

Battery Monitoring System



Welcome to **Power Elektronik Inc.**
Presentation

Who is Power Elektronik Inc.?



Power Elektronik Inc., located in Istanbul of Turkey and which has been providing production, sales and after-sales services in the power electronics industry for more than 20 years and with its more than 20 million annual turnover, is one of the pioneering and innovative companies in the sector that provides product sales and services to more than 50 countries.



Mr. Gökhan Özden
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Who is Power Elektronik Inc.?



Power Electronics Inc., also supports the development of the power electronics sector with the domestic capital products developing due to its R&D Center.

Power Electronics Inc., does not only sells products, but also provides solutions to the problems of its customers in power electronic sector all around the world.



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Who is Power Elektronik Inc.?



International System Certificates:



ISO 9001 – Quality Management

System Certificate



ISO14001 – Environmental Management

System Certificate



OHSAS18001 – Occupational Health and Safety

Management System Certificate



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Who is Power Elektronik Inc.?



Power Electronics Inc. has
R&D Centre Certificate issued
by Turkish Industry and
Technology Ministry.

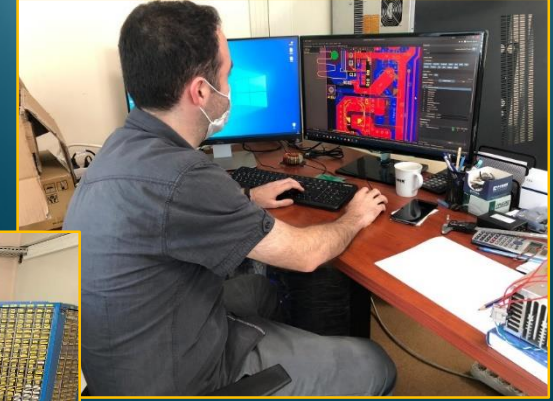
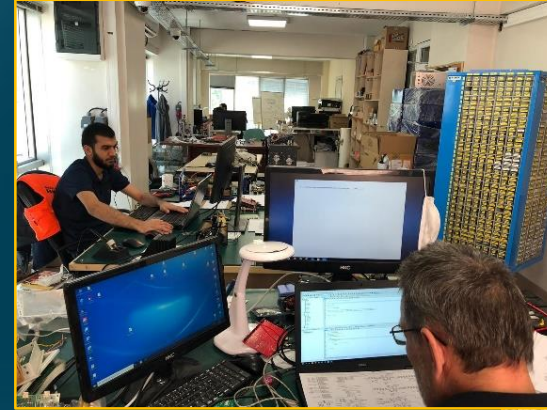


Who is Power Elektronik Inc.?



We have **15 Professional R&D Design and Software Engineers.**

All test and power quality measurements are carried out by our **R&D and Technical Service** departments



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Battery Monitoring System

Batteries are used in various critical applications such as;

- ❖ Railways
- ❖ Industry
- ❖ Data Centers
- ❖ Base Stations
- ❖ Hospitals
- ❖ Airports



Battery Monitoring System



As you know, with passing time, the batteries are getting older and begin to lose their capacity. Even, one battery's failure could cause the others in the same string to get fail after a while, as well.

In order to monitor the condition of each battery remotely one by one, we suggest our customers to use **Battery Management System.**

You could use these systems for both batteries connected to your UPS' and to battery chargers

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Battery Monitoring System

What Causes the Battery Failure?

Causes of Failure	Value Monitored with BMS
Aging	Internal resistance and ambient temperature
Internal battery short circuit	Battery voltage
Inaccurate float charge voltage	Float charge voltage
High battery temperature	Battery temperature
High ambient temperature	Ambient temperature
Abnormalities in charge/discharge currents	String current & voltage

