

CHOOSING THE RIGHT PARTNER FOR MISSION CRITICAL SYSTEMS

Amid the growing demand for renewable energy, Battery Energy Storage Systems (BESS) have emerged as critical components for stabilizing electrical grids and ensuring uninterrupted power supply. However, the energy stored in these systems present significant fire risks, highlighting the need for advanced solutions. ORR Protection Systems, a leader in mission-critical fire protection, partnered with Space Age Electronics to address these complexities by developing prefabricated solutions that streamline project design, improve installation efficiency, and establish a standard for repeatable processes in future applications.



“ I’ve worked on dozens of large format network fire alarm projects over the last 15 years. If I have a say on the BOM, I always recommend Space Age.

The installation labor savings and professional look are completely worth it. . ”

ANTHONY RUSSELL, PMP, SET, CFPS
ORR FIRE PROTECTION

Prefabricated fire alarm integration solutions significantly cut down on field labor by eliminating the need for manual, point-by-point wiring. With pre-assembled and pre-tested modules, installation teams can reduce time spent on-site, allowing projects to be completed faster and with fewer skilled technicians. This translates into direct cost savings on labor while also minimizing delays caused by complex on-site wiring and troubleshooting.

THE CHALLENGE

Unlike traditionally constructed buildings, BESS units are pre-fitted off-site by their manufacturer with all the critical components necessary for their operation. Often, this includes specialized fire protection measures unique to each unit. However, to ensure comprehensive protection of the entire BESS facility, a site-wide fire protection and detection system must be installed. This system integrates with the individual fire protection systems within each BESS unit, functioning much like a networked campus of interconnected systems.



CONCLUSION

The transition from traditional, labor intensive fire alarm installations to prefabricated integration solutions represents a major advancement in BESS facility construction and safety. By reducing field technician labor time, increasing installation accuracy, and ensuring long-term system reliability, prefabricated solutions offer a smarter, more efficient approach to fire protection. As energy storage technology continues to evolve, embracing prefabrication will be key to enhancing the safety, efficiency, and scalability of BESS fire alarm and protection systems.



PREFABRICATED SOLUTIONS

Prefabricated solutions provide a standardized approach, ensuring that all connections are made accurately and according to design specifications before arriving on-site. This consistency enhances the reliability of fire alarm system performance and reduces the likelihood of faults that could require costly and time-consuming rework all while increasing the time of installation, testing, commissioning and future maintenance of the system.

The collaboration between ORR Protection and Space Age Electronics focused on reviewing the project design documents to identify opportunities for efficiency within the prefabricated interface enclosures. This process led to improvements in both design and functionality by going beyond just including the system monitor and control modules, but also integrating Space Age's Eclips series surge protection devices into each enclosure.

These devices safeguard the circuits connecting the BESS units to the facility-wide fire alarm system. By incorporating surge protection directly into the prefab solutions, the need for separate installation and maintenance of dedicated surge protection devices was eliminated, creating an additional layer of efficiency within the system.