

Technical specification

ZG-LFP020AH



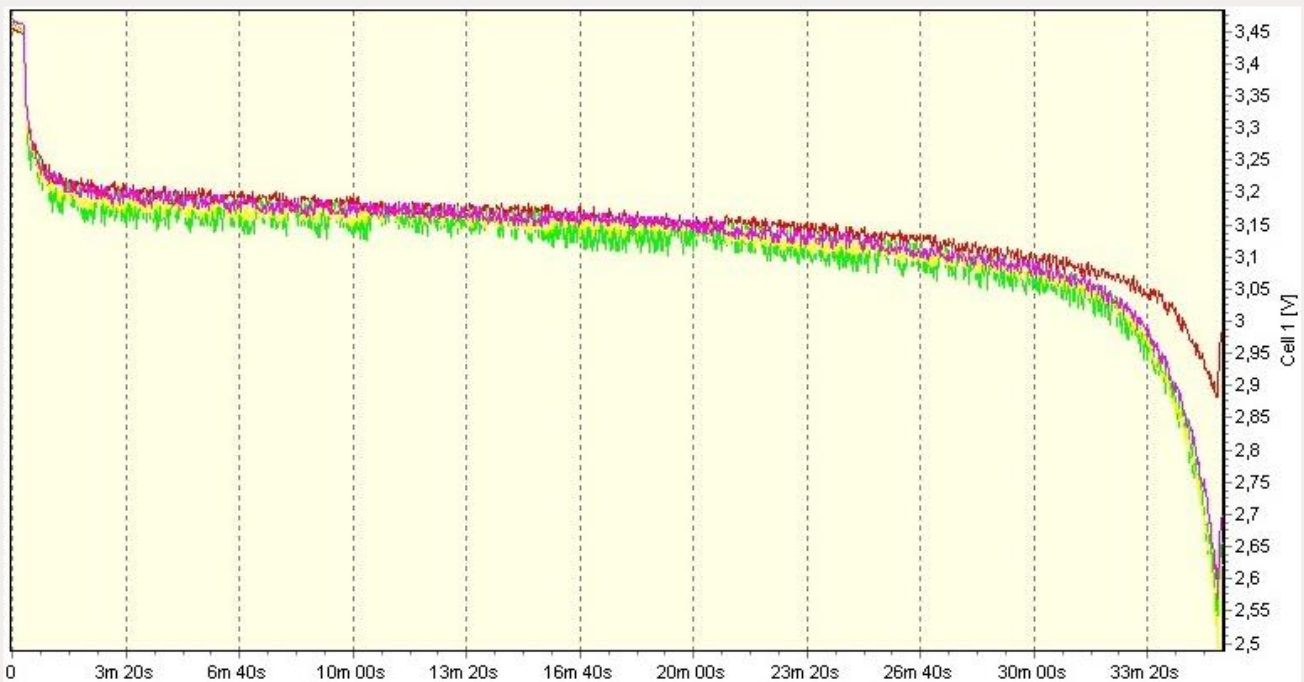
The advantages of the ZG-LFP cells

- ✓ professionally produced LiFePO₄ cells
- ✓ stability during high current discharge – support up to 3C continually, 10C peak discharge
- ✓ the discharge with long flat discharge area (3.30V to 3.10V)
- ✓ metal case for protecting the cell
- ✓ minimal overheating or heat release during operation
- ✓ nuts for connecting included

Item	Value
Nominal voltage (V)	3.2 V
Nominal capacity (Ah)	20 Ah
Max voltage per cell (V)	3.8 V
Minimal voltage per cell (V)	2.6 V
Operating voltage (V)	2.8 V to 3.7 V
Optimal discharge current 0.5C (Amp)	< 10 A
Maximal discharge current 3C (Amp)	60 A
Max peak discharge current 10 C, < 15 seconds (Amp)	< 200 A
Optimal charge current 0.5C (Amp)	< 13 A
Maximal charge current 1C (Amp)	20 A
Internal resistance (mOhm)	< 2 mOhm
Cycle life (80% DOD at 20°C)	> 2000 cycles at 0.5C > 1500 cycles at 1 C
Self discharge rate (% per month)	< 3%
Operating temperature (charging)	0 to 45 °C
Operating temperature (discharging)	-25 to 55 °C
Dimensions width x length x height (mm)	71 x 178 x 28
Weight (tolerance +/- 50g)	0.65 kg

