



***Protects your  
Business from Costly  
Downtime!***

***Alpais Battery Management System:  
Product & Solution Overview***



**About Us**

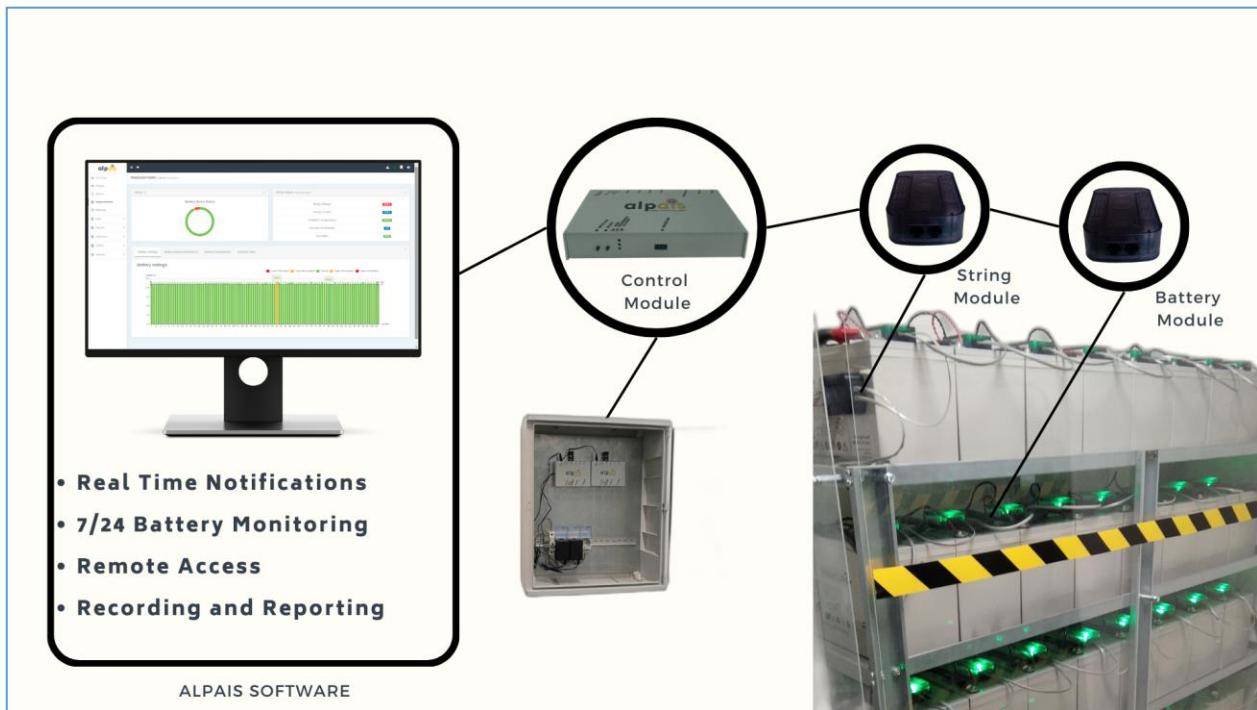
*Located in Turkiye, Alpais BMS is designed and manufactured here, to cover today's energy and power sector needs. With its customer satisfaction-based perspective, and its own R&D and production team, its aim is present effective solutions for all kinds of requirements.*



# ***First look at the Alpais Battery Management System***

***Alpais Battery Management System brings an innovative perspective to battery monitoring solutions.***

It is a harsh thing to ensure the providing a "safe working area" for batteries due to their nature. Primarily in Data Centers ambient, and device monitoring is crucial. Furthermore, every system requires another customized solution. With its powerful R&D team and hardworking production team, Alpais BMS presents various solutions.

