Elina by amperehour



Intelligent operating software for energy storage



ELINA: A flexible energy storage operating software

ELINA is a hardware agnostic, flexible energy storage management system, built to adapt to ever changing power markets and revenue streams. With its unique layered architecture, ELINA is able to achieve greater flexibility than most other energy management software products.



HARDWARE AGNOSTIC

ELINA can be deployed with the hardware of your choice. This gives you complete hardware procurement freedom and prevents you from being locked in with a single OEM, while still achieving standardization of data and controls over your entire asset pool. ELINA has been integrated seamlessly with over 50 battery and inverter makes to date and growing.



HIGHLY CUSTOMIZABLE

Every customer's energy storage application is different. ELINA's layered approach and API driven architecture allows us to quickly create new operation philosophies to suit the customer's specific needs as power markets evolve and new revenue streams get generated. The user interface is also highly customizable to suit different use cases, battery types and asset configurations.



SEAMLESS TO INTEGRATE

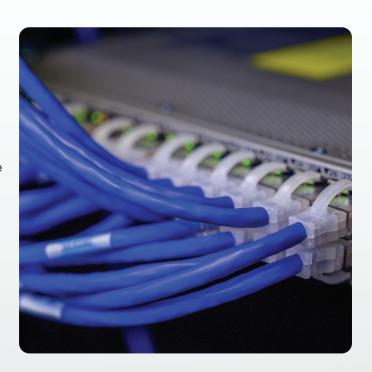
ELINA can be used with its own web-based user interface, or integrated into any web-based software or SCADA platform that you currently use using REST APIs or standard protocols like MODBUS / DNP3 / IEC-61850 / IEC-104. Additionally, the APIs allow you full access to data and control endpoints to create your own control strategy as per your business needs.

APPS Application layer built on **Energy Shift Backup Power Ancillary Services** top of the Elina OS **Multi Source** Wholesale Market **Peak Shaving** OS Micro-Grid Control **Participation** Base layer that acts like an **Operating System Power Factor Optimised Mode** Ramp Rate Control Correction Scheduling **HARDWARE** Off-the-shelf, modular hardware Customised **Solar Maximization** to interface with field devices **Phase Balancing Applications FIELD DEVICES & EXTERNAL INPUTS**

Elina-Edge

ELINA-Edge is a local energy storage management system (hardware + software) that can be easily deployed with any of your existing or new energy storage assets independent of the underlying hardware. ELINA-Edge allows you to:

- Collect battery, inverter, load, grid and all other relevant site data in real time
- Manage energy storage operating limits, charge discharge set points, flexible loads, fire safety and thermal regulation to ensure your site runs safely from Day 1
- Run built-in active and reactive power control modes such as energy shift, peak shaving, PF improvement and many more
- Build custom control algorithms using ELINA's standardized REST API architecture.
- Integrate data and controls into any third party DERMS / Central EMS / SCADA software over a variety of protocols



Elina-Server

ELINA-Server is a cloud-based software platform that helps you to remotely monitor, analyse and control all your distributed energy resources. ELINA-Server allows you to:

- · Generate a standardized data and controls format across your diverse DER fleet
- · Create a virtual power plant and remotely control all your DERs from a single platform
- · Manage non co-located wind + solar RE assets as a single hybrid power plant
- · Analyse individual as well as aggregated site performance metrics
- · Analyse battery health, performance and track predicted battery lifetime
- · Track battery warranty terms regarding throughput, operating limits and more

ELINA-Server can be used with its own web-based user interface, or the APIs can be integrated into any web based software that you currently use. The entire system can be hosted either on the cloud or an on-premise server, as per your requirements.





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