ENOV (HUIZHOU) NEW ENERGY TECHNOLOGY CO., LTD

LITHIUM MOTORCYCLE STARTER BATTERY

STANDARD SERIES

PRODUCT DATA SHEET

PRODUCT CHARACTERISTICS

- Ultra-high rate 100C discharge performance.
- Wide temperature range adaptive system (-30℃ to 65℃).
- Intelligent Battery Management System (BMS) .
- Long-term circulation and low self-consumption characteristics.
- Multi-scenario adaptability.
- Light weight structure design.

SPECIFICATIONS

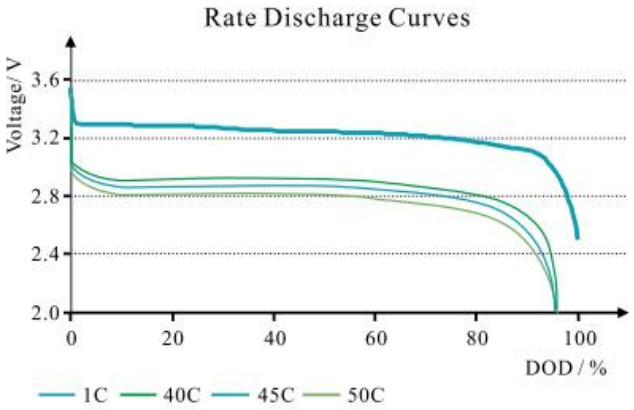
Model	Voltage(V)	Capacity(Ah)	Weight(kg)	CCA(Amps)	Size(L*W*H)±2mm
EN12-M3200	12.8	3	0.6	200	A: 113*70*80
					B: 113*70*105
EN12-M4300	12.8	4	0.9	300	A: 120*60*125
					B: 138*65*101
EN12-M5300	12.8	5	0.9	300	A: 113*69*130
					B: 150*87*93
EN12-M5400	12.8	5	1.1	400	A: 150*65*93
					B: 151*87*105
EN12-M5400	12.8	5	1	400	A: 137*77*123
					B: 137*77*134
EN12-M6450	12.8	6	1.1	450	134*88*165
EN12-M6500	12.8	6	1.1	500	150*86*166
EN12-M8400	12.8	8	1.5	400	150*87*132
EN12-M9500	12.8	9	1.7	500	150*87*149
EN12-M10700	12.8	10	1.7	700	177*87*153
EN12-M12800	12.8	12	2	800	166*126*176

——OEM or ODM is available

BATTERY CELL PERFORMANCE TEST(LFP)

ROOM TEMPERATURE RATE PERFORMANCE

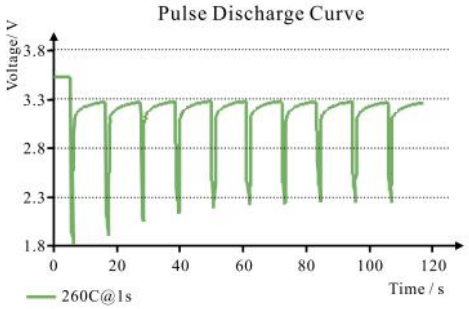
Test method: At normal temperature, 0.5C constant current constant voltage charge to 3.68V, cut-off current 0.05C: 1C(up to 2.5V), 40C, 45C, 50C constant discharge to 2.0V.

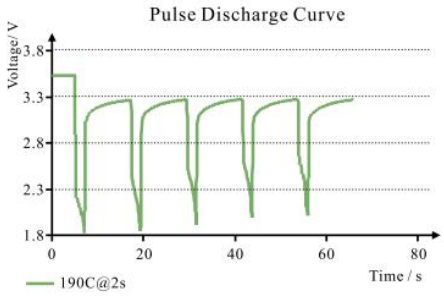


Magnification	1C	40C	45C	50C
Median voltage /V	3.244	2.886	2.852	2.807
Capacity retention rate /%	100.0	94.9	95.9	94.8

PULSE DISCHARGE PERFORMANCE AT ROOM TEMPERATURE

Test method: Under normal temperature, 0.5C constant current constant voltage charge to 3.68V, cut-off current 0.05C; Discharge at 260C pulse for 1s, 190C pulse for 2s.

