



BATTERY ENERGY STORAGE SYSTEMS

Blue Planet Line



ventus

Power
>1.5MW

Capacity
>1.5MWh

Reaction time
<500ms

Lifetime
12+years

The **VENTUS** product line (which represents one of the 4 great elements = wind) is the highest battery energy storage system series designed for use and operation in the most demanding conditions.

The whole line is built on a highly-modular principle, which allows you to adapt to the client's requirements during the first installation and continuously according to his changing needs, or the phasing of his own development.

The modular principle ensures the preparation of all parts within our own production plant, where the system is delivered, connected and revived without significant work on site, thus enabling fast start-up and use of all functionalities.

KEY FEATURES



Own developed control system with machine learning algorithms



Control system and the entire version ready for deployment on functionalities thanks to its own comprehensive control software



Modular concept with prepared elements for fast delivery & ready to operation



Top technology that ensures a high number of cycles and low degradation of the system at a very high overall round trip efficiency



24/7 monitoring and tracking key performance indicators to ensure high availability (up to 99.5%), operational reliability and low service costs

KEY APPLICATION

Large photovoltaics & wind power plants, large power plants, industry areas, distribution & transmission system operators, gas/steam turbines usage, blackstart operation

PERFORMANCE PARAMETERS

POWER OUTPUT	Nominal power	1700-3670kW/unit
	Manufacturer	Power Electronics
	AC output voltage	480-690V+/-10%
	Nominal frequency	50Hz
	Max load capability	100%
	Cos fi (adjustable)	-0.5/+0.5
	Efficiency	>98.5%@Pmax,25°C
	Cooling type	forced air
	Size (D*W*H)	3700*2200*2200mm
Weight	5500kg	

BATTERY BLOCK	Nominal capacity	372.7kW/unit
	Manufacturer	CATL
	Chemistry type	LFP (LiFePo ₄)
	C-rate	up to 1.0
	Battery cell type	280Ah
	Depth of discharge	100%
	Guaranteed cycle life	6000@95%DoD
	Residual capacity	80%
	RTE efficiency	>93%
	Fire safety system	heptafluoropropane
	Cooling type	liquid (water/glycol)
Size (D*W*H)	1300*1300*2280mm	
Weight	3550kg	

SYSTEM PARAMETERS	Reaction time	<500ms
	Ramp up time	<1s
	Connectivity	LTE/ethernet
	Total RTE efficiency	>89.5%
	Connectivity	LTE/ethernet
	Protocol	Modbus, m-bus, RS485
	Grid standard	ENTSO-E complian.

SYSTEM FUNCTIONALITIES

- Peak shaving
- Cooperation with PV&WPP
- Ancillary services
- Price arbitrage
- Power quality optimization
- Backup
- Island grid

MECHANICAL SPECIFICATIONS

Standard color scheme	RAL7035 (option to any RAL colour scheme design)
System size	According to the number of battery rack/inverter unit + 20" technology

ENVIRONMENTAL SPECIFICATIONS

Operating temperature	-30/+50°C
Operating altitude	<1000m
Environment	outdoor
Ingress rating	IP55+
Noise level	<40dB@5m
Operating humidity (RH)	<95%

STANDARD EQUIPMENT

Isolated containers, temperature management, fire safety system, intruder alarm, energy management system, HVAC/chiller, MID standard power metering, backup UPS, photovoltaics on roof for own consumption, communication interface, AC grid protection unit, battery racks, inverter units, all cabling, commissioning, first set-up functionalities with client, related engineering for project design

WARRANTY

Technical service life	15+years
Degradation warranty	8years
Technology warranty	3-8years

CERTIFICATION

IEC61000-6-2/-4, IEC62477, IEC62619, UN38.3, UL9540A, UL1973, IEC62109-1, IEC62109-2, UL1741, CAS22.2, IEEE 1547.1-2005



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