LinkPower™
UPMS2000

Uninterrupted Power Management System 2000

Management System Specification
Network Interface, Web GUI, Monitoring, Logging & Alarms

The UPMS2000 management system provides network-based monitoring, alarm notification, parameter configuration, data logging, and maintenance diagnostics for 48V DC UPS applications. The system monitors input/output power, battery charge/discharge status, temperature, and alarm events through an integrated Web GUI and standard network protocols. For optional $LiFePO_4$ (LFP) battery configurations, the management interface supports key battery-health fields, including SoC/SoH, charging stage, temperature-related charge-inhibit events, and protective cut-off alarms.

Key Product Features

- 1 × RJ45 Ethernet management port, 10/100 Base-T.
- Supports HTTP Web GUI, Modbus TCP, and MQTT communications.
- Supports static IP and DHCP client network configuration.
- Built-in Web GUI for real-time monitoring, configuration, alarm review, trend/history display, and maintenance reminders.
- Multi-level user access control for administrator/operator roles and platform-level permission management.
- Remote commands for system reset, battery test, and load/power output ON/OFF control, subject to the control limitations noted in this specification.
- Support for AGM and LFP battery management fields, including battery pack voltage, charge/discharge current, load voltage/current/power, internal temperature, and battery temperature.
- NTP time synchronization, configurable time zone, Syslog export, CSV export, and configurable log-retention policy.
- Optional dry-contact alarm relay, digital inputs such as door and water intrusion signals, and external temperature probe support.

Technical Specifications

System Management & Network Interface	
Management Port	1 × RJ45 Ethernet port
Ethernet Standard	10/100 Base-T
IP Configuration	Static IP or DHCP client mode
Supported Protocols	HTTP, Modbus TCP, MQTT
Security / User Access	Multi-level user permissions, including administrator and operator access levels
Alarm Notification	Local buzzer support as a system-level option; alarm status displayed in the Web GUI
Remote Commands	System reset, battery test, and load/power output ON/OFF control
Web GUI Monitoring Fields	
System Status	AC input status, DC output status, operating mode, alarm status, and system health summary
Load Monitoring	Load voltage, load current, and load power
Battery Monitoring	Battery pack voltage, charge/discharge current, battery capacity/SoC, SoH when provided by the battery manufacturer, and battery alarm state
Charging Status	Charging stage, charging current, battery chemistry mode, and LFP charge-voltage limit status
Temperature Monitoring	Internal temperature and battery temperature; optional external temperature probe reading
Event History	Alarm history, protection cut-off history, mode-change events, and maintenance reminders
Trend Data	Load power trend, charge/discharge current trend, temperature trend, and battery-health trend display where platform data is available
AFM / LFP Battery Management	
Battery Chemistry Mode	AGM / LFP mode display and selection field in the GUI, coordinated with hardware/manual battery-mode selection as applicable
LFP Voltage Protection	In LFP mode, lock charging voltage upper limit and disable equalization charging
SoC / SoH	Display battery SoC/SoH when the battery manufacturer or BMS provides the required data
Charging Stage	Display charging stage and charge/discharge status
Temperature Protection Fields	Display high-temperature charge derating, high-temperature charge cut-off, and related protection events
Automatic Recovery	Support automatic recovery hysteresis display/handling for high-temperature protection conditions where platform logic supports it
Alarm & Safety Cut-Off Events	
AC Failure	AC input loss or abnormal AC input condition
Battery Discharging	System operating from battery backup power
Battery Low Voltage	Battery low-voltage warning and protective event display
Battery High Temperature — Charge Derating	Battery temperature exceeds the configured derating threshold; GUI displays derating/protection status
Battery High Temperature — Charge Cut-Off	Battery temperature exceeds the configured cut-off threshold; system reports charge cut-off/protection event
Protection Control Note	The management system detects battery temperature and reports alarms. It cannot independently cut off battery charging unless the platform controls the power/charger switching path.
Mode Switching	Event log records transitions such as AC mode, battery mode, battery test, and protection recovery
Digital Input Alarms	Optional door contact, water intrusion, or other digital input alarm events

Time, Logging & Data Export	
Time Synchronization	NTP time synchronization
Time Zone	Configurable time zone setting
Event Log	Timestamped alarm, cut-off, protection, recovery, and mode-change events
Syslog	Syslog export support
CSV Export	CSV export support for logs and trend data
Retention Policy	Configurable log-retention policy as supported by the platform
Optional I/O and External Sensors	
Dry-Contact Alarm Relay	Optional relay output for local alarm signaling or external alarm integration
Digital Inputs	Optional door contact, water intrusion, or other external sensor inputs
External Temperature Probe	Optional probe for battery or enclosure temperature monitoring
Local Buzzer	System-level optional local audible alarm support

The UPMS2000 management interface supports AGM and optional $LiFePO_4$ (LFP) battery operating modes. Battery chemistry mode selection is provided through the platform configuration and shall be reflected in the Web GUI. For LFP mode, the charging voltage limit shall be locked according to the LFP battery charging requirements and equalization charging shall be disabled.

Battery Health Monitoring Display

The Web GUI and/or local display may present battery voltage, capacity percentage (SoC), alarm state, and trend history. The following image is included as a reference example for battery-health monitoring display design.

Revision	Date	Description
1.0	May 2026	Created UPMS2000 Management System Specification based on the UPS2048 Management Function Specification.

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