AuroraCell

2026 PRODUCT PORTFOLIO

From cells to grid-scale systems.

Ultra-safe sodium-ion solutions for cold climates, high-power duty cycles and long-life energy storage.

A complete sodium-ion platform

01 **Cell portfolio**
Cylindrical and prismatic cells

02 **12V batteries**
Starter and fleet applications

03 **Residential ESS**
9.28 kWh long-life storage

04 **C&I and BESS**
Rack and container platforms

RESIDENTIAL ESS

AuroraCell RESS

9.28 kWh / 48 V / 200 Ah

ULTRA SAFE

MULTI-DECADE LIFETIME

Designed for long-term daily cycling

TECHNOLOGY FIT

Why sodium-ion, and where it wins.

Sodium-ion is not positioned as a universal replacement for LFP. It creates value where safety, low-temperature performance, high-rate power, long service life and supply-chain diversification matter most.

-40 Cold-climate performance

Selected cells and systems retain robust discharge capability at very low temperatures.

FAST Fast charge / discharge

A strong fit for UPS, 12V starter batteries, peak shaving and grid response.

LIFE Long service life

NCO and selected NFPP systems target demanding daily-cycle applications.

SAFE Ultra-safe design

Chemistry and system architecture focused on homes, C&I and critical infrastructure.

Where sodium-ion creates value

Application need	Sodium-ion value proposition
Cold-climate discharge	Robust operation where lithium-based systems can require additional thermal management
Cold charging	Available in selected NFPP and Layered Oxide cells, depending on format and system design
High-rate power	Useful for UPS, cold-start, peak shaving and fast grid response
High-temperature longevity	Especially relevant for NCO-based long-life stationary systems
Safety-critical locations	Ultra-safe system approach for residential, indoor, C&I and infrastructure projects
Supply-chain diversification	Reduced dependence on lithium-based raw-material chains

CHEMISTRY SELECTION

Chemistry selected by duty cycle.

AuroraCell selects the sodium-ion chemistry based on the real duty cycle - not only on nominal capacity.

NCO

Sodium Chrom Oxide

POSITIONING

Very high cycle life, superior safety behaviour and strong high-temperature durability.

BEST FIT

12V batteries, RESS, UPS, C&I racks and long-life stationary storage

NFPP

Polyanion

POSITIONING

Cold-charging capability, very high safety and a balanced lifetime / cost profile.

BEST FIT

Cold-climate ESS, C&I racks, outdoor storage and robust stationary systems

LO

Layered Oxide

POSITIONING

High discharge power, good energy density and selected cold-charging performance.

BEST FIT

High-power cells, starter batteries with BMS, mobility and cold-climate power

Engineered for demanding European and international requirements

AuroraCell systems are designed around compliance-ready architecture. Depending on product and configuration, available documentation may include CE, UN38.3, MSDS, IEC 62619 test reporting, UL-related approvals and UL9540A thermal-runaway data.

Technology positioning at a glance

NCO

Long-life / high-temperature stationary systems

NFPP

Cold charging / robust stationary storage

Layered Oxide

High power / selected cold-charging cells

CELL PLATFORM

Build from proven formats.

Selected cylindrical and prismatic cells for samples, validation and volume projects.

Portfolio scope

NCO, NFPP and Layered Oxide formats cover high-power, cold-climate and long-life duty cycles. Final selection depends on the required voltage window, C-rate, temperature profile and certification pathway.