Normal operation test data

The discharge diagram for 2C (40A)



- Discharge of 4 cells at constant current to 2.5V at lowest cell.
- Discharge time to 2.8V - 34:50 (2090 s). Calculated capacity **23.20 Ah**
- 50% discharge voltage under load: 3.13V

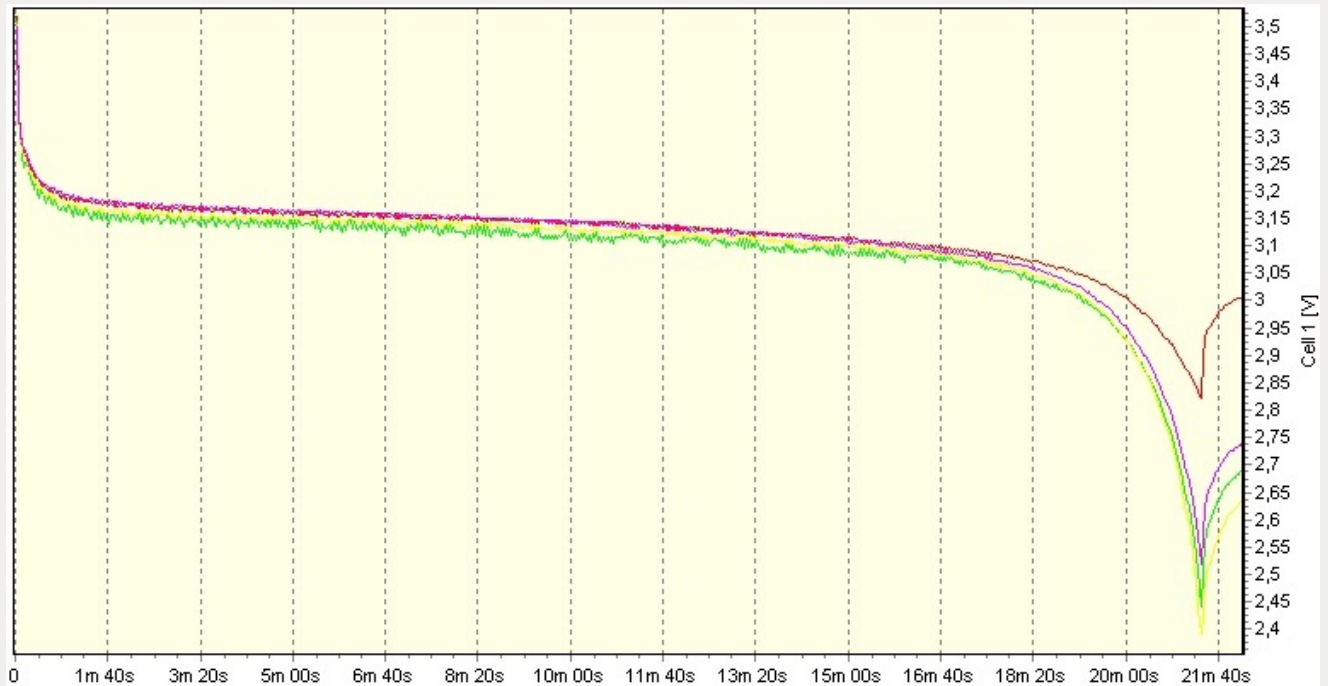




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The discharge diagram for 3C (60A)



- Discharge of 4 cells at constant current to 2.5V at lowest cell.
- Discharge time to 2.8V - 20:50 (1250 s). Calculated capacity 20.83 Ah
- Discharge time to 2.5V - 21:20 (1280 s). Calculated capacity 21.34 Ah
- 50% discharge voltage under load: 3.10V



