

## Solar Energy South Africa

# Electric Energy Storage Fire Extinguishing System



✓ 50KW/100KWH

✓ HIGHER POWER OUTPUT  
IN OFF-GRID MODE

✓ CONVENIENT OPERATION  
& MAINTENANCE

✓ PRE-WIRED



## Overview

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What is the mechanism of fire-extinguishing agent?

The mechanism of fire-extinguishing agent is mainly divided into isolation, smothering, cooling and chemical suppression. However, the fire triangle of battery is difficult to destroy, as the three elements of fire triangle can be provided by the battery itself. In addition, LIB fire is a complex fire with the characteristics discussed above.

What is a fire extinguishing system?

The fire extinguishing system is a significant part to extinguish fires in progress and prevent the spread of fires. The fire extinguishing system is usually in standby mode and is controlled by the signal processing system. When a fire occurs, the built-in fire extinguishing agents are released for extinguishing.

Can foam extinguishing agent be used in energy storage station fire?

DNV GL did not recommend the use of foam extinguishing agent in the fire of energy storage stations because the battery module fire required rapid cooling to dissipate heat. Compared with water, foam had more difficulty penetrating the gap of battery packs and cooling the insides of batteries.

#### 4.3.4. Liquid Nitrogen.

Can gas fire extinguishing agents reduce the temperature of battery?

Gas fire-extinguishing agents such as Halons, HFC-227ea, CO<sub>2</sub> and Novec 1230 are beneficial to integrity protection of battery system during the fire extinguishing process. However, gas fire-extinguishing agents could not effectively reduce the temperature of battery.

Which fire extinguishing agent is used in a lithium ion traction battery?

German motor vehicle inspection association (DEKRA) reported several kinds of water-based fire-extinguishing agents such as water, F-500 and a gelling

agent used in extinguishing lithium-ion traction batteries fires. The flame of power LIBs was rapidly extinguished by 1% F-500 within merely 7 s.

Which fire extinguishing agent has a high heat capacity?

A high heat capacity is most essential characterization parameter for reducing the temperature of battery. Obviously, water-based fire-extinguishing agents possess excellent cooling capacity. Among water-based fire-extinguishing agents, the durable heat capacity of F-500 is highest, followed by water and foams.

## Electric Energy Storage Fire Extinguishing System

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### Fire protection for Li-ion battery energy storage systems

In addition to controlling the automated extinguishing system, the fire protection system triggers all other necessary control functions. Extinguishing Sinorix N2 extinguishing system  
The Sinorix ...

### Fire Suppression in Battery Energy Storage Systems

The Stat-X ® condensed aerosol fire suppression system is the ideal agent for BESS fire suppression. Stat-X has been tested extensively, resulting in verification of its performance in these categories.



### Early Warning Method and Fire Extinguishing ...

Cui et al. selected water and compressed air foam as the fire extinguishing agent to extinguish the battery pack fire, and proposed the electric vehicle fire enclosure fire extinguishing method. Their experimental results ...

### Siting and Safety Best Practices for Battery Energy Storage Systems

energy storage systems (BESS), defined as 600 kWh and higher, as provided by the New National Standards Institute (ANSI), the Institute of Electrical and Electronics Engineers (IEEE) ...

### Lithium battery parameters

Product capacity: 100Ah

Product size: 135\*197\*35mm

Product weight: 1.82kg

197mm  
/7.7in

Product voltage: 3.2V

internal resistance: within 0.5



### Commercial and Industrial ESS

Air Cooling / Liquid Cooling

- Budget Friendly Solution
- Renewable Energy Integration
- Modular Design for Flexible Expansion

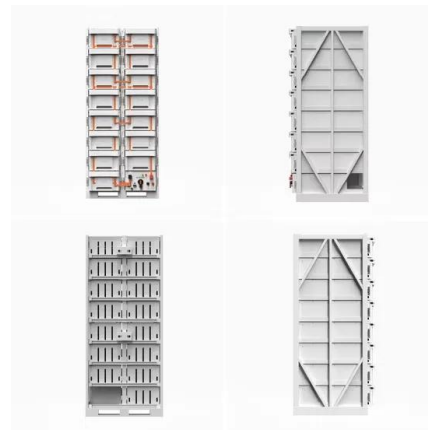


## Assessment of Run-Off Waters Resulting from Lithium ...

As the use of Li-ion batteries is spreading, incidents in large energy storage systems (stationary storage containers, etc.) or in large-scale cell and battery storages (warehouses, recyclers, etc.), often leading to fire, are ...

## Energy Storage System Fire Suppression Systems

In the second stage, if an anomalous temperature is detected, the system starts the second fire extinguishing phase. The special extinguishing agent Tiborex Absolute is driven into the container in which the SPY temperature detector ...



## Energy Storage Fire Suppression Systems , EB BLOG

2. Fire Suppression Devices for Storage Compartments. Typically, these devices use perfluorohexane and water as fire suppression media, spraying them in the form of high-pressure fine water mist. Initially, ...

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