-40°C
SELECTED DISCHARGE

30C
SELECTED PULSE

30k+
SELECTED CELL CYCLES

Selected technical metrics

Cell	Chem.	Ah	Vnom	Charge C	Disch. C	Tmin chg/dis	Cycles
LO-32140-10E	Layered Oxide	10	3.0	3C / 3C	10C / 20C	-20 / -40°C	>2,000
LO-32140-10P	Layered Oxide	10	3.0	5C / 5C	18C / 30C	-20 / -40°C	>2,000
NFPP-32140-7Ah	NFPP	7	3.0	1C / 1C	20C / 30C	-10 / -40°C	>3,000
3270	NCO	4	2.9	1C / 4C	16C / 30C	0 / -40°C	>20,000
60145	NFPP	28	2.9	1C / 1C	3C / 3C	0 / -40°C	>2,000
210Ah Prismatic	NCO	210	2.9	0.5C	1C	0 / -40°C	>30,000
175Ah Prismatic	NFPP	175	2.9	2C	2C	-10 / -40°C	>8,000
170Ah Prismatic	NFPP	170	2.85	1C	2C	-10 / -40°C	>12,000
70Ah Power Cell	NCO	70	2.9	1C / 2C	2C / 4C	0 / -40°C	>30,000
50Ah Prismatic	NFPP	50	2.85	2C	6C	-20 / -40°C	>6,000

Rates are continuous / pulse where applicable. Tmin indicates minimum charge / discharge temperature. Cycle figures depend on chemistry and test conditions.

SELECTION METHOD

Start with the duty cycle.

A sodium-ion project starts with power, temperature, safety, lifetime, voltage and certification profile.

01 Voltage window
Cell and system operating range

02 Power profile
Continuous and peak C-rate

03 Temperature
Charge, discharge and storage

04 Lifetime
Cycles, DoD and calendar target

05 Integration
BMS, CAN, RS485 and inverter

06 Compliance
Transport, safety and market scope

Requirement-to-technology guide

Requirement	Direction
Very high cycle life	NCO
Superior safety behaviour	NCO or NFPP
High discharge power	Layered Oxide or NCO power cells
High energy density	Layered Oxide
Cold charging	NFPP and selected Layered Oxide
Stationary long-life storage	NCO and NFPP
12V starter, passive balancing	NCO
12V starter with BMS	Layered Oxide option
C&I energy storage	NCO or NFPP rack systems
UPS / high-power backup	NCO racks; selected NFPP by profile

Duty-cycle examples

Residential PV
Daily cycling, safety
9.28 kWh NCO RESS

Data center / UPS
Power, fast recharge
Cleo NCO rack

Cold-climate telecom
Low-temperature backup
NFPP / LO / NCO

Commercial peak shaving
Cycle stability, C&I
Nexus / NFPP / NCO

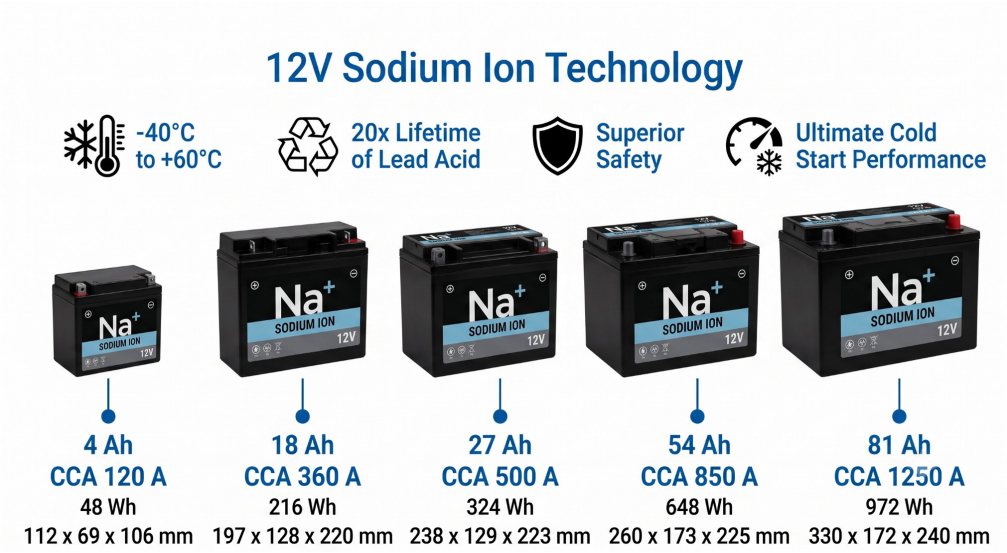
Grid BESS
Thermal and EMS
2.28 MWh platform

Mobility / tools
Compact high power
Layered Oxide cells

12V SODIUM-ION

Cold-start power in a familiar format.

