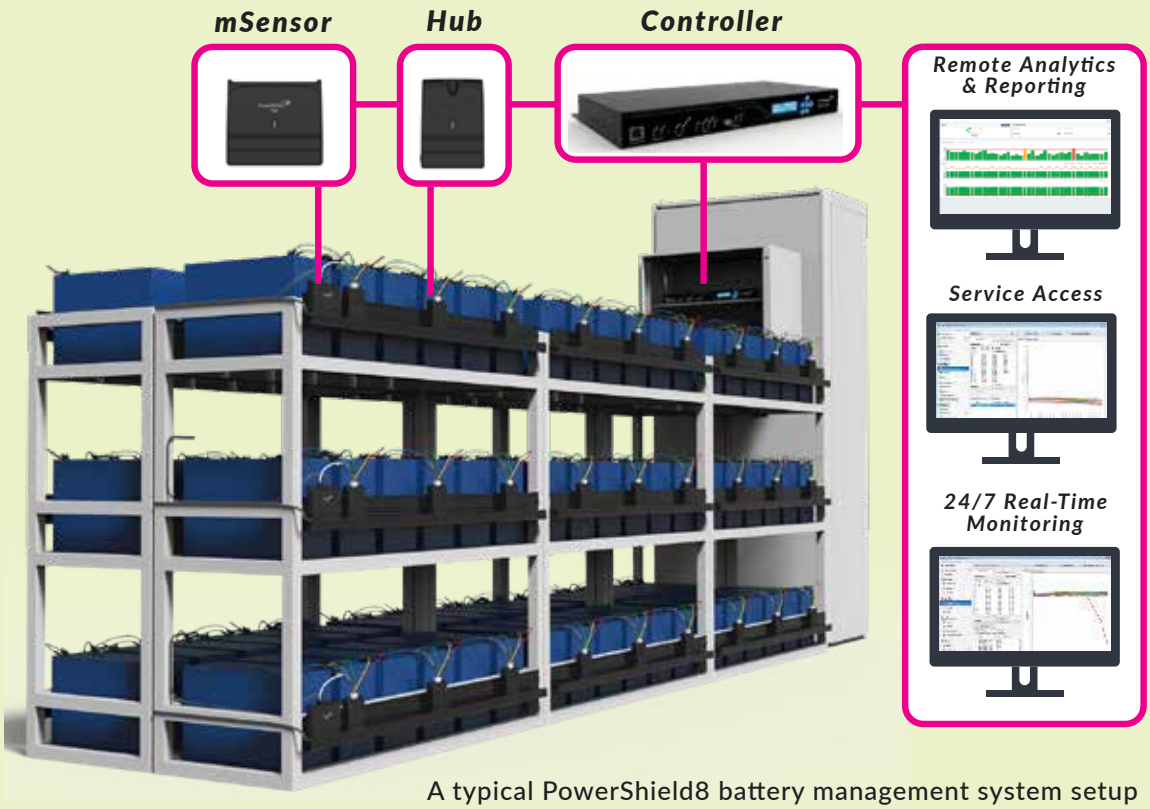
PowerShield8™
CRITICAL BATTERY PERFORMANCE

ADVANCED BATTERY MONITORING FOR LEAD ACID & NiCAD BATTERIES

See your batteries past, present and future.

How it works



A typical PowerShield8 battery management system setup

PowerShield8 advanced features

- Thermal runaway early detection, warnings, alarms and protection (TRP).
- Continuous fast data sampling in all string states (float, charge, discharge and idle).
- High-resolution, accurate and repeatable measurements.
- Advanced data logging (7 log types) makes fault finding and trend analysis easier.
- Lifetime data capture by Controller (Battery System) and Assure/Link Software (Enterprise).
- Open data architecture for ease of integration with BMS and DCIM systems.
- 24/7 user-defined alarms and alerts.
- Tidier, safer battery room wiring.
- Consistently monitor and manage any number of battery assets across multiple locations.

PowerShield8 Specifications

See separate PowerShield8 for Lead Acid and NiCad batteries datasheet.

Smart hardware components for advanced battery monitoring

mSensors at the block level

mSensors are smart devices with high-quality sensing and advanced circuits for fast, accurate and repeatable battery measurements. mSensors measure battery voltage, ripple voltage, temperature and impedance - all your key battery parameters. With a specific model for each battery voltage for best accuracy, self-calibration for accurate impedance, and measuring battery temperature at the negative terminal as per IEEE guidelines, mSensors set the standard. With safety as a focus, 750Vdc optical isolation inside mSensors keeps dangerous voltages away from operators, while ensuring that battery data collection is passed through to the Controller as needed.

