



Safer, Stronger, Go Longer



SODIUM-ION & LITHIUM-ION BATTERIES AND ENERGY STORAGE SYSTEM

The future of battery storage in cyclic and standby applications.

www.aesonpower.com.au

Company Profile

Aeson Power is an Australian company taking sodium ion technology globally. We are a major partner with the China based XuPai Group to delivery factory direct supply of lead-acid, lithium-ion and sodium-ion batteries for every application.



Manufacturing

Aeson Power delivers safe, reliable and high-quality products. We have 7 specialist factories with over 30 years of experience in R&D and manufacturing. Our manufacturing team has developed secure supply chains and rigorous quality control to ensure every product meets the highest global standards.



Sodium Ion Technology

Sodium Ion Technology will provide you with many benefits. Its energy is derived from one of the most clean and common materials on the planet – salt (Sodium Chloride = NaCl). Its performance exceeds any lead battery and is like a lithium battery.

However, it is different in some key areas, chiefly it does not suffer from very cold or very hot temperatures, and crucially, it does not suffer from thermal runaway, which results in battery fires.



Why Sodium-Ion Batteries?

Technical Landscape of Mainstream Cathode Materials

Positive Electrode Technology Routes	Advantages	Disadvantages
Layered Oxides (NFM)	High energy density	Poor safety, high cost, and poor cycle life
Polyanion Compounds(NFPP)	Good cycle life	Low energy density
Prussian Blue Analogs (PBA)	High energy density	Difficulty in removing moisture during manufacturing, and toxic gases generated under specific conditions

Lead-Acid, Lithium, and Sodium-Ion Batteries Comparison

	Lead Acid = Pb	LFP	NMC	NFPP
Energy Density (Wh/kg)	30~50	120~200	200~300	100~130
Cycle Life	>700	5000~6000	2500~5000	>5000
Voltage Range	1.5~2.4V	2.5~3.65V	2.8~4.3V	1.5~3.65V
High-Temperature Performance	Moderate	Moderate	Poor	Good
Low-Temperature Performance	Poor	Poor	Good	Good
Cost	Low	Relatively High	High	Low

THE CATALOG OF PRODUCTS

01

Batteries

- StatoDyne 12/100 (Na⁺ NFPP)
 - HaloDyne 12/100 (Na⁺ NFPP)
 - StatoDyne APSI2500 UPS(Na⁺ NFPP)
 - HaloDyne APSI2500 (Na⁺ NFPP)
 - LithoDyne APS5000 (Li⁺ LFP)
 - Performance Comparison: Sodium Ion 12V 100Ah vs Lead AGM 12V 100Ah
 - Performance Comparison: Sodium Ion 48V 50Ah*2 vs Lithium Ion 48V 100Ah
-

02

Accessories

- EcoBox
- EcoCase
- EcoCab

03

ESS

- HaloDyne-HV 75/150,
125/150 (Na⁺ NFPP)



