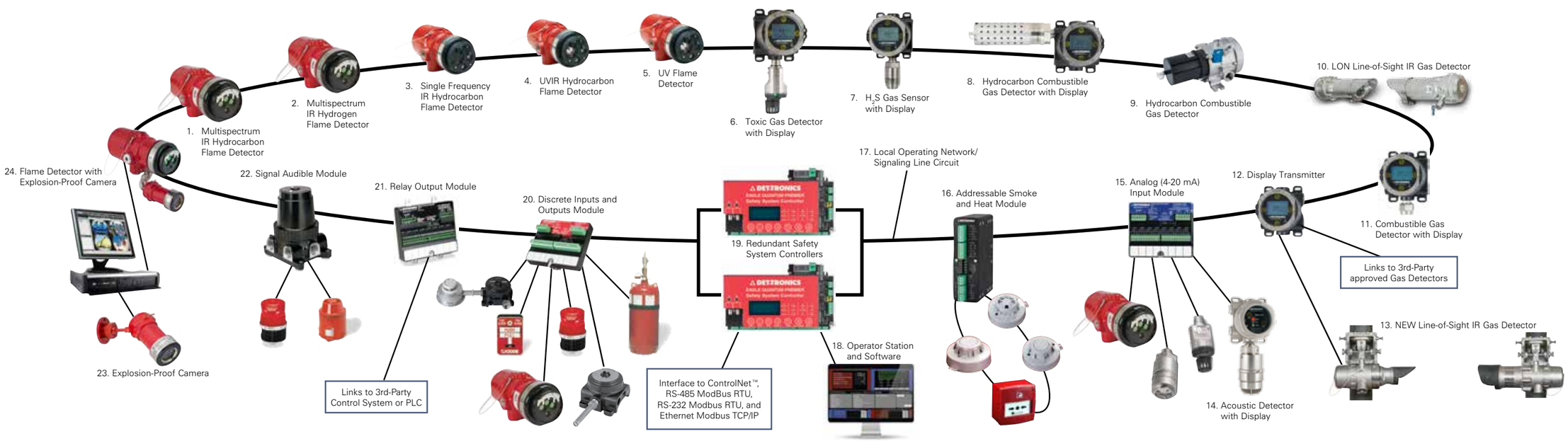
DET-TRONICS
United Technologies

Fire and Gas Safety Systems and Solutions

Certified SIL 2 Capable Solutions for Hazardous Industrial Environments

A Customizable Fire and Gas Safety System



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 and SIL 2 certification.

3. **X9800 Single Frequency IR Flame Detector**—Detects IR radiation of hydrocarbon fires. Patented signal processing enables the detector to see fires while rejecting most false-alarm sources. Available with HART option and SIL 2 certification.

4. **X5200 UVIR 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 and SIL 2 certification.

5. **X2200 UV Flame Detector**—Responds to many types of fires quickly and reliably by detecting the UV radiation emitted by most fires. Unique optical design ensures solar immunity. Available with HART option and SIL 2 certification.

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 six 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 is immune to most 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 being immune to most poisons, PIRECL is HART enable, 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. Offered with an integrated LON output interface.

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

12. **UD10-DCU Universal Display**—Can be used with various 4-20 mA gas detection devices, with or without HART. The unit provides display, output and control capabilities for the gas detector.

13. **FlexSight™ LS2000 Line-of-Sight (LOS) IR Gas Detector**—Continuously monitors for hydrocarbon gas clouds in large open areas and measures in the LFL-meter range up to 120 meters. Provides rock-solid mounting, stainless steel construction, and easy installation.

14. **FlexSonic® Acoustic Gas Leak Detector**—Monitors for the distinct ultrasound emitted by pressurized gas leaks across a wide spectrum of frequencies. Is a non-contact gas leak detector suitable for harsh outdoor applications, unmanned operations and extreme temperatures, and it is unaffected by fog, rain, and wind.

Safety System Components

15. **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 4-20 mA inputs from other gas detectors. May be used with X-Series flame detectors. Available with SIL 2 certification.

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

17. **Local Operating Network/Signaling Line Circuit (LON/SLC)**—Provides a fast, fault tolerant digital network that expands to meet future needs. Reliable communication is arranged as a loop that starts and ends at the EQP controller.

18. **Safety System Software (S³)**—Provides a user-friendly, accurate interface to configure, monitor, and maintain the safety system. Drivers available include Emerson® AMS™ and Open Platform Communications (OPC).

19. **Eagle Quantum Premier® (EQP) Safety System Controller**—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 ports/protocols that communicate with DCS, PLC and SCADA systems:
    - RS-232 Modbus RTU
    - RS-485 Modbus RTU
    - ControlNet™
    - Ethernet / Modbus TCP/IP

20. **Enhanced Discrete I/O Module (EDIO)**—Supervises I/O. Provides eight channels that can be configured as: Initiating device, Two-wire heat/smoke detection, Notification Appliance, and Releasing circuits. Supports Class A and B input and output wiring. Available with SIL 2 certification.

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

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

Surveillance

23. **xWatch® Camera**—Presents a real-time, color image in hazardous areas. Produces a high resolution color video picture using a camera module that is mounted inside an explosion-proof rated housing.

24. **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.

Comprehensive Support and Expertise

With over 40 years of systems design expertise, our dedicated project support personnel provide engineering services from the first conversation to future maintenance and support. Det-Tronics works with you from start to finish of your project and beyond.

- Project Definition
- Project Engineering
- Systems Integration
- Formal Training and Field Service

The Global Leader in Fire and Gas Safety Systems

QUALITY // PROTECTION // SOLUTION // FLEXIBLE // FUNCTIONAL // RELIABLE // EXPERIENCED // ENGINEERED // ADVANCED

FlexSonic® Acoustic Leak Detector

X3301 Multispectrum IR Flame Detector

PointWatch Eclipse® IR Combustible Gas Detector

FlexVu® Universal Display with GT3000 Toxic Gas Detector

Eagle Quantum Premier® Safety System

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Det-Tronics is certified to ISO 9001:2008 in all manufacturing processes.

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