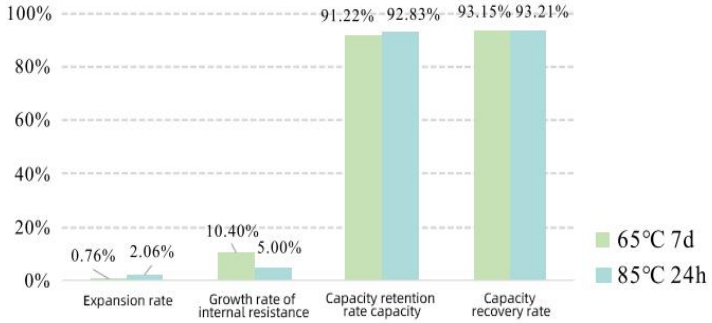




Pulse magnification @ time	Low head voltage /V
260C@1S	1.811
190C@2S	1.879

HIGH TEMPERATURE STORAGE

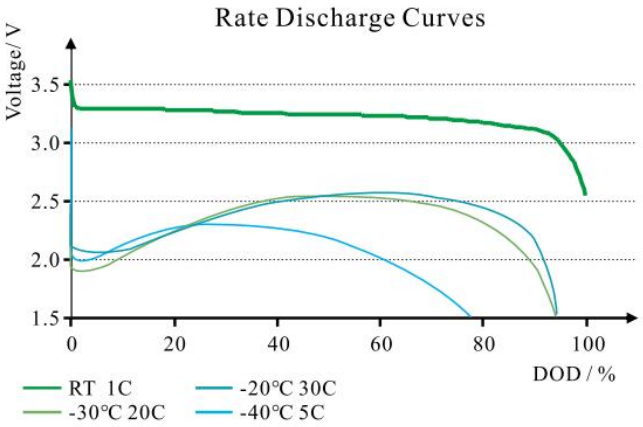
Test method: At room temperature, 0.5C constant current constant voltage charge to 3.68V, cut-off current 0.05C; After being stored at 65℃ for 7d and 85℃ for 24h, the current was discharged to 2.5V at 1C. Then charge 1C at 0.5C, cycle 3 times, record the internal resistance, thickness and capacity of the battery before and after storage.



BATTERY CELL PERFORMANCE TEST (LFP)

◆ LOW TEMPERATURE PERFORMANCE

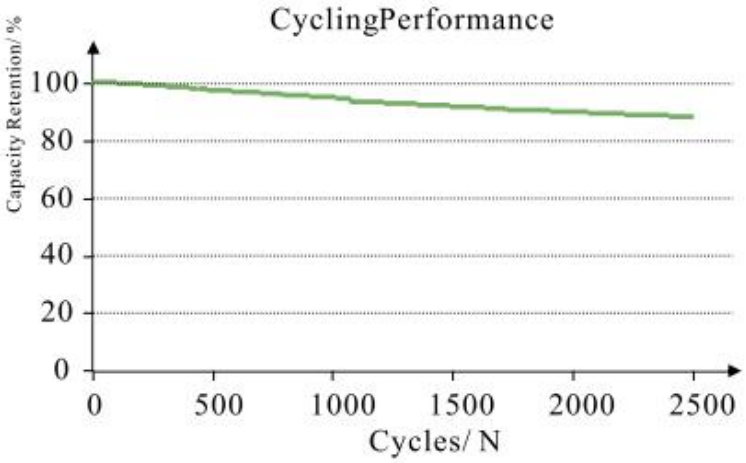
Test method: Unde.r normal temperature, 0.5C constant current constant voltage charge to 3.68V, cut-off current 0.05C; Set aside at the test temperature for 4~8h, and discharge to 1.5V at the corresponding magnification respectively.



