VOLTAMAX

PRODUCT SPECIFICATION

Lithium Iron Phosphate (LiFePO4) Battery

VTM1245(12.8V45Ah)

ELECTRICALSPECIFICATIONS

Nominal Voltage	12.8V
Nominal Capacity	45Ah
Capacity @ 22.5A	⩾45Ah
Energy	576Wh
Resistance	⩽20 mΩ @ 50% SOC
Efficiency	> 99%
Self-Discharge	<3% per Month
Maximum Modules in Series and Parallel	4S4P

MECHANICAL SPECIFICATIONS

Dimensions (L x W x H)	L：197±2mm W：167±2mm H：172±2mm
Weight	5 kgs
Terminal Type	M6
Case Material	ABS
Enclosure Protection	IP65
Cell Type	Cylindrical
Chemistry	LiFePO4

DISCHARGE SPECIFICATIONS

Maximum Continuous Discharge Current	90A
Peak Discharge Current	225A (3 s)
Recommended Discharge end Voltage	11 V
BMS Discharge Cut-Off Voltage	8.8 V (2.2 ±0.1 v)

CHARGE SPECIFICATIONS

Recommended Charge Current	9A
Maximum Charge Current	45A
Recommended Charge Voltage	14.4V
BMS Charge Voltage Cut-Off	15 V (3.75±0.05 v)

TEMPERATURE SPECIFICATIONS

Discharge Temperature	-20 to 60 ° C
Charge Temperature	0 to 60 ° C
Storage Temperature	10 to 40 ° C

COMPLIANCE SPECIFICATIONS

Certifications	UN38.3 (battery)
Shipping Classification	UN 3480, CLASS 9

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DIMENSIONAL SPECIFICATIONS



L：197±2mm		W：167±2mm	H：172±2mm
BAT+：	M6	BAT-：	M6

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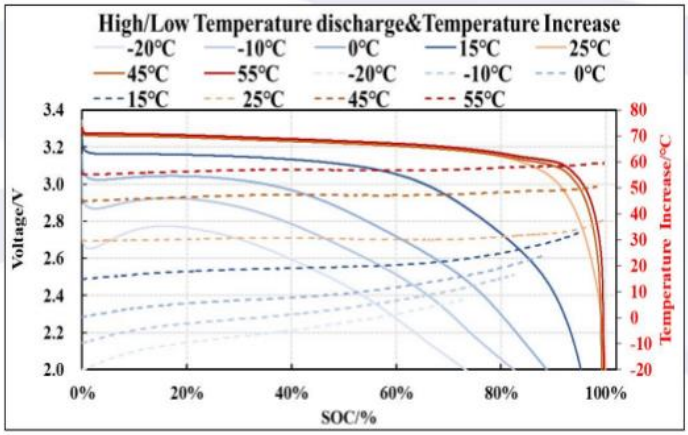
PERFORMANCE CHARACTERISTICS

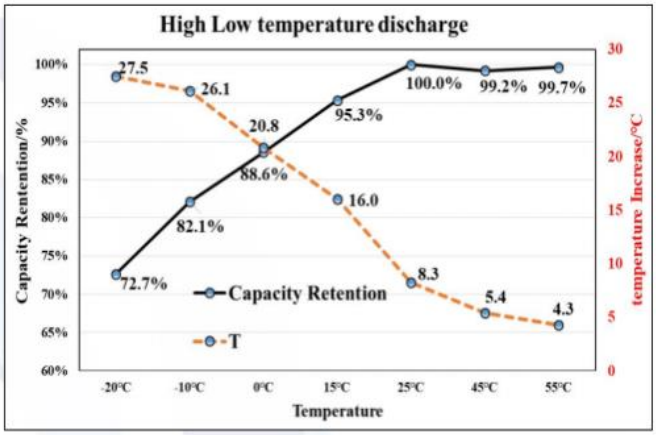
High/Low Temperature Discharge

- **Test Method:**

① **Charge: 0.5C CCCV charge to 3.6V, 0.05C cut-off at 25±3°C**

② **Discharge: 1C discharge till 2.0V at 25°C/55°C/45°C/15°C/0°C/-10°C/-20°C**





- -10°C capacity retention ≥75%, 0°C capacity retention ≥85%, 55°C high temperature capacity retentio ≥99%

