

Nidec

Conversion

ACBOX V3

All-in-one solutions



ACBOX V3 all-in-one solutions



Energy

- Fully pre-assembled and tested tier-1 LFP batteries
- No on-site operations on batteries (2 h)
- Integrated liquid-cooling system for optimal performance and reliability

Safety

- Embedded fire detection and extinguishing. Optional dry pipe provisions
- Energy and power sections separated by non-combustible partition
- Top-facing deflagration vents
- Over-current protection and arc flash detection
- Insulation monitoring

Power

- Proprietary 4-quadrant, liquid-cooled AC/DC power conversion
- 100% factory-tested for zero overhead during commissioning
- Grid-connected grid forming with synthetic inertia

Key features

- Single-side door opening for minimal footprint (back-to-back installation)
- Gas extraction system
- Liquid retention tank
- State-of-art cybersecurity for fast and secure control and monitoring
- Low-noise cooling option

Energy and Power Conversion



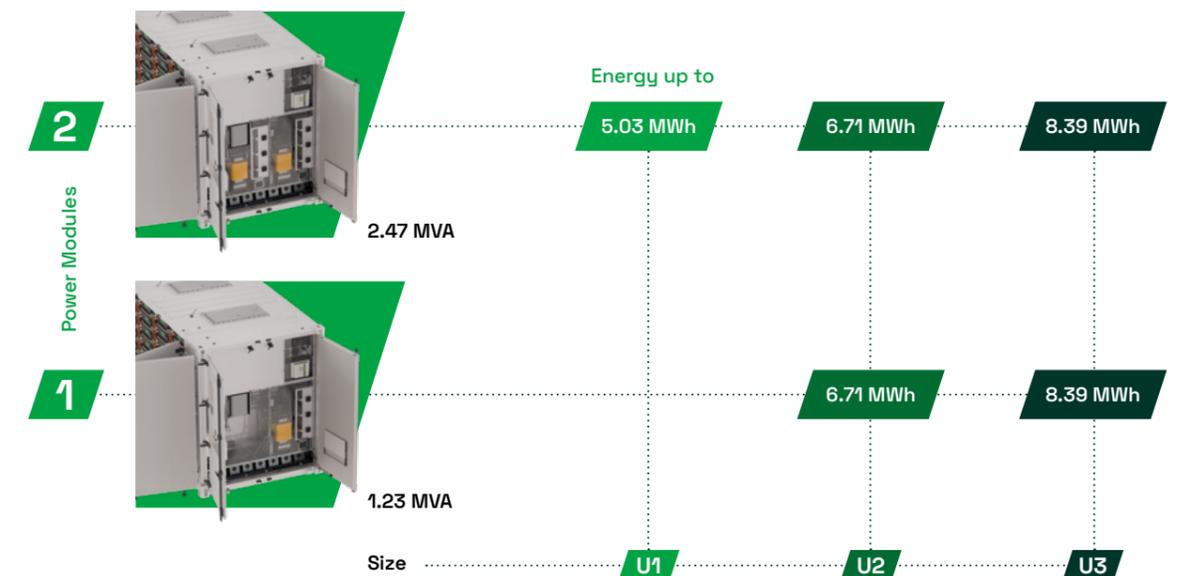
Energy section

- Up to 8387 kWh
- Tier-1 liquid-cooled 315 Ah LFP cells
- Single-side access for optimized site layout
- Back-to-back installation

Power section

- Up to 2.47 MVA, 4-quadrant operation
- 1 or 2 liquid-cooled power modules for maximum flexibility in configuration
- Over-current protection
- Insulation monitoring
- Non-combustible separation from energy section

Configurations



Safety and Reliability



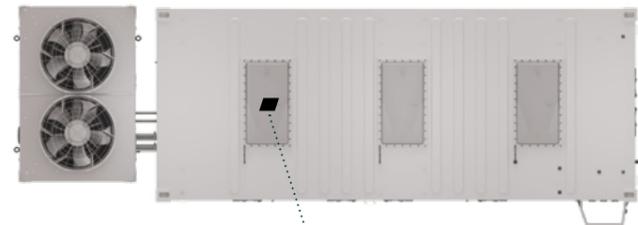
Thermal and Hazard Management Systems

Integrated industrial chiller

Low-noise version

No derating up to 40 °C, SOH 80%

Embedded liquid spill tank



Multi-sensor fire detection system

Aerosol-based fire extinguishing

Dry pipe option



NFPA-compliant deflagration vents

Early gas detection and extraction

System Footprint



U1

U2

U3

Energy ¹	5.03 MWh	6.71 MWh	8.39 MWh
Racks ¹	6	8	10
Container ²	20 ft HC	26 ft HC	31 ft HC
Cooling ²	1.4 m	1.4 m	1.4 m
Spacing ²	0.5 m	0.5 m	0.5 m
Footprint ²	26 ft	32 ft	37 ft

¹ up to

² for reference only. Please contact Nidec Conversion for detailed drawings

Product Specifications

Configurations	U1	U2	U3
Batteries Rack energy	838 kWh	838 kWh	838 kWh
Batteries Racks (Modules) ¹	6 (48)	8 (64)	10 (80)
Batteries Nameplate energy ¹	5030 kWh	6709 kWh	8387 kWh
Power conversion Power	2.47 MVA	1.23, 2.47 MVA	1.23, 2.47 MVA
Footprint	26 ft	32 ft	37 ft
Weight	< 42000 kg	< 60000 kg	< 70000 kg

¹ up to ² for reference only. Please contact Nidec Conversion for detailed drawings

Power conversion data

Power conversion AC voltage	730 Vac
Power conversion AC frequency	50 Hz
Power conversion AC THDI @ P=100%	2.5
Power conversion Efficiency	98.6% Max, 98.2% EU

Environmental data

Installation	Outdoor
Ingress protection	Container: IP 55, TMS: IP X5
Corrosion resistance	Container: C5, TMS: C4H
Operation Altitude ¹	1000 m
Operation Temperature ²	-35 °C To 55 °C
Operation Relative humidity	0-100% (Condensing)
Storage Temperature	-40 °C To 60 °C
Storage Relative humidity	0-100% (Condensing)

¹ Custom configurations available upon request ² Detailed specifications available upon enquiry

Features

Access	Non-walk-in design. Single-side door opening for battery and power conversion access
Layout	Optimized footprint thanks to back-to-back layout
Cooling	Integrated industrial chiller
Explosion prevention	Early gas detection and extraction
Fire detection	Optical smoke sensors, thermal sensors
Fire extinguishing	Aerosol (EN 54, EN 12094-1, EN 15276-2, Vds). Optional dry pipe
Fire resistance	120 minutes
Safety provisions	Deflagration vent panels (NFPA 68, 69)

Standards

System	IEC 62933-5-2
Power conversion Safety	IEC 62109-1, IEC 62909-1, IEC 62477-1
Power conversion Efficiency	IEC 61683
Power conversion Power quality	IEC 61727
Power conversion Grid code	EN 50549 FINLAND SJV2024 GERMANY VDE-AR-N 4110, 4120, 4130, VDE FNN GUIDELINES FOR GRID FORMING ITALY TERNA ALLEGATO A.79, CEI 0-16 SPAIN NTS V2.1, CAPACIDADES GRID FORMING UK G99 US UL 1741 SB, IEEE 2800
Batteries Safety	UL 1973, UL 9540A, IEC 62619, IEC 63056
Batteries Transportation	UN 3536 Marking

