# LFP.6144.W  LIFEPO4 BATTERY

The LFP.6144.W lithium iron phosphate (LiFePO4) battery has made breakthroughs in the conventional PACK design by focusing on the internal structure design. It aims to avoid risks of malfunctions and fire hazards caused by abnormalities of the internal cells due to prolonged use. In combination with a BMS (Battery Management System) that incorporates up to 115 sensor data, the battery is made more stable and safe. It has also passed TUV Nord IEC-62619, IEC61000-6-1/3, ETL-UL1973 testing.

MENRED E88

440mm

600mm 210mm
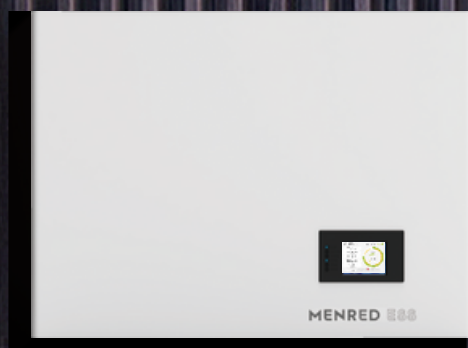
## LFP.6144.W
* 3D model available

· Selecting inverter communication protocol directly on the touch-screen.
· Battery Cycle Life >6000 Times @ 25°C&0.5°C.
· Max Parallel 16pcs to 98.24kWh.
· Discharge/Charge 120Amp.
· Support 6000W Inverter.
· Support 27 Inverter Communication protocols.
· Warranty: 5 Years/10 Years(Option).

## System Parameters

| Model | LFP.6144.W |
|---|---|
| Battery Cell | Lithium Iron Phosphate (cobalt-free)-LiFePO4 |
| Energy Capacity | 6.144kWh |
| Usable Capacity | 5.83kWh |
| Nominal Voltage | 51.2Vdc |
| Operate Voltage Range | 44.8Vdc-57.6Vdc |
| Max Charge Current | 120Amp |
| Max Discharge Current | 120Amp |
| Max Parallel | 16pcs to 98.24kWh |
| Cycle Life | ≥6000times @ 0.5C & 25°C |
| Operate Temperature | Battery discharge:-10°C to +50°C, Battery Charge: 0°C to +50°C |
| IP Grade | IP21 |
| Installation | Wall-Mounted or Floor Installation |
| Communication Port | CAN/RS485 |
| BMS Monitoring | SOC, System Voltage, I/O Current, Cell Voltage, Cell Temp, Battery Status, Fault code |
| Support Inverter Brands | **CAN:**<br>Victron V1.0/SMA V2.0/ Studer V1.03/CNBOU V1.0/ PYLON V1.3/Goodwe V1.5/SUNGROW V1.3/Solis V1.0/ SOFAR V1.0/Growatt V1.05/Growatt V1.01/Luxpower V1.0/ Sol-Ark V1.2/TBB V1.02/Deye V1.0/LIVOLTEK V1.0/ Sorotec V1.0/MEGAREVO V1.01/Afore V1.0/Sacolar V1.05<br>**RS485:**<br>PYLON V3.5/DEYE V1.0/SRNE V1.3/Growatt V2.01/ SMKSOLAR V2.01/EPEVER V1.4/Voltronic V1.0 |
| Products Size | 600*440*210mm |
| Weight | 65kg |

## Support Inverter Brands

victron energy | SMA | STUDER | Deye 德業 | PYLONTECH | 固德威 GOODWE | 渃 solis | MUST | xindun GREENPOWER | hoymiles

SOFAR 首航新能源 | Growatt | LUXPOWERTEK | Sol-Ark | TBB POWER | LIVOLTEK | MEGAREVO | Afore | 爱士惟 AISWEI | CHINT POWER

Sacolar | srne | SOROTEC Power Solutions Expert | Voltronic Power | EPEVER | SMKSOLAR 新量科新能源 | SUNGROW | SUN SYNK

Bentterson | MPP Solar | EASUN POWER | NEP | hinen | LU 欧陆电气 | RENAC | invt | Techfine | tbb | eneiqy

## Optimized structural safety

Unique design with integrated plastic fixturing modules allows for approximately 7mm gap between battery cells, ensuring sufficient and uniform heat dissipation during full load charging and discharging to avoid rapid aging caused by inadequate thermal dissipation at the center of the cells.

Additionally, it mitigates the risk of cell swelling due to prolonged usage, which could lead to short circuits and fire hazards within the overall structure.



## Efficient laser welding

By using aluminum connecting strips with a current rating of three times higher than the nominal current, the series losses between battery cells are minimized, resulting in lower heat generation. Seamless integration of laser welding with automated production lines, along with precise positioning provided by vision systems, ensures reliable connections and reduces the risks of detachment and false welding caused by inaccurate welding positioning.



