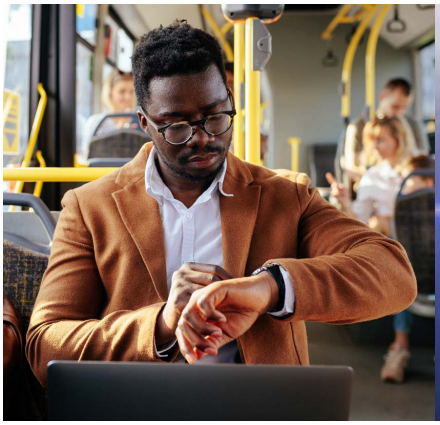
TRANSIT BUS FIRE SUPPRESSION SYSTEM

AMEREX®

Quality is Behind the Diamond®



BECAUSE IT **ABSOLUTELY MATTERS**

Amerex vehicle fire suppression systems are manufactured at our facility in Trussville, Alabama and meet the requirements of the "Buy America Act." Our products are designed and manufactured in the USA so we can provide you with the quality and flexibility your Transit Fleet demands—when you need it most.

QUALITY WITHOUT COMPROMISE AND EXPERIENCED INNOVATION

The best Transit Fleets are uncompromising when it comes to the quality and reliability of their vehicles. At Amerex, we believe the same should be true when it comes to protecting your most important assets, your passengers. With the experience of more than 100,000 fire suppression systems sold, the Amerex vehicle fire suppression team has developed the most reliable fire suppression systems in the industry. The Amerex Fire Suppression Systems provide Fast and Reliable Fire Protection.

Quality cannot be sacrificed, so choose Amerex.

WHY STORED PRESSURE?

1. Prevents moisture from entering the cylinder and contamination of the fire suppression agent
2. Agent is fluidized and ready to go when needed; no need for delays while the cylinder is being pressurized from an outside source
3. Stored pressure cylinders have a pressure gauge which allows maintenance personnel to verify readiness
4. Stored pressure cylinders can also be fitted with a pressure switch which detects a low pressure condition and notifies the operator via the control panel

The AMEREX ADVANTAGE
SUPPRESSION AGENT OPTIONS

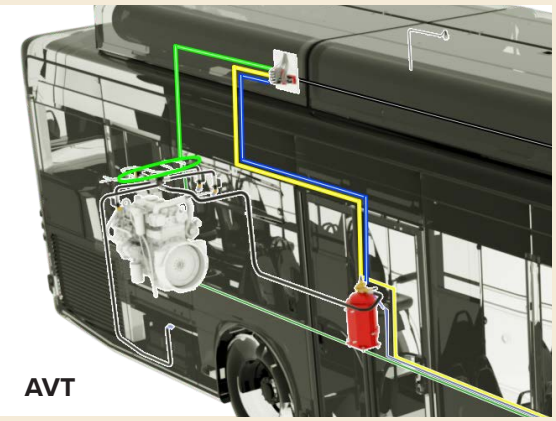
We know that all transit buses are not the same, so we offer different suppression agent options to protect your fleet needs:

- **Dry Agent Systems** - provide the fastest fire knockdown as well as getting into those hard to reach areas where fire may hide.

- **AVT** - AVT - Amerex is the preferred fire suppression system in the Transit bus market. To meet the growing need for an environmentally friendly solution, Amerex developed AVT™. The discharge has minimal residue, resulting in a quick, effortless cleanup with no effect on the environment and a zero Ozone Depletion Level (ODP).

  AVT™ is the ideal choice for engine compartments in vehicles, which require a cleaner solution in the event of a discharge. It is suitable for Class A, Class B, and Class C fire hazards found in engine compartments. AVT™ has been thoroughly 3rd party tested for engine compartment applications and ancillary areas.


Dry Agent Cylinders


AVT

WHY AMEREX?

QUALITY As a product of the USA, we provide higher quality products and ship them to you quickly

EXPERIENCE At Amerex, our focus is on protecting buses and the people who travel in them. We protect more buses in North America than all of the other manufacturers combined. You want an experienced driver, choose the most experienced fire suppression manufacturer.

INNOVATION Our dedicated vehicle systems engineering team uses advancements in technology to develop customized solutions for your school bus fleet. We continually invest back into our products to progress our products and the industry as a whole.