30 GWh
Annual Production Capacity



90
Production Lines

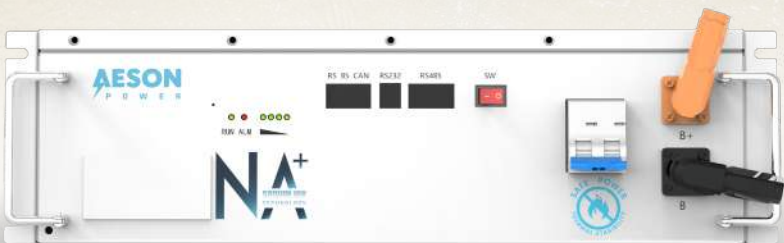


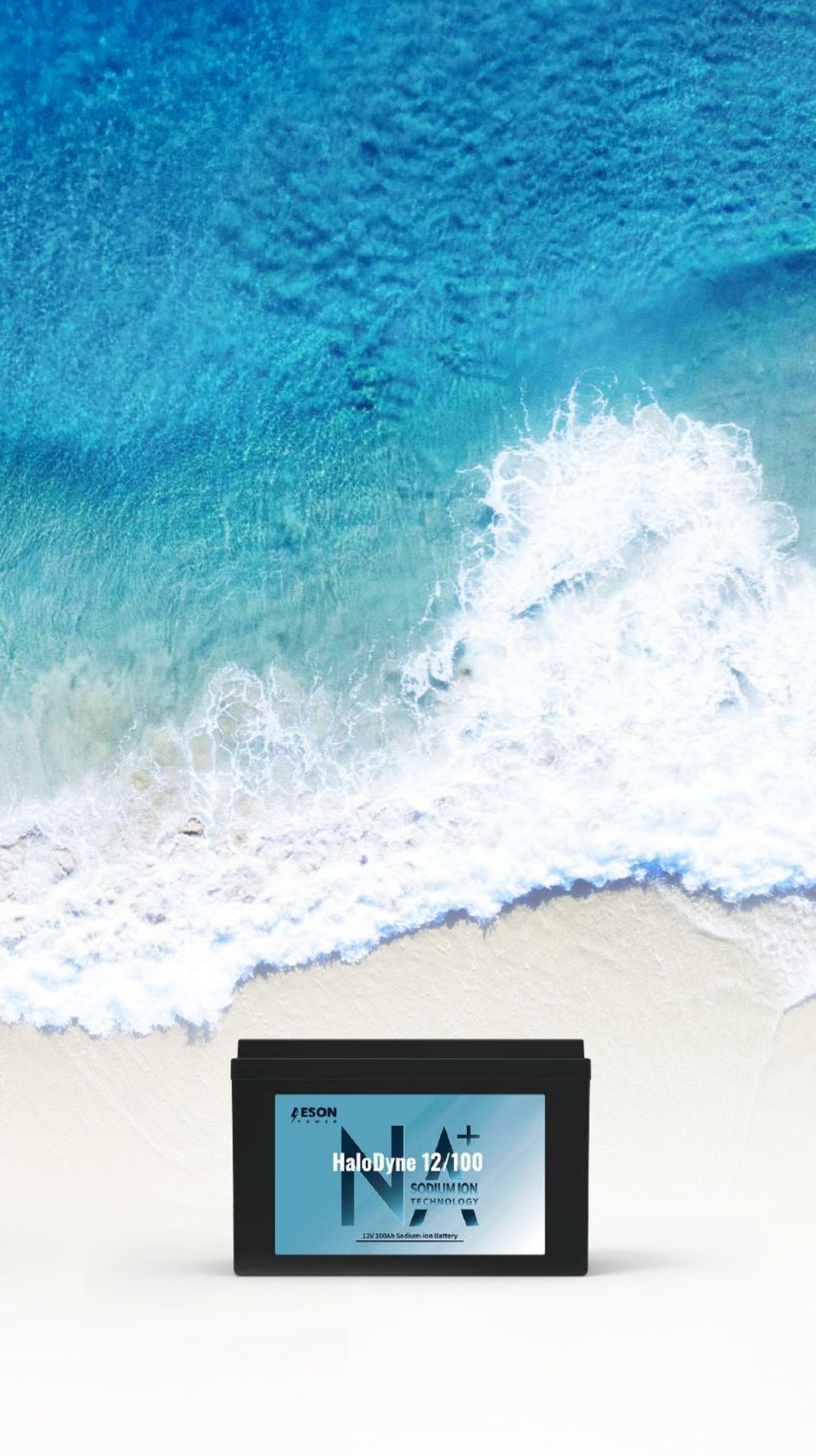
1.1M sqm
Area Covered



7
Manufacturing Centres

Batteries





StatoDyne 12/100 (Na⁺NFPP)



The StatoDyne series are Uninterrupted Power Supply (UPS) or standby/backup rechargeable batteries using Sodium Ion (Na) Technology. They are not designed for cyclic/deep cycle or starting applications.

StatoDyne sodium ion is perfectly suited for long operational life, in remote locations with extreme temperatures. No BMS required, so the risk of failure is greatly reduced. Temperature control equipment may not be needed. Our sodium ion can even charge from a constant power supply and discharge large amounts of energy when required.

StatoDyne

Stato comes from Latin status or Greek statos (from histēmi), meaning “standing,” “stable,” or “fixed”. It suggests stability, control, and steady function.

Dyne is from Greek dynamis (δύναμις), meaning “power”, or “energy”.

StatoDyne means “stable power” or “controlled energy”— ideal for a sodium-ion battery brand.