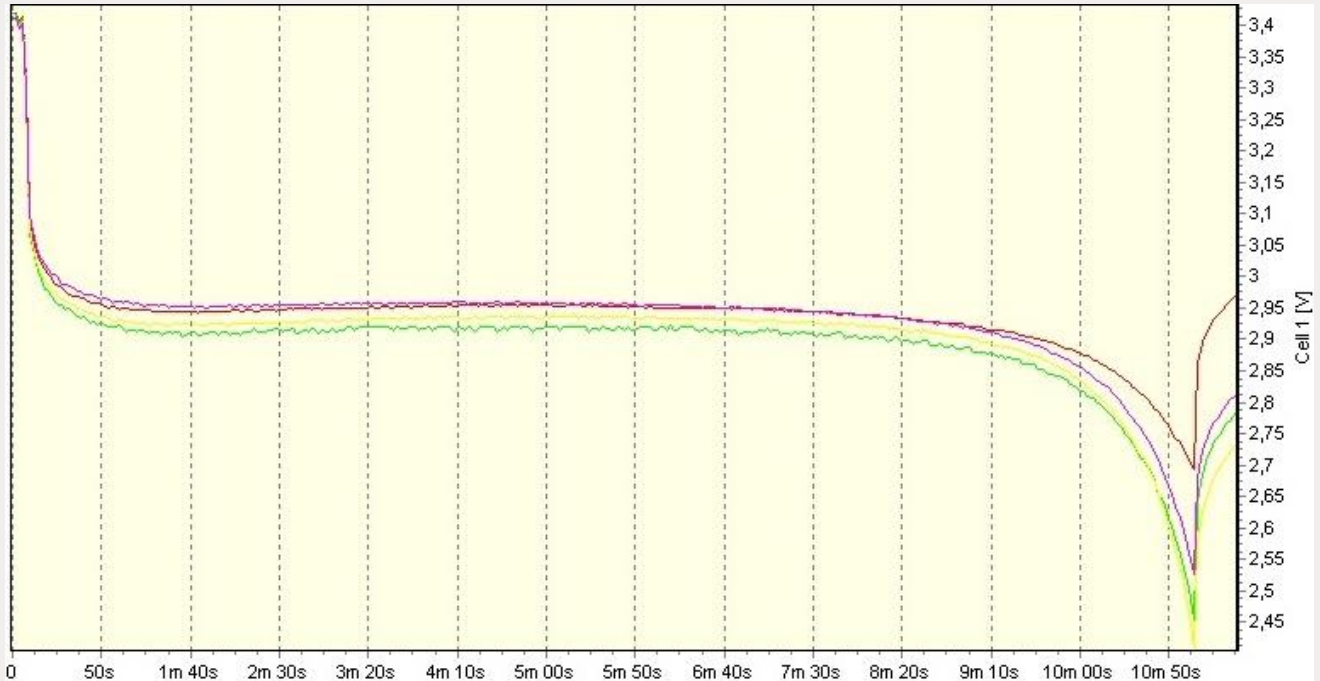
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The discharge diagram for 5.7C (115A) *1)



Note: 1) This test is beyond the specification of the cell. The max continuous discharge is 3C (60A).

