

# 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.

### Performance

TEST	UNIT	Specification	Conditions	Remarks
<b>Capacity</b>	mAh	≥850	Standard Charge/Discharge	Up to 3 cycles are allowed
<b>Open Circuit Voltage (OCV)</b>	V	≥1.25	Within 1hr after standard charge	
<b>Internal Impedance (Ri)</b>	mΩ	≤60	Upon fully Charge At 1Khz	
<b>High Rate Discharge (0.5C)</b>	Min	≥108	Standard Charge, 1hr rest before discharge	
<b>High Rate Discharge (1C)</b>	Min	≥48	Standard Charge, 1hr rest before discharge	
<b>Overcharge</b>		No deformations and/or leakage	85mA (0.1C) charge 1 year	
<b>Charge Retention</b>	mAh	≥680	Standard Charge Storage: 12 months at 20°C Standard Discharge	
<b>IEC Cycle test</b>	Cycle	≥500	IEC61951-2(2017) 7.5.1.2	
		≥200	IEC61951-2(2011) 7.5.1.4	
<b>Leakage</b>		No leakage	Fully charged at 2400mA (1C), stand for 14 days	
<b>External Short Circuit</b>		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 0.1Ω.)	
<b>Vibration Resistance</b>		$\Delta V < 0.02V/\text{cell}$ $\Delta Ri$ (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
<b>Impact Resistance</b>		$\Delta V < 0.02V/\text{cell}$ $\Delta Ri$ (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