ENOV (HUIZHOU) NEW ENERGY TECHNOLOGY CO., LTD

UAV DRONE BATTERY

HIGH VOLTAGE LI-PO BATTERY (EHV)

PRODUCT DATASHEET

INDUSTRIAL BATTERY

PRODUCT CHARACTERISTICS

- High Discharge Voltage Platform 3.9V.
- High Discharge,C-rate 10C+.
- High Energy Density 260Wh/kg+.
- Wide temperature range work well form: -20℃ to 60℃.
- Support 2C fast charging: complete charging within 30 minutes.

SPECIFICATIONS

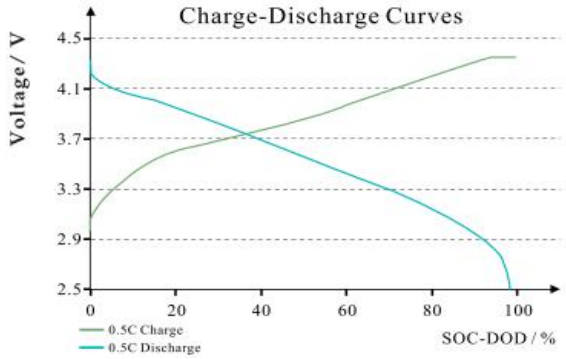
Model	Capacity	Energy	Cont. discharge current	Max discharge current (A/0.3S)	Dimension (L*W*H) mm	Weight (kg)	Energy density (Wh/kg)
EN-25A023A-EHV	25000mAh 23.1V 6S 1P	577.5Wh	250A/10C	500A/20C	205*93*67	2.54kg	228Wh/kg
EN-25A046B-EHV	25000mAh 46.2V 12S1P	1155Wh	250A/10C	500A/20C	205*93*130	4.88kg	237Wh/kg
EN-25A053I-EHV	25000mAh 53.9V 14S1P	1347.5Wh	250A/10C	500A/20C	205*93*151	5.66kg	239Wh/kg
EN-30A023D-EHV	30000mAh 23.4V 6S1P	702Wh	300A/10C	600A/20C	208*101*70	2.87kg	245Wh/kg
EN-30A046H-EHV	30000mAh 46.8V 12S1P	1404Wh	300A/10C	600A/20C	208*101*136	5.54kg	254Wh/kg
EN-30A054F-EHV	30000mAh 54.6V 14S1P	1638Wh	300A/10C	600A/20C	208*101*158	6.43kg	255Wh/kg
EN-32A023D-EHV	32000mAh 23.4V 6S1P	748.8Wh	300A/10C	600A/20C	222*101*70	3.04kg	246Wh/kg
EN-32A046H-EHV	32000mAh 46.8V 12S1P	1497.6Wh	320A/10C	640A/20C	222*101*136	5.89kg	255Wh/kg
EN-32A054F-EHV	32000mAh 54.6V 14S1P	1747.2Wh	320A/10C	640A/20C	222*101*158	6.84kg	256Wh/kg
EN-50A023A-EHV	50000mAh 23.1V 6S2P	1155Wh	500A/10C	1000A/20C	205*93*130	4.88kg	237Wh/kg
EN-50A046B-EHV	50000mAh 46.2V 12S2P	2310Wh	500A/10C	1000A/20C	205*93*256 205*185*128	9.56kg	242Wh/kg
EN-50A053I-EHV	50000mAh 53.9V 14S2P	2695Wh	500A/10C	1000A/20C	205*93*298 205*185*149	11.12kg	243Wh/kg
EN-64A046H-EHV	64000mAh 46.8V 12S2P	2995Wh	640A/10C	1280A/20C	222*101*268 222*200*135	12.18kg	246Wh/kg
EN-64A070B-EHV	64000mAh 70.2V 18S2P	4493Wh	640A/10C	1280A/20C	222*101*400 222*200*201	18.06kg	249Wh/kg
EN-60A046H-EHV	60000mAh 46.8V 12S2P	2808Wh	600A/10C	1200A/20C	208*101*269 208*200*137	10.88kg	259Wh/kg
EN-60A070B-EHV	60000mAh 70.2V 18S2P	4212Wh	600A/10C	1200A/20C	208*101*401 208*200*203	16.22kg	260Wh/kg
EN-75A046B-EHV	75000mAh 46.2V 12S3P	3465Wh	750A/10C	1200A/20C	205*93*383 205*185*194	14.24kg	244Wh/kg
EN-75A069C-EHV	75000mAh 69.3V 18S3P	5197.5Wh	750A/10C	1200A/20C	205*93*572 205*185*194	21.26kg	245Wh/kg
EN-90A046H-EHV	90000mAh 46.8V 12S3P	4212Wh	900A/10C	1200A/20C	208*101*396 208*200*187	16.22kg	260Wh/kg
EN-90A070B-EHV	90000mAh 70.2V 18S3P	6318Wh	900A/10C	1200A/20C	208*101*599 208*200*302	24.23kg	261Wh/kg

