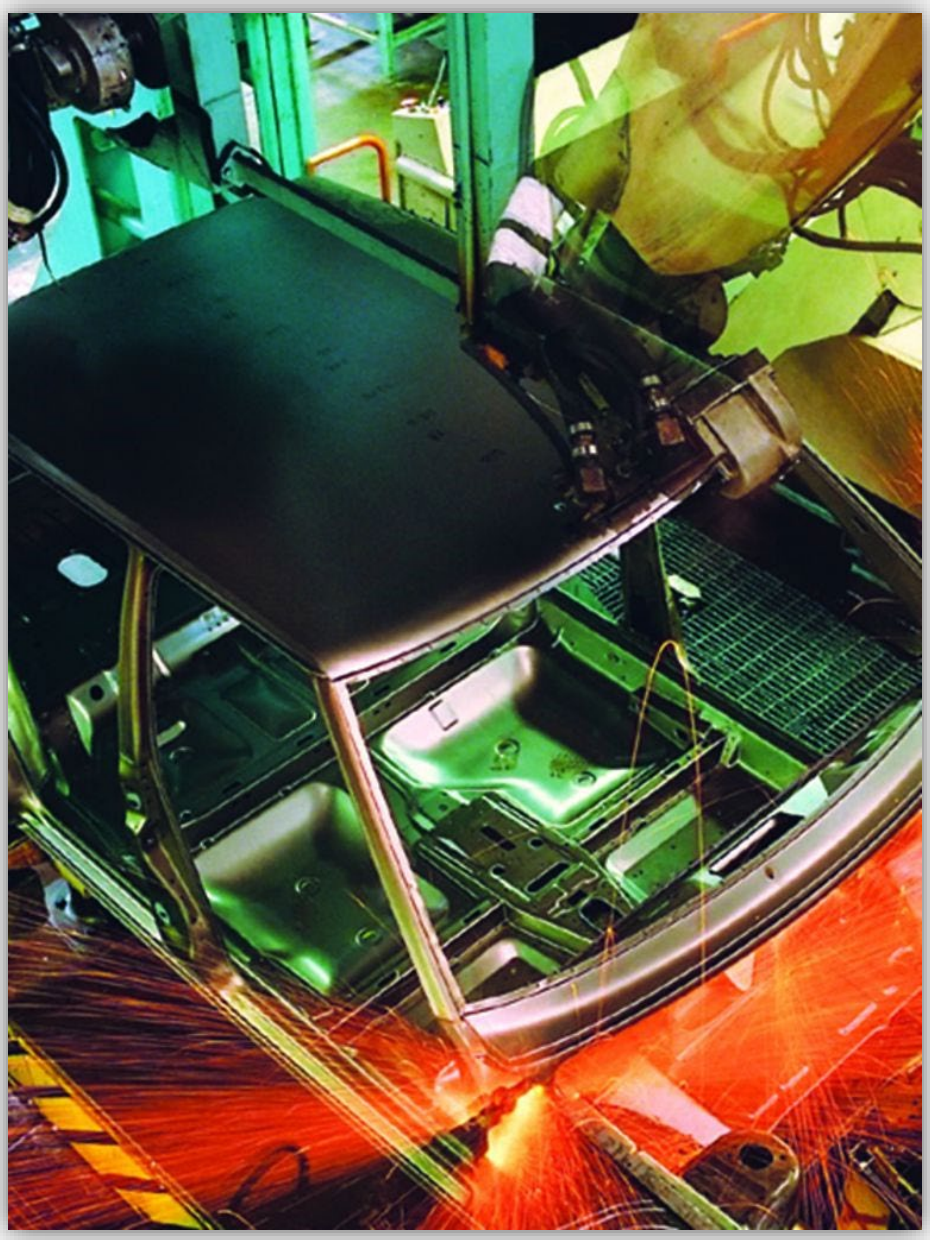
Vehicle System Applications



Spectrex fire detection and suppression products are designed to meet the highest safety requirements for high-risk industries and commercial applications.

Fire detection is achieved by the Optical Flame Detectors, including Triple infrared (IR3), Multi IR, UV/IR, UV, IR, and Extinguishers for Ex hazardous areas and safe area compact Mini designs.

Spectrex Detectors are certified to the latest International Standards for Safety, Reliability, Quality, and Performance.

SPECTREX

IR3 Optical Detector

The IR3 Optical Detector is microcontroller-based, enabling sensitivity adjustment and other features to a specific application.

Features:

- 3 IR wavelengths
- Response time - less than 5 msec
- Sensitivity to slow-growth fires
- High reliability
- Immunity to false alarm
- Automatic and manual Built-In Test (BIT)
- RS-485 Modbus compatible

Extinguisher

Efficient and fast (250 msec) agent dispersion system.

The extinguishers contain environmentally friendly fire suppression agent HFC227ea with scrubbing agent sodium bicarbonate (SB).

The unique design of the cylinder's valve and deflector enables rapid and homogenous dispersion of the suppression agent in the protected area.

Features:

- Unique valve design - no moving parts
- Hermetically sealed valve
- Fast agent release and distribution
- Pressure switch for cylinder status indication
- Homogenous 360° agent dispersion
- Reduced discharge impact - increased crew safety
- Visual pressure gauge
- High reliability
- DOT or EU standards
- MTBF: Minimum 250,000 Hours

Power Backup Unit

The PBU is used to keep the system active and operable following a failure of the regular power source from the vehicle's batteries for approximately 15 minutes.

This capability is achieved by 12 supercapacitors incorporated in the unit.

