



Lithium-ion battery energy storage power station fire protection

What is a lithium-ion battery energy storage system (Lib-ESS)?

Lithium-ion battery (LIB) energy storage systems (LIB-ESS) come in a variety of types, sizes, applications, and locations. The use of the technology is continually expanding, becoming more available for a range of energy storage applications, from small residential support systems to large electrical grid systems.

Does active fire protection work for energy storage systems?

To date there is no publicly available test data that confirms the effectiveness of any active fire protection for energy storage systems, and there are no fire protection systems FM Approved for this application. The ability of active fire protection to stop or prevent Li-ion battery thermal runaway reactions has not been shown.

What is a Li-ion battery energy storage system?

Executive summary Li-ion battery Energy Storage Systems (ESS) are quickly becoming the most common type of electrochemical energy storage for land and marine applications, and the use of the technology is continuously expanding.

Are lithium-ion batteries a fire suppression solution?

Lithium-ion battery technology has become a standard solution in this application due to its technical performance. However, its unique fire hazard is a concern in the industry, increasing the need for dedicated lithium-ion battery fire suppression solutions.

Do energy storage systems need fire protection?

This is typically implemented using safety devices and controlling the operating conditions and environment. To date there is no publicly available test data that confirms the effectiveness of any active fire protection for energy storage systems, and there are no fire protection systems FM Approved for this application.

What is a sprinkler protection guidance for lithium ion based energy storage systems?

The report Development of Sprinkler Protection Guidance for Lithium Ion Based Energy Storage Systems, published in June 2019 on the FM Global Website, is the basis for recommendations on fire protection and separation distances from both noncombustible and combustible materials.

Li-ion batteries combine high energy materials with highly flammable electrolytes. Early and reliable fire detection is therefore a must when designing fire protection systems for Li-ion battery systems. Rapid ...

This data sheet describes loss prevention recommendations for the design, operation, protection, inspection, maintenance, and testing of stationary lithium-ion battery (LIB) energy storage ...

Such a protection concept makes stationary lithium-ion battery storage systems a manageable risk. In

