

27 November 2025

FINAL DESIGN COMPLETED FOR SNC UPS BATTERY SYSTEM FOR EUROPEAN PIPELINE INFRASTRUCTURE

Highlights

- Final design of the next-generation SNC UPS system now completed
- Factory Acceptance Testing (FAT) for the first unit scheduled for mid-March 2026
- Five trial sites identified across the Netherlands for deployment following successful FAT
- Major step toward European-wide commercial rollout with AMPower
- Supports gas infrastructure, heavy-industry UPS, and large-scale backup markets
- Reinforces growing demand for fireproof, maintenance-free SNC technology across Europe

Altech Batteries Limited (ASX: ATC; FRA: A3Y) ("Altech" or "the Company"), is pleased to announce the completion of the final engineering design for its new-generation SNC UPS battery system. This milestone represents a significant advancement in the Company's European commercialisation program, developed in partnership with AMPower, the world's largest producer of sodium-nickel-chloride solid-state batteries.

With the design now complete, the first production unit is scheduled to undergo Factory Acceptance Testing (FAT) in mid-March 2026. The FAT process will validate the system's electrical performance, safety features, communication protocols, and mechanical integration. This milestone will trigger the initiation of field deployments across the Netherlands, where the Company has identified five priority trial sites.

These five locations, secured through ongoing engagement with Dutch infrastructure and industrial partners, have been selected to demonstrate reliability across a range of UPS environments—including gas transmission facilities, industrial controls, and distributed safety-critical nodes. Each site will utilise the completed SNC UPS cabinet to replace ageing lead-acid or nickel-cadmium assets, providing a direct drop-in comparison of life-cycle performance, reliability, and operational simplicity.



The Company notes that Europe's infrastructure operators—particularly in gas transportation, water utilities, and industrial safety networks—continue to seek safer, maintenance-free alternatives to conventional battery systems. Lead-acid installations across Europe are reaching end-of-life in large numbers, while nickel-cadmium units face increasing environmental and regulatory pressure. Altech's SNC solution directly addresses these needs, providing a fireproof, hydrogen-free, and maintenance-free UPS battery capable of operating in harsh climates and ATEX-classified zones.



Completion of the final design marks the transition from engineering development into early-stage commercial deployment. The system incorporates a full stainless-steel cabinet, integrated SNC modules, advanced passive-safety architecture, and seamless BMS integration using Modbus, CAN, and RS485 interfaces. Designed as a true “drop-and-play” system, operators can install the SNC unit directly into existing UPS infrastructure without modifying inverters, rectifiers, or site wiring—significantly reducing project complexity and commissioning costs.

The upcoming FAT in March 2026 will represent the Company's most important technical milestone in the SNC program to date. A successful FAT unlocks immediate preparation for shipment of the first units into Europe, followed by live-environment installation at the five Dutch sites. Deployment will generate operational data on real-world cycling, temperature response, long-duration backup capability, and SCADA integration—data essential for broader customer adoption across Europe's heavy-industry and utility sectors.

The Company continues to receive strong inbound interest from European, Australian and US operators assessing SNC technology as a long-life, hazard-free alternative to lithium-ion systems, which remain unsuitable for explosive or ATEX-classified environments. With its fully sealed ceramic architecture, the SNC system offers a highly attractive safety profile, particularly for organisations managing risk-critical assets.

The design-completion milestone also reinforces the strength of the Altech-AMPower partnership. AMPower's manufacturing capability, combined with Altech's engineering leadership and market engagement in Europe, provides a highly scalable pathway toward long-term commercialisation. As the first unit approaches FAT, both companies are preparing for higher-volume production and accelerated deployment once field trials confirm expected performance outcomes.

The Company sees the Netherlands as a strategic entry point into broader EU adoption. The country's advanced infrastructure, strong regulatory oversight, and emphasis on operational reliability make it an ideal environment to validate the technology. Successful deployment across the five Dutch trial sites is expected to pave the way for expansion into other parts of Europe.

