

Battery Thermal Runaway Management System

Key Features

- **Precise Monitoring**—of each battery in a string
- **Optional Climate Sensors**—60° C (140° F), 70° C (158° F) and 80° C (176° F) temperature range sensors are available
- **Latched Alarm**—with manual reset to signal a defective battery string
- **Rectifier Voltage Adjustment**—to stop the thermal runaway process
- **Battery Disconnect**—can be actuated by sensing unit

Description

The Lorain® Battery Thermal Runaway Management System consists of two components designed to detect and manage thermal runaway of valve-regulated batteries. The system is comprised of an alarm and control panel and a series of thermal sensing units (TSUs), which when connected properly become an effective plant and craft protection tool.

The Battery Thermal Runaway Management System is a network protection device, as well as a battery alarm and control system. The TSUs are housed inside a lug to be connected to each negative battery terminal. The TSUs are electronically isolated from the lug, which is used as a thermal conduction device to allow the TSUs to monitor the battery temperature. When the system detects an unacceptable rise in temperature a “latched” alarm is extended to the alarm center.

In addition to alarms, the system can send a rectifier control signal to decrease rectifier output voltage and current until the battery reaches an acceptable temperature (see Note 1), or send a signal to a device to disconnect the defective battery string. The alarm and control unit can be set to allow the power system to assume its normal adjusted output voltage or be latched at a lower voltage (customer option) when the battery returns to an acceptable temperature. The alarm remains engaged until personnel are dispatched to the site to assess and correct the battery condition. Should a subsequent temperature rise be encountered, the same cycle of plant control would occur until the cause of the temperature rise is identified and corrected (unless latched at the lower voltage).

The alarm and control panel can be either relay rack (19" [48.26cm] or 23" [58.42cm]) or wall mounted; the system accommodates up to three battery strings. A 23" (58.42cm) relay rack unit is available to accommodate up to six battery strings.

Note 1: This feature is not available for all rectifiers. Consult the factory for compatibility with your specific rectifier model.

Application

The system is powered by -48V and designed for any application of valve-regulated batteries. Typical applications are in the outside plant network (cabinets, huts, UEs, CEVs), customer premises sites, private network sites, MTSOs and any other power plants supported by valve-regulated batteries.



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Additional Information

For additional specification, engineering and installation information, specify spec. number 486103600 (wall mount unit that accommodates up to 3 battery strings, 486103700 (relay rack mount unit that accommodates up to 3 battery strings) or 486103800 (relay rack mount unit that accommodates up to 6 battery strings).

Note: This system is not designed to save or enhance the life of your battery. It is designed to alert you that thermal runaway has occurred and manage the process until a site visit is performed and the battery string is replaced or taken off line.



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