



AceOn NA12100

12V 100Ah Sodium-Ion Battery

A maintenance-free, drop-in 12 volt energy block built on safe, abundant sodium-ion chemistry — engineered for solar, backup, telecom and off-grid power in the world's most demanding climates.

12v

NOMINAL

100Ah

CAPACITY

1.2kWh

ENERGY

KEY FEATURES



Wide temperature

Discharges from -30 °C to +60 °C — built for harsh climates.



2,000+ cycle life

≥ 70% capacity retained after 2,000 cycles.



Smart BMS built in

Over-charge, over-current, short-circuit & temp protection.



Cobalt & lithium-free

Sodium-ion — safe, abundant and sustainable materials.



Drop-in 12V format

For solar, backup, telecom & leisure systems.



Maintenance-free

Automatic cell balancing keeps the pack in tune.

KEY SPECIFICATIONS

Product model	RSIB-MSI-1201
Nominal capacity	100 Ah
Nominal voltage	12 V / DC
Nominal energy	1.2 kWh (1200 Wh)
Charge cut-off voltage	15.8 V
Discharge cut-off voltage	8 V
Internal resistance	≤ 6 mΩ
Cell configuration	32140 · 4S10P
Terminal thread	M8

Max. charge current	50 A
Max. discharge current	100 A
Cycle life	≥ 2000 cyc · ≥70%
Operating temp · charge	-10 to +55 °C
Operating temp · discharge	-30 to +60 °C
Dimensions (L×W×H)	355×175×188 mm
Net weight	14 kg



INTEGRATED BMS & PROTECTION

Configuration	4S · common port
Continuous charge current	10-50 A
Continuous discharge current	10-100 A
Over-charge protection	3.95 V/cell
Over-charge release	3.70 V/cell
Over-discharge protection	1.80 V/cell
Over-discharge release	2.10 V/cell
Over-current (discharge L1)	110 ± 5 A
Over-current (discharge L2)	350 ± 80 A
Short-circuit protection	1350 ± 300 A
Cell balancing	200 mA · pulsed
Running / sleep current	≤10 mA / ≤800 µA
BMS operating temp	-40 to +60 °C
BMS board size	160×105×17 mm

CHARGING PROFILE BY TEMPERATURE

-10 °C to -5 °C	0.1C (10 A)
-5 °C to 0 °C	0.2C (20 A)
0 °C to +55 °C	0.5C (50 A)

TEMPERATURE PROTECTION

Charge · high / low	50 °C / -5 °C
Discharge · high / low	55 °C / -30 °C
FET over-temperature	90 °C

TESTING & ENVIRONMENT

Cycle life test	2000 cyc · ≥70%
Humidity & heat	48h · 40°C · 90-95%
Vibration	10-55Hz · X/Y/Z
Storage (recommended SOC)	~60% · ≤12 mo
Abuse tests	No fire / explosion



Safe handling

Use only a sodium-ion charger. Do not immerse, pierce, crush or reverse polarity. Keep away from heat sources and strong magnetic fields. Do not disassemble — cell replacement by AceOn or an authorised supplier only.

APPLICATIONS

Solar storage

Backup power

Telecom

Off-grid & leisure

Made in China

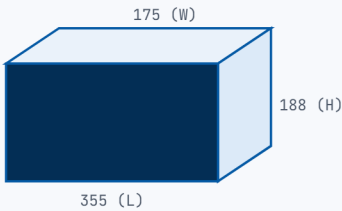
Supplied by AceOn Group — over 30 years of battery expertise.



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DIMENSIONS & WEIGHT

355 × 175 × 188 mm • 14 kg

Length × Width × Height. Sealed, rugged ABS enclosure with a carry handle and M8 terminal studs.

ELECTRICAL PERFORMANCE

TEST	METHOD	CRITERIA
Rated capacity	Charge in full, rest 5 min, then discharge at 0.2C to cut-off (25 °C).	≥ 100 Ah
Cycle life	0.5C charge / 1.0C discharge, repeated for 2,000 cycles.	≥ 70% retained
Rate discharge	Discharge at varied currents up to 1.0C (100 A) to cut-off.	Stable output

SAFETY (ABUSE) TESTING

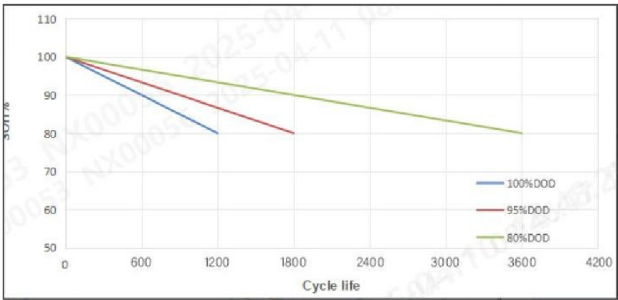
TEST	METHOD	RESULT
Over-charge	Continue charging to 4.4 V/cell or 115% SOC.	No fire / explosion
Over-discharge	Discharge at 1C for 90 minutes beyond cut-off.	No fire / explosion
Short circuit	Short the terminals (≤ 5 mΩ) for 10 minutes.	No fire / explosion