Source: EATON - The large UPS battery book

Battery Monitoring System

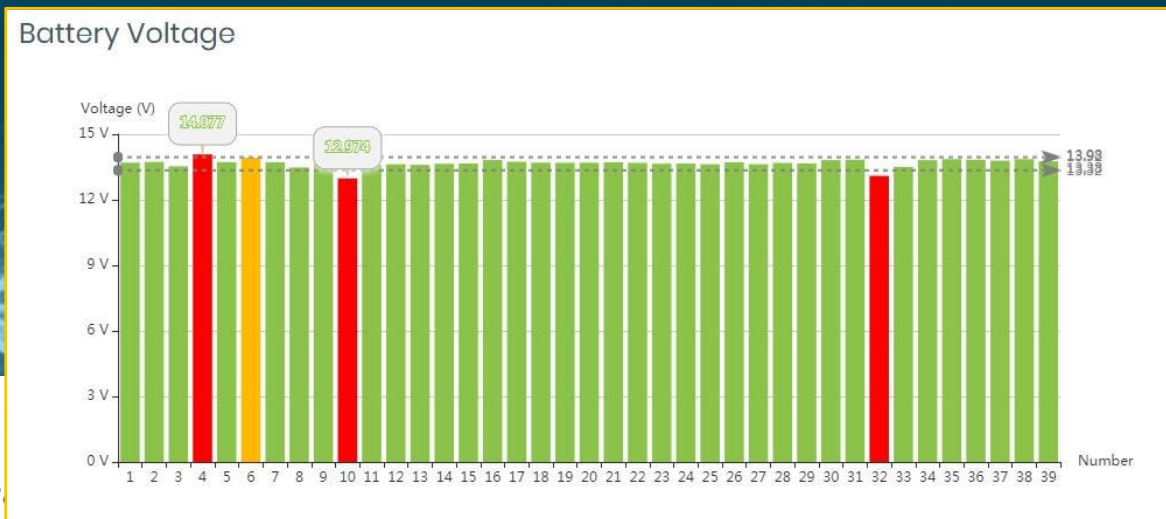
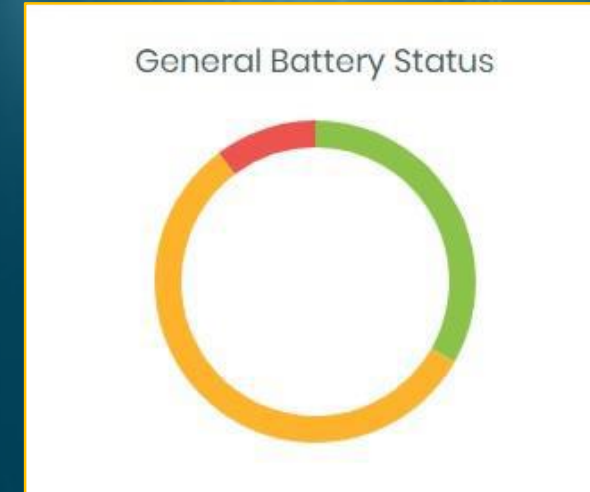


Battery Monitoring Systems are the brains behind battery packs.

They manage the output; charging, discharging and provide notifications on the status of the battery pack.

They also provide critical safeguards to protect the batteries from damage and give information about ambient temperature.

Battery Monitoring System



String Values (Floating Charge)

String Voltage	533.48 V
String Current	0 A
Ambient Temperature	25.7 °C
Number of Batteries	39
Humidity	21 %

Battery Monitoring System

Benefits of Battery Monitoring System

- ❖ It ensures planned battery purchases by preventing emergency situations by following the data received from BMS.
- ❖ Preventive activities are carried out with the BMS to ensure the continuity of business uptime.
- ❖ The remote access feature lets you manage and control your business from anywhere.
- ❖ It provides identification and verification of warranty status with recorded data and reporting. The performance of the used batteries is recorded annually.

