



Digital Green Power Innovator and Sodium-ion Technology Pioneer

Biwatt Power · Green Future

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BIWATT

Website

Empowering the sodium-ion industry
Co-building the sodium-ion ecosystem

1.0 | INTRODUCTION

Biwatt is digital green power innovator and sodium-ion (Na+) technology pioneer. Standing at the forefront of the energy revolution with a world-class R&D team, we offer integrated energy solutions for both residential and commercial sectors, encompassing smart energy storage systems, hybrid inverters, AI-based battery management systems (AI-BMS), and an energy cloud platform.



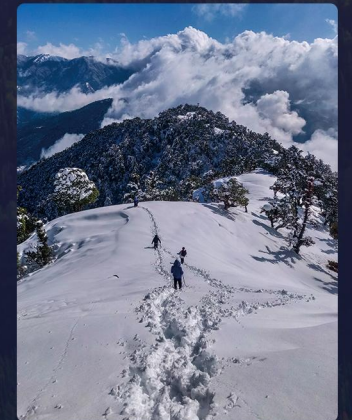
OUR VISIONS

Biwatt Power · Green Future



OUR MISSIONS

Digital green power innovator and sodium-ion technology pioneer



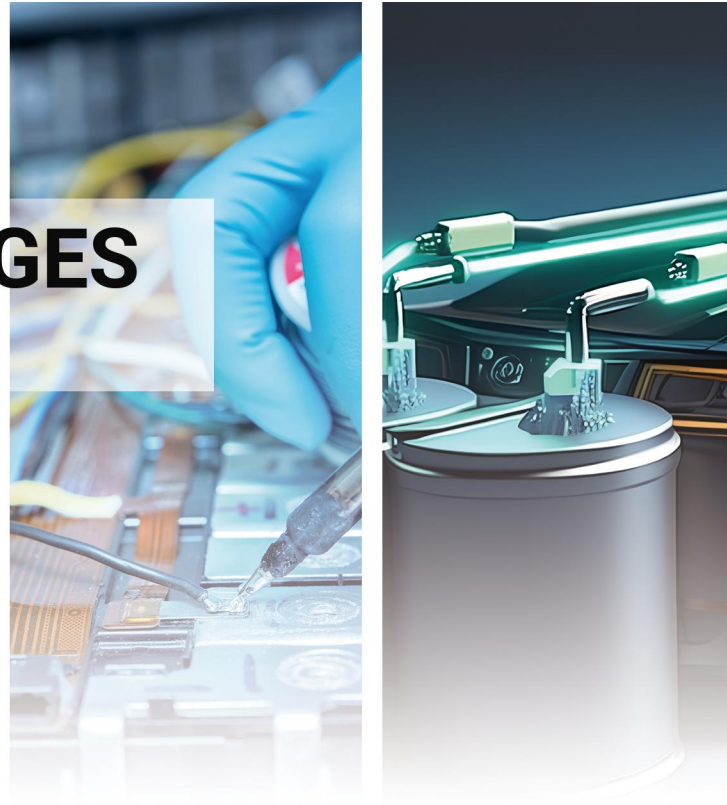
OUR VALUES

Create value for customers, be brave in innovation and struggle

2.0

ADVANTAGES

Sodium-Ion Batteries



01 High safety

Compared to LIBs, SIBs have lower risks of thermal runaway, making them safer and more stable.

02 High charge and discharge rate

The anode material of the SIBs has a large interlayer spacing and pore size, allowing rapid insertion and extraction of sodium ions during charge and discharge, with a maximum rate of up to 20C.

