

Application: Aircraft Ground Support Equipment

Ground power supply is a vehicle used for supplying power to aircraft parked on the ground. The electric energy is carried from a generator to a connection on the aircraft via 3 phase 4-wire insulated cable.

Due to the compactness of these vehicles it's hard and not cost effective to install conventional fire suppression systems.

The traditional method of fighting fires in this type of equipment is a handheld extinguisher, which is not effective for these kinds of applications because they are not automatic. The delay gives time for the fire to spread and sometimes makes it harder to extinguish.



Fire Risks in this Application:

Anytime current flows, whether during generation or transmission, a byproduct of that flow is heat. The greater the current flow, the greater the amount of heat created. When this heat becomes too great, protective coatings on wiring and other electrical devices can melt, causing shorting, which leads to more current flow and greater heat. This heat can become so great that metals can melt, liquids vaporize, and flammable substances ignite.

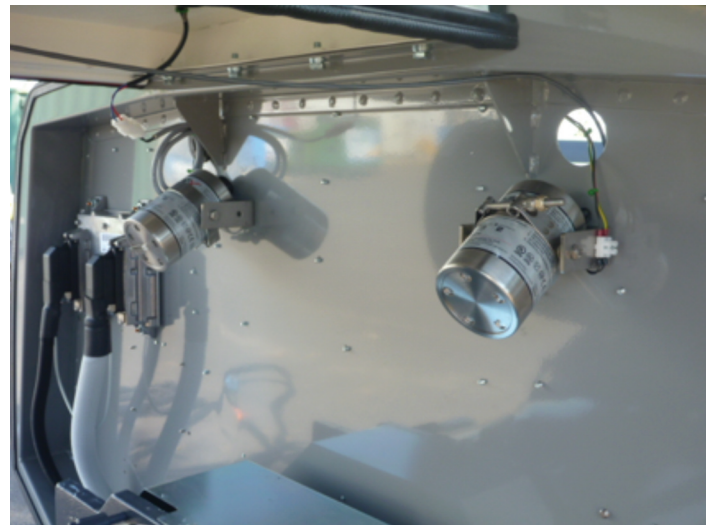


Carbonization of insulation can also lead to fires on aircraft wiring called wet tracking. Wet tracking takes place due to the combined effects of moisture and pollutants on the surface of wiring. The same can happen if there is a considerable amount of aging on the wiring.

Personnel who attempt to work with electrical equipment and have no knowledge of the principles of electricity can also be responsible for a fire accident. Since these power generation units use flammable liquids as a fuel to generate electricity, there is also a Class B fire risk also involved, which is caused mostly due to operational activities.

Scope of Stat-X FIRE Suppression for this Application:

The majority of fires in this application are a result of flammable liquids and electrical wiring, which fall into Class B & Class C (as per NFPA). Stat-X has passed the rigorous testing for Class B and Class C fires by Underwriter's Laboratory (UL) as a suppression technology for fighting these fires by using a total flooding technique by breaking the chain reaction of combustion without any depletion in the normal levels of oxygen.

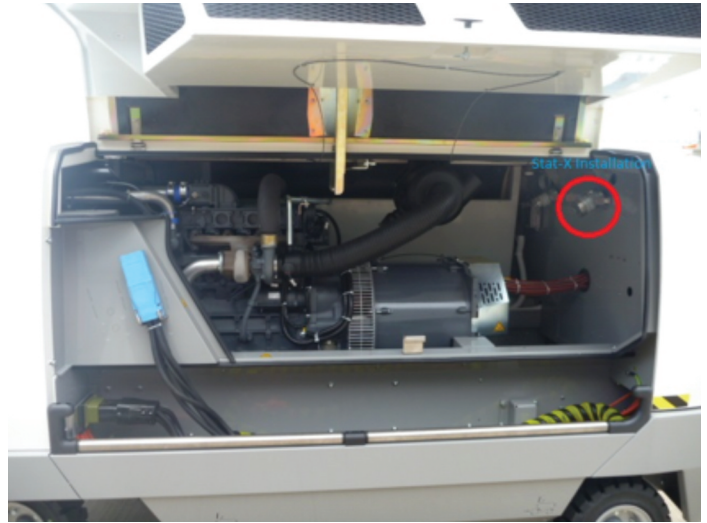


As an environmentally-friendly product, Stat-X generators can withstand temperatures more than 100° C and operate normally with less installation and maintenance costs.

Stat-X electrical activation systems are installed in many of these ground support generators as a perfect alternative for the conventional systems and handheld extinguishers. And because of their compactness, Stat-X can be installed inside this equipment, which gets activated by a linear heat detection cable when there is a fire. Stat-x generators can also be operated manually.

Since the equipment is mobile, the installed systems can remain intact during transport. If the system is removed it can be installed easily since it doesn't require any piping or floor space.

The following picture is an example of the Stat-X system installed in a ground power supply vehicle.



Solution designed and installed by: Aero-X AG, Baden, Switzerland, a certified Stat-X distributor.