

## A-Core Container

# Energy Storage Equipment Fire Protection System



## Overview

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Fire safety systems in energy storage require integration between Battery Management Systems (BMS), Combustible Gas Detection systems, Smoke and Temperature Sensors, and other related systems to be effective during an incident. Are energy storage systems a fire hazard?

However, like any electrical infrastructure, energy storage systems come with their own set of risks, particularly fire hazards. This is where the National Fire Protection Association (NFPA) 855 comes in. NFPA 855 is a standard that addresses the safety of energy storage systems with a particular focus on fire protection and prevention.

Are energy storage systems safe?

Energy storage systems, while essential for grid stability and renewable energy integration, present unique challenges when it comes to fire safety. Issues like thermal runaway, short circuits, and the flammability of certain materials can result in fires that are difficult to manage due to the stored energy within the system.

What are NFPA 855 requirements for energy storage systems?

Electrical and Wiring Safety – Proper electrical wiring and connections are critical for fire safety in energy storage systems. NFPA 855 outlines specific requirements for cable management, grounding, and circuit protection to ensure that electrical components do not pose a fire risk.

Can a lithium-ion battery energy storage system detect a fire?

Since December 2019, Siemens has been offering a VdS-certified fire detection concept for stationary lithium-ion battery energy storage systems.\* Through Siemens research with multiple lithium-ion battery manufacturers, the FDA unit has proven to detect a pending battery fire event up to 5 times faster than competitive detection technologies.

How does a fire protection system work?

In addition to controlling the automated extinguishing system, the fire protection system triggers all other necessary battery management system control functions. As its name implies - "aspirated" smoke and off-gas detection systems use an "aspirator" mounted in a detector unit.

What technologies are covered by NFPA 855?

This can cover a wide range of technologies such as: NFPA 855 was created to address the growing concern of fire risks associated with these technologies, especially given their rapid adoption in renewable energy infrastructure and large-scale energy systems. Why is NFPA 855 Important?

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