ENERGY STORAGE SYSTEM - RENEWABLE ENERGY INTEGRATION

From Smart Homes to Smart Grids, Reliable Energy Storage is Vital

With the emergence of wind power, solar power and the other new energy sources, and development of intelligent grid technology as well, large-scale energy storage station is come into being to meet peak power allocation. EVE is developing the environmental-protection lithium-ion energy storage battery with the lightest, fast charge and discharge, and cycle life of over 15,000 times to meet the future demand of energy storage stations and new energy vehicle charging stations. EVE strives to become an advanced enterprise in the field of energy storage battery industry before 2015.

Why Choose Li-ion tor Energy Storage

Li-ion battery technology offers many valuable features for energy storage systems:

» High energy density [135Wh/L]
» Very short response time, limited only by power electronics
» Excellent cycling capability
» High round-trip efficiency [better than 95%]
» High charge retention
» Long life [20 years with daily cycles at 60% depth of discharge]
» Maintenance-free and self-diagnostic
» EVE Li-ion technology also has a significantly lower environmental footprint than other technologies, thank to its high recycling rate.

There are a number of ways that EVE Lithium-ion energy storage systems can facilitate the increasing penetration of renewable energy into power grids:

Support for Large Renewable Generation Plants

Improving the network compatibility of large solar or wind power plant:

» smoothing of intermittent generation and reducing ramp rates
» capacity firming to maintain production within a predictable window
» ocal dynamic voltage support

Stabilization of Transmission Grids

Grid stability is a growing issue due to the increased penetration of intermittent and unpredictable renewable energy sources. Provides vital ancillary services:

» instantly available synchronized reserves with no fuel consumption
» frequency and area regulation

Constraint Relief in Distribution Grids

Energy storage can play a key role in highly stressed sections of the grid operating close to their maximum load:

» defer or even eliminate the need for major investments in network infrastructure to handle demand peaks
» dynamic voltage support for the integration of decentralized generation
- optimize power flows within smart grids

Local Energy Management

For distributed installations, such as in residential, CES (Community Energy Storage) and commercial or small industrial systems:

» effective time-shifting. Shifting energy from low-value to high-value periods provides renewable generators with better return on investment
» de-linking supply from demand
» peak demand reduction
» improved power quality and reliability

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SPECIFICATIONS

	PARAMETER	TYPE CNXT-1000-A1	TYPE CNXT-2000-A1	TYPE CNXT-6000-A	TYPE CNXT-6000-B	TYPE CNXT-10000-B
Battery	Capacity [Wh]	1000	2500	6000	6000	10000
	Chemical systems	$LiFePO_4$	$LiFePO_4$	$LiFePO_4$	$LiFePO_4$	$LiFePO_4$
	Life	≥8 years	≥8 years	≥8 years	≥8 years	≥8 years
Import	Mains voltage	110 V/60 Hz	110 V/60 Hz	110 V/60 Hz	230 V/50 Hz	230 V/50 Hz
	Solar power gen. module volt.	72 V_{DC}	72 V_{DC}	144 V_{DC}	144 V_{DC}	288 V_{DC}
	Wind turbine comp. voltage	110 V/60 Hz	110 V/60 Hz	110 V/60 Hz	230 V/50 Hz	230 V/50 Hz
	Rated power	350 W	350 W	750 W	750 W	1250 W
	Rated charging time	3 h	7.2 h	8 h	8 h	8 h
Export	Rated voltage	110 V/60 Hz	110 V/60 Hz	110 V/60 Hz	230 V/50 Hz	230 V/50 Hz
	Rated power	400 W	1000 W	1500 W	1500 W	2500 W
	Rated discharge time	2.5 h	2 h	4 h	4 h	4 h
Power Supply	Operating voltage [V]	24/12/5/3.3	24/12/5/3.3	24/12/5/3.3	24/12/5/3.3	24/12/5/3.3
	Max. power consumption	200 mA	220 mA	280 mA	280 mA	390 mA
	Max. standby power consumpt.	5 mA	6 mA	10 mA	10 mA	14 mA
Function	Autom. select of input source	×	×	×	×	×
	Priority output of green energy	×	×	×	×	×
	Autom. battery charge/discharge	CC-CV	CC-CV	CC-CV	CC-CV	CC-CV
	Interface PC	RS-232	RS-232	RS-232	RS-232	Ethernet
	LCD parameter display	–	–	×	×	×
	LED status indication	×	×	×	×	×
	Abnormal sound/light alarm	×	×	×	×	×
Protection	Battery over-voltage protection	×	×	×	×	×
	Battery over-current protection	×	×	×	×	×
	Battery over-discharge protection	×	×	×	×	×
	Battery over-temp. protection	×	×	×	×	×
	Battery short-circuit protection	×	×	×	×	×
Mechan. Parameter	Shape	Box-Type	Box-Type	Cabinet-Type	Cabinet-Type	Cabinet-Type
	Length [mm]	685	710	600	600	800
	Width [mm]	225	250	450	450	500
	Height [mm]	316	546	900	900	1100
	Weight [kg]	≤16	≤30	≤90	≤90	≤170

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