

# Lithium-Ion Dry Cell Product Specification

Product Model: CU-PO-LB-20G105

Version: V2.0

Release Date: 20260420

## 1. Basic Product Information

| Item                                       | Specifications |          |
|--------------------------------------------|----------------|----------|
| Cell Model                                 | 402528         |          |
| Nominal Voltage                            | 3.20V          |          |
| Nominal Capacity                           | ≥160mAh (0.2C) |          |
| Dimensions (L x W)                         | 130mm*75mm     |          |
| Electrochemical System                     | LFP/Gr         |          |
| Active Material Content                    | LFP 91.5%      | Gr 95.7% |
| Single-Side Coating Areal Density (mg/cm²) | LFP 10.74      | Gr 4.85  |
| Electrode Compaction Density (g/cc)        | LFP 2.10       | Gr 1.50  |
| Cell Structure                             | Wound          |          |
| Recommended Electrolyte Filling Amount     | 1.2g           |          |
| Recommended Electrolyte                    | KLD-LFP01      |          |

2. Charge/Discharge Parameters

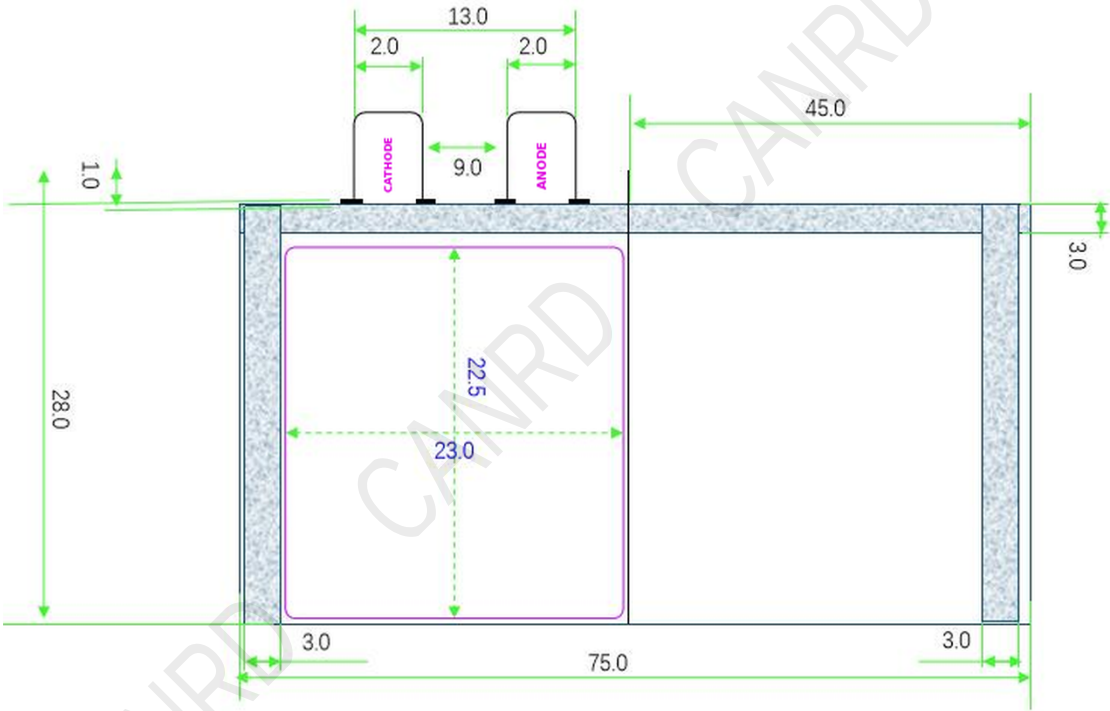
|                                  |                                  |
|----------------------------------|----------------------------------|
| Charge Voltage: 3.65V            | Standard Charge Current: 0.5C    |
| Discharge Cut-off Voltage: 2.00V | Standard Discharge Current: 1.0C |

3. Environmental Adaptability

| Item                            | Parameter Range          |
|---------------------------------|--------------------------|
| Charge Operating Temperature    | 10°C ~ 60°C              |
| Discharge Operating Temperature | 0°C ~ 45°C               |
| Storage Temperature             | 25°C (Recommended)       |
| Relative Humidity               | ≤85% RH (Non-condensing) |

4. Appendix

Dimensional Drawing:

