Sodium-Ion Dry Cell Product Specification

Product Model: CU-PO-S1-4H0111

Version: V1.0

Release Date: 20250915

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1. Basic Product Information

Item	Specification	
Cell Model	508764	
Nominal Voltage	3.4 V	
Nominal Capacity	≥1150 mAh (0.2C)	
Dimensions (L × W)	140 mm × 110 mm	
Electrochemical System	PB/HC	
Active Material Content	PB 92.0%	HC /
Coating Mass Loading (mg/cm^2)	PB 12.40	HC /
Electrode Compacted Density (g/cm^3)	PB 1.40	HC /
Cell Structure	Stacked	
Recommended Electrolyte Fill Mass	7.2–9.6 g	
Recommended Electrolyte	KLD-NF96F	

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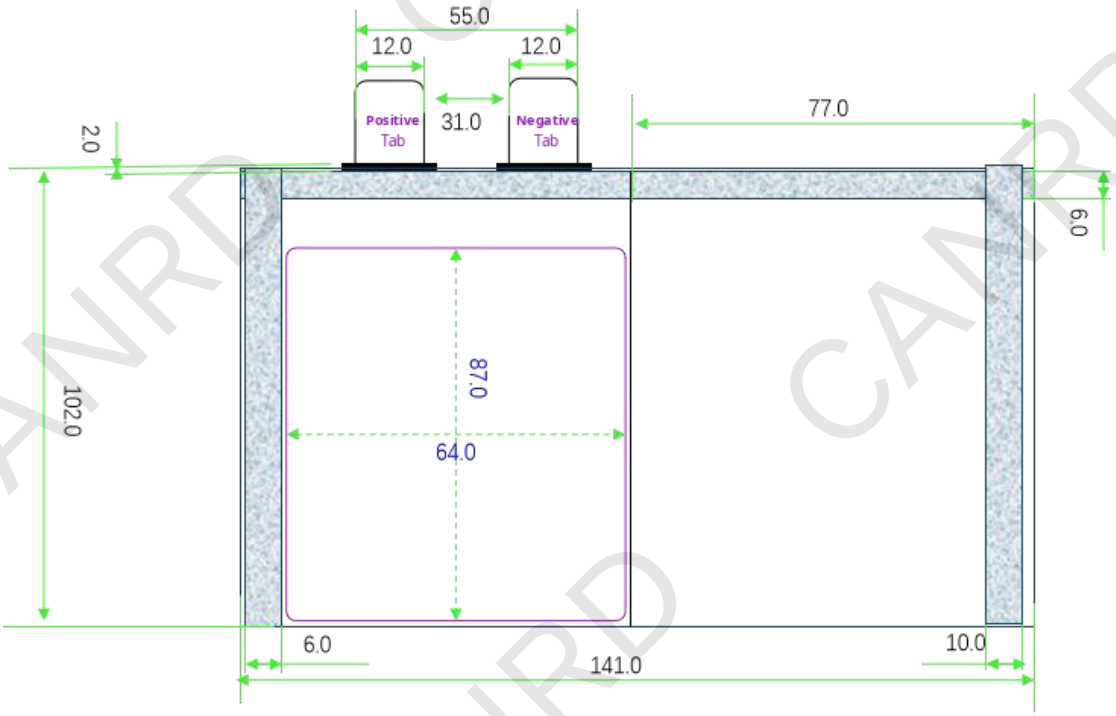
2. Charge and Discharge Parameters

Charge Voltage: 3.65 V	Standard Charge Current: 1.0C
Discharge Cutoff Voltage: 2.00 V	Standard Discharge Current: 1.0C

3. Environmental Conditions

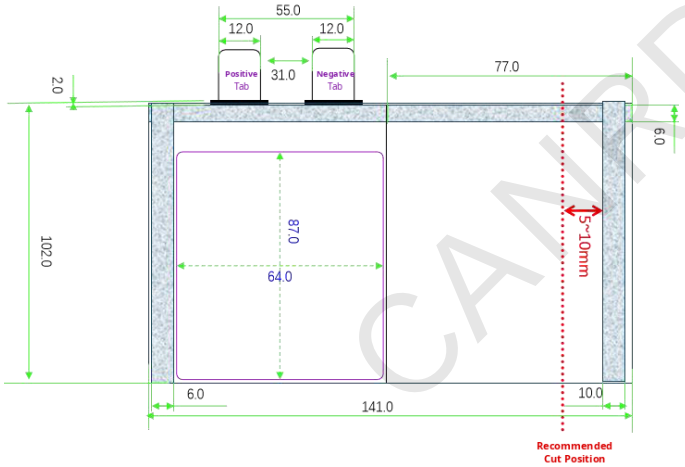
Item	Parameter Range
Charging Operating Temperature	0°C to 45°C
Discharging Operating Temperature	-20°C to 45°C
Storage Temperature	25°C (Recommended)
Relative Humidity	≤85% RH (Non-condensing)

4. Dimensional Drawing



5. Dry Cell Post Procedure

The following procedures illustrate manual electrolyte filling. All operations must be performed **in a dry room or glovebox**. The drawing shows the cell front.



1) Inspection: Check for broken tabs, gas leakage, or damaged aluminum-laminate pouch film.

2) Make a filling port:
Cut 5–10 mm from the edge of the gas pouch.

Important: Retain part of the gas pouch!

3) Electrolyte Filling: Rotate the cell 90° counterclockwise from the illustrated position, with the cut gas-pouch opening facing upward. Keep the cell vertical (use a holder if needed). Place it on a balance and tare the reading. Use a pipette or disposable dropper to add the appropriate amount of electrolyte through the filling port.

4) Vacuum Soaking: Place in a vacuum resting chamber at ≤-85 kPa for 3 min.