Temperature / ℃	RT	-20℃	-30℃	-40℃
Magnification	1C	30C	20C	5C
Median voltage /V	3.244	2.637	2.591	2.276
The inflection point /V	—	2.105	1.856	1.931
Capacity retention rate /%	100.0	95.4	94.1	76.5

◆ NORMAL TEMPERATURE CYCLE

Test method: At room temperature, charge to 3.68V at 1C constant current and constant pressure, cut-off current is 0.05C; Let stand for 10min; 2C constant current discharge to 2.5V; Do a loop test.

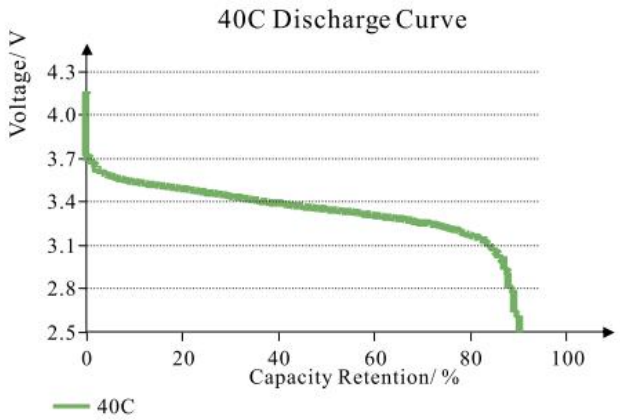


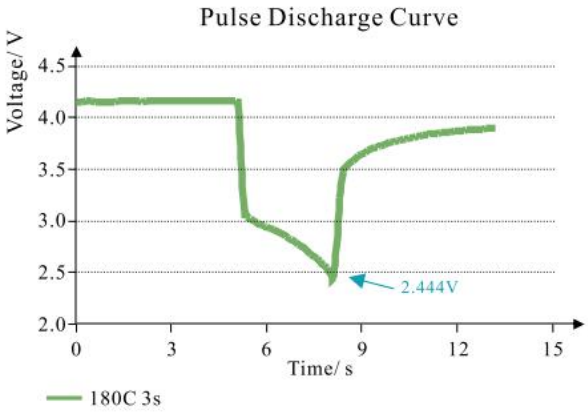
Cycle number	Capacity retention rate /%	Median voltage /V
1	100.00	3.192
100	100.46	3.207
300	99.32	3.214
500	98.03	3.212
700	96.94	3.211
1000	95.33	3.210
1300	93.18	3.204
1500	92.34	3.203
1700	91.55	3.202
2000	90.35	3.200
2300	89.27	3.198
2500	88.61	3.197

BATTERY CELL PERFORMANCE TEST (NCM)

◆ RATE DISCHARGE & PULSE DISCHARGE RT

Test method a: At room temperature, 0.5C constant current constant voltage charge to 4.2V, cut-off current 0.05C; Then 40C constant current to 2.5V;
Test method b: At room temperature, 0.5C constant current constant voltage charge to 4.2V, cut-off current 0.05C; Then discharge 3s at 180C pulse.



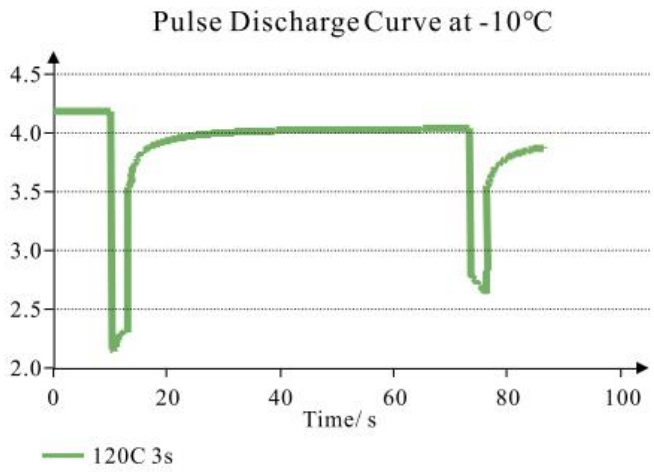


Item	Median voltage /V	Capacity retention rate /%
40C	3.370	90.09

Item	Low head voltage /V
180C 3S	2.444

◆ LOW TEMPERATURE PULSE DISCHARGE -10°C

Test method: At room temperature, 0.5C constant current constant voltage charge to 4.2V, cut-off current 0.05C:-10℃ for 4h, and then 120C pulse discharge 3s.