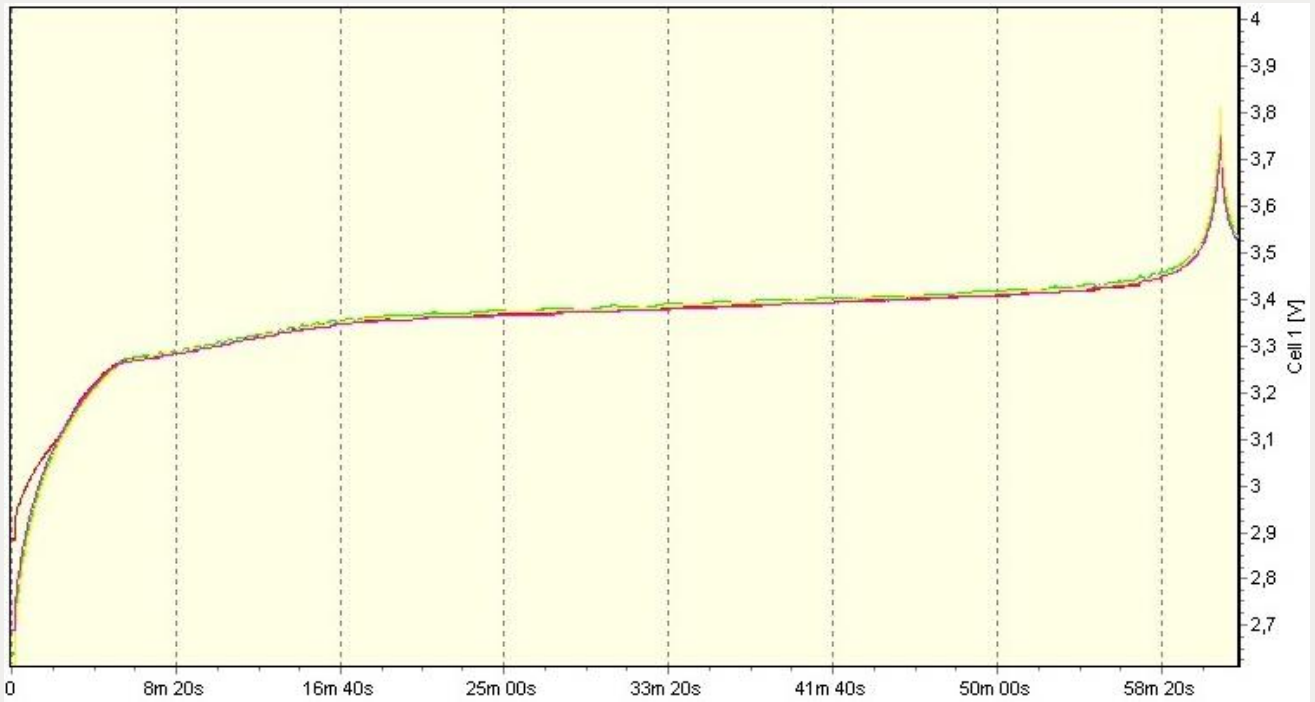
- Discharge of 4 cells at constant current to 2.5V at lowest cell.
- Discharge time to 2.6V - 11:00 (660 s). Calculated capacity 21.08 Ah
- 50% discharge voltage under load: 2.92V



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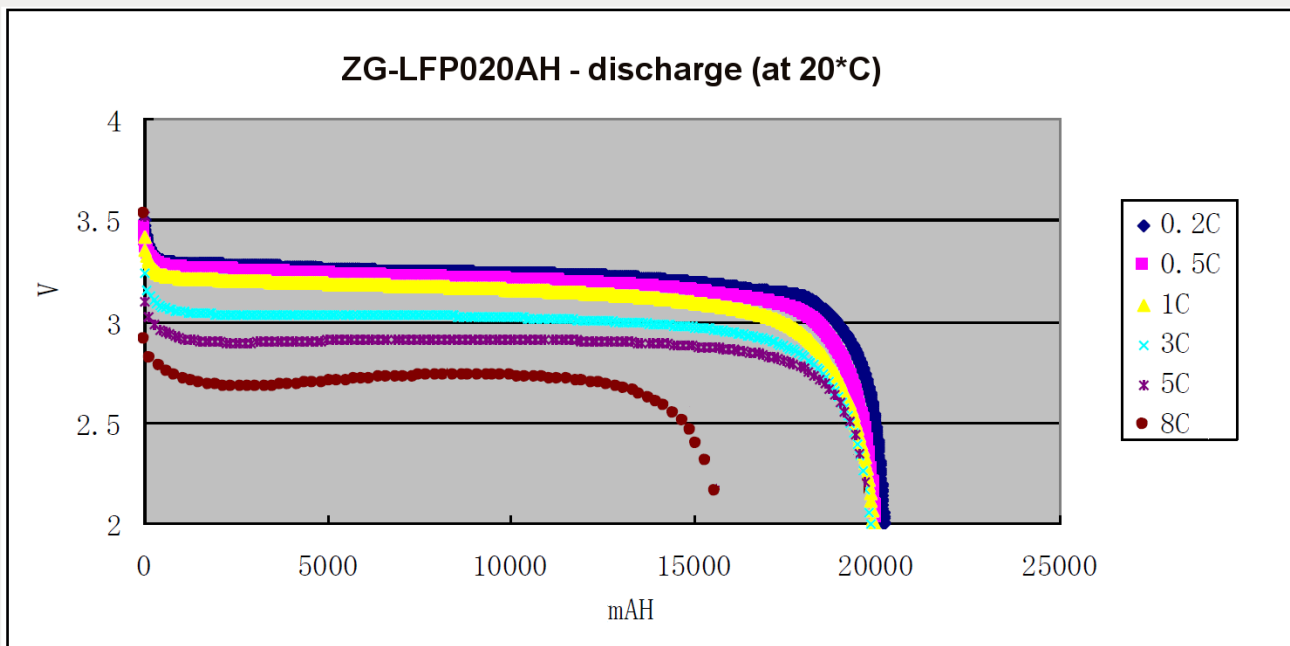
Regular charge diagram 1C (20A)



