

ZTT Lithium-ion Battery



About the Company

Zhongtian Energy Storage Technology Co., Ltd. (ZTTESTC) is a joint venture entity between Jiangsu Zhongtian Technology Co., Ltd. and Zhejiang Xinghai Energy Technology Co., Ltd with an initial capital of 100 million RMB and further increased to 200 million RMB. The research and development of Lithium-ion battery products and AC/DC power products was initiated from year 2008.

Global sales office and factories are both located in the Nantong Economic Trade Development zone with a mass land area of 106,672sq m and a built-in area of 78,5290sqm. With the additional injected investment of total 200 million RMB, the annual designed capacity could reach 100 million AH for the Lithium-ion battery. In line with the Global Green Energy concept, the used and wasted batteries could now be recycled and reproduced.

ZTTESTC operates under strict QS, EHS and OHS standards, striving to create premium graded international products; bringing monetary values with uncompromised standard in meeting customers' requirement.



▶ Application

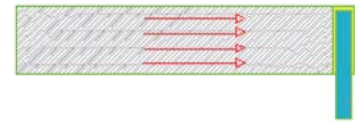


▶ Generic product for: electric charged motor bike, UPS/ EPS, energy storage device for power plant.

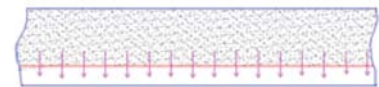


Product Superiority

- ★ Equipped with the latest and high powered automation for power battery production line; improves consistency of quality of battery produced;
- ★ Unique safety device design (Patent no: ZL200520117303.8); Battery pack safety;
- ★ Using transverse drainage technology (Patent no: ZL 20101027935.X/ ZL200620107436.1) for improving the charge and discharge rate performance and enhancing longer battery cycle life.



Conventional vertical Drainage Technology with few tabs

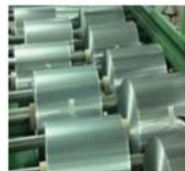


Transverse Drainage Technology with no tabs

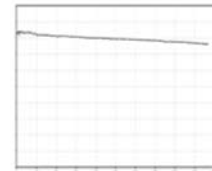
- ★ Employing most advanced conductive coating technology for Aluminium foil and continuous coating technology for battery separator to improve overall performance of the Li-ion battery.



The continuous ceramic coating technology for battery separator

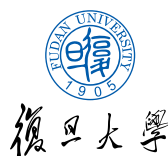


Conductive Coating Technology



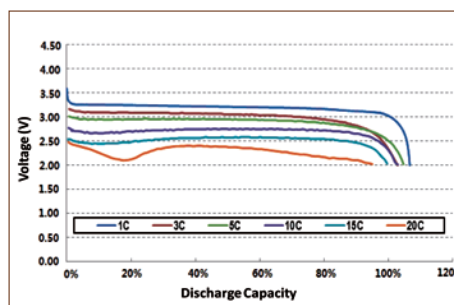
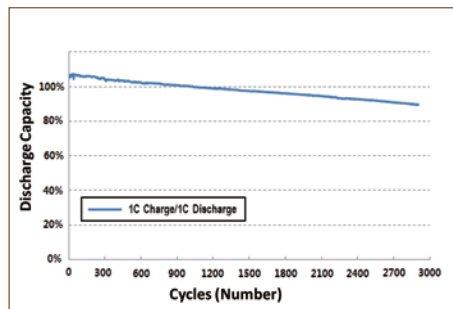
The capacity retention rate is above 90% after 2000 cycles

Our R&D team is lead by a senior battery expert and a number of Doctors and Masters in the field. Conclusively, we have acquired more than 30 patents to the product and maintaining close partnership with Shanghai Jiao Tong University and Fu Dan University for latest invention, technology and product endorsement.