——OEM or ODM is available

BATTERY CELL PERFORMANCE TEST

BASIC CHARGE AND DISCHARGE PERFORMANCE

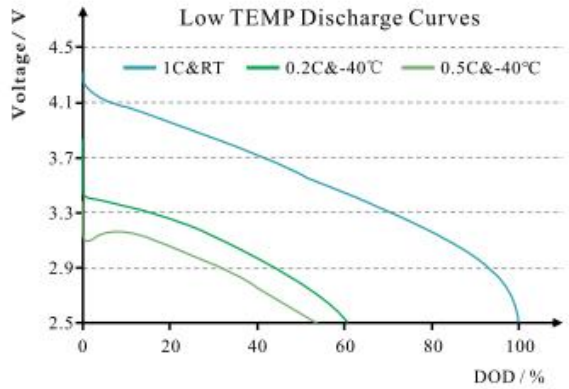
Test method: Under normal temperature, 0.5C constant current constant voltage charge to 4.35V, cut-off current 0.05C; Let it sit for 10min and then drain it to 2.5V at 0.5C.



Item	0.5C charging capacity /Ah	0.5C discharge capacity /Ah	Charge and discharge efficiency /%
Test value	32.1	31.6	98.5

LOW TEMPERATURE DISCHARGE -40°C

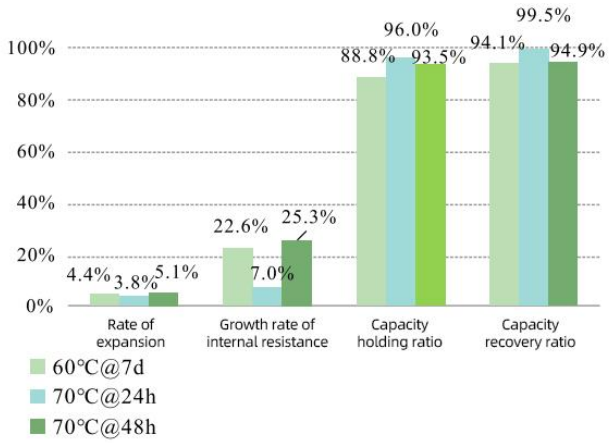
Test method: Under normal temperature, 0.5C constant current constant voltage charge to 4.35V, cut-off current 0.05C; At -40°C for 4~6h, and then at 0.2C, 0.5C constant discharge to 2.4V.



Temperature	Rate of multiplication	Capacity/Ah	Median voltage /V	Capacity retention rate /%
RT	1C	31.65	3.569	100.00
-40℃	0.2C	19.82	3.103	62.62
-40℃	0.5C	18.43	2.939	58.23

