

PRODUCT DATA SHEET

HR03 RECHARGEABLE



Ref.no. AL-PO-HR03-Rech2-V23-09

Date of issue: 1 October, 2023



| | |
|---------------------|---|
| Type Designation | IEC: HR03 /AAA |
| Made in | China |
| Chemical System | Nickel Metal Hydride |
| Nominal Voltage | 1.2 V |
| Average Weight | 14.5 g |
| Typical Capacity | 860 mAh |
| Rated Capacity | 850mAh |
| Charging rate | 0.1C-1C |
| Max Discharger Rate | 3C |
| Storage Temp | 10°C (50°F)-25°C (77°F) |
| Operating Temp | -20°C (-4°F)-55°C (131°F) |
| Compliant to | IEC 62133, IEC61951-2, non-dangerous goods regulation EU directive 2006/66/EC |

Appearance and terminal

Battery shall be clean and have no dirt, no leakage, and no deformation which may affect their performance and actual use and shall have clearly visible markings.

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Performance

| TEST | UNIT | Specification | Conditions | Remarks |
|-----------------------------------|------------|--|--|----------------------------|
| Capacity | mAh | ≥ 850 | Standard Charge/Discharge | Up to 3 cycles are allowed |
| Open Circuit Voltage (OCV) | V | ≥ 1.25 | Within 1hr after standard charge | |
| Internal Impedance (Ri) | m Ω | ≤ 60 | Upon fully Charge At 1Khz | |
| High Rate Discharge (0.5C) | Min | ≥ 108 | Standard Charge, 1hr rest before discharge | |
| High Rate Discharge (1C) | Min | ≥ 48 | Standard Charge, 1hr rest before discharge | |
| Overcharge | | No deformations and/or leakage | 85mA (0.1C) charge 1 year | |
| Charge Retention | mAh | ≥ 680 | Standard Charge Storage: 12 months at 20°C Standard Discharge | |
| IEC Cycle test | Cycle | ≥ 500 | IEC61951-2(2017) 7.5.1.2 | |
| | | ≥ 200 | IEC61951-2(2011) 7.5.1.4 | |
| Leakage | | No leakage | Fully charged at 2400mA (1C), stand for 14 days | |
| External Short Circuit | | No Fire / explosion | After standard charge, short circuit the cell(s) at 20+/-5°C until the cell(s) temperature returns to ambient temperature. (The resistance of the interconnecting circuitry shall not exceed 0.1 Ω .) | |
| Vibration Resistance | | $\Delta V < 0.02V/\text{cell}$ ΔRi (Internal Impedance) $< 5m\ \Omega/\text{cell}$ | Charge the battery 0.1C 16hrs, then leave for 24hrs, check battery before / after vibration, Amplitude: 1.5mm Vibration: 3000CPM Any direction for 60mins | Unit Cell |
| Impact Resistance | | $\Delta V < 0.02V/\text{cell}$ ΔRi (Internal Impedance) $< 5m\ \Omega/\text{cell}$ | Charge the battery 0.1C 16hrs, then leave for 24hrs, check battery before / after dropped, Height: 50cm Wooden board (thickness 30mm) Direction not specified, 3 times | Unit Cell |

1. Ta Ambient Temperature
2. Approximate charge time from discharged state, for reference only