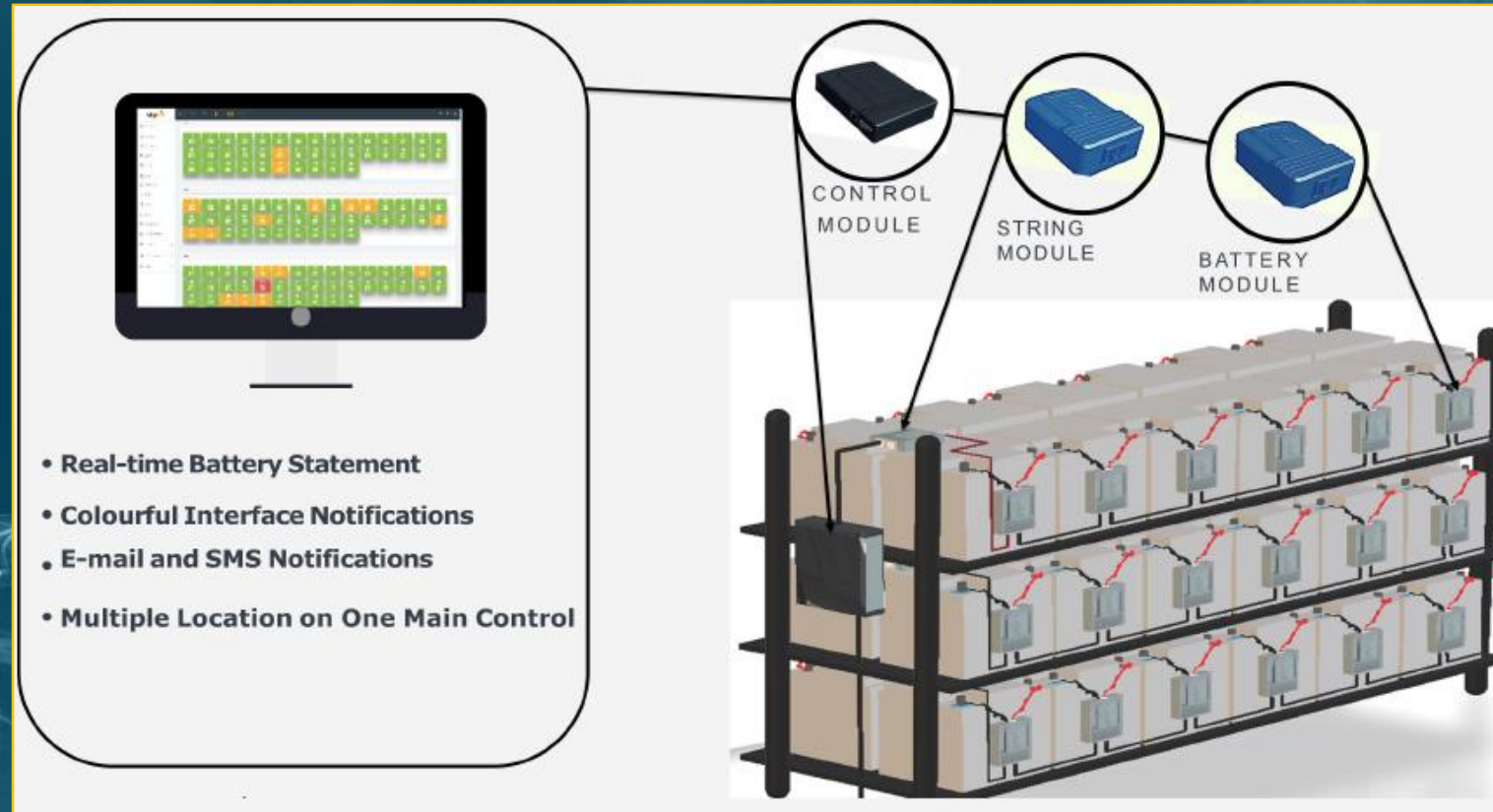
Battery Monitoring System

Benefits of Battery Monitoring System

- ❖ Thanks to the temperature sensors, it is possible to detect possible fire risks in advance. Along with the reduction in fire risks, premiums in insurance policies could be beneficial.
- ❖ Keeps your personnel away from battery racks / rooms and areas where sensitive operations are performed, ensuring their safety as well as continuing operations without hesitation.

