



### Technical Datasheet



#### Scope:

This document provides a high-level overview of the Li-ion Tamer Rack Monitor system and is *not* a user manual. Reference *Li-ion Tamer Engineering Specification.pdf*, which is an all-inclusive user manual.

#### Product Description:

The Li-ion Tamer Rack Monitor is a low-power and compact device that monitors lithium-ion batteries for increased safety. The Rack Monitor consists of three primary components, (1) The Li-ion Tamer Controller, (2) The Li-ion Tamer Off-Gas Monitors, and (3) the cables for connecting the sensors to the controller, controller to power, and signal distribution.

The Off-Gas Monitors are to be installed near or at the battery rack and are aggregated at the Controller which also distributes power to the monitors. The Controller contains proprietary logic to diagnose when and where single-cell off-gas events have happened. Off-gas events occur early in the failure mode of lithium-ion batteries and awareness as to when off-gas events occur provides a very early warning of failures and enables prevention of these failures with proper mitigation.

#### Key Features:

- Early warning of lithium-ion battery failures
- Enable thermal runaway prevention with proper mitigation actions
- Single cell failure detection without electrical or mechanical contact of cells
- Extended product lifetime
- Calibration-free product
- Highly reliable output signal
- Low power consumption
- Compatible with all lithium-ion battery form factors and chemistries
- Easy installation
- Independent and redundant perspective on battery health
- Auto diagnostic capabilities
- Reduction/removal of false positive signals
- Several communication protocols including digital outputs and serial communication

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**Example System Configuration**

- Standard 40-foot shipping container full of twenty-four (24) battery racks
- Two (2) HVAC units on the ends of the container
- Four (4) doors for entry
- Two (2) reference/monitoring controllers for aggregating 24 monitoring sensors and 6 reference sensors
- Please note the system below is meant to communicate the types of sensors and controllers and is not a real system

