



ACBOX V4



Up to 3 MVA
Up to 8.38 MWh
2 h to 8 h



All-in-one solution

Batteries, 4-quadrant AC/DC power conversion and liquid cooling system integrated in a rugged high-cube container.

Distributed power conversion

Each rack comes with its own independent power converter for best granularity and optimized energy yield and system availability. Cutting-edge, SiC-based design delivers top-of-the-class efficiency across the operating range.

State-of-the-art safety

Redundant safety features ensure safe operation and hazard management at all times. The aerosol-based fire suppression system can operate up to 24 h even in the event of total external power outage.

Ready for next-generation grid support

Future-proof grid support functions thanks to proprietary grid forming control with virtual inertia, virtual impedance and millisecond-scale response time. Native cybersecurity features complement the control capabilities.

Specifications

ENERGY	Cell Chemistry	LFP		
	Cell Specifications	315 Ah 0.5P		
	Rack Maximum voltage	1500 V _{DC}		
	Rack Minimum voltage	1164 V _{DC}		
	Rack Configuration	4 x 1P104S		
	Rack Nameplate energy	419.3 kWh		
	Container Configuration	12 racks (6 columns)	16 racks (8 columns)	20 racks (10 columns)
	Container Nameplate energy	5.03 MWh	6.70 MWh	8.38 MWh
	Container DC maximum power	2.51 MW	3.35 MW	4.19 MW

POWER	Rated voltage (max)	690 VAC, 730 VAC +/-10%		
	Frequency	50 or 60 Hz ± 10%		
	Power factor	0 under-excited, 1, 0 over-excited		
	THDi	<3% @ P=25%		
	Architecture	Distributed SiC-based 4-quadrant power converters		
	Independent AC/DC	12	16	20
	2 h Apparent power	3.03 MVA	4.04 MVA	-
	4 h Apparent power	1.50 MVA	2.02 MVA	2.52 MVA
	8 h Apparent power	0.75 MVA	1.01 MVA	1.26 MVA
	Independent AC/DC	6	8	-
	3 h Apparent power	2.25 MVA	3.03 MVA	-

GENERAL	Size	U1	U2	U3
	Dimensions	22 ft HC	28 ft HC	34 ft HC
	Weight	< 42000 kg	< 60000 kg	< 75000 kg
	Installation	Stand-alone or Back-to-back		
	Ingress Protection	Energy = IP 55, Power = IP55, TMS = IPXXB		
	Corrosion protection ⁽¹⁾	Container = C5H, TMS = C4H		
	Operating temperature ⁽¹⁾⁽²⁾	-35 °C to 55 °C		
	Operating altitude ⁽²⁾	2000 m		
	Storage temperature	-40 °C to 60 °C		
	Sound pressure level ⁽¹⁾	71 dBA @ 1 m		
PROTECTION	DC over-current	Fuses on both poles at rack level		
	DC disconnection	Disconnect load switch at rack level		
	AC over-current	Circuit breakers at system level		
	AC disconnection			
	AC surge protection device	Yes		
	AUX surge protection device	Yes		
	Insulation monitoring	AC+DC ground fault monitoring		
	Fire detection	Redundant optical smoke and thermal sensors		
	Fire extinguishing (std opt)	Aerosol Dry pipe		
	Explosion prevention	Redundant gas detectors and air circulation system through motorized inlet and outlet (NFPA 69 compliant)		
	Explosion management	Pressure-controlled deflagration vents (NFPA 68 compliant)		
FEATURES	Grid forming	Yes, with virtual inertia and xVRT current injection		
	Black start	Yes		
	Communication	Modbus TCP/IP, OPC-UA over Optical Fiber		
STANDARDS	Declaration of conformity	CE, UKCA		
	Safety System	IEC 62933-5-2, UL 9540		
	Safety PCS	IEC 62477-1, UL 1741		
	Safety Batteries	IEC 62619, IEC 63056, UL 1973, UL 9540A		
	EMC	IEC 61000-6-2, 61000-6-4, IEEE 1547.1		
	Power quality	IEC 61727, IEEE 519		
	Performance	IEC 61683		
	Cyber-security	IEC 62433		
	Grid code	EU 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		

(1) Custom configurations available upon request

(2) Detailed specifications available upon enquiry