The Na+ Series brings sodium-ion advantages into a familiar 12V format: cold-start performance, long service life and ultra-safe design for demanding vehicle and fleet applications.



Portfolio at a glance

4 Ah	18 Ah	27 Ah	54 Ah	81 Ah
48 Wh | 120 A CCA	**216 Wh | 360 A CCA**	**324 Wh | 500 A CCA**	**648 Wh | 850 A CCA**	**972 Wh | 1250 A CCA**
112 x 69 x 106 mm	197 x 128 x 220 mm	238 x 129 x 223 mm	260 x 173 x 225 mm	330 x 172 x 240 mm

Primary platform	Alternative option	Cold-start use
NCO with passive balancing concept	Layered Oxide with BMS for selected profiles	Designed for harsh climate and fleet duty

HEATED VERSION

Sodium-ion storage. Ready for the cold.

Factory heating, controlled by the BMS, supports safe charging across the specified temperature range. A floor-standing platform for long-life residential energy storage.

CONNECTION & CONTROL PANEL

ENCLOSURE & SIDE VIEW

9.28 kWh

Rated energy

30,000

Cycles at 25°C / 100% DoD

15 packs

Maximum parallel operation

IP55

Protected enclosure

Long-term assurance

10 YEARS

Limited Product & Workmanship Warranty

Hardware repair / replacement subject to the signed terms.

20 YEARS

Limited Performance Warranty

Normal residential daily cycling within approved conditions.

25 YEARS

Design Life

Design target; not an additional warranty term.

Installation: Floor-standing; sheltered outdoor use. Protect the enclosure from direct rain, snow, standing water and high-pressure water jets. Passive cooling; factory heating is controlled by the BMS.

Limited warranties. Full signed warranty terms, operating conditions, exclusions and claim requirements apply.

HEATED VERSION

Technical data.

Pack specifications for the November 2026 heated version. Charge only when enabled by the BMS.

Electrical & performance	
Rated energy	9.28 kWh @ 100% DoD
Nominal capacity	200 Ah
Nominal voltage	46.4 V (48 V system class)
Operating range	32.0-54.4 V
Cell configuration	16S1P
Chemistry	Sodium-ion NCO (NaCrO2)
Charge current	50 A across -20 to 60°C
Continuous discharge	100 A across -40 to 60°C
Pulse discharge	200 A / 1 minute maximum
System resistance	≤ 50 mΩ
Battery RTE	Approx. 95%
Heating	Factory fitted; BMS controlled

Operating & mechanical	
Charging temperature	-20 to 60°C; BMS heating
Discharge temperature	-40 to 60°C
Cycle life	30,000 at 25°C / 100% DoD
Ingress protection	IP55; sheltered outdoor use
Overall W × D × H	478.5 × 268.2 × 868.2 mm
Approx. weight	110 kg
Cooling	Passive / no active cooling
Parallel operation	Up to 15 packs
Pack coordination	First pack controls others
Product warranty	10 years limited
Performance warranty	20 years limited
Design life	25 years; design target

Documentation & compliance

COMPLETE

UN38.3 · MSDS · User Manual · Product Brochure
CE Certification · IEC 62619 Test Report
Battery Regulation: certified
UL9540A: done · CE-EMC: done

PENDING UL9540 · UL1973

OVERALL DIMENSIONS

478.5	268.2	868.2
Width (mm)	Depth (mm)	Height (mm)

W × D × H; measured from the supplied STEP assembly, including protruding parts.

Floor-standing installation. No wall mounting.

48 VDC HYBRID INVERTER INTEGRATION

Communication and operating settings must be commissioned for the selected compatible inverter.

