



Kidde Fire Protection Systems

Dual Spectrum[®] Tactical Wheeled Vehicle Single-Zone Automatic Fire/Explosion Suppression (AFES) Systems

Over 275,000 vehicles, among over 20 countries worldwide, are fitted with 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.

Sensor

- Monitors high-rate/explosive events
- Millisecond response time
- False alarm immunity

Controller

- Monitors system health
- Activate extinguisher
- Provides vehicle communications

Extinguisher

- 10 millisecond response time
- Field proven, modular design

The AFES system comprises extremely fast and highly accurate Dual Spectrum[®] sensors which detect fires and explosions in zones such as crew areas and mechanical compartments. Additional protection systems are available supporting external and 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 - 150 milliseconds. Fire or explosions caused by rounds penetrating the vehicle are effectively suppressed by this near-instantaneous response and remain within the limits of published survivability criteria for personnel.



UTC Aerospace Systems

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Typical Vehicle Integration

Optical sensors are located throughout the protected zone, so that the entire space is monitored. Fire extinguishers are located in supportive locations with distribution nozzles located 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.

Kidde'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 Module

MIL-STD-1275
MIL-STD-461
MIL-STD-810
Built-in-test
Optional watch mode up to 60 minutes after vehicle shutdown

Fire Extinguisher

MIL-DTL-62547
Non-shatterable cylinder
High-speed solenoid valve
Refillable
No life limited parts
IP-67
Operating Temperatures:
-60°F to +160°F
(-51°C to +71°C)

PM-3MT Sensor

Dual Spectrum optical infrared
MIL-STD-1275
MIL-DTL-62546
Built-in-test
IP-67
Immune to false alarm
Operating temperatures:
-67°F to +257°F
(-55°C to +125°C)

Backup Power Supply (Optional)

Super-capacitor based
Uninterrupted power to AFES if vehicle battery is compromised
MIL-DTL-62545 qualified
Can discharge to 0 volts without adverse effect to service life

Electrical Harness

Automotive loom
Deutsch connections
Lightweight
Repairable



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