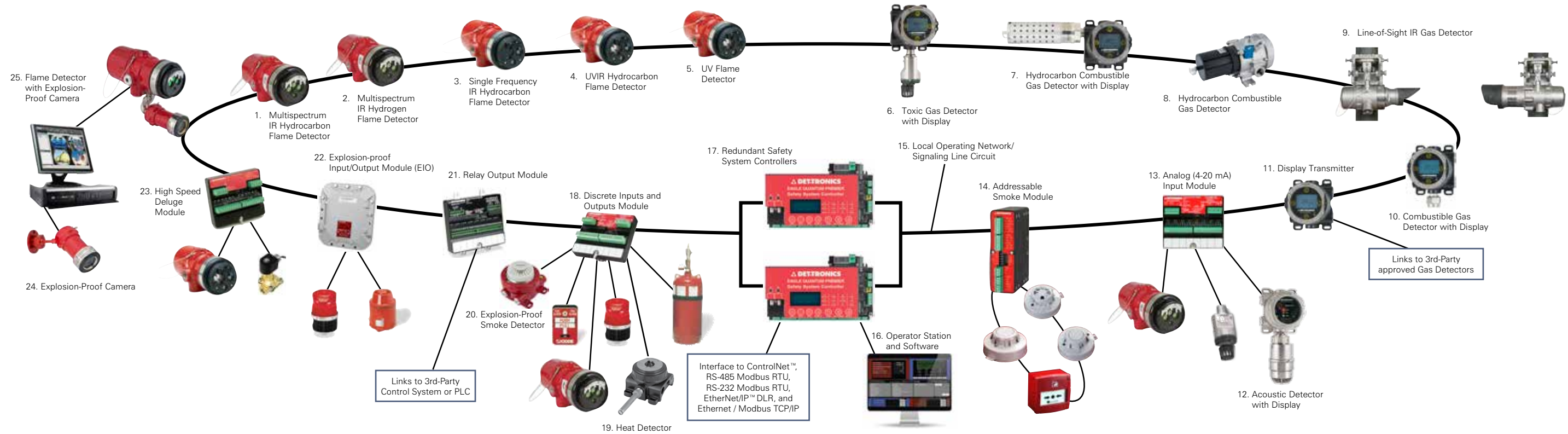# DET-TRONICS
United Technologies

Fire and Gas Safety Systems and Solutions

Certified SIL 2 Capable Solutions for Hazardous Industrial Environments

A Customizable Fire and Gas Safety System

25. Flame Detector with Explosion-Proof Camera

1. Multispectrum IR Hydrocarbon Flame Detector

2. Multispectrum IR Hydrogen Flame Detector

3. Single Frequency IR Hydrocarbon Flame Detector

4. UVIR Hydrocarbon Flame Detector

5. UV Flame Detector

6. Toxic Gas Detector with Display

7. Hydrocarbon Combustible Gas Detector with Display

8. Hydrocarbon Combustible Gas Detector

9. Line-of-Sight IR Gas Detector

10. Combustible Gas Detector with Display

11. Display Transmitter

13. Analog (4-20 mA) Input Module

14. Addressable Smoke Module

15. Local Operating Network/Signaling Line Circuit

17. Redundant Safety System Controllers

16. Operator Station and Software

18. Discrete Inputs and Outputs Module

19. Heat Detector

20. Explosion-Proof Smoke Detector

21. Relay Output Module

22. Explosion-proof Input/Output Module (EIO)

23. High Speed Deluge Module

24. Explosion-Proof Camera

12. Acoustic Detector with Display

Links to 3rd-Party approved Gas Detectors

Links to 3rd-Party Control System or PLC

Interface to ControlNet™, RS-485 Modbus RTU, RS-232 Modbus RTU, EtherNet/IP™ DLR, and Ethernet / Modbus TCP/IP

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 is certified SIL 2 capable.

2. **X3302 Multispectrum IR Flame Detector**—Detects hard-to-see hydrogen flames. Approved for hydrogen, methane, methanol and synthesis gas fires. Its specialized detection in the infrared (IR) band reduces false alarms encountered with traditional detection techniques. Available with HART option and is certified SIL 2 capable.

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 is certified SIL 2 capable.

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 is certified SIL 2 capable.

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 is certified SIL 2 capable.

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.

7. **PointWatch™ PIR9400 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.

8. **PointWatch Eclipse® PIRECL 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, the PIRECL is certified SIL 2 capable, HART enabled, and uses stainless steel construction for maximum durability.

9. **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. Offered with integrated Local Operating Network (LON) interface.

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

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

12. **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 is resistant to fog, rain, and wind.

Safety System Components

13. **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 and is certified SIL 2 capable.

14. **Addressable Smoke Module (ASM)**—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. Is certified SIL 2 capable.

15. **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.

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

17. **Eagle Quantum Premier® (EQP) Safety System Controller**—Manages, maintains, monitors, and controls loop devices. This multi-channel programmable controller is third-party approved to meet NFPA 72-2013 requirements and performs the functions of a fire and gas detection/releasing system. Available with redundancy and is certified SIL 2 capable. Multiple ports/protocols that communicate with DCS, PLC and SCADA systems:

- RS-232 Modbus RTU
- RS-485 Modbus RTU
- ControlNet™
- Ethernet / Modbus TCP/IP
- EtherNet/IP™ DLR

18. **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. Is certified SIL 2 capable.

19. **Model HD Risk Area Heat Detector**—Senses excessive heat or fire and can be used as an alarm device to warn personnel, or it can be used as a signaling device to sense fire and send a signal to an alarm panel for actuation of a fire suppression system. Is certified SIL 2 capable.

20. **Det-Tronics® SmokeWatch™ U5015 Explosion-Proof Smoke Detector**—Suitable for hazardous, industrial and commercial applications. Is a Class I Division 1, 2 and Zone 1 explosion-proof rated smoke detector.

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

22. **Explosion-proof Input/Output Module (EIO)**—Integrates EDIO, AIM and Relay Output Module for hazardous locations.

23. **High Speed Deluge Module (HSDM)**—Provides six configurable input and six configurable output channels. The HSDM is specifically designed to expand the capability of the EQP system by providing the capability to activate ultra-high-speed suppression systems for hazardous applications. The HSDM is certified SIL 2 capable.

Surveillance

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

25. **X-Series Flame Detector with xWatch® Camera**—Provides operator real time view of the monitored area. The camera and flame detector both monitor the same area.

Full Service Solutions

Our dedicated, experienced project support personnel provide services from the development of your application requirements to future maintenance and support.

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

The Global Leader in Fire and Gas Safety Systems

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

▲ Det-Tronics offices

● Representative offices

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

92-1037-12.3

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