DESIGNED AND MANUFACTURED IN THE USA

The AMEREX ADVANTAGE
CONTROL PANEL OPTIONS

FEATURES OF THE SAFETYNET EV/SAFETYNET PANEL

- Full network ability to add additional detection and releasing zones
- 4000 event log—time and date stamped, down-loadable log for easy troubleshooting and incident investigation
- Automatic Maintenance Testing (AMT) mode to significantly reduce maintenance time
- Supports Lithium battery and natural gas detection systems and Combination fire suppression and gas detection systems
- 24-hour battery backup protection

FEATURES OF THE 17 SERIES PANEL

- Two detection zones and one releasing zone
- 24-hour battery backup protection
- Diagnostic flash code for easy troubleshooting
- Programmable discharge and alarm relays

FEATURES OF THE SMVS PANEL

- Integrated manual release on panel
- One hour battery backup if power is lost
- Diagnostic flash code for easy troubleshooting
- Programmable discharge and alarm relays

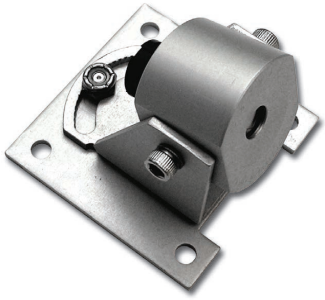
DID YOU KNOW?

Event logs can be downloaded and provided to the vehicle owner to verify testing has been completed and kept as part of that units' permanent record.

The AMEREX ADVANTAGE
FIRE DETECTION OPTIONS

LINEAR HEAT DETECTION cables have long been the industry standard and provide a continuous heat detection cable run inside the hazard area. The Amerex Advantage has amped up the traditional cable with a more robust abrasion resistant outer jacket and factory installed connectors for reliability and ease of service. The cable is also available with a stainless steel wire protective covering for extreme environments.

SPOT HEAT DETECTORS are available in three different preset temperature settings for flexibility and provide rapid heat detection and system activation. Spot Heat Detectors have factory installed connectors for reliability and ease of installation and service.



The **AMEREX OPTICAL FLAME DETECTOR TECHNOLOGY** is the fastest responding flame detection in the industry, responding to fire within seconds. Faster response time means less damage and less downtime. Amerex Optical Detectors "see" the fire by recognizing the light wavelength patterns given off by the hydrocarbon fire.

FAST FACT

Multiple types of detectors can be used on the same vehicle to provide faster response in high risk areas.

