

Technical Specifications

Sodium-Ion Battery Platform: All Configurations

Prieto's sodium-ion batteries are engineered for sectors where failure is not an option. All configurations share a **nonflammable, non-toxic chemistry** with **no thermal runaway risk**, wide temperature operation, and fast charge/discharge performance.

The overall picture: this is a battery optimized for safety, reliability, and power delivery in demanding environments—not for maximum energy density. That's exactly the right trade-off for Prieto's target markets in defense, data centers, and healthcare.

<10 min
CHARGE
RATE

15 years
CALENDAR
LIFE

-70°F
MINIMUM OPERATING
TEMPERATURE

Zero
THERMAL
RUNAWAY RISK



Size & Capacity (1–20 Ah): These cells can be built in a range of sizes, from small single-cell applications up to larger packs—giving Prieto flexibility to serve different markets.



Charging Speed (<10 minutes):

The battery charges from nearly empty to nearly full in under 10 minutes. For context, most lithium-ion EV batteries take 20–45 minutes for the same range on a fast charger.



Operating Temperature (-70°F to 200°F): It functions in extreme cold and heat while charging and discharging. This is a significant advantage over lithium-ion, which degrades badly in cold and can be dangerous in high heat.



Energy Density (250–300 Wh/L / 100–150 Wh/kg): How much energy it packs by volume and by weight. This is lower than premium lithium-ion on a weight basis, but the safety and power advantages more than compensate in the target use cases.



Power Rate (10C): The battery can discharge its full energy in 6 minutes or deliver 10 times its stored capacity as instantaneous power.



Safety (nonflammable, non-toxic):

No thermal runaway means it won't catch fire or explode if punctured, overcharged, or damaged.



Cycle Life (500+): The battery can be fully charged and discharged more than 500 times before meaningful degradation.



Calendar Life (up to 15 years):

Regardless of how often it's used, the battery retains useful capacity for up to 15 years.

Data Center Backup
Critical Infrastructure

Metric	Prieto Na-Ion	
	Development Configuration	Commercial Configuration
Capacity—Cell	1–20 Ah	1–30 Ah
Charge Rate	<10 minutes	<10 minutes
Operating Temperature	-30°F to 200°F Charge & Discharge	-30°F to 200°F Charge & Discharge
Power Rate	CRITICAL 10C	CRITICAL 10C
Safety	Nonflammable—No thermal runaway Non-toxic chemistry	CRITICAL Nonflammable—No thermal runaway Non-toxic chemistry
Energy Density	250–300 Wh/L 100–150 Wh/kg	300 Wh/L 150 Wh/kg
Cycle Life	CRITICAL 500+	CRITICAL 2,000–3,000+
Calendar Life	CRITICAL Up to 15 years	CRITICAL Up to 15 years

Specifications reflect development and commercial-stage targets. **CRITICAL** parameters are primary performance drivers for each configuration. All configurations subject to change.

Military & Defense | National Security

High-Energy Density

Metric	Prieto Na-Ion	
	Development Configuration	Commercial Configuration
Capacity—Cell	1–10 Ah	1–30 Ah
Charge Rate	<10 minutes	<10 minutes
Operating Temperature	CRITICAL -70°F to 200°F Charge & Discharge	CRITICAL -70°F to 200°F Charge & Discharge
Power Rate	10C	10C
Safety	CRITICAL Nonflammable—No thermal runaway Robust & Rugged—Abuse Tested	CRITICAL Nonflammable—No thermal runaway Robust & Rugged—Abuse Tested
Energy Density	CRITICAL 400–500 Wh/L 120–300 Wh/kg	CRITICAL 450 Wh/L 225 Wh/kg
Cycle Life	500–1,000	2,000–3,000
Calendar Life	2 years minimum	2 years minimum

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CRITICAL

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Military & Defense | National Security

Fast Charge

Metric	Prieto Na-Ion	
	Development Configuration	Commercial Configuration
Capacity—Cell	1–10 Ah	1–30 Ah
Charge Rate	<5 minutes	<5 minutes
Operating Temperature	CRITICAL -70°F to 200°F Charge & Discharge	CRITICAL -70°F to 200°F Charge & Discharge
Power Rate	20C	20C
Safety	CRITICAL Nonflammable—No thermal runaway Robust & Rugged—Abuse Tested	CRITICAL Nonflammable—No thermal runaway Robust & Rugged—Abuse Tested
Energy Density	CRITICAL 250–300 Wh/L 100–125 Wh/kg	CRITICAL 300 Wh/L 150 Wh/kg
Cycle Life	500–1,000	1,000
Calendar Life	2 years minimum	2 years minimum

Specifications reflect development and commercial-stage targets.

CRITICAL

 parameters are primary performance drivers for each configuration. All configurations subject to change.