ENVIRONMENTAL TESTING

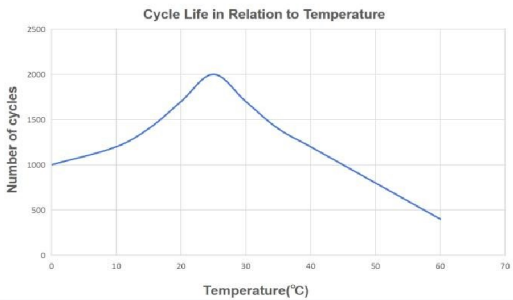
TEST	METHOD	RESULT
Humidity & heat	48 h at 40 °C and 90–95% RH, then discharge.	No distortion
Vibration	10–55 Hz, 0.38 mm amplitude, X/Y/Z axes.	No distortion
Storage	Up to 12 months, then full charge / discharge.	Recovers in spec

Representative characterisation curves for the sodium-ion cell and pack. Values are typical and for reference.

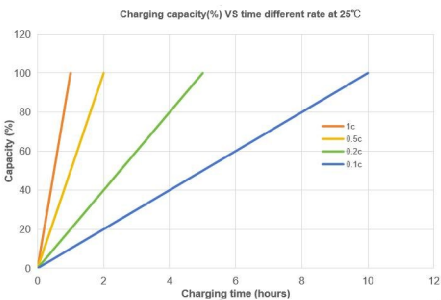
Cycle life vs depth of discharge



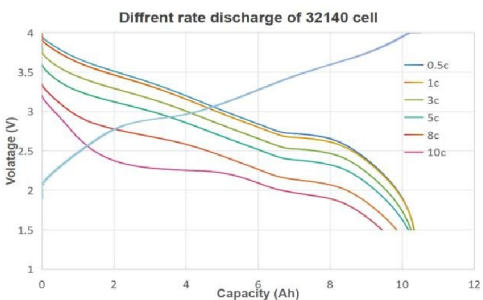
Cycle life vs temperature



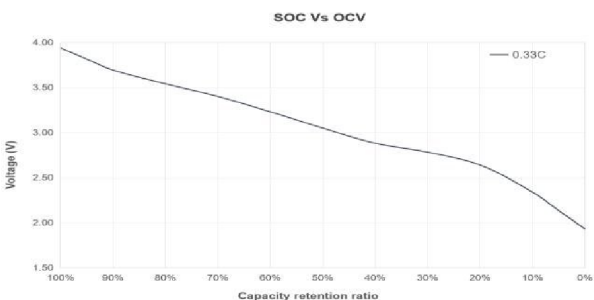
Charge capacity vs time (by rate)



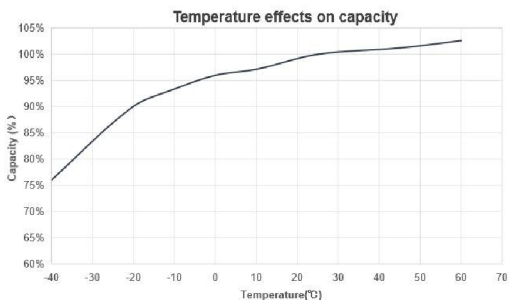
Discharge by rate (cell)



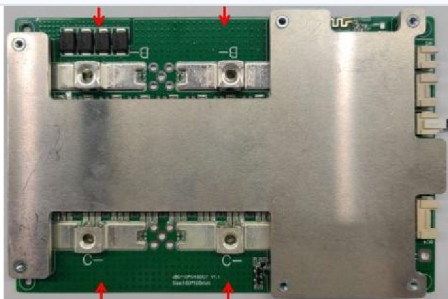
State of charge vs open-circuit voltage



Temperature effect on capacity



TERMINAL CONNECTIONS & BMS



An integrated BMS protection board manages charge, discharge, cell balancing and protection. Charge and discharge share a common port.

B- Battery negative

C- / P- Charger / load negative

Board size 160 × 105 × 17 mm

TRANSPORT & STORAGE



Transport state of charge

Ship at 20–50% SOC, boxed and upright. Avoid violent vibration, shock and crushing; keep out of direct sun and rain.



Handling

Handle gently — do not throw, roll or apply heavy pressure. Use the carry handle and keep terminals protected.



Long-term storage

For storage over 30 days, set SOC to ~60%. Recharge every 3 months (–20 to 30 °C) or monthly (30–45 °C). Never let SOC fall below 8%.



Charging

Use only a sodium-ion charger matched to this battery. Low-temperature charging is supported down to –10 °C.

SAFE USE — PLEASE OBSERVE

-  Do not immerse in liquid; store in a cool, dry place.
-  Keep away from fire, heaters and high-temperature sources.
-  Do not reverse polarity or short the terminals with metal.
-  Do not strike, throw, crush, bend or pierce the battery.
-  Do not use in strong static or magnetic fields.
-  Do not mix with batteries of a different model, brand or age.
-  Do not disassemble — replacement by AceOn or an authorised supplier only.
-  If electrolyte contacts eyes, rinse with clean water and seek medical care immediately.
-  On odour, heat, discolouration or deformation, stop use and disconnect.
-  Operate within the rated temperature and current limits.



Sustainable by design

Sodium-ion chemistry uses abundant, cobalt- and lithium-free materials. Return end-of-life batteries through an approved recycling channel — do not dispose of in general waste.

Talk to AceOn Group

Over 30 years of battery expertise — custom packs, BESS & distribution.



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