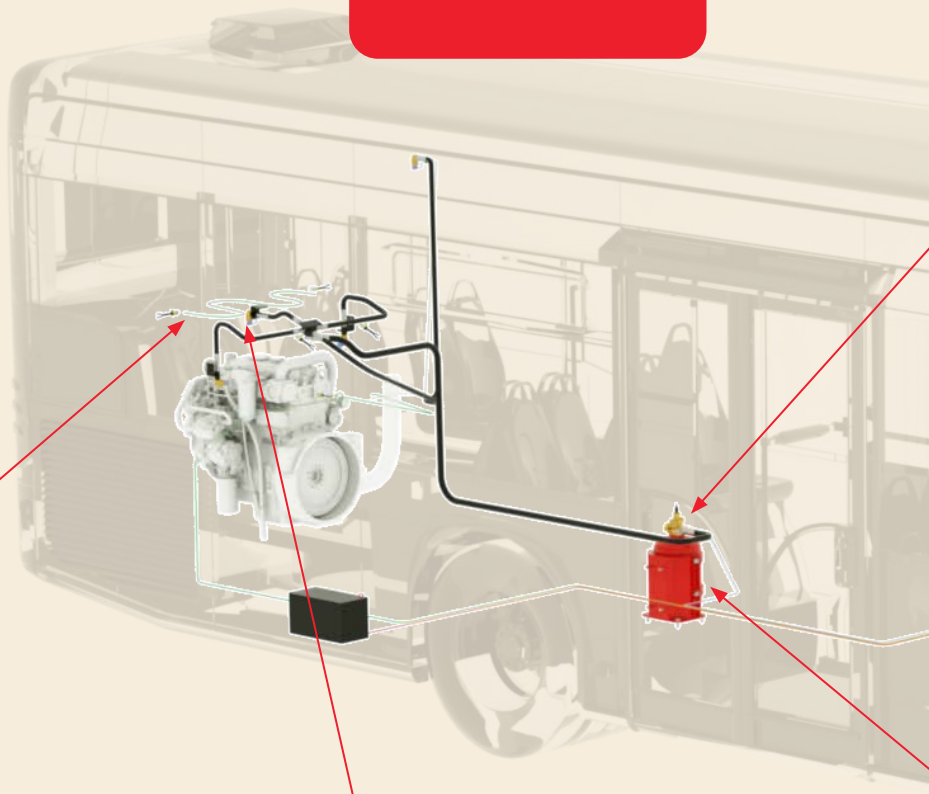
The AMEREX ADVANTAGE REAR

AMEREX DRY CHEMICAL FIRE SUPPRESSION SYSTEMS

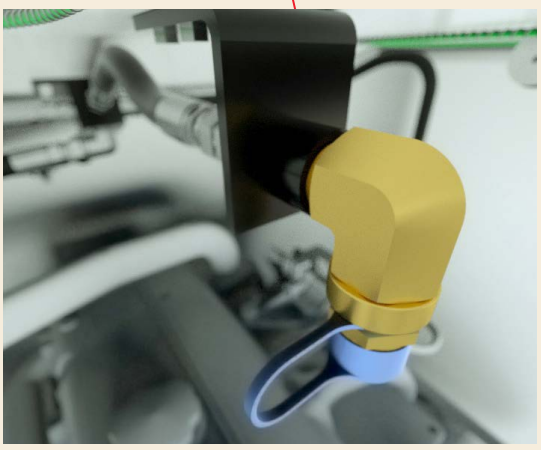
- Are an FM Approved, pre-engineered suppression system designed specifically for protection of buses
- Each system uses vertical and horizontal stored pressure agent cylinders discharging Dry Chemical agent in the engine compartment
- Each system provides rapid fire knockdown to mitigate fire damage and allows time to evacuate the bus
- Each system can operate within temperature ranges from -65F to 150F (-54C to 65C)

DID YOU KNOW?

Dry chemical is the most effective agent for knocking down a fire and getting into the hard to reach areas in the engine compartment where fire can still exist.



Detection

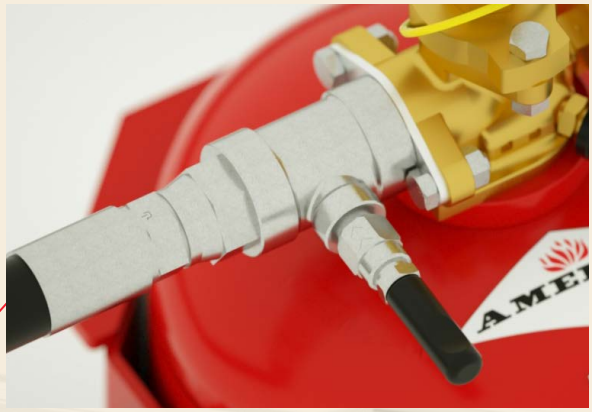


Discharge Nozzle

FM APPROVED

ENGINE BUS DRY CHEMICAL SYSTEMS

Discharge Blow-off Adapter



Manual Release

FAST FACT

The AMEREX dry chemical system is also highly effective on combustible Class A materials.