Features:



Application:



UPS



Data Center



Emergency Back up

Technical Specifications

Item		StatoDyne 12/100
Series Characteristics	Application	UPS/Standby Energy Storage
	Technology	Sodium Ion (Na ⁺)
	Cathode Material	Polyanionic
	Chemistry	NFPP
	Communication	No BMS or Bluetooth
	Balance Bar	No
	Circuit Protection	Busbar. No internal fuse.
Electrical Specifications	Nominal Voltage	12V
	Nominal Capacity	100Ah
	Energy Capacity	1140Wh
	Usable Capacity	100%
	Cycles	5,000 – 100% DoD @ 0.5C @ 25°C 2,000 – 100% DoD @ 1C @ 25°C
	Charge Rate (Recommended)	0.5C
	Voltage Range (Working)	6V – 14.4V
	Charge Voltage (Recommended)	13.2V (0°C ~ +80°C)
	Operating Temperature Range	-30°C ~ +80°C
	Charger Type(Recommended)	Lithium, but do not use recondition mode. You can also use lead battery, but do not use de-sulphation or recondition mode. Power Supply mode is also possible.
Phyiscal Specifications	Dimensions (L x W x H)	332 x 172 x 221 (mm)
	Weight	16kg
	Case Material	UL94 V0
	Terminal Type	M8 insert bolt
Special Features	Parallel Connection ONLY	Refer to Series Warranty Document
	Maintenance Free	Yes
	Fully Sealed	Yes
Certifications	Certifications, Standards Compliance and Registration	CE-EMC, UN38.3, IEC6000, AU/NZ EESS, IEC62619* E/N 50342*, JB/T 12666-2015* * Compliant - passed testing, but no certification because no specific international Sodium Ion standard yet

HaloDyne 12/100 (Na⁺NFPP)



The HaloDyne series are all cyclic, or deep cycle, batteries using Sodium Ion (Na) Technology. They can also be used for uninterrupted power supply (UPS) or standby applications.

There are specialist HaloDyne sub-series for different applications with changes to features such as case material, terminal type and even BMS monitoring with Bluetooth communications, but they all operate on the same sodium ion cell technology.

HaloDyne

Halo comes from Greek hals (ἅλς), meaning “salt” or “sea”. It evokes sodium, saltwater origin, and natural chemistry.

Dyne comes from Greek dynamis (δύναμις), meaning “power”, or “energy”. It’s used in physics as a unit of force.

Halodyne means “salt power” a precise fit for sodium-ion batteries.

Features:



Application:



UPS



Data Center



Emergency Back up

Technical Specifications

Item		HaloDyne 12/100	HaloDyne 12/100-HT
Series Characteristics	Application	Cyclic/Deep Cycle Energy Storage	
	Technology	Sodium Ion (Na ⁺)	
	Cathode Material	Polyanionic	
	Chemistry	NFPP	
	Balance Bar	Yes	
	Circuit Protection	Busbar. No internal fuse.	
Electrical Specifications	Nominal Voltage	12V	
	Nominal Capacity	100Ah	
	Energy Capacity	1140Wh	
	Usable Capacity	100%	
	Cycles	5,000 – 100% DoD @ 0.5C @ 25°C 2,000 – 100% DoD @ 1C @ 25°C	
	Charge Rate (Recommended)	0.5C	
	Voltage Range (Working)	6V – 14.4V	
	Charge Voltage (Recommended)	13.2V (0°C ~ +80°C)	
Physical Specifications	Operating Temperature Range	-30°C ~ +80°C	
	Dimensions (L x W x H)	332 x 172 x 221 (mm)	332 x 172 x 221 (mm)
	Weight	16kg	16kg
	Case Material	PP -Heat Stabilized	UL94 V0
Special Features	Terminal Type	SAE Auto + thread post	M8 insert
	Parallel Connection ONLY	Up to 10 batteries	
	Maintenance Free	Yes	
Certifications	Fully Sealed	Yes	
	Certifications, Standards Compliance and Registration	CE-EMC, UN38.3, IEC61000, AU/NZ EESS, IEC62619* E/N 50342*, JB/T 12666-2015** Compliant - passed testing, but no certification because no specific international Sodium Ion standard yet.	

StatoDyne APSI2500 UPS (Na⁺NFPP)



StatoDyne APSI2500 UPS rack mounted batteries are perfect for off-grid and grid connected energy storage systems.

They will deliver lithium-like performance without the risk of thermal runaway and fire, or the limitations of cold or hot climates.

StatoDyne APSI2500 UPS does not require a BMS, operating just like a lead-acid battery.

Non-toxic, natural materials makes them the environmentally friendly choice.