Designed for use with batteries in racks or cabinets, mSensors come with pre-terminated harnesses to ensure ease and quality of installation. LED indicators show when mSensors are online and operating correctly, aiding fault finding and installation efficiency. Today there are over a million mSensors making stationary battery assets in critical power facilities smarter.

Hubs at the string level

Hubs are smart devices with high-quality sensing and advanced circuits for fast, accurate, and repeatable string-level measurements. They measure string current, ripple current (true-RMS), ambient temperature, and humidity—all your key string parameters.
Like mSensors, LED indicators show when Hubs are online and operating correctly, aiding in fault-finding and improving installation efficiency. Consistent with PowerShield8's modular approach, Hubs enable string-level visibility and thermal runaway protection (TRP). Digital inputs can provide visibility of external equipment status.

Controllers at the battery system level (The brains of the battery monitoring system)

Controllers are smart devices that collect, analyse and store the battery measurements retrieved from mSensors and Hubs. Continuous, fast data sampling in all string states (float, charge, discharge and idle) allows the Controller to understand battery behaviour and make real time decisions - initiating the event logging, raising alarm and thermal runaway protection.

Advanced data logging (7 log types) makes fault finding, assessing performance under discharge and life trend analysis easier. Value is added by calculating key battery management metrics. Every Controller has sufficient onboard storage capacity for the life of your batteries. The alarm limits are user configurable and can be adjusted to suit any battery application.

The Controller raises alarms specific to string state, with two threshold levels (warning and critical).
Alarms are output via Link and Assure, and relay contacts when required. Thermal runaway detection and protection is managed by the Controller, with protection options defined by the user.

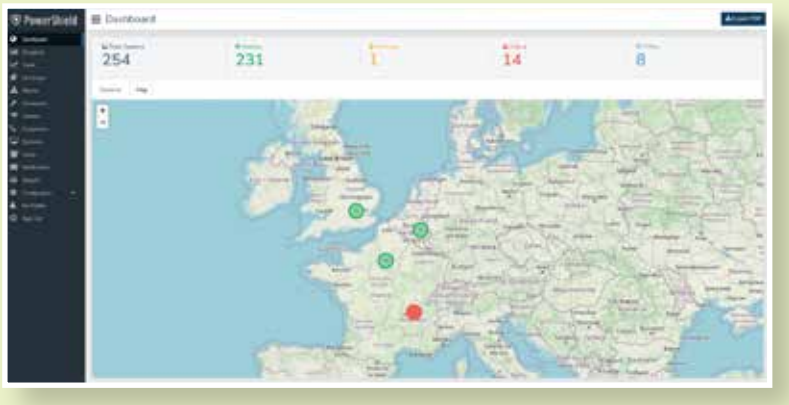
The Controller has a browser based UI for configuring the system and to visualise real time battery measurements. In the battery room, a dedicated service port, USB, SD card and LCD give simple visibility and data transfer options. Designed with two network ports, it allows the customer network to remain secure and uninterrupted during service visits.

Advanced battery management software

PowerShield8 offers three battery management software options

Assure - Cloud based

Intuitive and powerful - PowerShield8 Assure provides a window into the health and performance of all connected battery systems and assets, highlighting which ones need attention. It enables your team to make proactive, informed decisions and take action to optimise battery health, performance, and lifespan.



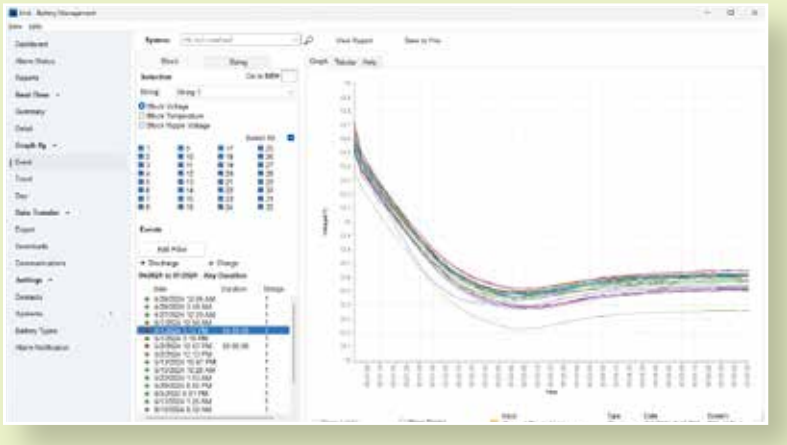
Data is turned into actionable information and insights in the form of powerful battery management dashboards and reports with user-defined alarms, alerts, and other automations to minimise the risk of battery failure and ensure that nothing is left to chance. Quickly identify the root cause of any battery issues with real-time data and powerful drill-down, drill-through, trending and comparison tools. Trend lifetime battery data.