Agent Cylinder

17 Series Panel

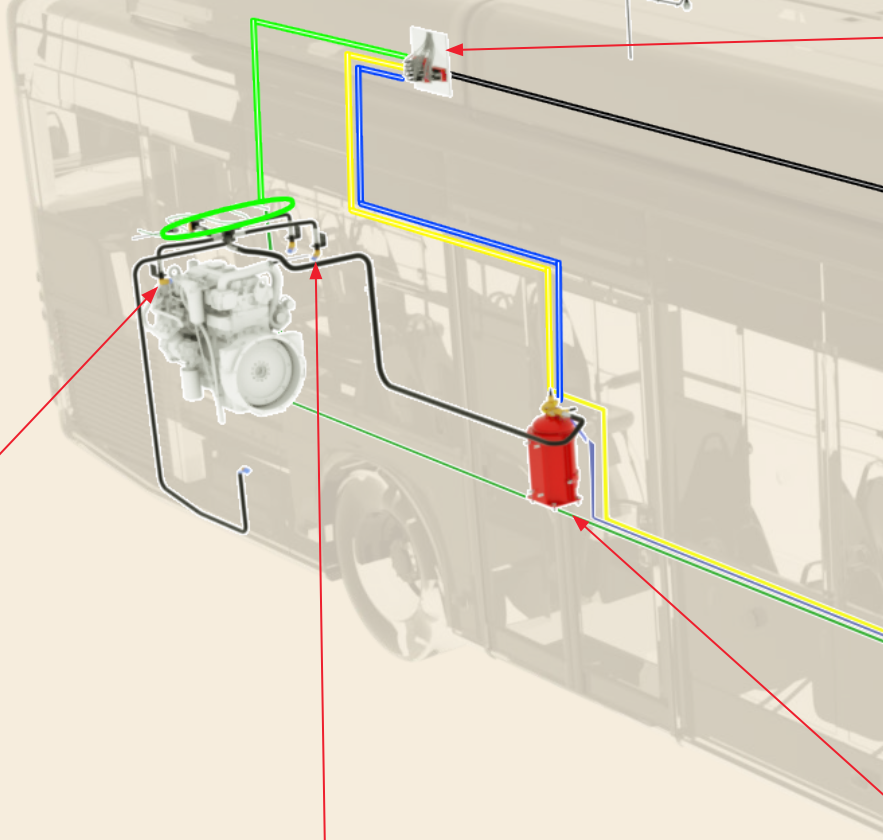
The AMEREX ADVANTAGE COMBINATIO

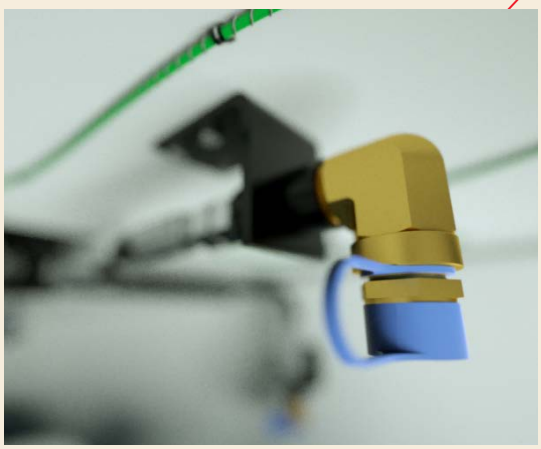
AMEREX FIRE SUPPRESSION AND GAS DETECTION SYSTEMS

- Combines fire suppression and gas detection on one SafetyNet programmable control system
- AMT–Automatic Maintenance Testing mode to significantly reduce maintenance time
- Records 4000 events that are time and date stamped, downloadable for easy troubleshooting and incident investigation
- Gas sensors provide detection of combustible gas in concentrations below the Lower Flammability Limit (LFL) to eliminate wasteful leaks and protect lives

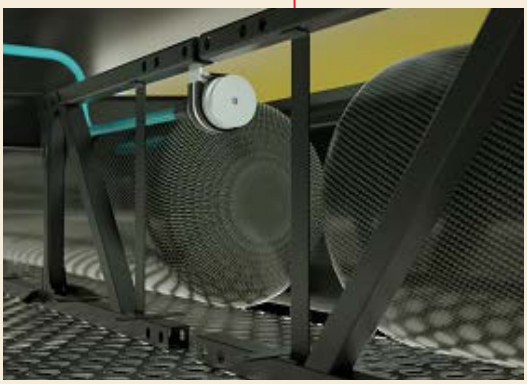
DID YOU KNOW?

AMEREX control panels have programmable discharge delays from 0-15 seconds in 5 second increments.





Discharge Nozzle



Gas Sensor

FM APPROVED

N FIRE SUPPRESSION AND GAS DETECTION

SafetyNet Driver Panel

SafetyNet Display Panel

FAST FACT

Fires on transit buses can reignite after a fire is suppressed if the flammable fuel source is not shut off, or the ignition sources aren't cooled.

Agent Cylinder

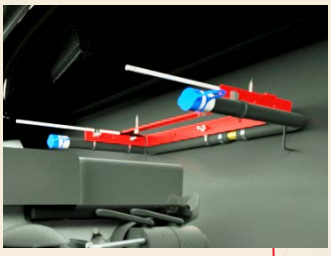
Manual Release

The AMEREX ADVANTAGE
SMALL BUS SYSTEM

AMEREX SMALL BUS SUPPRESSION SYSTEMS

- Designed specifically for the small cutaway style buses to provide a cost effective option
- Designed and sold as a kit to reduce costs and simplify installation
- FM Approved system to provide piece of mind
- Integrated manual release on the control panel for a compact installation

SMVS Control Panel



Nozzles and Detection

SMVS Cylinder

DID YOU KNOW?