Features:



Application:



Technical Specifications

Item		StatoDyne APSI2500 UPS
Electrical Specifications	Rated Capacity	50Ah
	Nominal Voltage	48.5V
	Discharging Cut-off Voltage	40V(25.5V)
	Charging Cut-off Voltage	56.1V(56.1V)
	Internal Resistance	≤17.5m Ω
	Standard Charging	Continuous Current: 50A Cut-off Voltage: 56.1V
	Standard Discharging	Continuous Current: 50A Cut-off Voltage: 40V
	Max Continuous Charging Current	50A
	Max Continuous Discharging Current	50A
	Peak Charge/Discharge Current	60A@15min
	Peak Charge/Discharge Current	100A@10s
	Operating Temp. Range	Charging:-10-50°C Discharging:-45-65°C Cell:80°C
	Storage Temp. Range	25±3°C
Phyiscal Specifications	Dimensions(W*D*H)	486*563*133(mm)
	Weight	43kg±3kg
	Shipped Product Charging	40%
	Packaging Material	Cardboard

HaloDyne APSI2500 (Na⁺NFPP)



HaloDyne APSI2500 rack mounted batteries are perfect for off-grid and grid connected energy storage systems.

They will deliver lithium-like performance without the risk of thermal runaway and fire, or the limitations of cold or hot climates.

HaloDyne APSI2500 has a BMS and communications for maximizing performance, safety and remote monitoring.

Non-toxic, natural materials makes them the environmentally friendly choice.

Features:



Application:



Technical Specifications

Item		HaloDyne APSI2500
Electrical Specifications	Rated Capacity	50Ah
	Nominal Voltage	48.5V
	Discharging Cut-off Voltage	40V(25.5V)
	Charging Cut-off Voltage	56.1V(56.1V)
	Internal Resistance	≤17.5m Ω
	Standard Charging	Continuous Current: 50A Cut-off Voltage: 56.1V
	Standard Discharging	Continuous Current: 50A Cut-off Voltage: 40V
	Max Continuous Charging Current	50A
	Max Continuous Discharging Current	50A
	Peak Charge/Discharge Current	60A@15min
	Peak Charge/Discharge Current	100A@10s
	Operating Temp. Range	Charging:-10-50°C Discharging:-45-65°C Cell:80°C
	Storage Temp. Range	25±3°C
Phyiscal Specifications	Dimensions(W*D*H)	486*563*133(mm)
	Weight	43kg±3kg
	Shipped Product Charging	40%
	Packaging Material	Cardboard



LithoDyne APS5000 (LFP)



LithoDyne APS5000 lithium-ion batteries are CEC listed and proven to be easy to install and compatible with any quality inverter.

The batteries can operate with OR without communications with an inverter. Bluetooth dongle allows cell level inspection and identifies a module with an error.

They have been designed for use in the harshest conditions for off-grid and grid connected cyclic applications.

Keeping the design simple, they are extremely durable.

Features:



Application:



Technical Specifications

	Item	Parameters	Note
Series Characteristics	Battery Cell Technology	Lithium Iron Phosphate	
Electrical Specifications	Cycle Life	≥6000	@25°C80%DoD @25°C60%EOL
	Design Life	15+years	@25°C
	Discharge Voltage	46.4V~47V	
	Charge Voltage	56V~57V	
	Standard Charge Current	20A	0.2C
	Max. Continuous Charge/Discharge Current	100A	1C
	Peak Charge/Discharge Current	101~120A	@15min
	Peak Charge/Discharge Current	121~200A	@10s
	Communication	RS485, CAN,RS232	
	Nominal Capacity	100Ah	
	Nominal Voltage	51.2V	
	Charge & Discharge Efficiency Discharge	>98%	0.5C Charge;1C
	Self-discharge/month	≤3%	50% SOC
	Enclosure Protection Rating	IP20	
	Working Temperature Discharge	-20°C~50°C	
	Working Temperature Charge	0°C~60°C	
	Working Temperature Storage	-5°C~45°C	
	Humidity	5%~95%(RH)	No Condensation
Phyiscal Specifications	Dimension	442*470*133(mm)	
	Weight	44kg± 1kg	
Certifications	Certifications,Standards Compliance and Registration	UN38.3/IEC 62619 IEC62040/CE/MSDS/CEC	



