flame Detector
3. Single Frequency IR Hydrocarbon Flame Detector
4. UV/IR Hydrocarbon Flame Detector
5. UV Flame Detector
6. Toxic Gas Detector with Display
7. H₂S Gas Sensor with Display
8. Hydrocarbon Combustible Gas Detector with Display
9. Hydrocarbon Combustible Gas Detector
10. Combustible Gas Open Path Detector
11. Combustible Gas Detector with Display
12. Addressable Smoke and Heat Module
13. Discrete Inputs and Outputs Module
14. Single-Fire-Hazard Suppression Module
15. Local Operating Network/ Signaling Line Circuit
16. Redundant Safety-System Controllers
17. Operator Station and Software
18. Analog (4-20 mA) Input Module
19. Relay Output Module
20. Signal Audible Module
21. Explosion-Proof Camera
22. Surveillance Digital Video Recorder and Remote Station
23. Flame Detector with Explosion-Proof Camera

Links to 3rd-Party Control System or PLC

Interface to ControlNet and Modbus

Flame Detection

1. **X3301 Multispectrum IR Flame Detector** – Detects hydrocarbon flames by using patented multi-spectrum processing algorithms. Has long detection range and superior false-alarm immunity. Available with HART option and SIL-2 certification.

2. **X3302 Multispectrum IR Flame Detector** – Detects hard-to-see hydrogen flames and other non-carbon-based flames. Its specialized detection in the infrared (IR) band reduces false alarms encountered with traditional detection techniques. Available with HART option.

3. **X9800 Single IR Flame Detector** – Detects IR radiation characteristics of hydrocarbon fires. Patented signal processing enables the detector to see fires while rejecting most false-alarm sources. Available with HART option.

4. **X5200 UV/IR Flame Detector** – Detects hydrocarbon fires by correlating signals from both an ultraviolet (UV) sensor and an IR sensor. Disregards UV radiation sources such as arc welding and lightning. Available with HART option.

5. **X2200 UV Flame Detector** – Responds to many types of fires quickly and reliably by detecting the UV radation emitted by most fires. Unique design renders the detector solar blind. Available with HART option.

Gas Detection

6. **GT3000 Electrochemical Gas Detector with FlexVu® Universal Display** – Reacts accurately to toxic gases. Users can change sensors while the detector is powered. Can be paired with the FlexVu Universal Display, which provides local or remote calibration, communicates using protocols such as HART and Modbus, and operates with a wide range of detectors.

7. **NTMOS Gas Sensor with FlexVu Universal Display** – Applies nanotechnology (NT) to a Metal Oxide Semiconductor (MOS) sensor to accurately detect low levels of hydrogen sulfide in under five seconds. Tolerates extremes in temperature and humidity.

8. **PIR9400 PointWatch IR Gas Detector with FlexVu Universal Display** – Provides accurate point detection of combustible hydrocarbon gases. The IR sensor measures in the lower flammable limit (LFL) range. Provides continuous self-testing and immunity to many poisons.

9. **PIRECL PointWatch Eclipse® IR Gas Detector** – Provides accurate point detection of combustible hydrocarbon gases and measures in the LFL range. In addition to providing continuous self-testing and immunity to many poisons, PIRECL is HART enabled, offers a SIL-2 option, and uses stainless steel construction for maximum strength.

10. **OPECL Open Path Eclipse IR Gas Detector** – Detects combustible hydrocarbon gas clouds in large open areas and measures in the LFL-meter range. Provides rock-solid mounting, stainless steel construction, and easy installation. Offered with HART communication.

11. **Catalytic-Bead Gas Detector with FlexVu Universal Display** – Detects hydrocarbon and non-hydrocarbon combustible gases and allows one-person, non-intrusive calibration.

Safety System Components

12. **Addressable Smoke and Heat (ASH) Module** – Provides continuous supervision of system inputs/outputs between Apollo smoke/heat detectors and the EQP controller. Enables non-classified industrial areas (living quarters and control rooms) to be monitored by the same safety and process systems that are used in the classified-hazardous areas.

13. **Enhanced Discrete I/O Module (EDIO)** – Supervises I/O. Provides eight channels that can be configured as I/O, two-wire smoke/heat detectors, Class A input, or Class A output. Available with SIL-2 certification.

14. **Intelligent Protection Module (IPM)** – Provides continuous and automated local area fire protection, while monitoring system operation through continuous supervision of its inputs/outputs.

15. **Local Operating Network/Signaling Line Circuit (LON/SLC)** – Provides a fast, fault tolerant digital network. Reliable communication is arranged as a loop that starts and ends at the EQP controller.

16. **Eagle Quantum Premier® (EQP) Controllers** – Manages, maintains, monitors, and controls loop devices. This multi-channel programmable controller has the logic needed to meet NFPA 72-2010 requirements and performs the functions of a fire and gas detection/releasing system. Available with redundancy and SIL-2 certification. Multiple communication ports: Modbus, ControlNet, and TCP/IP.

17. **Safety System Software (S3)** – Provides a user-friendly, accurate interface to configure, monitor, and maintain the safety system.

18. **Analog Input Module (AIM)** – Provides eight flexible, independent 4-20 mA input channels that can be set at combustible-gas mode or at universal mode for other 4-20 mA inputs. May be used with X-Series flame detectors.

19. **Relay Output Module** – Provides eight channels of relay output points programmed for unsupervised operation.

20. **Signal Audible Module (SAM)** – Provides two supervised circuits to control 24 Vdc polarized audible/visual indicating appliances.

Surveillance

21. **xWatch® Camera** – Presents a real-time, color image in hazardous areas.

22. **Digital Video Recorder (DVR) and Remote Station** – Provides multi-screen remote viewing, recording, configuration control, and event logging.

23. **X-Series Flame Detector with xWatch Camera** – Both the camera and the flame detector monitor the same area. An operator can view the monitored area in real time.