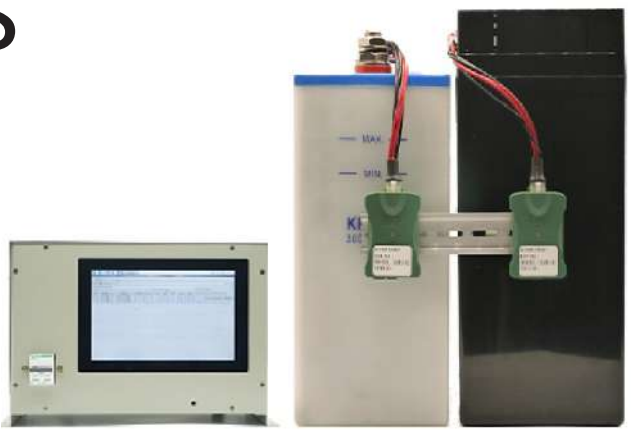
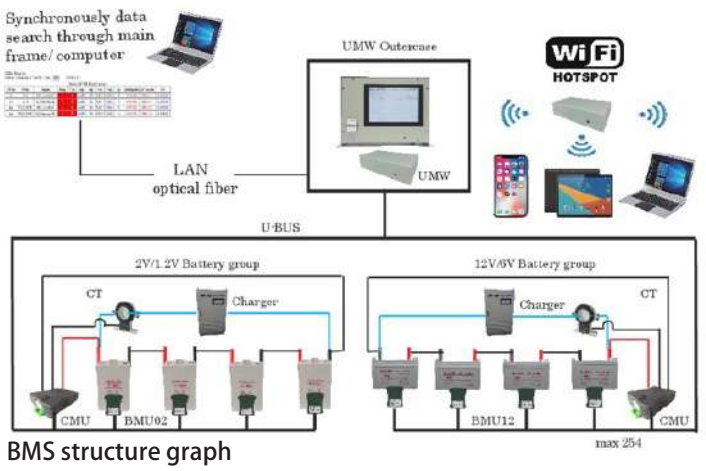
AIoT BMS



Product features

- ◆ Varied battery managemet styles
- ◆ 24 hours automatically monitoring
- ◆ Wi-Fi and hotspot connect method
- ◆ High extensibility of hardware allows user to manage big amount of battery
- ◆ B-TEK special forecast scatter chart
- ◆ E-mail alarm notification
- ◆ Monitoring item includes battery volt., temperature, DCR, micro-discharging volt. and EMF
- ◆ B-TEK unique AI forecast function
- ◆ Support Modbus TCP/IP, RTU and LAN method



BMS structure graph

BMS main hardwares

BMU (Battery Monitoring Unit) collects the battery data and sent it back to UMW ,analyzing the deteriorated reason and do the AI forecast.

CMU (Charger Monitoring Unit) measures the charging and discharging current of charger and total volt. of battery bank.

UMW (U-bus Mini Workstation) analyzes and storages the data collected from BMU, forecasting and doing the function setup.

BMU is installed to the individual battery, collecting the data and send it to UMW to analyze. BMU is powered by the detected battery, therefore the extra power is not needed. This unit applies to a lead-acid battery, Nickel cadmium battery, lithium battery. . BMU analyzes 5 parameters: terminal voltage, temperature, dc resistance, micro-discharging voltage and electromotive force. By analysis, the system finds the deteriorated reasons for the battery and do the predictive maintenance. The groove on the back of BMU allows it to attach on the mounting rail. Dimension is 75*57*31mm. Reverse connection protection function will keep the internal circuit of BMU intact from a reverse connection.

Type	Nominal volt.	Volt. measuring range	Temp. measuring range	DCR measuring range	Volt. resolution	Volt. accuracy	Temp. resolution	Temp. accuracy	DCR resolution	DCR accuracy	DCR repeatability	Communication baud rate
L type	1.2V/2V	0.9~3.0V	-10~70℃	0.05~11mΩ	0.001V	±0.5%	0.1℃	±1℃	0.001mΩ	±2%	±2%	9600
H type	6V/12V	5.0~16.0V	-10~70℃	1~50mΩ	0.001V	±0.5%	0.1℃	±1℃	0.001mΩ	±2%	±2%	9600

CMU connects to the charger and UMW. The main purpose is monitoring the current of the charger and total voltage of the battery bank. The groove on the back of CMU allows it to attach on the mounting rail. Dimension is 75*57*31mm.