Performance Comparison

Sodium Ion 12V 100Ah vs Lead AGM 12V 100Ah



LEAD-ACID	SODIUM
	Na⁺ Na⁺
Amp Hour Capacity	Amp Hour Capacity
100Ah	100Ah
Recommended Depth of Discharge	Recommended Depth of Discharge
50%DoD	80%DoD (Max. usable capacity is 100%)
Recommended Charging Rate	Recommended Charging Rate
0.2C	0.5C(150% faster) Max. is 1C
Lifetime Cycles	Lifetime Cycles
Approx. 700	5000
Min. Voltage Without Damage Cycles and Performance	Min. Voltage Without Damage Cycles and Performance
11.8~12V	0.0V
Lifetime Energy Output (Ah × V × Cycles)	Lifetime Energy Output (Ah × V × Cycles)
Approx.420kWh	Approx.19.2MWh

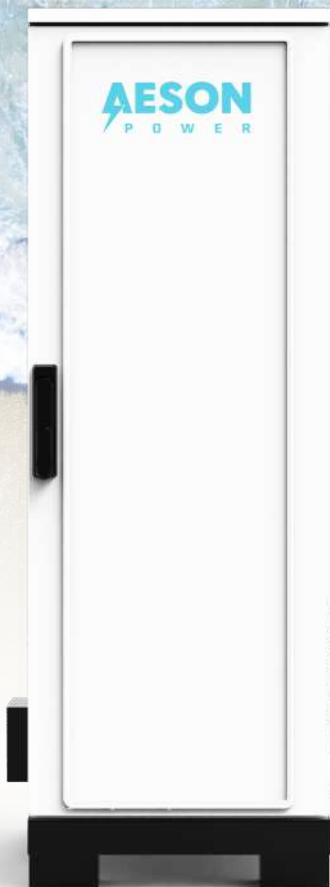
Performance Comparison

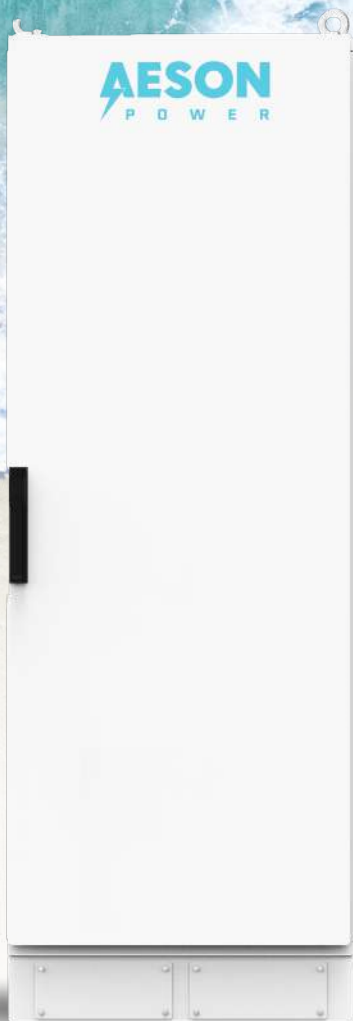
Sodium Ion 48V 50Ah*2 vs Lithium Ion 48V 100Ah



LITHIUM	SODIUM
Li+	Na+
Na+	Na+
Amp Hour Capacity	Amp Hour Capacity
100Ah	100Ah
Recommended Depth of Discharge	Recommended Depth of Discharge
90%DoD	80%DoD (Max. usable capacity is 100%)
Recommended Charging Rate	Recommended Charging Rate
0.5C	0.5C
Lifetime Cycles	Lifetime Cycles
6000	5000
Min. Voltage Without Damage Cycles and Performance	Min. Voltage Without Damage Cycles and Performance
11.8~12V	0.0V
Lifetime Energy Output (Ah × V × Cycles)	Lifetime Energy Output (Ah × V × Cycles)
Approx.25.92MWh	Approx.19.2MWh

Accessories





ECO BOX

Suits StratoDyne UPS, HaloDyne, LithoDyne

ECO-BOX-L:1085*750*217(mm)
pre-wired enclosure for 2*APS5000

ECO-BOX-S:1085*750*217(mm)
pre-wired enclosure for 2*APSI2500 or APSI2500 UPS



Features:



UP TO 2
MODULES



WATERPROOF



IP54
PROTECTION



WALL/FLOOR
MOUNTED



MATCH TOP
INVERTER

Application:



Home



Outdoor

Technical Specifications

Item	ECO BOX
Pre-configured	PRE-WIRED with Busbar
Number of Battery Modules	Up to 2
Installation	Wall or Floor
Dimensions (W*D*H)	1085*750*217(mm)
Weight	20kg
IP Rating	IP54
Anti-Corrosion	C4H
Cooling	Natural Air Convection
Power Cables	Rear Wiring
Colour	White RAL9016