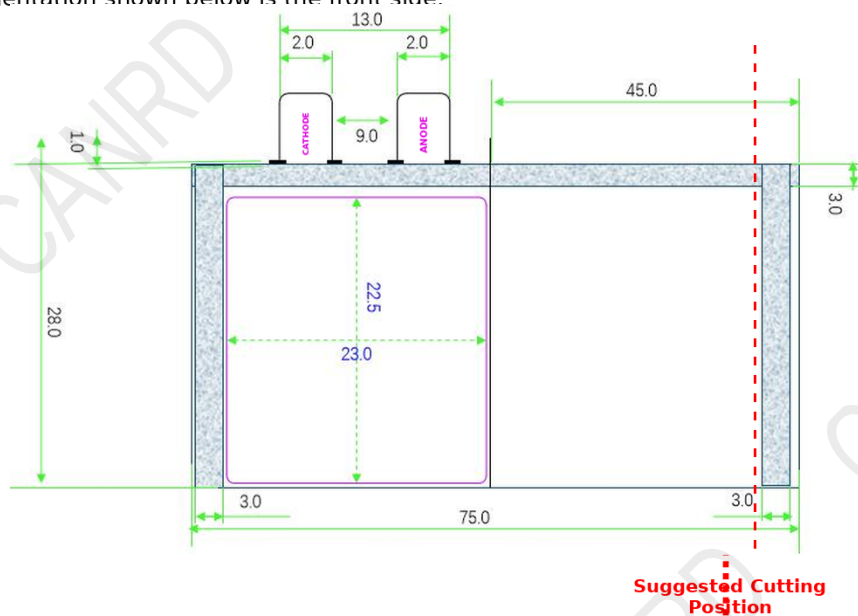


## 5. Post-Processing of Dry Cell

The following instructions use manual electrolyte filling as an example and must be performed in a dry room or glovebox. The cell orientation shown below is the front side.

1) Inspection: Before operation, inspect the cell for abnormalities, such as (1) broken tabs; (2) gas leakage; (3) damage to the aluminum-laminated pouch, etc.

2) Create Electrolyte Filling Port: Cut a filling port 5-10 mm from the edge of the gas pocket. Note: It is strongly recommended to retain part of the gas pocket during the first electrolyte filling!!



3) Electrolyte Filling: Rotate the cell 90° counterclockwise from the orientation shown at right, with the cut gas-pocket opening upward (a battery holder may be used), and place it vertically. Place it on a balance and tare to zero. Use a pipette/disposable dropper to inject the required amount of electrolyte through the filling port.

4) Vacuum Soaking: Place in a vacuum soaking chamber, evacuate to  $\leq -85$  kPa, and rest for 3 min.

5) Vacuum Pre-Sealing: Vacuum-seal at  $\leq -85$  kPa.

6) Measure OCV after Electrolyte Filling: Before charge/discharge, OCV is approximately 0 V (depending on the chemistry, the voltage may be positive or negative).

7) Resting: Recommended 48 h at room temperature or 24 h at 45°C. Depending on cell size, electrolyte wetting, and filling amount, temperature and time may be adjusted based on actual needs.

8) Formation and Capacity Grading after Resting (First Charge/Discharge / Activation): See the recommended procedure below.

## **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 60 min (allow the cell to reach 45°C);
- 2) Charge at 0.1C CC for 18 min;
- 3) Rest 3 min;
- 4) Charge at 0.16C CC for 140 min;

After the cell body cools to 25°C, degas and perform second sealing.

Capacity Grading Steps: 25°C, ambient pressure (if the gas pocket is retained after degassing, apply 0.2 MPa pressure during grading).

- 1) Rest 3 min;
- 2) Charge at 0.5C CC-CV to 3.65V, cutoff current 0.02C;
- 2) Rest 3 min;
- 3) Discharge at 0.2C CC to 2.00V;

(Complete the first charge/discharge cycle and calculate initial Coulombic efficiency.)

### **6.2 Without Hot-Press Formation and Capacity Grading:**

NEWARE tester: 25°C, 0.2 MPa;

- 1) Rest 3 min;
- 2) Charge at 0.05C CC to 3.65V;
- 3) Rest 3 min;
- 4) Discharge at 0.05C CC to 2.00V;

(Complete the first charge/discharge cycle and calculate initial Coulombic efficiency.)

**6.3 Note: For long-term standby after grading, an additional half-charge after grading is recommended.**