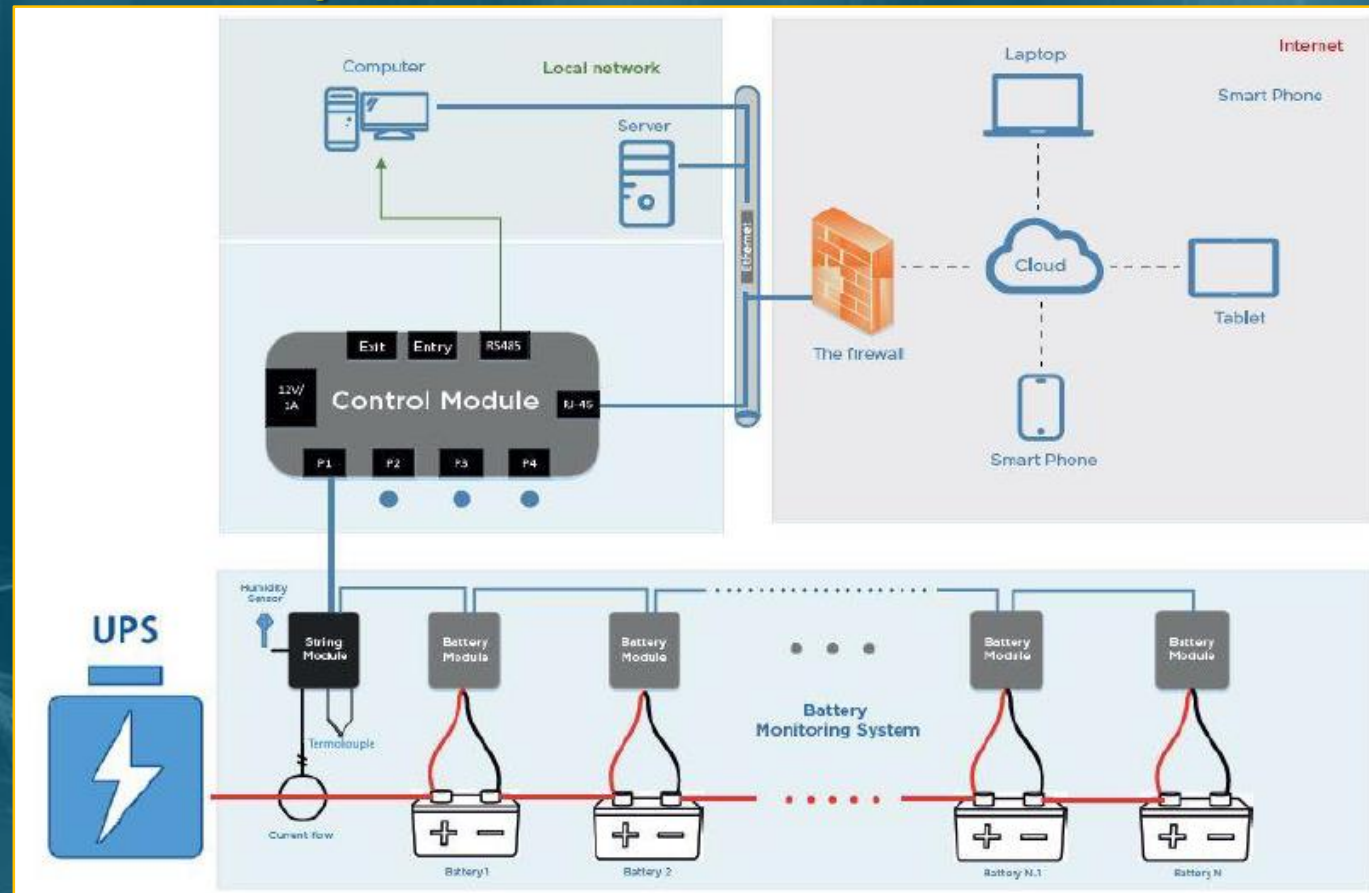
Battery Monitoring System

Components of Battery Monitoring System



Battery Monitoring System

System Architecture of BMS



Battery Monitoring System

What Makes Our BSM Different from the Similar Products in the Market?

- ❖ One battery module for each individual battery.
- ❖ Automatic software update for each battery module.
- ❖ Automatic addressing for each battery module.
- ❖ Battery and string parameters can be reported daily, monthly or yearly and exported in CSV file format and graphically displayed on the interface in time axis.
- ❖ There are three different LED light sources on battery modules and string modules for easy identification of faulty batteries and these LEDs can be easily seen by the user thanks to the semi-transparent cover in the module.

Battery Monitoring System

What Makes Our BSM Different from the Similar Products in the Market?

- ❖ No extra hardware required for SMS notification.
- ❖ Belonging to the same user is physically located in different systems, it can be monitored from a single point without requiring extra hardware and software costs.
- ❖ Battery monitoring system has electromagnetic compatibility (EMC) and has low voltage compatibility (LVD). Test reports were given by accredited test laboratories.

Battery Monitoring System

Thank You For Attending Our Presentation and Sharing Your Time.



For Your Questions, Please Feel Free to Get Contact With me Via My Below Mail

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