- Regular charge with 20A (1C)
- Charge to 3.8V per cell

Extreme operation test data

The discharge diagram for various C-rates



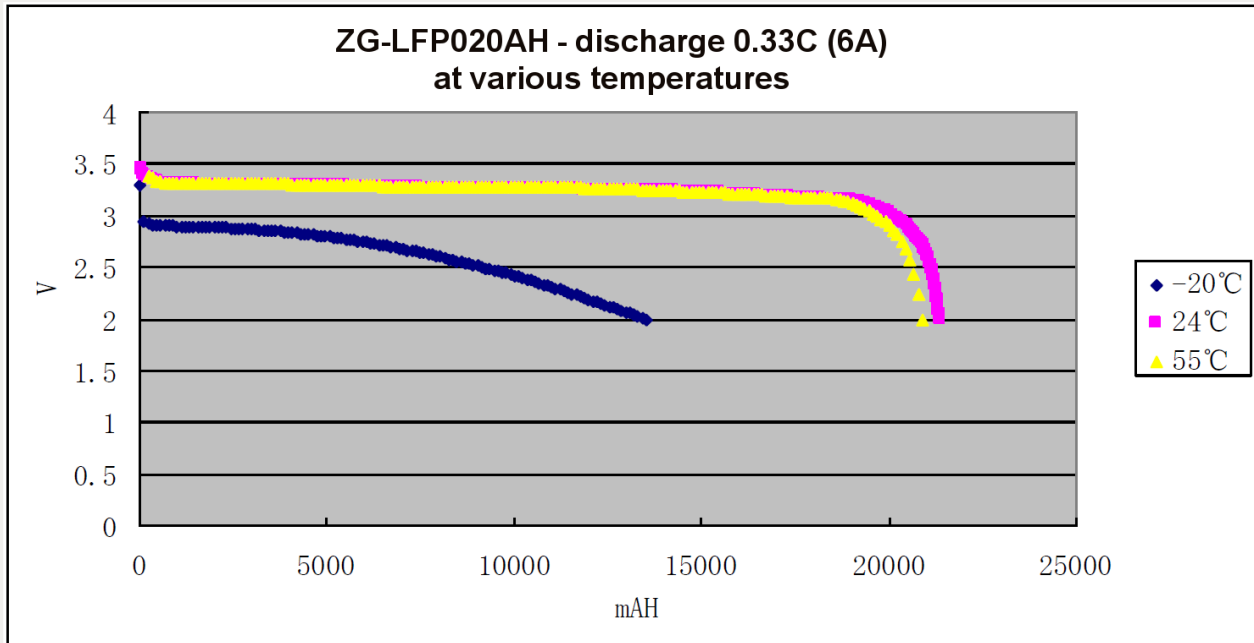
- The tests for 5C and 8C are only for demonstration, not supported by standard specifications



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The discharge diagrams for various temperatures – 0.33C (6A)