Recommended: 12 kW Three-Phase Hybrid

AuroraCell can also supply a matching sodium-ion compatible inverter.

SiC power electronics · 98.2% max. efficiency · 30-60 V battery range

LONG-TERM ASSURANCE

Warranty & usable energy.

Warranty coverage and usable energy are stated separately so system designers can specify the pack correctly.

20 YEARS

Limited Performance Warranty

Normal residential daily charge-and-discharge cycling*

10 YEARS

Limited Product & Workmanship Warranty

Limited hardware warranty subject to signed terms

25 YEARS

Design Life

Design target; not an extra warranty term

WARRANTY SCOPE NOTE

*The 20-year performance warranty applies to normal residential daily cycling within the BMS-defined operating window and compatible inverter settings. It is not a fixed retained-capacity, usable-energy or AC-output guarantee. Full signed warranty terms, exclusions and claim requirements apply.

Inverter lower cut-off reference

Battery-side reference values

Inverter lower cut-off voltage	Approx. usable battery energy
32 V	9.30 kWh
34 V	9.10 kWh
36 V	8.80 kWh
38 V	8.40 kWh
40 V	8.10 kWh
42 V	7.70 kWh

SYSTEM-DESIGN NOTE

Usable-energy values are approximate. Actual delivered energy varies with temperature, current, wiring losses, BMS reserve and inverter efficiency. Use only approved lower cut-off and communication settings.

COMMERCIAL STORAGE

Nexus modular rack platform.

A modular high-voltage storage platform for commercial PV storage, backup systems, off-grid sites and technical facilities.

48.45 V / 170 Ah

RACK-MOUNTED SODIUM-ION MODULE

Configurable for residential and commercial storage, off-grid sites and PV backup.

8.2365 kWh
PER MODULE

100 - 1000 V
SYSTEM RANGE

10,000
CYCLES AT 100% DOD

Technical and application highlights

Topic	Specification / value
Nominal voltage / capacity	48.45 V / 170 Ah
Module energy	8.2365 kWh
Operating temperature	Charge: -10 to 50°C; discharge: -40 to 50°C
Protocols	RS485 / CAN; EMS connection via SNMP / Modbus possible
Efficiency	90 - 95% at 0.5C
Typical applications	Commercial storage, off-grid and PV backup, C&I rack systems

HIGH-RATE BACKUP

High-power backup. Passive by design.

Cleo combines stackable sodium-ion modules with passive battery cooling and project-specific inverter / PCS integration.

Fully passive Cleo UPS rack

- 6 kWh module with 87 V nominal voltage
- 30 kW maximum continuous discharge per module
- Rack configurations from 24 kWh / 120 kW to 60 kWh / 300 kW
- >30,000 cycles at 100% DoD; 25 years to 80% SoH
- 0 to 60°C charge; -40 to 60°C discharge
- RS485 / CANBus; UN38.3, UL1973, UL9540A

24 - 60 kWh
Energy per rack

120 - 300 kW
Continuous power per rack

>30,000
Cycles at 100% DoD

Passive
No battery-side HVAC

Project-specific integration

Runtime, inverter / PCS, redundancy, communication and certification are validated for each project profile. Passive cooling refers to the battery rack; system-level thermal requirements depend on the installation.

OUTDOOR ENERGY STORAGE

Nexus TerraShield outdoor cabinets.

Weather-stable sodium-ion platforms for commercial storage, microgrids and backup - configured by project duty cycle.

BUILT FOR EXPOSED ENVIRONMENTS

Outdoor stability. Flexible system scale.

Select the cabinet architecture by site voltage, energy requirement, cooling strategy and the level of power-conversion integration.