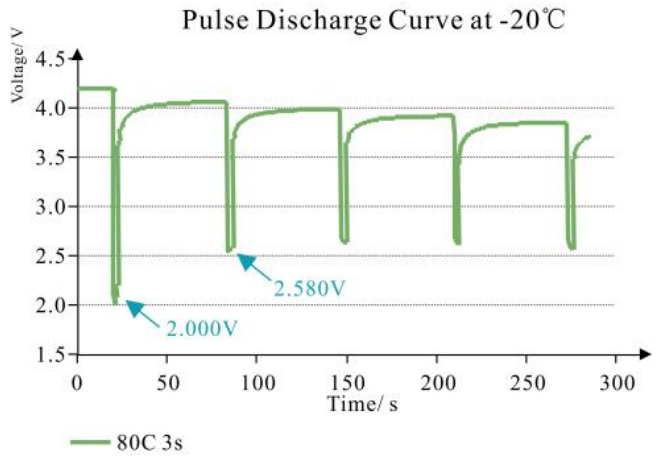


Item	Low head voltage /V(first)	Low head voltage /V(second)
120C 3S	2.155	2.639

BATTERY CELL PERFORMANCE TEST (NCM)

LOW TEMPERATURE PULSE DISCHARGE -20°C

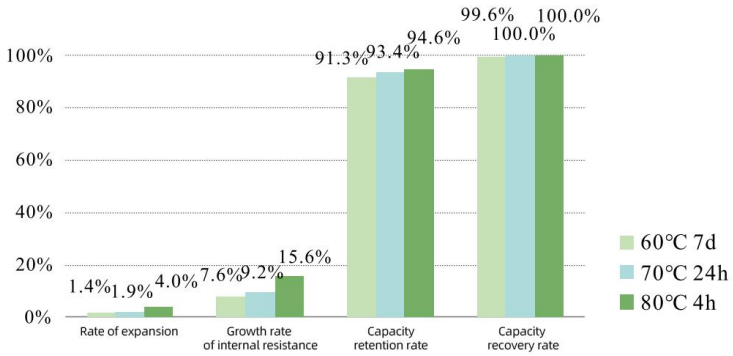
Test method: at room temperature, 0.5C constant current constant voltage charge to 4.2V, cut-off current 0.05C; It was shelved at -20 ° C for 4h, and then discharged at 80C pulse for 3s.



Item	80C 3S
Low head voltage/V(First)	2.000
Low head voltage/V(Second)	2.580
Low head voltage/V(Third)	2.638
Low head voltage/V(Quater)	2.613
Low head voltage/V(Fifth)	2.557

HIGH TEMPERATURE STORAGE

Test method: at room temperature, 0.5C constant current constant voltage charge to 4.2V, cut-off current 0.05C; Then, they were stored at 60 ° C for 7 days, at 70 ° C for 24 hours, and at 80 ° C for 4 hours, respectively. The thickness was measured by heat, and the capacity retention rate and recovery rate were tested after cold cutting at room temperature for 12 hours.



Item	prestorage		
	Cell thickness /mm	ACR/ mΩ	Capacity /mAh
60℃ 7d	5.17	1.31	2055
70℃24h	5.29	1.30	2046
80℃ 4h	5.20	1.28	2032

Item	After high-temperature storage				Rate of change			
	Cell thickness /mm	ACR/ mΩ	First release capacity /mAh	Cyclic capacity three times/mAh	Expansion rate	Growth rate of internal resistance	Capacity retention rate	Capacity recovery rate
60℃ 7d	5.24	1.41	1877	2046	1.35%	7.63%	91.34%	99.56%
70℃ 24h	5.39	1.42	1910	2046	1.89%	9.23%	93.35%	100.00%
80℃ 4h	5.41	1.48	1922	2031	4.04%	15.63%	94.59%	99.95%

