POWERSPHYR
A Connected World, Unplugged™

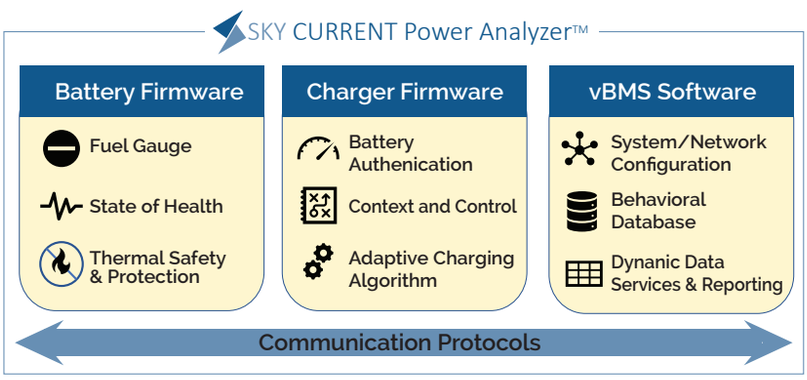
SKY CURRENT Power Analyzer™

Next Generation Virtual Battery Management Solution

PowerSphyr's SkyCurrent Power Analyzer™ (SPA) platform provides complete virtual battery management system (vBMS) control across registered batteries and chargers deployed throughout the enterprise. SPA automates collection and diagnostics of critical battery information over the life of each battery and retains this robust history to understand its current State of Health (SOH) to enhance battery safety, protection, maintenance, charge, discharge and asset management functionalities.

SPA integrates proprietary technologies to optimize thermal management and deliver a contextual precision charge and cell balancing to each battery. SPA ensures each battery in the fleet is maintained and charged at optimal capacity and provides alerts when end-of-life is near for replenishment ordering.

SkyCurrent Power Analyzer™ platform is optimized for PowerSphyr's suite of wireless charging solutions while also supporting traditional contact charging systems. The SPA platform is an extensible, intelligent software and firmware enterprise solution that supports multiple battery chemistries (Li-ion, NiMH, NiCd); battery pack topologies; and battery chargers (onboard or external).



SPA Serves Three Core Functions: Measure and Monitor, Customizable Charging, and Reporting & Analytics

Measure and Monitor

Synchronized monitoring and recording
- Battery voltage, current, and temperature

Battery Isolation and Shutoff
- Current flow interrupt for a critical failure condition

Retains in Battery Memory
- Mfg. Battery Detail & Specifications
- Registration ID & Authentication
- Battery Usage & Event History

Customizable Charging

Programable Control Parameter
- Safety & protection during charge & discharge

Fuel Gauge Accuracy to ±1%
- Continuous monitoring of the state of charge, scheduling recalibration as required

Customizable Charging & Calibration
- Trickle-; pre-; fast-; and end-charge monitoring

Calibrate Adaptive Contextual Algorithms
- Optimizes capacity based on health & state of charge, and cell-balancing

Programable Reconditioning Controls
- Based on life stage & parameter

Programable Presets for Storage & Transport
- Long-term storage
- Air Transport

Analytics & Enablement

Historical Battery Behavior Database
- Time-series intervals of each battery, charger, or device registered

Unique Battery Level Event Detail
- Battery serial number and chemistry
- Date of first use, age, and health
- Date of last charge, present charge
- Potential & rated Capacity
- Remaining capacity (%)
- # Charge cycles to date
- # Reconditioning and calibration cycles
- Replenishment recommendations

Custom Reporting & Analytic Queries

Enable OEM Data-Driven Services
- Early defect detection
- Predictive maintenance
- Warranty claims management
- Customer battery usage

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