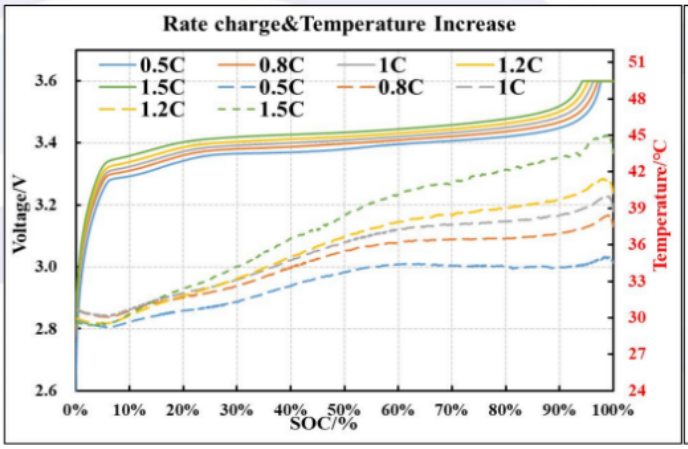
C-rate Charge

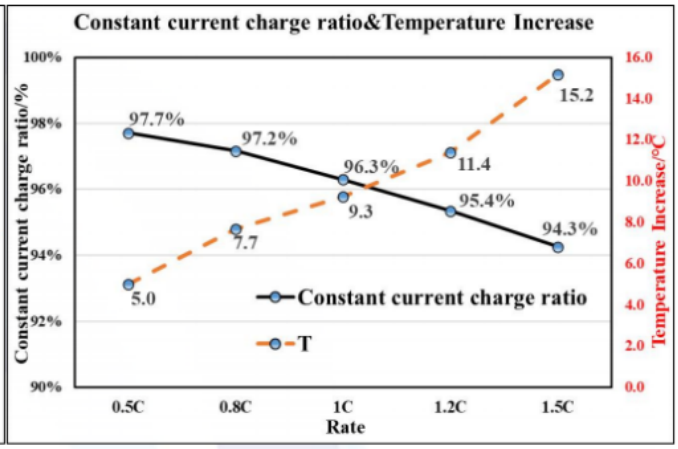
- **Test method:**

① **0.5C discharge to 2.0V, rest for 30min;**

② **nC CCCV charge to 3.6V, 0.05C cut-off, rest for 1h;**

- **Testing condition: 25±3°C.**





- The constant current charge ratio at 1.5C charge is about 94%, the temperature rise at 1.5C charge is about 15 ℃

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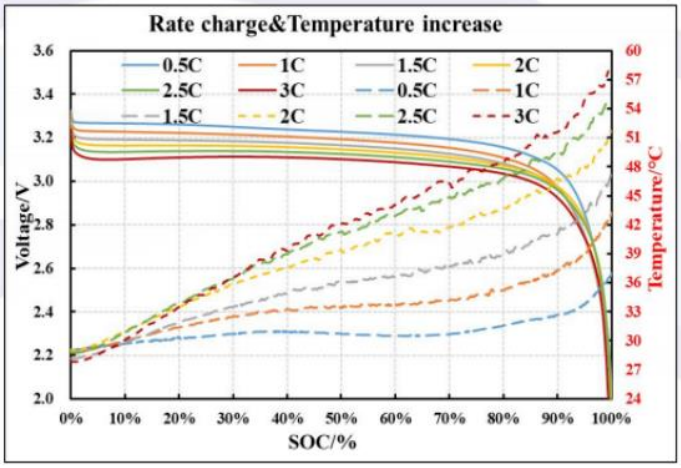
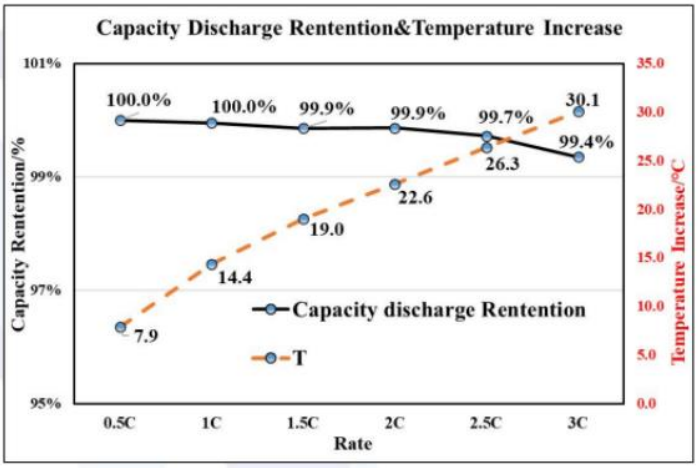
C-rate Discharge

- Testing method:
- ① 0.5C CCCV charge to 3.6V, 0.05C cut-off, rest for 30min;
- ② nC discharge to 2.0V, rest for 1h;
- Testing condition: 25±3℃.