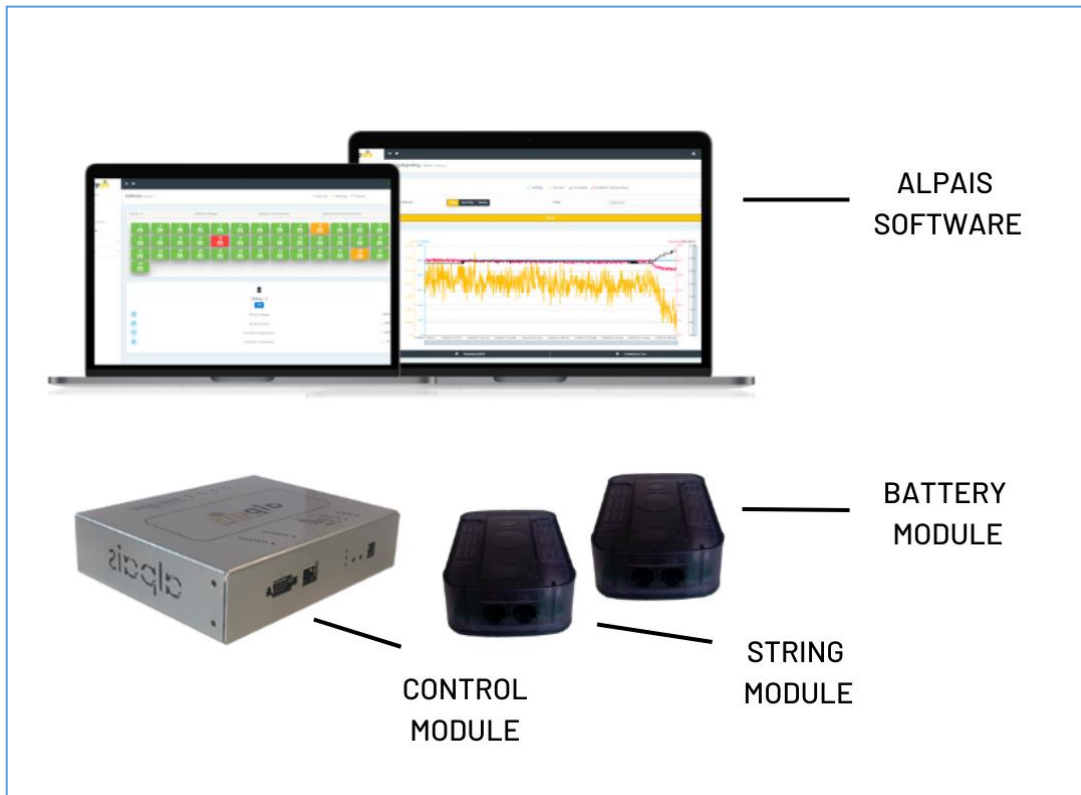


***Ensure the getting maximum efficiency of the battery backup systems.***

For critical power infrastructures, every piece of the entire system has to be high quality and efficient. Today's world requires more power efficiency due to the environmental crisis. And, when it's coming to the battery backup systems it has taken real importance to get the best of it.

Alpais BMS provides real control of the system by doing this it prolongs the lifespan of the whole system.

# System components



## Control Module

**Optionally an Embedded Server with the Control Module!**

The Control Module is located at the center of the system and is responsible for saving and processing the parameters transmitted from the batteries and string units and sending these data to the Alpais Software. The Control Module collects, processes and records of these values; voltage (string & battery), current, internal resistance, temperature (battery & ambient), and humidity.

### Some remarkable features

- ❖ Flexible and scalable setup based on each system.
- ❖ 2 different levels for notifications; *warning* and *alarm*.
- ❖ *Collects the data in 30 seconds intervals.*
- ❖ Remote access from anywhere via smartphone, or tablet.

- ❖ Each Control Module has 4 ports for strings. With one Control Module a maximum of 480 batteries can be monitored.
- ❖ SNMP and Modbus are provided for communication with other systems
- ❖ Dry contacts can be utilized for other requirements.

## String Module

The string current, ambient temperature, and humidity ratio are measured, and the measured parameters are transmitted to the control module via Modbus protocol. Also, the string module is responsible of transmitting the battery module measurements to the control module.

## Battery Module

The voltage, internal resistance, and temperature parameters of VRLA, VLA, or Ni-Cd type batteries are measured, and the measured parameters are transmitted to the control unit via Modbus protocol.

### Some remarkable features

- ❖ Modular solution; one Battery Module for each battery.
- ❖ Every measurement is individual.
- ❖ 1,2V, 2V, 6V, and 12V solutions.
- ❖ IEEE guidelines are followed for measurement methods.
- ❖ Easy installation and commissioning.
- ❖ Automatic addressing for battery modules.
- ❖ The modules' transparent covers provide on-site detection for the battery status.