Altech Managing Director Iggy Tan stated:

"This is a major achievement for our engineering team and our partnership with AMPower. Completing the final design shifts the program from development into real-world deployment, and the upcoming FAT in mid-March 2026 will be a pivotal moment. With five Dutch sites preparing to receive the first systems, we are now entering an important proving phase that will demonstrate the performance, safety, and reliability advantages of our SNC UPS technology. The level of interest across Europe continues to exceed our expectations, and this milestone positions us strongly for large-scale commercial uptake."

End

Authorised by: Iggy Tan (Managing Director)

Altech Batteries Interactive Investor Hub

Altech's interactive Investor Hub is a dedicated channel where management interacts regularly with shareholders and investors who wish to stay up-to-date and to connect with the Altech Batteries leadership team. Sign on at our Investor Hub <https://investorhub.altechgroup.com> or alternatively, scan the QR code below.



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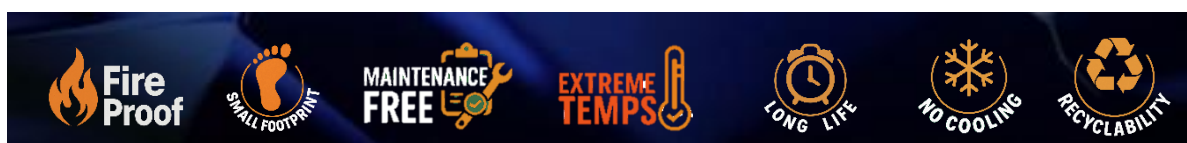
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SNC UPS BATTERY SPECIFICATIONS



SNC UPS BATTERY TECHNICAL SPECIFICATION - ABS400UP35 400V 82Ah 35kWh STAND ALONE UPS CABINET SOLUTION

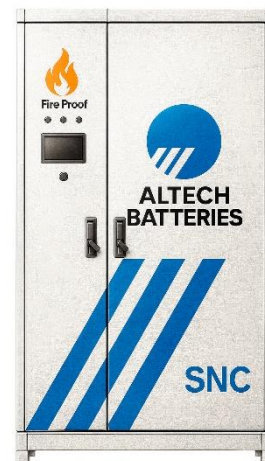
High-performance 400V SNC UPS battery delivering 82Ah and 35kWh in a compact, stand-alone cabinet, engineered for reliable backup power in demanding UPS applications



SNC batteries offer exceptional safety, passive cooling, long life, and wide temperature tolerance. Their solid-state chemistry eliminates fire risk, requires no maintenance, ensures high reliability, and delivers consistent performance for demanding UPS and industrial energy-storage applications. The 1000 × 800 × 2100 mm cabinet houses a 384V SNC sodium-nickel-chloride battery system delivering 82Ah and 35kWh, built from four robust ZEBRA modules arranged in two parallel strings. It provides high reliability, passive cooling, wide temperature tolerance and fully integrated BMS control for demanding UPS applications.

CABINET SPECIFICATION

Parameter	Specification
Nominal Voltage	384 VDC
Nominal Capacity	82 Ah
Nominal Energy	33.85 kWh
Max Charging Voltage	436~470 VDC
Min Discharge Voltage	320 VDC (BMS adjustable)
Nom. Charging Current	16 Amp (0.2C)
Nom. Discharging Current	16 Amp (0.2C)
Peak current Discharging	120A @ 60s
Round-trip Efficiency	≥ 90% (cell level)



THERMAL & ENVIRONMENTAL

Parameter	Specification
Ambient Temperature	-40 °C to +55 °C
Storage Temperature	-40 °C to +65 °C
Cooling Requirement	Passive (no active cooling required, subject to environment for BMS/CPU)

For personal use only

Moisture Level	≤95% relative humidity, no condensation
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MECHANICAL CABINET PROPERTIES