ECO CASE

Suits StratoDyne UPS, HaloDyne, LithoDyne

ECO-CASE-L: 475*1250*750(mm)
pre-wired enclosure for 4*APS5000

ECO-CASE-S: 475*1250*750(mm)
pre-wired enclosure for 4*APSI2500 or APSI2500 UPS



Features:



Application:



Home



Outdoor

Technical Specifications

Item	ECO CASE
Pre-configured	PRE-WIRED with Busbar
Number of Battery Modules	Up to 4
Installation	Wall or Floor
Dimensions (W*D*H)	475*1250*750(mm)
Weight	90kg
IP Rating	IP54
Anti-Corrosion	C4H
Cooling	Natural Air Convection
Power Cables	Rear Wiring
Colour	White RAL9016

ECO CAB

Suits StratoDyne UPS, HaloDyne, LithoDyne

ECO-CAB L: 622*1800*843(mm)
pre-wired enclosure for 8*APS5000

ECO-CAB-S: 622*1800*843(mm)
pre-wired enclosure for 8*APSI2500 or APSI2500 UPS



Features:



UP TO 8
MODULES



WATERPROOF



IP54
PROTECTION



WALL/FLOOR
MOUNTED



MATCH TOP
INVERTER

Application:



Home



Outdoor

Technical Specifications

Item	ECO CAB
Pre-configured	PRE-WIRED with Busbar
Number of Battery Modules	Up to 8
Installation	Wall or Floor
Dimensions (W*D*H)	622*1800*843(mm)
Weight	220kg
IP Rating	IP54
Anti-Corrosion	C4H
Cooling	Forced Air Cooling
Power Cables	Rear Wiring
Colour	White RAL9016



ESS

for Commercial & Industrial

HaloDyne-HV 75/150,125/150 (Na⁺NFPP)



All-in-One BESS
Parallel up to 20 units together to create max.3MWh of storage.
Plug and Play Sodium Ion solution for:

Extreme hot and cold climate
Lithium prohibited applications
Safe Transport at 0.0 volts

Features:



Application:



Commercial Buildings



Industrial Parks



Data Center



Hotels and Residences

Technical Specifications

	Item	HaloDyne-HV-75/150	HaloDyne-HV-125/150
AC Information	Rated Voltage	400V	400V
	Voltage Range	300V~460V	300V~460V
	Rated Power	75kW	125kW
	Maximum Power	90kW	150kW
	Rated Frequency	50/60Hz	50/60Hz
	Wiring Method	Standard Connection	Three-Phase Four-Wire
DC Information	Rated Voltage	837.9VDC	837.9VDC
	Voltage Range	588.00~970VDC	588.00~970VDC
	Rated Charging/Discharging Power	75kW	125kW
	Max Charge/Discharge Current	128A	212A
	Nominal Capacity	150.882kWh	125.685kWh
System Information	Battery Configuration	1P294	1P294
	Battery Type	Sodium-ion,180Ah,2.85V	Sodium-ion,180Ah,2.85V
	Power Factor	> 0.99	> 0.99
Basic Information	Maximum Conversion Efficiency	90%	90%
	Cooling Method	Air Conditioning Cooling	Air Conditioning Cooling
	Fire Protection Medium	Aerosol	Aerosol
	Operating Altitude	≤2000m, Derating at 4000m	≤2000m, Derating at 4000m
	Protection Level	≥IP54	≥IP54
	Corrosion Resistance Level	C4H	C4H
	Dimensions(W*D*H)	1400*1700*2100(mm)	1400*1700*2100(mm)
	Weight	≤2.7t	≤2.7t
	Communication Protocol	Modbus TCP	Modbus TCP
	Units in Parallel Connection	On Grid up to 32; Off Grid up to 6	
	BMS	Integration	
	EMS	Local integration	
	User Interface	Modbus TCP/IP, IEC 61850, IEC 104, CAN	
	Remote Monitoring	4G Ethernet	
		Inverter	AS4777 Compliant Grid-tie Inverter
Compliance Standards	UN 38.3, UN 3551, UN3552, IEC 61000, IEC 62619, IEC 62477,IEC 60529		



AESON POWER PTY LTD

Address: 63/67 Smeaton Ave,

Dandenong South VIC 3175 Australia

🌐 www.aesonpower.com.au

✉ info@aesonpower.com.au

☎ + 61 3 9545 5993

