



## KIDDE DUAL SPECTRUM® AUTOMATIC FIRE/EXPLOSION SUPPRESSION SYSTEMS

# FIRE PROTECTION FOR CREWS AND VEHICLES

### Fast detect-to-suppression reaction times

The Collins Aerospace Kidde Dual Spectrum® automatic fire/explosion suppression (AFES) systems comprise extremely fast and highly accurate Dual Spectrum sensors that detect fires and explosions in zones such as crew areas and engine compartments. Additional protection systems are available supporting external, wheel and track areas.

The AFES extinguishers are equipped with high-speed valves to immediately flood affected compartments with efficient and approved extinguishing agents. Typical reaction times from detection to full suppression are 120 to 150 milliseconds.

Fires or explosions caused by rounds penetrating the vehicle are effectively suppressed by this near-instantaneous response and remain within U.S. government LOAEL/NOAEL specifications for personnel.

Constant monitoring of unobserved areas such as engine compartments or mechanical areas ensures that fires do not become established when using our Kidde sensors and detectors.

Over 275,000 vehicles in more than 20 countries worldwide are fitted with our Kidde AFES systems. Drawing on our more than 40 years of fire suppression experience, AFES safeguards crews and vehicles automatically and at reaction times that cannot be matched by manual systems.

### KEY FEATURES

#### Sensor

- Monitors high-rate/explosive events
- False alarm immunity per MIL-PRF-62546, Table 1
- Built-in test
- Fully qualified to ATPD-2404B

#### Controller

- Monitors system health
- Communicates to vehicle via discrete outputs and CAN bus
- Provides system status indication
- Controls fire suppression logic
- Fully qualified to ATPD-2404B, MIL-STD-461 and MIL-STD-1275
- Modular and configurable

#### Extinguisher

- High rate discharge valve
- Capable of discharging a variety of fire suppression agents
- Multiple cylinder options available
- Available with or without manual discharge capability
- Fully qualified to MIL-DTL-62547

## TYPICAL VEHICLE INTEGRATION

Optical sensors are located throughout the protected zone so that the entire space is monitored. Fire extinguishers are in supportive locations with distribution nozzles to ensure sufficient agent concentrations reach all parts of the protected space.

An Agent Concentration Test (ACT) is typically conducted to validate concentration design. The control electronics panel is located within easy reach of driver and/or commander.

Collins Aerospace's engineers are experts in vehicle integration with experience on many vehicles from conceptual design to government live fire testing.

## SYSTEM COMPONENTS

Typical complete systems include the following EMI protected components:

### Control electronics panel

- MIL-STD-1275
- MIL-STD-461E
- CAN bus option
- Customizable to platform
- IP-67
- Built-in test
- Optional watch mode up to 120 minutes after vehicle system shutdown

### Fire extinguisher

- MIL-DTL-62547
- Non-breakable
- High-speed solenoid valve
- Refillable
- No life parts
- IP-67
- Operating temperatures: -60° F to 160° F (-51° C to 71° C)

### PM-34CSBEH sensor

- Dual Spectrum optical infrared
- Environments of MIL-PRF-62546
- Built-in test
- IP-67
- Discrimination
- Immune to false alarm

### Backup power supply (optional)

- Super-capacitor
- Uninterrupted power to AFES if vehicle battery is compromised
- Can discharge to 0 volts without adverse effect to service life

### CAN bus option

- J1939 SAE
- Continuous sensor and extinguisher connectivity monitoring

### Electrical harness

- Over molded back shells, transitions double shielded
- MIL spec connectors
- IP-67
- Lightweight

Specifications subject to change without notice.

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