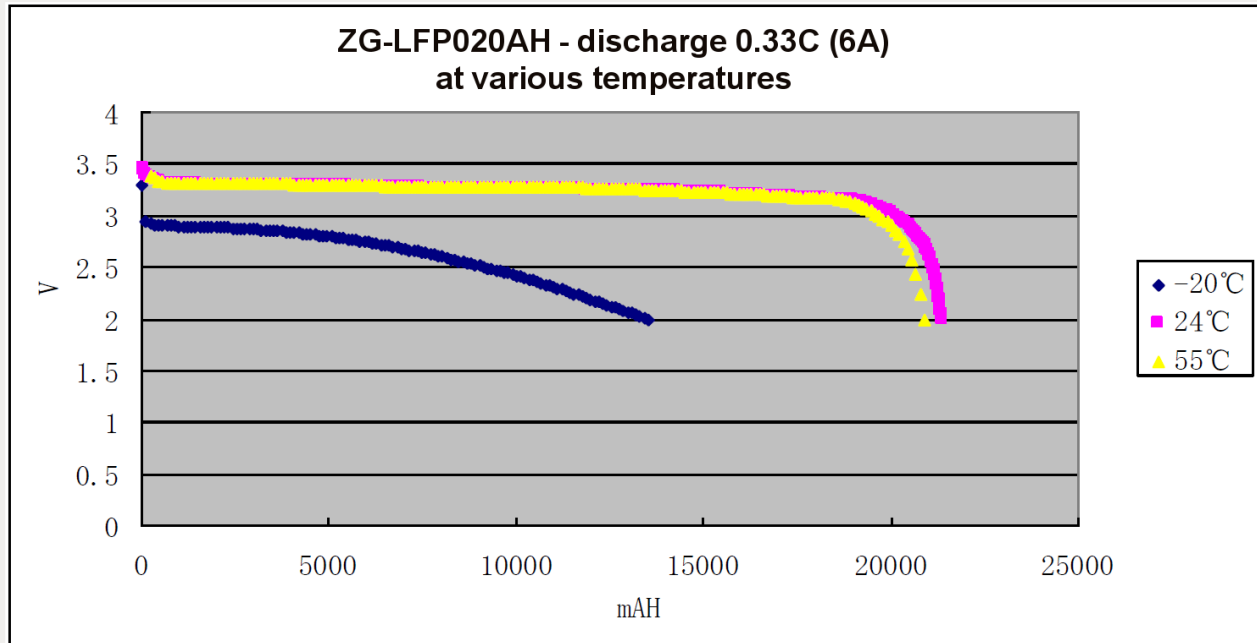
- Discharge to 2.0V (for low temperature operation)
- Discharge to 2.8V (for regular temperature operation)