5) Vacuum Pre-Sealing: Vacuum-seal at ≤-85 kPa.

6) Open-Circuit Voltage After Filling: Before cycling, OCV is approximately 0 V; it may be positive or negative depending on the electrochemical system.

7) Resting: Hold at room temperature for 48 h, or at 45°C for 24 h. Adjust the temperature and time based on cell size, electrolyte wetting, and fill volume.

8) After resting, follow the recommended formation and capacity grading steps below (first charge/discharge and activation).

6. Recommended Formation and Capacity Grading Procedure

6.1 With Hot-Press Formation and Capacity Grading

Formation Steps: 45°C, 0.9 MPa

1) Rest for 60 min (until the cell temperature reaches 45°C).

2) Charge at 0.05C (constant current) for 8 h; then stop.

3) Rest for 1 min.

4) Charge at 0.1C (constant current) for 3 h; then stop.

After the cell body cools to 25°C, degas and perform final sealing.
(It is recommended to retain part of the gas pouch instead of fully removing it.)

Capacity Grading Steps: 25°C, 0.9 MPa

1) Rest for 3 min.

2) Charge at 0.2C (CC-CV) to 3.65 V; cutoff current: 0.05C.

2) Rest for 3 min.

3) Discharge at 0.2C (CC) to 2.00 V.

(Complete first charge/discharge cycle; calculate initial coulombic efficiency.)

6.2 Without Hot-Press Formation and Capacity Grading

Neware Battery Tester: 25°C, 0.2 MPa

1) Rest for 3 min.

2) Charge at 0.05C (CC) to 3.65 V.

3) Rest for 3 min.

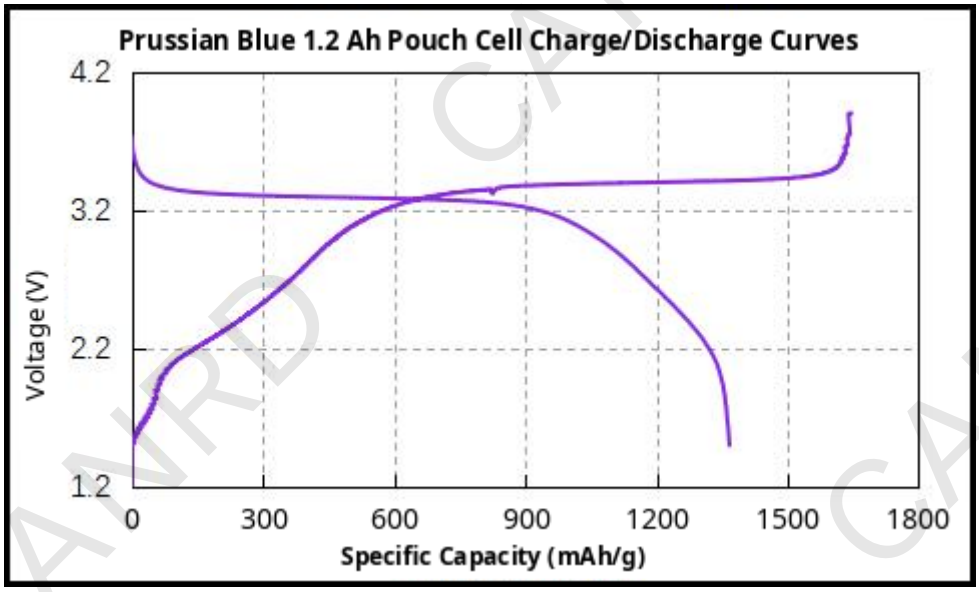
4) Discharge at 0.2C (CC) to 2.00 V.

(Complete first charge/discharge cycle; calculate initial coulombic efficiency.)

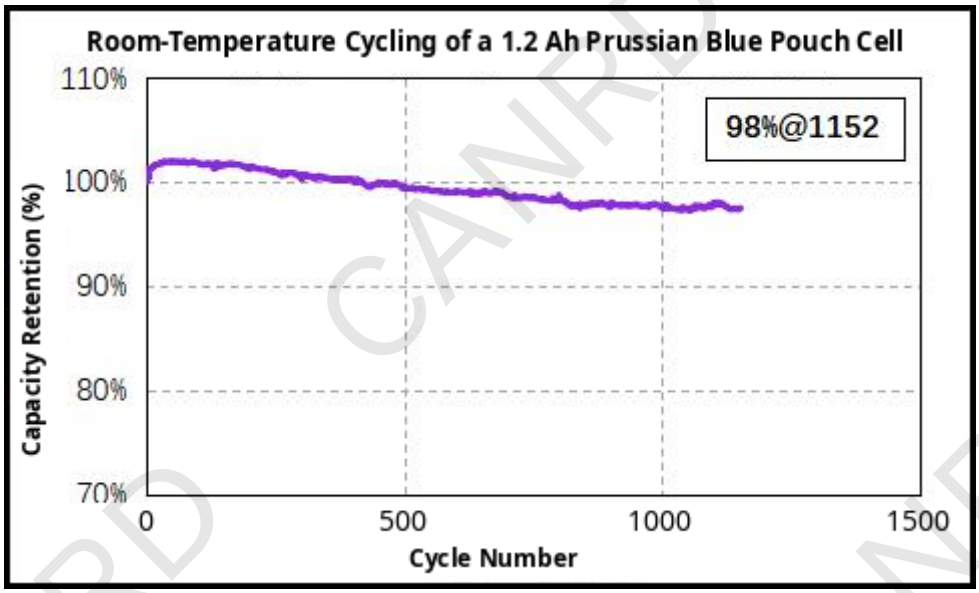
6.3 Note: If the cell will remain in a test-ready state for an extended period after grading, an additional half-charge is recommended.

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Charge/Discharge Curves:



Cycling Performance:



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