The PBU contains an LED indicator to display the unit's operational status. The LED flashes green during charging and switches to constant green when the PBU is fully charged. The LED lights are red when the power supply from the vehicle's batteries is disconnected or has low voltage.

Control Box

The Multi-Compartment Control Box receives detection signals from engine, personal, and other protected compartments and activates the fire extinguishing system.

The control panel includes indications and warning signals, manual activation, and system test features. A modern CANBUS serial communication port enables connection to the vehicle control system and can be used for maintenance and troubleshooting.

Features:

- Accepts input signals from optical, wire heat, and spot heat detectors
- Monitors and activates extinguishing cylinders
- Indication and warning signals
- Integral manual activation
- Automatic cylinder activation
- Alarm detection indication
- Overheat indication for engine compartment
- Accepts external manual activation inputs
- Automatic and manual Built-In-Test (BIT)
- High reliability
- RS-485 Modbus compatible

Manual Activation Unit

The MAU has two modes of operation:

a. When power is supplied to the MAU, its operation results in an activation command signal to the control box.
b. When the power supply to the MAU is disconnected, the operation of the MAU results in direct activation signals for the designated extinguishers.

Due to the capacitors incorporated in the MAU, this capability is maintained for at least one hour after the power disconnection.

A push-button switch conducts the MAU's operation. The push button is guarded by a plastic diaphragm broken by the finger to prevent accidental activations. The diaphragm is provided with breakaway cuts to ease the push-button's activation.

Spot heat detector

Heat detectors are used in confined areas to detect fires around hazardous locations. The detector is a thermistor type, enabling the controller to adjust the temperature response. The Spectrex Spot Heat Detector is the latest model installed in off-road tactical and armored vehicles.

Features:

- Thermistor type
- High reliability
- Temperature set-up by the controller

UV/IR Optical Detector

Only simultaneous detection of radiation in the UV and IR ranges of the electromagnetic spectrum (characteristic of fire) and above the preset threshold will result in a detector output signal. All other radiation sources not identified as fires will not be detected.

Features:

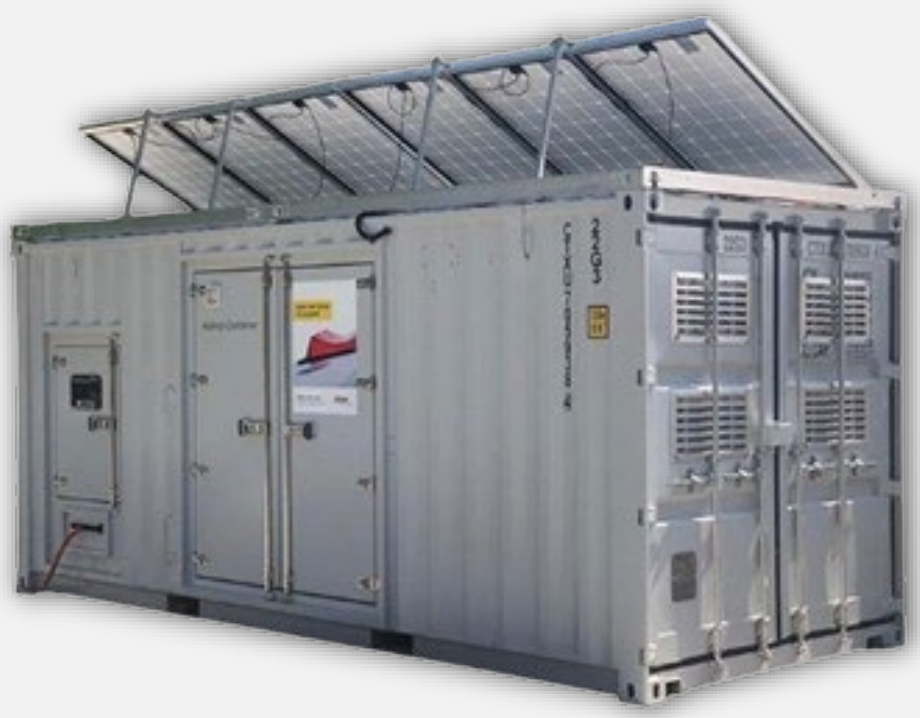
- UV/IR dual-sensor
- High-speed response - less than 5 msec
- Sensitivity to slow-growth fires
- High reliability
- Immunity to false alarm
- Automatic and manual Built-in Test (bit)
- Rs-485 Modbus compatible

The detector controller controls the system components, eliminates the need for a separate control box, reduces cabling, and is cost-effective without degrading performance and reliability.
This unit is ideal for small vehicles.

Features:

- UV/IR Dual-sensor
- High-speed response - less than 5 msec
- High sensitivity to slow-growth fires
- Accepts input signal from up to two external detectors
- Integral manual activation
- Monitor and activation of up to two cylinders
- Indication and warning signals
- Accept one external manual activation input
- Blackout switch
- High reliability
- Immunity to false alarm
- Automatic and manual Built-in Test (bit)
- RS-485 Modbus compatible

Commercial Systems



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Features:

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- Integral manual activation
- Automatic cylinder activation
- Alarm detection indication
- Overheat indication for engine compartment
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NED

The NED Box is connected, with appropriate harnesses, between the Power Back-up Unit and the system's Control Box. The unit contains a nuclear event detector and a circumvention circuit. High-dose-rate pulsed radiation generated by the detonation of a nuclear weapon is very rapidly detected. Immediately afterward, the circumvention circuit performs an ultra-fast disconnection of the power supply to the control box to avoid damage to the electronic components.

Two seconds later, the power supply automatically switches to resume the system's regular operation. The NED Box incorporates a green indicator LED to display the unit's operational status.