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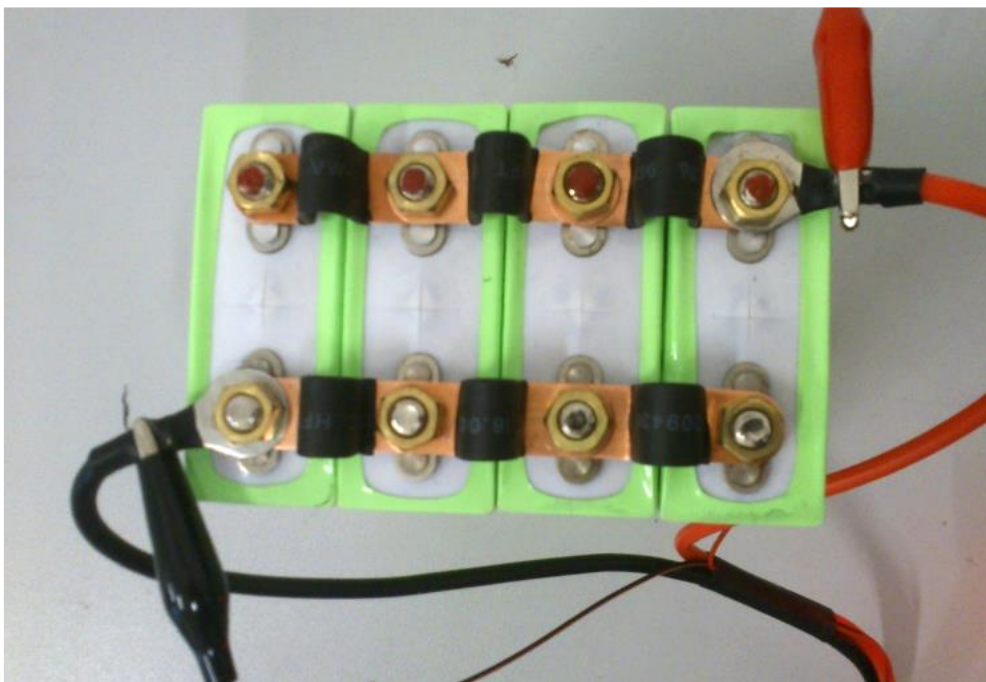
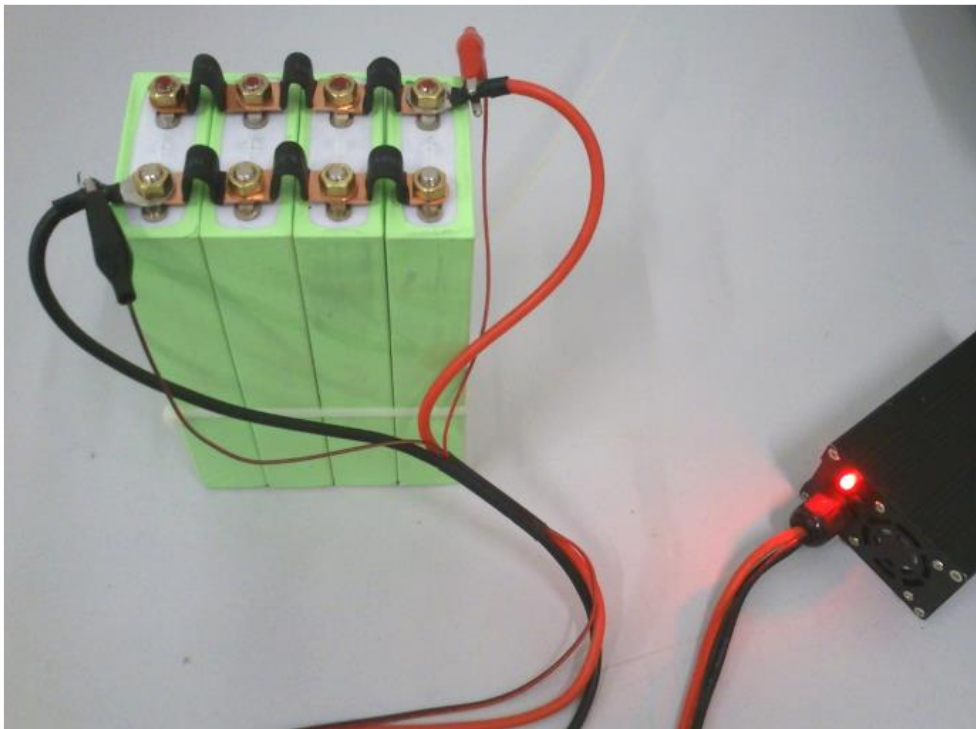
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The cycle life of the ZG-LFP cells is 2000+ cycles



- Cycle at 0.5C (charge and discharge), 2h rest time between charge and discharge
- Depth of discharge 80% (from 3.30V to 2.80V)
- Temperature +20°C

Real test photos of the ZG-LFP020AH



Compliance with CE norms



VERIFICATION OF EMC COMPLIANCE

No.: SHEM110900128401BAC

Applicant: SUIZHONG ZHENG GUO NEW ENERGY TECHNOLOGY CO.,LTD
25,1-44TENGDA ROAD, BINHAI ECONOMIC DEVELOPMENT ZONE,
SUIZHONG

Manufacturer: SUIZHONG ZHENG GUO NEW ENERGY TECHNOLOGY CO.,LTD
25,1-44TENGDA ROAD, BINHAI ECONOMIC DEVELOPMENT ZONE,
SUIZHONG

Product Description: Lithium iron phosphate battery

Model No: (20AH)ZGFL2770165A, (8AH)ZGFL1765130A, (10AH)ZGFL1865130A,
(50AH)ZGFL36130185A, (100AH)ZGFL36230185A

Technical Data: DC 3.3V

Sufficient samples of the product have been tested and found to be in conformity with

Test Standard: EN 61000-6-1: 2007
EN 61000-6-3: 2007

as shown in the

Test Report Number(s): SHEM110900128401

This verification of EMC Compliance has been granted to the applicant based on the results of the tests, performed by laboratory of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. on the sample of the above-mentioned product in accordance with the provisions of the relevant specific standards and Directive 2004/108/EC. The affixing of the CE marking presumes in addition that the conditions in annexes III and V of the Directive are fulfilled.