Parameter	Specification
Cabinet type	Rittal VX or equal
Dimensions (W×D×H)	1000 × 800 × 2100 mm
Sheetmetal thickness	1,5mm ~2mm
Gland plate	Yes
Cable entry	Bottom
Base Frame	100mm Base frame
Weight	Approx. 900 kg
Enclosure Material	Stainless steel (SUS304)
Colour	RAL7035
HMI	On front door
Protection	IP20

SAFETY & CERTIFICATION

Parameter	Specification
Protection Features	Over-voltage, Over-current, Over-temp, Short-circuit
Integrated BMS:	
Certifications	IEC61000-2/4, RoHS, REACH, IEC62984, UL1973, UL9540A

BATTERY MANAGEMENT SYSTEM (BMS)

General Functions	
Feature	Specification
System Type	<i>Embedded BMS (standalone or integrated within battery pack)</i>
System Monitoring	Cell strings at module level
Temperature Monitoring	2 RTDs
State of Charge (SOC)	Integration of Amp +Top of charge calibration (reset 100% charge)
State of Health (SOH)	Tracks cycles, capacity degradation, string voltage monitoring
BMS in serial	BMS must be suitable for serial connection with >3 BMS systems/batteries

COMMUNICATION PROTOCOLS: RS485 / CAN / MODBUS

Feature	Specification
Monitoring:	SOC, SOH, Temperature, Per-string voltage
Via HMI:	Batt Oke/Charged, BMS Fail, Batt Dis-charge, Batt-cell Fail
Dry contact config:	Charged, Battery OK status (led green lamp) Fail Safe / Free Programmable

PROTECTION FEATURES

Feature	Specification
Overvoltage Protection	> 2.72 V per cell / > 217.6 V pack (by DC/DC converter)
Undervoltage Protection	< 1.8 V per cell / < 144 V pack (by BMS on string level)
Overtemperature	> +350 °C (cell)
Low Temperature Cutoff	< +280 °C (cell, charge protection)
Short-Circuit Protection	< 10 ms response time (short-circuit $\geq$ 500A)
Over-current Detection	< 500ms response time, auto shutdown
Isolation Fault Detection	Included
Pre-Charge Circuit	Yes

COMMUNICATION & INTEGRATION

Feature	Specification
Protocols Supported	CAN 2.0, RS485, Modbus RTU, optional Ethernet System Compatibility
Data Logging	Historical logs: cycles, voltage, current, SOC, alarms,
temperature trends (>500 events)	
Firmware Updates	Via CAN
Redundancy	Dual controller setup (TBD)

MASTER BATTERY MANAGEMENT SYSTEM (MBMS)

Feature	Specification
System Type	Embedded BMS (integrated within system cabinet)
Battery Monitoring	4 SNC battery modules (2 parallel & 2 serial)
State of Charge (SOC)	Integration of Amp +Top of charge calibration (reset 100% charge)
State of Health (SOH)	Tracks cycles, capacity degradation, string voltage monitoring
BMS in serial	BMS must be suitable for serial connection with >3 BMS systems/batteries
Communication	RS485 / CAN BUS / MODBUS

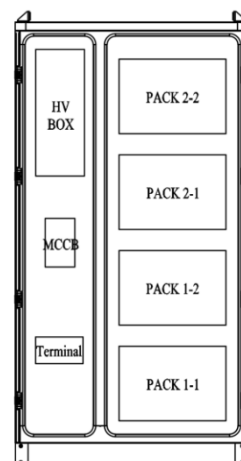
Via HMI:	Batt Oke/Charged, BMS Fail, Batt dis-charge, Batt Fail
Dry contact config:	Charged, Battery OK (led green light)
	Fail safe / free Programmable

ELECTRICAL COMPARTMENT PROPERTIES

Parameter	Specification
Internal Wiring	Halogen free
Internal wiring	Non removable wiring number-labels
Earth bar	300 x 30 x 5, with at least 8xM8 connections
Terminals	Bottom >250mm from gland plate
Cable strain relief	Yes
AC wiring	Cable duct (separated from DC and signal cabling)
DC wiring	Cable duct (separated from AC and signal cabling)
Signal wiring	Cable duct (separated from AC and DC cabling)
Cable duct Occupation	<60%
Component identification	Double marked (component and it's location)