Supports Lithium, VRLA, VLA and NiCad.

Cloud-based means you can access your battery management system and information wherever you are from any connected device.

Link - On-premise

PowerShield8 Link is Windows-based, on-premise battery monitoring software that is also suitable for field service use.
It has two editions: the Standard Edition for 24/7 operation and the Service Edition for field service use.
It has functionality similar to Assure but without the advantages that the secure Cloud offers.



Controller UI - Browser interface

PowerShield8 Controllers have a browser based UI for configuring the system and visualising real-time battery measurements. This UI is ideal for field service use or one-to-one connections across the LAN.

Take control

PowerShield8 advanced battery monitoring system

When continuous power is critical

If continuous power is critical for your operational success, then you need advanced battery management.
Battery failure is the largest cause of UPS failure, so to achieve uptime excellence, you first need to achieve battery management excellence.

PowerShield8 makes any battery asset smarter and easier to manage.

Battery management starts with measurement

All batteries fail at some point. The trick is to know when and what's causing any changes in battery status. To do this, you need to measure the right battery parameters accurately and frequently at an actionable level of detail.
You can only manage effectively if you are measuring the right things effectively. To manage standby batteries effectively, you need continuous real-time battery monitoring. PowerShield8 measures everything you need to achieve the highest battery management standards.

Data first by design

What sets PowerShield8 apart is its data-first system design. Every hardware and software component is designed to ensure comprehensive, high-frequency, accurate and repeatable data collection, management, and presentation. PowerShield8 makes your battery data accessible at the battery system and enterprise level. By using open data architecture standards to ensure that your valuable battery room data can be easily shared with other critical IT systems, such as a Building Management System (BMS) or Data Center Infrastructure Management (DCIM) System, you can ensure your valuable data can be delivered to where your team needs it most. A complete PowerShield8 advanced battery monitoring and management installation of hardware and software components ensures that all your battery assets are being monitored continuously in a consistent and comparable manner.

Modular, scalable and flexible

PowerShield8 is a versatile advanced battery monitoring system designed to make any standby battery installation smarter. PowerShield8 can be configured to consistently monitor an almost unlimited number of cells (Li-ion) or blocks (VRLA, VLA NiCad), whether in racks or cabinets, in a high-quality, consistent manner, regardless of their charging regime or location.

A full PowerShield8 installation allows you to view and manage all your battery assets across multiple locations in one system.

Powershield8 sets the standard

PowerShield8's high-quality, continuous real-time battery data sampling and ease of use set the standard for standby battery monitoring and management, delivering peace of mind that your stationary batteries will be healthy and ready to perform whenever they are needed.

UPS and Battery OEM agnostic PowerShield8 sets the standard in advanced battery monitoring systems designed to achieve battery management excellence.

Why choose PowerShield8

- **UPS agnostic** - works with all common UPS systems.
- **Battery agnostic** - works with VRLA, VLA, NiCad and Lithium batteries.
- **Flexible** - modular, scalable design that can be configured to meet each specific battery installation's requirements.
- **Integration** - multiple integration options for 3rd party BMS, DCIM and other systems
- **Powerful, intuitive software** for battery management excellence.
- **Proven technology** - trusted by industry leaders.
- **Battery data** - completeness, accuracy and repeatability. See your batteries more clearly.
- **See the status of all your battery assets** in one system.

Our sales & installation network includes:

VERTIV. EATON Schneider Electric socomec Innovative Power Solutions Chloride Power to Protect

Trusted by:

EQUINIX Microsoft DIGITAL REALTY NTT colt Cyxtera FUJITSU DCI Data Centers GLOBAL SWITCH NASA IBM Goldman Sachs Bank of America vodafone Morgan Stanley

ABOUT POWERSHIELD

PowerShield has been designing, manufacturing, installing and operating advanced battery monitoring and management systems in critical power facilities around the world for over 25 years.
A true specialist, PowerShield has its own in-house innovation and technical team and manufacturing to remain responsive to customer needs and the rate of change in technology.
Today, there are well over one million batteries being monitored by PowerShield systems in critical power facilities like data centers, banks, hospitals, telcos, power utilities and a wide range of industrial and commercial enterprises.

PowerShield™ SMART BATTERY MANAGEMENT

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