Tony Wu
E&E Section Manager
SGS-CSTC (Shanghai) Co., Ltd.

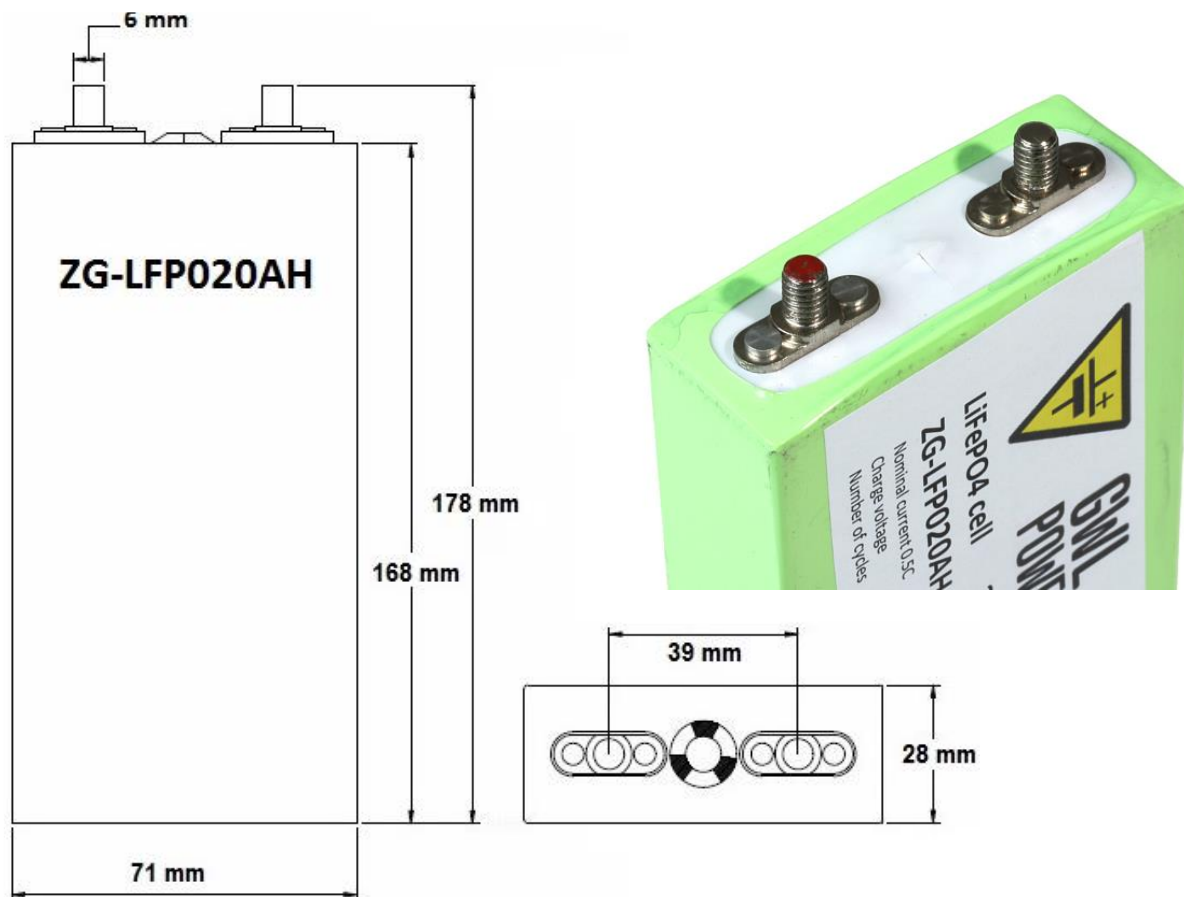
October 13, 2011

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Dimensions



GWL Power Ltd.
Průmyslová 11, 102 19 Prague 10
Czech Republic, European Union