### Optional features;

Battery Balancing

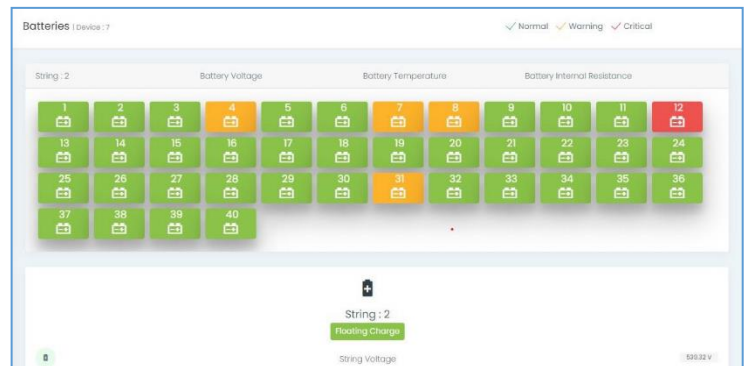
Battery State of Health (SOH)

## Alpais Software

Alpais Software can provide monitoring of large-scale systems, even if they're in different facilities/countries through a single control center. With its user-friendly colorful interface, and real-time notifications, it allows one to take actionable decisions to ensure the system is running continuously.

### Some remarkable features

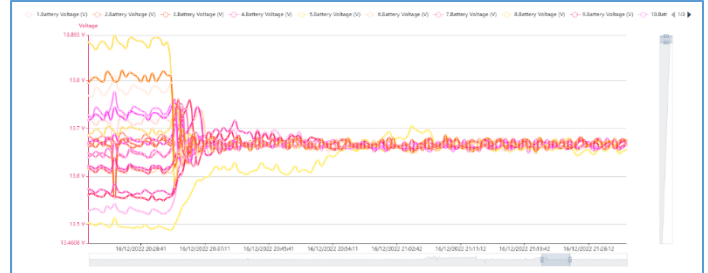
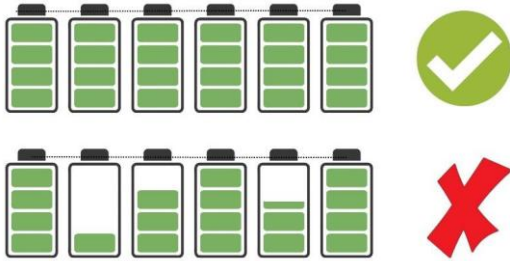
- ❖ Real-time monitoring
- ❖ E-mail and SMS notifications
- ❖ Alarm and event activities
- ❖ PDF or Excel reports
- ❖ Graphics and analysis tools
- ❖ Alarm history and service logs
- ❖ Charge/discharge recording
- ❖ Local network or Cloud, Web-Based monitoring



# Additional Features

## Battery Balancing

Alpais BMS's Battery Balancing feature is used to keep the individual battery voltage at the desired charge voltage level for each string. In this way, the system ensures that all battery voltages in the string are close to equal. The bad effects of the batteries on eliminating the overcharging and inability to fully charge the batteries are prevented. This ensures that the string life is extended and its capacity is increased.



## Advantages of ALPAIS BMS's BATTERY BALANCING

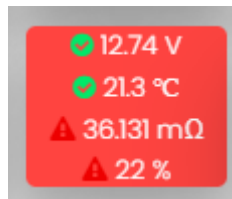
**Regulation of charging;** helps prevent overcharging and undercharging, both of which can lead to reduced battery life.

**Individual voltage regulation;** helps prevent sulfation and stratification, two common issues that can impact battery performance and lifespan.

**Maximizes battery capacity;** ensuring that each battery is functioning optimally and fully charged. This leads to increased efficiency, reduced maintenance costs, and longer battery life.

## Battery State of Health (SOH)

Battery State of Health is an estimated value for each battery. Based on this capacity, the system makes a prediction on the battery capacity. The user evaluates this data and bases the actions on the batteries.



**“ALP ENERJİ SİSTEMLERİ”**  
Addresses

**Headquarter & Manufacture:** Atakent Mahallesi Vatan Caddesi No:40/1, 41275 Basiskele/Kocaeli, Turkiye

**R&D Department:** OSTİM Teknopark-Ostim OSB Mah. Cevat Dunder Cad. No:1/1/66, 06374 Yenimahalle/Ankara, Turkiye