HIGH TEMPERATURE STORAGE

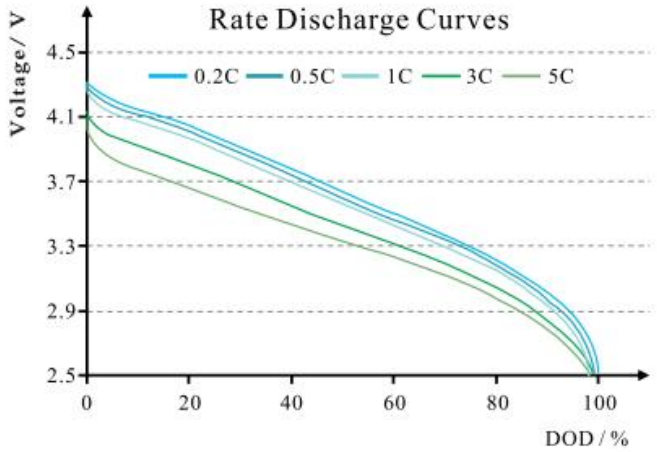
Test method: At room temperature, 0.5C constant current constant voltage charge to 4.2V, cut-off current 0.05C; After being stored at 60℃ for 7d, 70℃ for 24h and 70℃ for 48h, the current was discharged to 3.0V at 1C. Then charge 1C at 0.5C, cycle 3 times, record ACR, thickness, capacity before and after storage.



BATTERY CELL PERFORMANCE TEST

◆ RATE DISCHARGE RT

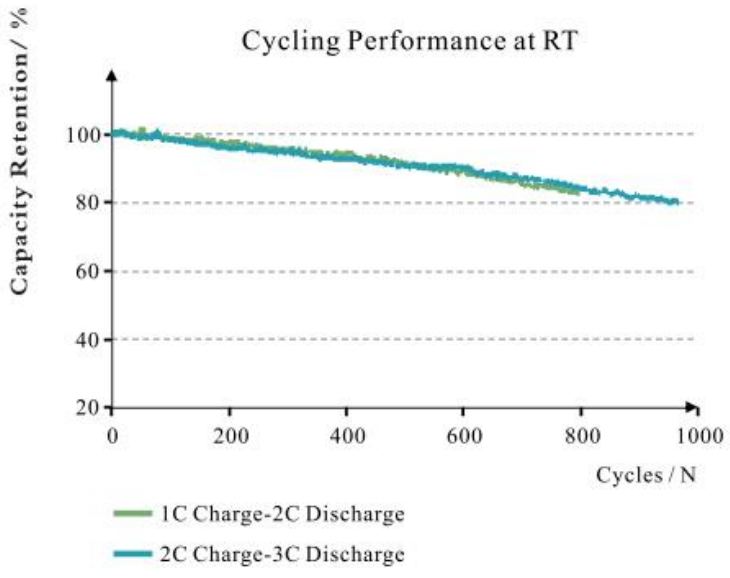
Test method: Under normal temperature, 0.5C constant current and constant voltage charge to 4.35V, cut-off current 0.05C; Put it on for min, and then discharge it to 2.5V at 0.2C, 0.5C, 1C, 3C and 5C.



Rate of multiplication	Capacity /Ah	Median voltage /V	Capacity retention rate /%
0.2C	32.22	3.619	100.00
0.5C	31.88	3.603	98.9
1C	31.71	3.569	98.4
3C	31.93	3.430	99.1
5C	31.77	3.339	98.6

◆ LOOP PERFORMANCE RT

Test method a: Under normal temperature, 1C constant current and constant voltage charge to 4.35V, cut-off current 0.05C: leave for 15min, then 2C constant discharge to 2.75V, do cycle test.
Test method a: Under normal temperature, 2C constant current and constant voltage charge to 4.35V, cut-off current 0.05C: leave for 15min, then 3C constant discharge to 2.75V, do cycle test.



Cycle number	1C charge 2C discharge	2C charge 3C discharge
1	100.0	100.0
100	99.0	98.6
200	98.0	95.9
300	95.6	95.1
400	94.6	93.0
500	91.5	91.1
600	89.7	90.3
700	85.8	86.8
800	82.9	84.2
900	/	81.
1000	/	80.3(966th)

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

		
EXPLORATION UAV	eVTOL	PLANT PROTECTION UAV
		
LOGISTICS TRANSPORT UAV	MAPPING UAV	FPV UAV

CERTIFICATION

ISO 14001 | ISO 9001 | ROHS | CE | FC

CONTACT US

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