CLUSTER (2 MODULE) SPECIFICATION

Parameter	Specification
Battery Type	SNC (Sodium Nickel Chloride)
Nominal Voltage	206.4 VDC
Nominal Capacity	41 Ah
Nominal Energy	8.46 kWh
Cell Chemistry	NaNiCl ₂ (ZEBRA technology)
Configuration	80* cells in series
Application	UPS



MODULE PROPERTIES

Parameter	Specification
Dimensions	(W×D×H) approx. 505 × 575 × 353 mm
Weight	Approx. 100 kg
Enclosure Material	SGCC
Mounting Options	In Cabinet
Power Connections	Fixed M8 terminal
Protection Class	IP55



CELL PROPERTIES

Parameter

Voltage

Nominal Capacity

Specification

V_{max}: 2,65Vpc, V_{eq}. 2,67Vpc, V_{nom}.: 2,58Vpc, V_{min}: 1.8Vpc

41 Ah

BATTERY ARRANGEMENT

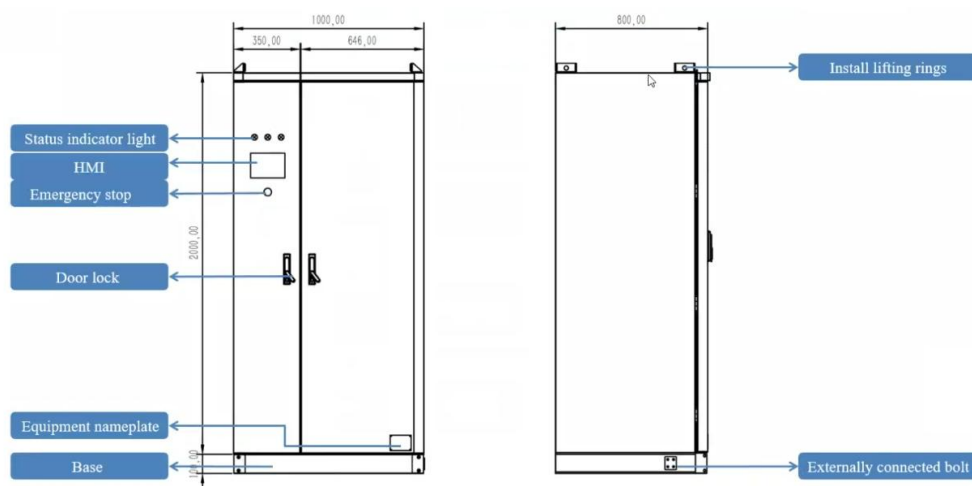


Cell Parameter	
Cell Types	sodium nickel chloride
Rated Voltage	2.58V
Long-Term Float Charging Voltage	2.62V~2.64V
Max. Equalization Charging Voltage	2.67V
Discharge Cut-Off Voltage	2.0V(BMS adjustable)
Discharge Warning Voltage	2.05V(BMS adjustable)
Rated Capacity	41Ah
Rated Power	105Wh
Max. Charging Current	10A
Working Temp.	285~350°C
Weight	800±25g
Size (W×D×H)	36.3 * 36.3 * 244.69mm

Battery Parameter	
Arrangement	1P80S
Rated Voltage	206.4V
Long-Term Float Charge Voltage	209.6~211.2V
Max. Equalization Charging Voltage	213.6V
Discharge Cut-Off Voltage	160V(BMS adjustable)
Discharge Warning Voltage	164V(BMS adjustable)
Rated Power	8.4kWh
Max. Charging Current	10A
Max. Instantaneous Discharge Current	60A (<1min)
Working Temp.	-20°C ~ 55°C
Weight	~100kg
Size (W×D×H)	505(W)*639(D)*353(H)