WARRANTY PERIOD OF CELL

Enov provides a one-year warranty on the battery (starting from the date of manufacture). During the warranty period, if there is a performance failure or complete failure of the battery caused by non-human, it is confirmed by our technical department that it is a quality problem such as raw material defects and production process defects, and there is no abnormal use such as private disassembly, improper storage (ambient temperature over 60℃ or below -20℃), physical impact, liquid immersion, etc. Customers can apply for free replacement of new battery units of the same model through the official customer service channels with valid purchase vouchers and complete product serial number labels.

STORAGE AND SHIPMENT REQUIREMENT

Item	Requirement	Remark
Storage temperature	≤1 month:-20℃~45℃ ≤3 month:-20℃~30℃ ≤1 year:23±2℃	The best temperature in shipment is 23±5℃
Humidity	≤75%RH	/
Charged Capacity	50%-100%	Voltage13.2-14.6V

1.The storage temperature should be controlled at -20℃~40℃, away from open flame, corrosive substances and humid environment.

2.Do not charge in a sealed, high temperature (> 40℃) or low temperature (< -5℃) environment to avoid abnormal reaction of the electrolyte.

3.Do not reverse connect the positive and negative terminals; otherwise, short circuit or device damage may occur.

4.If the volume of the lithium battery is smaller than that of the original battery, secure the battery using the provided base or foam to ensure stable installation.

5.When storing, it is important to avoid external vibrations and colisions as much as possible toavoid short circuits inside the battery or damage to the metal casing.

USE WARNINGS AND CAUTIONS

WARNINGS!

The cell will fire, explode or leak if not strictly observing this item described below.

- Do not immerse the cell in water or seawater, and keep the cell in a cool dry environment during stands by period.
- Do not mix using the cell with one-off cell (such as dry cell) or different performance together.
- Keep all batteries out of the reach of little children. Consult a doctor immediately if a cell is swallowed.
- Do not use or leave the cell near a heat source such as fire or heater
- When re-charging , use the cell charger specifically for that purpose.
- Do not reverse the positive (+) and negative (-) terminals.
- Do not connect the cell to an electrical outlet.
- Do not dispose the cell in fire or heat.
- Do not short-circuit the cell by directly connecting the positive (+) and negative (-) terminals with metal objects such as wire.
- Do not transport or store the cell together with metal obiects such as necklaces, hairpins etc.
- Do not strike or throw the cell against hard surface.
- Do not directly solder the cell .
- Dot not pierce the cell with a nail or other sharp object.
- Never disassembling the cell in any way.

CAUTIONS!

- Do not use or leave the cell at very high temperature (for example, at strong direct sunlight or in a vehicle in extremely hot weather). Otherwise, it can overheat or fire or its performance will be degenerate and its service life will be shortened.
- Do not use it in a location where static electricity is rich, otherwise, the safety devices may be damaged, causing a harmful situation.
- In case the electrolyte getting into the eyes due to the leakage of cell, do not rub the eyes! Rinse the eyes with clean running water, and seek medical attention immediately. Otherwise, it may injure eyes or cause a loss of sight.
- If the cell gives off an odor, generates heat, becomes discolored or deformed, or in anyway appear abnormal during use, recharging or storage, immediately remove it from the device or cell charger and place it in a contained vessel such as a metal box.
- In case the cell terminals are contaminated, clean the terminals with a dry cloth beforeuse. Otherwise power failure or charge failure may occur due to the poor connection between the cell and the electronic circuitry of the instrument.
- Be aware discarded batteries may cause fire, 100%discharged the cell and tape the cell terminals to insulate them before disposal.

APPLICATION SCENARIO

		
SUITABLE FOR SCOOTER	ROAD MOTORCYCLE	ATV
		
SNOWMOBILE	JET SKI	UTV

CERTIFICATION

ISO 14001 | ISO 9001 | ROHS | CE | FC

CONTACT US

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