All Amerex fire suppression system control panels have a battery backup integrated into the panel to provide power in the event of vehicle power loss.

GAS DETECTION TECHNOLOGY FOR ELECTRIC VEHICLES

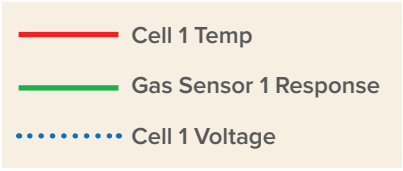
SAFETYNET EV GAS MONITORING AND J1939

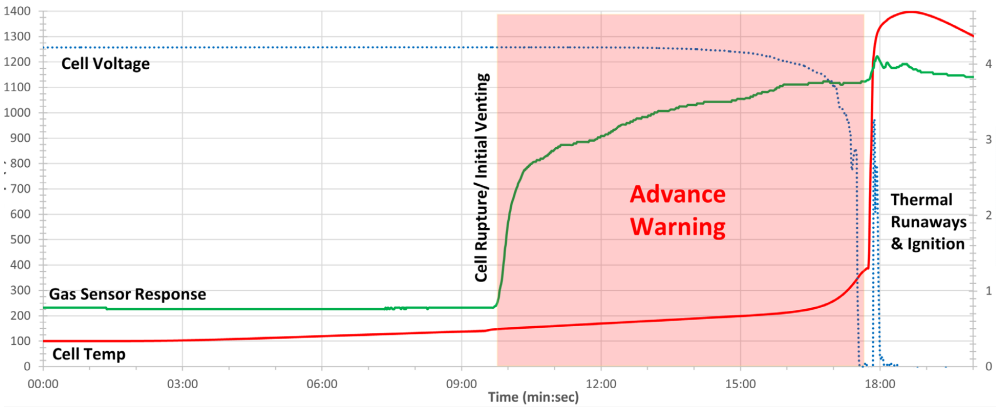
The age of battery electric powered vehicles has arrived. The transit industry continues to shift to higher percentages of their fleets to battery electric power. This new technology brings with it new fire hazards. Amerex has developed the new SafetyNet-EV Gas Detection System to protect people against these risks.

FEATURES

- Advanced technology adapted for today's cleaner electric vehicles
- Sensors strategically placed around the vehicle register a warning before an event occurs
- System sounds an alert, allowing the driver more time to pull over and safely evacuate the vehicle
- Controller Area Network (CAN) Module telematics can be configured to alert the operations control center for faster on-scene response

MULTI-CELL LITHIUM ION ARRAY HEATED UNTIL THERMAL RUNAWAY EVENT





The graph above highlights the early response from the Amerex gas sensor as compared to traditional monitoring methods including cell temperature and cell voltage. This window of advance warning, highlighted by the pink section of the graph, represents valuable time, well in advance of an eventual thermal runaway.

In this example, cell surface temperature (red) and cell voltage (blue) of the first cell are measured, which are traditional monitoring methods used in lithium ion battery packs. Also included in the graph is the Amerex gas sensor response (green), where the sensor is located adjacent to the cells.

As the first cell is heated, the first measurable event is a cell rupture and off-gassing event (around 10 min), where the cell begins to vent a volatile combustible gas, measured with an immediate gas sensor response. As the test progresses, a thermal runaway event eventually occurs (around 18 min). At this catastrophic event, a noticeable spike in temperature is measured where the cell surface temperature reaches almost 1400°F. Also, just prior to the thermal runaway, a drop in cell voltage is measured.

COMPONENT OVERVIEW

Gas Sensors are calibrated for use in electric vehicle battery compartments to monitor volatile combustible gases produced as a result of overheat, overcharge or other conditions.

SafetyNet CAN Module provides connection to the bus CAN network allowing for fault and alarm notifications from the SafetyNet-EV system panel be transmitted to the central monitoring location.

The **SafetyNet-EV Panel** is specifically designed to work with new gas sensors, alarm levels and programming. Tested and calibrated for EV Lithium ion gas characteristics.

why AMEREX?

QUALITY
Amerex didn't become a global market leader overnight. Our business has grown year after year based on our products' reputation for performance and durability in even the most rugged environments.

INNOVATION
Because Amerex is independently owned and forward thinking, we are continuously innovating and investing for the benefit of our customers and those they serve.

SERVICE
Amerex was founded on a mutual appreciation for premium quality in products and customer service and the importance of interpersonal relations.

Quality is Behind the Diamond®

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