Products

▶ Single cell



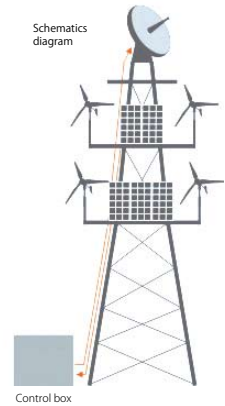
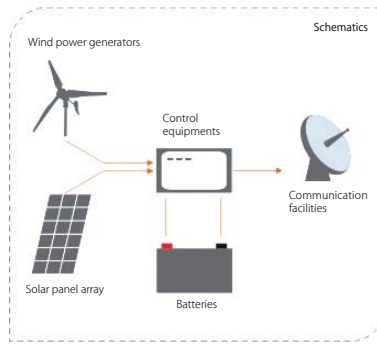
Technical parameters	3.2V 8Ah Power	3.2V 10Ah Energy	3.2V 50Ah	3.2V 100Ah
Dimension	φ38X120mm	φ38X120mm	φ63×219mm	φ76×306mm
Weight	300g	300g	1.5kg	3kg
Nominal voltage	3.2V	3.2V	3.2V	3.2V
Max. charge voltage	3.65V	3.65V	3.65V	3.65V
Discharge cut-of voltage	2.5V	2.5V	2.5V	2.5V
Nominal capacity	8Ah	10Ah	50Ah	100Ah
AC impedance	≤2mΩ	≤3mΩ	≤1.5mΩ	≤1.0mΩ
Max. charge current	80A	30A	50A	100A
Continuous discharge current (max)	240A	200A	100A	200A
Operation temperature	-20~65°C	-20~65°C	-20~65°C	-20~65°C
Optimum storage temperature	-10~45°C	-10~45°C	-10~45°C	-10~45°C
Cycle life	6000 Cycles	3000 Cycles	3000 Cycles	3000 Cycles

▶ Battery pack for Electric Charge Vehicle



Technical parameters	80V 60Ah	320V 100Ah	320V 200Ah	540V 300Ah
Nominal capacity	60Ah	100Ah	200Ah	300Ah
Nominal voltage	80V	320V	320V	540V
Rated energy	5kwh	32kwh	64kwh	160kwh
Max. output power(10S)	24kw	100kw	192kw	500kw
Rated current	60A	100A	200A	300A
Rated power	5KW	32KW	64KW	160KW
Allowed max. charge current	60A	100A	200A	300A
Max. charge voltage	88V	365V	365V	610V
Operation voltage range	60~88V	250~365V	250~365V	420~610V
Ambient temperature	-20℃~65℃	-20℃~65℃	-20℃~65℃	-20℃~65℃
Capacity range SOC%	10%~100%	10%~100%	10%~100%	10%~100%

▶ Battery pack for tele-communication devices and equipment



Technical parameters	48V 10Ah~50Ah	48V 200Ah	48V 300Ah	48V 500Ah
Dimension	1~3U	18U	20U	33U
Weight	9.5kg~35kg	150Kg	230Kg	370Kg
Nominal voltage	48V			
Max. charge voltage	57.6V			
Discharge cut-off voltage	43.2V			
Nominal capacity	10Ah~50Ah	200Ah	300Ah	500Ah
Internal resistance	≤50 mΩ	≤10 mΩ	≤10 mΩ	≤5 mΩ
Rated charge current	0.2C			
Rated discharge current	1C			
Operation temperature	-20~65°C			
Optimum storage temperature	-10~45°C			
Cycle life	≥2000 Cycles			

▶ Household energy storage system



Technical parameters		ZTT-1000	ZTT-2500	ZTT-5000
Battery pack	Voltage	48V	48V	48V
	Capacity	50Ah~200Ah		
	Energy	2.5KWh	5KWh	10KWh
	Max. output current	50A	50A	100A
	Charge current	10A	20A	40A
	Operation temperature	-10°C~45°C		
	Input frequency range	50Hz/60 Hz		
System output	Output voltage	220Vac/ 110Vac (±5%)		
	Output frequency	50Hz/60Hz (±1%)		
	Output power	1KW	2.5KW	5KW
	Waveform distortion	Linear load≤ 3%		
	PV-AC conversion time	≤5mS		
	Conversion efficiency	≥85%		

▶ Wind & PV Energy Storage System on/off Grid



Technical Parameters	Energy			Power		
Nominal discharge power	250kW	500kW	1MW	500kW	1MW	2MW
Energy storage capacity	500KWh	1MWh	2MWh	250KWh	500KWh	1MWh
Rated grid voltage	380V / 220V (480V / 220V)					
Permissible grid voltage	85%~110% Rated voltage					
Nominal grid frequency	50Hz / (60Hz)					
Frequency range	48.5~50.5Hz / (59~60.5Hz)					
Connection method	3 phase 4 line					
Voltage total harmonic distortion	<3%					
Current harmonic wave distortion	<4.5%					
System efficiency	≥ 90% Total system efficiency					
Cooling-down method	Forced-air cooling					
Operation temperature	-20°C~60°C					
Optimum storage temperature	-10°C~45°C					
Permissible relative humidity	< 90% No condensation					
Installation	Outdoor installation(20~40 ft Container)					
Cycle life	≥3000 Cycles (< 70% capacity)					

* Adjust according to customer requirement

R&D Center

We possess a state of the art R&D center. Equipped with a full range of advanced analytical instruments, slot die coater and ceramic coating equipment with certified calibration by 3rd party experts.