Cabinet Parameter	
Arrangement	4 batteries 2P2S+1 HV cabinet
Long-Term Float Charge Voltage	419.2~422.4V
Max. Equalization Charging Voltage	427.2V
Discharge Cut-Off Voltage	320V (BMS adjustable)
Rated Capacity	82Ah
Rated Power	33.6kWh
Max. Charging Current	20A
Max. Instantaneous Discharge Current	120A (<1min)
Working Temp.	-20°C ~ 55°C
Weight	~750kg
Communication Mode	Modbus RTU
Size (W×D×H)	1000x800x2100

CABINET DESIGN



About Altech Batteries Ltd (ASX:ATC) (FRA:A3Y)

CERENERGY® Batteries Project

Altech Batteries Ltd is a specialty battery technology company that has a joint venture agreement with world leading German government battery institute Fraunhofer IKTS ("Fraunhofer") to commercialise the revolutionary CERENERGY® Sodium Chloride Solid State (SCSS) Battery. CERENERGY® batteries are the game-changing alternative to lithium-ion batteries. CERENERGY® batteries are fire and explosion-proof; have a life span of more than 15 years and operate in extreme cold and desert climates. The battery technology uses table salt and is lithium-free; cobalt-free; graphite-free; and copper-free, eliminating exposure to critical metal price rises and supply chain concerns.

The joint venture is commercialising its CERENERGY® battery, with plans to construct a 120 MWh production facility on Altech's land in Saxony, Germany. The facility intends to produce CERENERGY® battery modules to provide grid storage solutions to the market.



AMPower Sodium Nickel Chloride Battery Sales Project

Altech Batteries Ltd has immediate entry into the sodium nickel chloride (SNC) battery market in Australia, Europe and United States of America through a strategic collaboration and distribution agreement with the current largest SNC battery manufacturer AMPower, a subsidiary of the Chilwee Group. Chilwee is the third largest e-mobility battery manufacturer in China, with an annual turnover of US\$20 billion, 23,000 employees, and production capabilities spanning lead-acid, lithium-ion, sodium-ion, and next-generation battery technologies. AMPower currently manufactures conventional Zebra-type sodium nickel chloride (Na/NiCl₂) solid-state batteries—using the same chemistry as CERENERGY®—but mainly for the small Uninterrupted Power Supply (UPS) industrial market. AMPower was originally established as a joint venture with General Electric to produce sodium nickel chloride UPS batteries under the Durathon brand.

AMPower will produce sodium nickel chloride solid state UPS batteries for Altech which will be under Altech brand, supervision and specification for distribution across Australia, Europe, and the USA.



Silumina Anodes™ Battery Materials Project

Altech Batteries Ltd has licenced its proprietary high purity alumina coating technology to 100% owned subsidiary Altech Industries Germany GmbH (AIG), which has finalised a Definitive Feasibility Study to commercialise an 8,000tpa silicon alumina coating plant in the state of Saxony, Germany to supply its Silumina Anodes™ product to the burgeoning European electric vehicle market.

This Company's game changing technology incorporates high-capacity silicon into lithium-ion batteries. Through in house R&D, the Company has cracked the "silicon code" and successfully achieved a 30% higher energy battery with improved cyclability or battery life. Higher density batteries result in smaller, lighter batteries and substantially less greenhouse gases, and is the future for the EV market. The Company's proprietary silicon product is registered as Silumina Anodes™.

The Company is in the race to get its patented technology to market, and has completed a Definitive Feasibility Study for the construction of a 8,000tpa Silumina Anodes™ material plant at AIG's industrial site within the Schwarze Pumpe Industrial Park in Saxony, Germany. The European silicon feedstock supply partner for this plant will be Ferroglobe. The project has also received green accreditation from the independent Norwegian Centre of International Climate and Environmental Research (CICERO). To support the development, AIG has commenced construction of a pilot plant adjacent to the proposed project site to allow the qualification process for its Silumina Anodes™ product. AIG has executed NDAs with German and North American automakers and battery material supply chain companies.

Silumina Anodes™