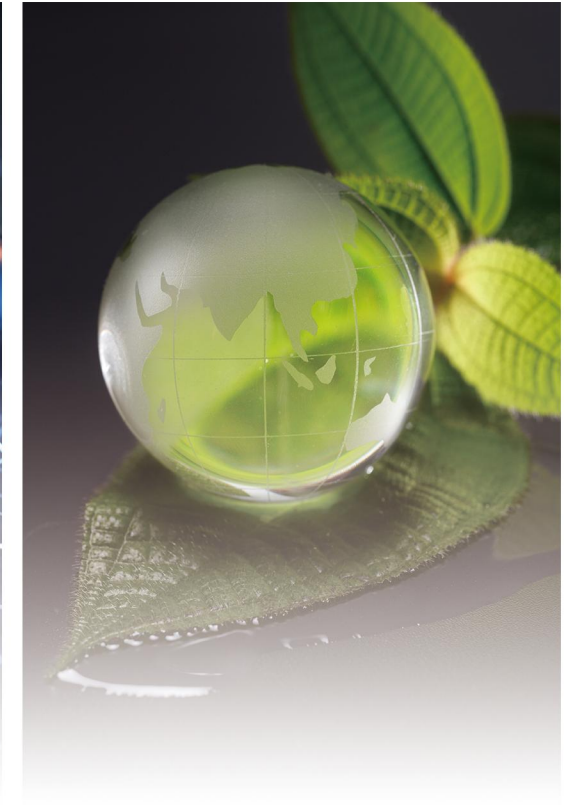


03 Excellent high and low-temperature performance

Under high-temperature conditions, SIB discharge temperature rise is minimal, providing enhanced safety and stability. Under low-temperature conditions, sodium ions are more mobile within the electrodes, resulting in a higher capacity retention rate.

04 Environmentally friendly

SIBs use more environmentally friendly electrode materials, such as abundant and non-toxic sodium-based compounds, which are more eco-friendly than LABs and can reduce environmental pollution.



3.0 | POWERNEST

Sodium-ion Battery All-In-One ESS

Home Energy Storage Solutions

Safe guarding your loved ones while paving the way for a sustainable future

It's more than just a power solution, but a commitment to a greener tomorrow



Natrium

Next-gen battery tech
Sodium-ion batteries

Efficient

All in one design
Fast charging

Safe

Four-layer ultra safety
protection

Tomorrow

Environmental sustainability
for a greener future

Natrium

Option for the reliable sodium-ion battery and embark on a journey into a new era of unstoppable energy

Abundance of sodium resources

Recyclability of materials

The cutting-edge sodium-ion battery—unfazed by the cold

Efficient

Powernest—a perfect blend of efficiency, speed, power, and simplicity

All in one design

Charge 0-100% in 60min

High power density

Safe

Your safety is our priority, every step of the way

Proactive safety warnings

Comprehensive diagnostics

Real-time alerts

Predictive maintenance

Tomorrow

Let's

Embrace a greener, eco-friendly tomorrow

All In One

Integrating [PV inverter](#), [battery PCS](#), [sodium-ion battery pack](#), [EMS](#), [cloud services](#) and [EV charger](#), into a robust, reliable, and efficient energy system for a seamlessly integrated renewable energy experience.



PowerNest W1

Hybrid Inverter

5.5kw

Satisfy 99% of household power demands

Sodium-ion Battery

4.5 -18 kWh

Expandable capacity for growing needs

Support EV AC Charger

Additional purchase required

APP/Cloud Service

One app to manage the whole house energy devices

Energy optimization master



PowerNest Specification

Input (Battery)	Capacity	Sodium-ion battery 4.5kWh
	Cycle life (25±2°C, 0.5C/0.5C, 80% EOL)	≥3000
	Rated battery voltage	45 V
	Max. continuous charge/discharge current	2C / 2C
Input (PV)	Max. DC power	6500 W
	Max. DC input voltage	500 V
	MPPT voltage range	120 V ~ 450 V
Output (AC)	Nominal apparent power	5500 W
	Max. output current	23.9 A
	Nominal output voltage	230 Vac
	Power factor	0.8leading - 0.8lagging
Efficiency	Maximum efficiency	97%
Monitoring & Control Platform	Human-Machine interaction	APP / LCD
	Firmware update mode	FOTA / Local update
	Operation and maintenance model	Remote O&M / Local O&M
General Parameters	Working temperature	Charge : -20°C ~ +60°C (-4°F ~ 140°F) Discharge : -30°C ~ +60°C (-22°F ~ 140°F)
	Operating humidity	5% RH ~ 95% RH
	Max. operating altitude	4,000 m (13,123 ft.) (Derating above 2,000 m)
	Cooling mode	Forced air cooling
	BMS communication mode	RS485 / CAN2.0
	Weight	90 kg (198.4 lb)
	Dimension (W x H x D)	600 x 880 x 165 mm (23.6 x 34.6 x 6.5 in)
	IP rating of enclosure	IP21
	Installation method	Wall mount / Floor stand