Type	Volt. measuring range	Total Volt. resolution	Total Volt. accuracy	Current resolution	Current accuracy	Input voltage
CMU	0~600V	0.01V	±0.25%	0.1A	±1%(F.S.)	+12V

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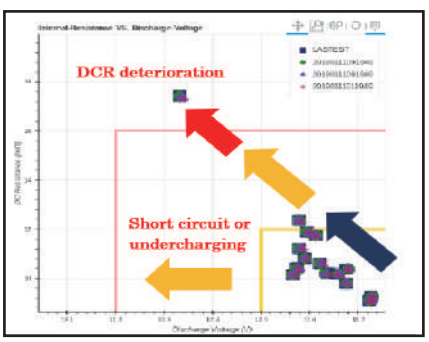
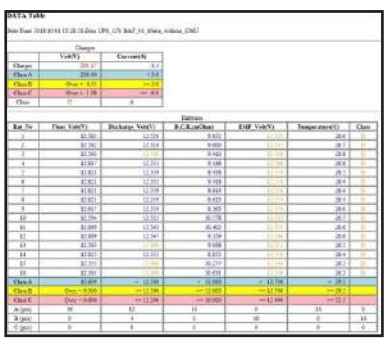
UMW provides the website browsing function, the user can access the real-time data, historical data, forecast scatter chart, line or curve graph through it. We can utilize a computer, mobile phone or tablet to remotely access the system through ethernet and hotspot function. Besides that, we can also use the FTP and VNC software to remotely access the data or control the system. When the system detects the abnormal parameter, it will automatically send the email notification and inform the users. Another AI function can provide a maximum of three years predicted data of the battery by analyzing the historical data. Efficiently manage the energy system.

Type	Input Volt.	Operating Temp. range	Data output method	Unit maximum connective amount	Dry contact alarm	10.1 inch touch screen	AI function	shortest scan time period	communication signal overvoltage protection	Output file
UMW	+12V	-10~70℃	Modbus TCP/IP Modbus RTU Ethernet(LAN)	254	4*1a1b	with	with	10 sec.	DC/AC 1000V	CSV file

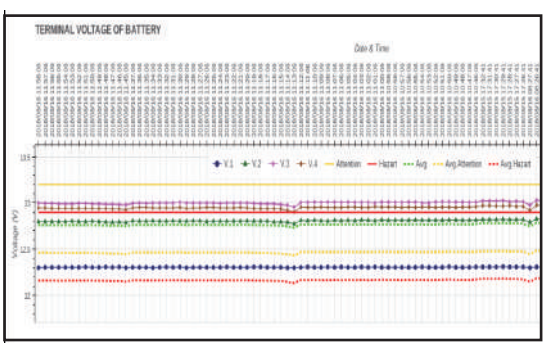
Main grpahs of the system



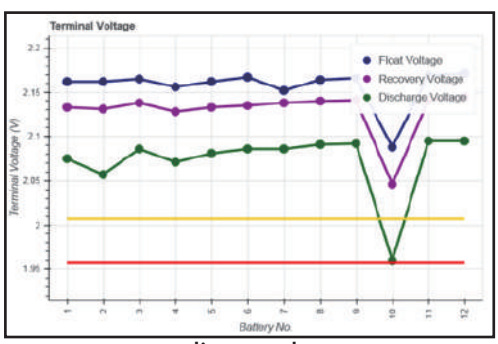
Forecast scatter chart



Data table



Historical curve graph



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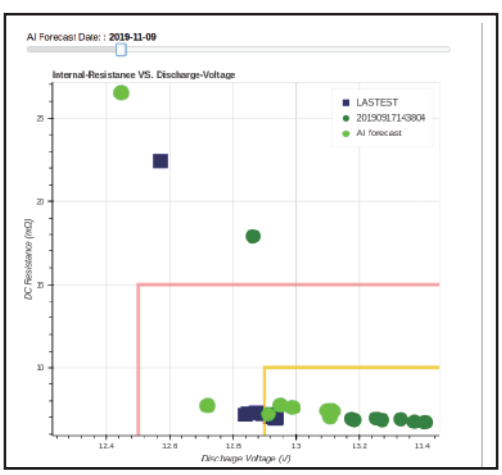
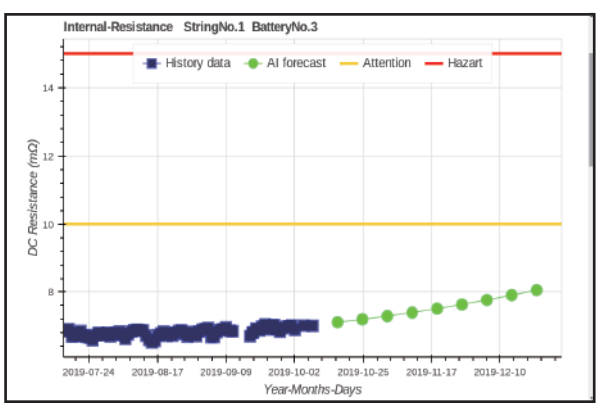


Forecast scatter chart (with AI)



Predicted curve graph of single battery (parameter)

Distributor

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