Scanning electron microscopy



X-Ray diffractometer



Laser particle analyzer



Inductive coupled plasma emission spectrometer



Electrochemical workstation



High depth of field microscopy



The pilot experimental equipment



Certificates



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CERTIFICATE
Of Conformity
EC Council Directive 2004/108/EC
Electromagnetic Compatibility

Report No.: H08263040424D-1

Applicant : JIANGSU ZHONGTIAN TECHNOLOGY CO.,LTD
Address : 6# ZHONGTIAN ROAD, NANTONG ECONOMIC & TECHNOLOGICAL DEVELOPMENT AREA, JIANGSU P.R.
Sample Name : Li-ion battery
MN : 38120 10Ah
Standards : EN61000-6-1:2007
EN61000-6-3:2007+A1:2011

The certificate of conformity is based on an evaluation of a sample of the above-mentioned product. Technical report and documentation are at the applicant's disposal. This is to certify that the tested sample is in conformity with all provisions of Annex 1 of Council Directive 2004/108/EC, referred to as the EMC. The applicant of the certificate is authorized to use this certificate in connection with the EC declaration of conformity according to Annex IV of the Directive.

CE Edited by: [Signature] Checked by: [Signature] Approved By: [Signature]
Date: August 28, 2013

The CE Marking may only be used if all relevant and effective EC Directive are complied with.

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www.ponytest.com 400-819-5885
Add: 100000, Beijing, China
Tel: 010-84911111
Fax: 010-84911111
E-mail: ponytest@ponytest.com

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Report No.: H08263041816D-1

MSDS Report

Samples : Li-ion Battery (38120 10Ah)

Client : JIANGSU ZHONGTIAN TECHNOLOGY CO., LTD

Client Address : Zhongtian Village, Hekou Town, Rudong County, Jiangsu Province

No.: H08263041816D
Code: x34qx9

PONY 谱尼测试

www.ponytest.com 400-819-5885
Add: 100000, Beijing, China
Tel: 010-84911111
Fax: 010-84911111
E-mail: ponytest@ponytest.com

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报告编号(Report ID): H08263041521D-1

锂电池UN38.3测试报告
Lithium Battery UN38.3 Test Report

样品名称 : Li-ion Battery 38120 10Ah
(Sample Description)

委托单位 : JIANGSU ZHONGTIAN TECHNOLOGY CO., LTD
(Applicant)

生产单位 : ZHONGTIAN ENERGY STORAGE TECHNOLOGY CO., LTD.
(Manufacturers)

No.: H08263041521D
Code: p1a41g

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Test Report No.: H08013027104D-1 Date: Aug 07, 2013 Page 1 of 3

Applicant: JIANGSU ZHONGTIAN TECHNOLOGY CO.,LTD
Address: 6#ZHONGTIAN ROAD,NANTONG ECONOMIC&TECHNOLOGICAL DEVELOPMENTAREA,JIANGSU,P.R.CHINA

The following sample(s) was/were submitted and identified on behalf of the client as:

Sample Name: Li-ion battery
Sample Model: 38120 10Ah
Manufacturer: ZHONGTIAN ENERGY STORAGE TECHNOLOGY CO.,LTD.
Sample Description: Li-ion battery 38120 10Ah

Sample Received Date: Aug 01, 2013
Testing Period: Aug 01, 2013 To Aug 07, 2013

Reference Requested: Directive 2006/66/EC

Reference Method: (1) Lead Analysis is performed by AAS
(2) Cadmium Analysis is performed by AAS
(3) Mercury Analysis is performed by ICP-OES

Testing Results: Please refer to next page(s)

Approved by: [Signature] Code: e3ve7k

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www.ponytest.com 400-819-5885
Add: 100000, Beijing, China
Tel: 010-84911111
Fax: 010-84911111
E-mail: ponytest@ponytest.com

ZTT CABLE

ZTT is a leading and global manufacturer of cable systems, which provides package solutions for telecommunication and power applications around the world. With its rich heritage of highly advanced R&D results, ZTT owns the cutting-edge technology within the industry.

ZTT was established in 1992 and became a listed company in 2002. To present day, ZTT has developed well into a Group Company with 32 subsidiaries within China, including two overseas factories in India and Brazil. Our products are widely used in telecommunication industry, power transmission industry, mining cable industry, marine and submarine cable industry, railway industry, and many other industries.

ZTT commits to be a market-oriented entity in meeting clients' needs and providing viable solutions with innovative product designs. ZTT guarantees its product with high-end engineering capabilities and life cycle maintenance services.