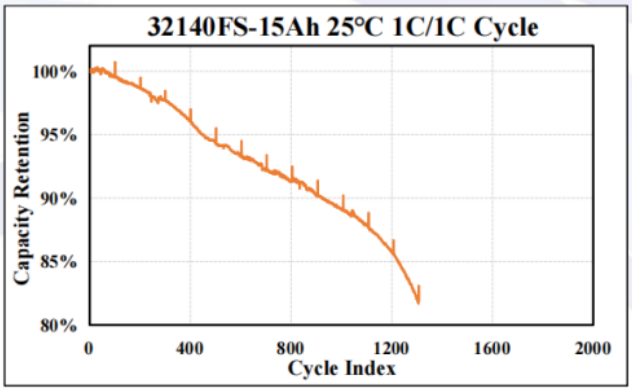


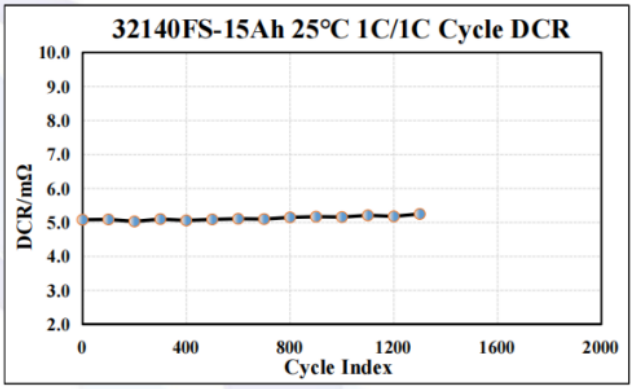


- Capacity retention at all discharge rate is higher than 98%, 2C discharge temperature rise is about 22 ℃

Room Temperature Cycle

- Testing method:
- ① 1C CCCV charge to 3.6V, 0.05C cut-off, rest for 30min;
- ② 1C discharge to 2.5V, rest for 30min;
- ③ Test 50%SOC DCR every hundred Cycles (2C 10s)
- Test condition: 25±3℃





- The capacity reducing trend @25℃ is stable, 1C/1C cycling life~**1200 cycles** (80%SOH)

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High Temperature Cycle

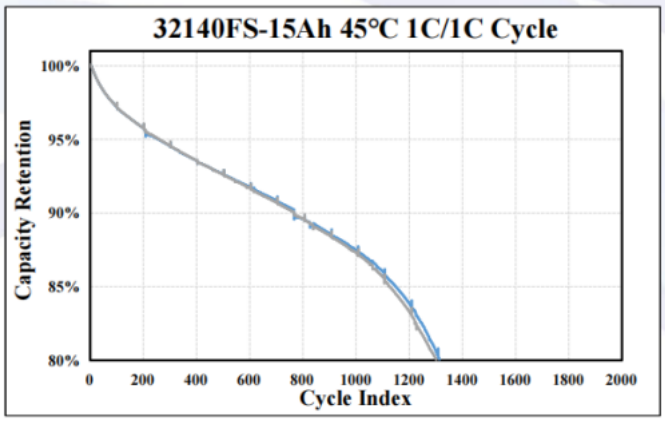
- Testing method:

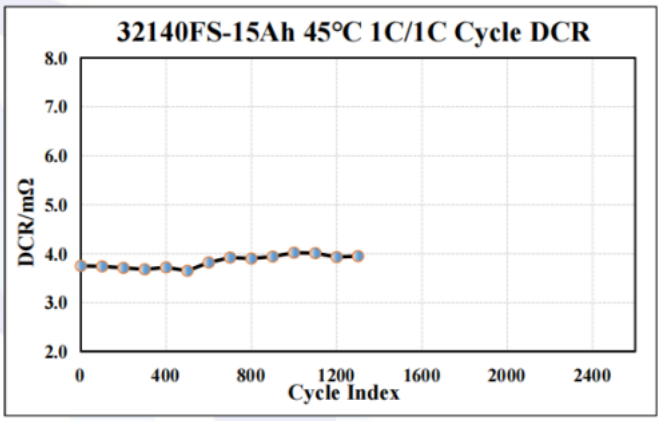
① 1C CCCV charge to 3.6V, 0.05C cut-off, rest for 30min;

② 1C discharge to 2.5V, rest for 30min;

③ Test 50%SOC DCR every hundred Cycles (2C 10s)

Test condition: 45±3℃





- The capacity reducing trend @45℃ is stable, 1C/1C cycling life ~ **1200 cycles** (80%SOH)

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Cautions:

* Do NOT short circuit, crush or disassemble
* Do NOT heat or incinerate.
* Do NOT immerse in any liquid.
* Store at 50% capacity, Recharge every 6 months, The storage area should be clean,cool,dry and ventilated
* Disconnect charging source prior to connecting or disconnecting battery terminals.
* Do NOT dispose of batteries in a fire as they can explode.
* Do NOT open,alter,or mutilate batteries. Released electrolyte is harmful to skin and eyes, it may be toxic.
* Do NOT mix different types and brands of lithium-ion batteries.
* Do NOT dispose in trash,follow local regulations and manufacturer's instruction.
* See installation instructions before connecting to the supply.
* The battery cabinet receives power from more than one source, Disconnected of all DC sources is required to De-energize this unit before installing or servicing, Wait 5 minutes before opening the unit.
* Do NOT install on or over combustible surfaces
* Refer to manual before servicing
* Do NOT touch bare terminals.