## Comprehensive protection BMS

The battery protection system with up to 115 sensing protections provides comprehensive protection for battery cells. It has a passive balancing function that automatically balances the cells when charging or discharging to their limits, ensuring a high level of cell consistency. This helps maintain the overall battery performance with minimal degradation.



1. OVER-PROVISIONING BMS BOARD WHICH IS 150A DERATING OF 120A
2. COMPREHENSIVE PROTECTION AGAINST 115 OCCASIONAL ERRORS
3. WORKING WITH 27 INVERTER PROTOCOLS

## Unique connection design



The unique connection design includes a hot-pluggable interface and a concealed top and bottom entry/exit terminal. It features compatibility for both wall-mounting and stacking, offering a space-saving and easy installation solution.

It supports parallel connection of up to 16 battery modules, allowing the energy storage system to expand up to 98.3 kWh capacity.

## Touchscreen EMS panel

It is equipped with a 2.8-inch touchscreen LCD display that can show detailed information such as system SOC (State of Charge), status, and fault messages. The display screen allows easy switching of communication protocols and is compatible with 27 major inverter brands on the market.

It also supports Bluetooth and Wi-Fi configuration, allowing users to monitor the battery's operation in real-time through an app. This enables convenient online monitoring of the battery's performance.

# TAKING EACH BATTERY SERIOUSLY, AND MAKING ALL DATA CAN BE TRACED

From individual cell OCV testing, laser welding with visual calibration, semi-finished product testing after connecting to the BMS, to final product aging testing, every step is recorded. The accumulated data forms a unique product identification code, which can be used to view detailed data throughout the manufacturing process.
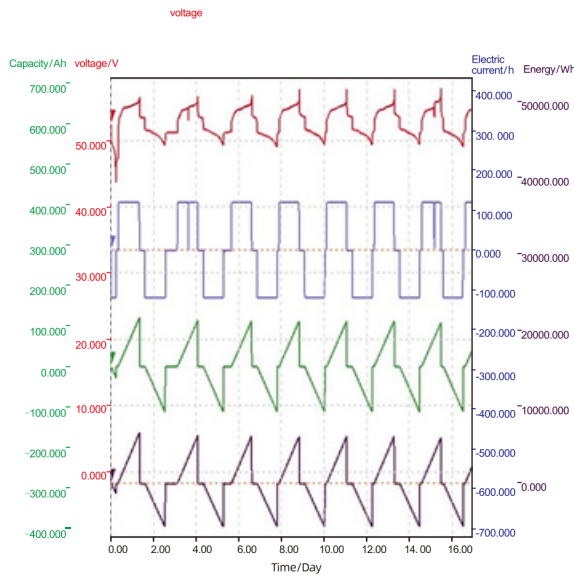


Every battery will undergo a cycle test, including full charge and discharge to test its protective performance. All data will be saved in the system.
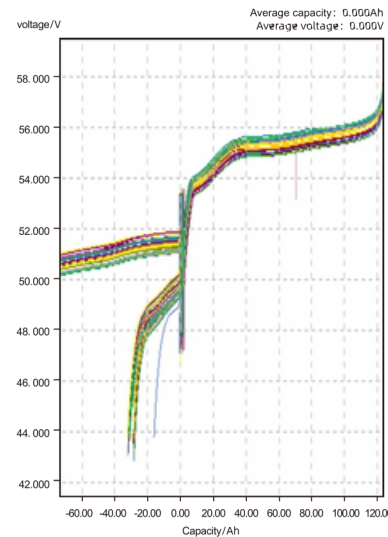
The batteries from the same batch are compared through curve analysis to ensure a high level of consistency for each battery.
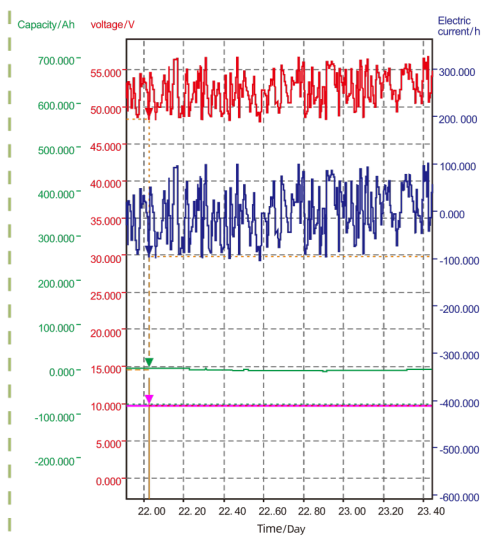
Performing operational simulation experiments to simulate real-life usage scenarios and validate battery performance.