IP54
Outdoor enclosure

AIR / LIQUID
Cooling options

UP TO 200 kW
Integrated PCS

76.8 kWh

AIR-COOLED BATTERY CABINET

Rated voltage	480 V
Rated capacity	160 Ah
Charge / discharge	0.5P
Configuration	10P16S
Rack	1P16S
Dimensions D/W/H	1360 / 1050 / 2250 mm
System weight	<=1700 kg
Ambient range	-40 to +80°C*
Protection	IP54

115 kWh

LIQUID-COOLED BATTERY CABINET

Rated voltage	720 V
Rated capacity	160 Ah
Charge / discharge	0.5P
Configuration	5P48S
Rack	1P48S
Dimensions D/W/H	1400 / 1350 / 2100 mm
System weight	<=2350 kg
Ambient range	-40 to +80°C*
Protection	IP54

199.68 kWh

INTEGRATED LIQUID-COOLED C&I

Power conversion	200 kW
Cell technology	NFPP, 3 V / 160 Ah
Nominal DC voltage	1248 V
Configuration	1P416S
Charge / discharge	0.8P
AC output	400 V, 3P4W
Dimensions D/W/H	1650 / 1375 / 2450 mm
Approx. weight	3200 kg
Cabinet ambient	-25 to +55°C**
System efficiency	>95%***
Cycle life	>10,000 cycles
Protection	IP54

* Source comparison range; validate the operating profile during project engineering. ** Integrated cabinet derates above +45°C.
*** System efficiency excludes liquid-cooling cabinet auxiliary consumption. All configurations are subject to final technical alignment.

GRID AND UTILITY SCALE

Containerized sodium-ion storage.

For grid, commercial and utility-scale applications where safety-first architecture and system integration matter.

2.28 MWh liquid-cooled DC battery container

2.284 MWh	0.5C	40 kW	<=3°C
RATED ENERGY	CONTINUOUS CHARGE / DISCHARGE	LIQUID-COOLING CAPACITY	PACK TEMPERATURE DELTA

ELECTRICAL & PERFORMANCE		ENVIRONMENTAL & MECHANICAL	
Nominal system voltage	**1,189.8 V DC**	Cooling method	**Liquid cooling**
DC voltage range	**624 - 1,435.2 V DC**	Ingress protection	**IP54 container / IP65 pack**
Cell capacity / count	**160 Ah / 4,992 cells**	Temperature range	**Charge 0 to +55°C**
System grouping	**12 x 1P416S clusters**	Discharge temperature	**-20 to +60°C**
Pack / cluster energy	**23.79 / 190.36 kWh**	Container format	**20 ft high-cube, non-walk-in**
Cluster cycle life	**>=8,000 cycles to >=70%***	Dimensions / weight	**6058 x 2438 x 2896 mm / <=43 t**

SYSTEM INTEGRATION

CAN / RS485 / TCP/IP communication, three-tier BMS, automatic gas suppression with water interface, and project-specific DC/PCS engineering.

* Reference condition: 25 +/- 3°C, 0.5C charge / 0.5C discharge. Performance depends on the operating profile and project conditions.

EUROPEAN PROJECT SUPPORT

One partner across the value chain.

AuroraCell supports European B2B customers with chemistry selection, sample supply, system concepts, compliance packages and project-specific configuration.

Product area	Maturity and availability
Cell portfolio	Mass-produced cells available for samples, project discussion and volume supply
12V portfolio	Portfolio-ready; project- and market-specific configurations available
9.28 kWh RESS	Mass-production platform; 10-year limited product/workmanship and 20-year limited performance warranty
Nexus / C&I racks	Pilot-ready and configurable according to customer requirements
Cleo UPS / high-power racks	Pilot-ready; project-specific configuration and certification package available
2.28 MWh BESS container	Project-specific platform with certification package and technical documentation

Start your sodium-ion project

1

Select application

PV storage, UPS, telecom, C&I, mobility or BESS

2

Define duty cycle

Voltage, capacity, power, temperature and runtime

3

Choose chemistry

NCO, NFPP or Layered Oxide by project profile

4

Validate pathway

Certification, inverter, communication and safety scope

Bring your sodium-ion project to Europe.

Cells, systems, compliance support and project-specific integration from one specialist partner.

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