



ENERGY STORAGE

S Y S T E M ⚡



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SINCE

2011

We Know How

Complete transformer station up to 6.3MW
Plug and Play Solutions
Energy Storage System
PV Modules

Neopet Ltd. company has been on the market for almost 10 years, during this period, the company always strives to provide its partners with the most optimal solutions and performances in the field of energy. The reference list of the company is filled with different size, complexity and type of projects related to energy.

In recent years the company has a series of projects behind it, some of them are replacement of SF6 110kV distribution device in Vitosha - Sofia substation, introduction of full telemechanics and complete reconstruction of Dolna Mitropolia substation, construction of energy infrastructure "Balkan Stream" and many others.

Neopet Ltd. covers a large volume of engineering activities and solutions in the field of energy. To date we participate in projects on the territory of Bulgaria, Italy, Germany, the Netherlands, Serbia, Albania and a number of other countries. The constantly developing Neopet Ltd. starts production of electrical equipment, together with established world manufacturers.

S500/1075-20W-WL - S750/1505-20W-WL Energy Storage System

PRODUCT FEATURES

- Neopet containerized BESS adopts modular unit design, AC400V output, which can be directly connected in parallel on the AC side for capacity expansion
- If a single battery cluster fails, it can be automatically removed without affecting the overall operation of the system
- The system is managed by supporting the local controller for charging/discharging
- Outdoor design, IP55 protection level, can be directly installed outdoors, saving user deployment costs.
- Possess complete power storage, power conversion, thermal management, power distribution and PACK-level precision fire protection capabilities
- Accept power grid scheduling to realize functions such as peak regulation, frequency regulation, and power backup.
- Neopet containerized BESS meets the delivery of the whole machine and meets the requirements of fast and distributed deployment.







PRODUCT PARAMETERS

System model	S500/1075-20W-WL	S750/1505-20W-WL
DC side parameters		
Cell type	Lithium iron phosphate battery	Lithium iron phosphate battery
Cell model		LFP-280Ah
Module model		1P20S
Battery cluster configuration	1P240S (12 modules)	1P240S (12 modules)
System configuration	5*1P240S	7*1P240S
System capacity (BOL)	1075Wh	1505kWh
battery voltage range	672V~ 864V	672V-864V
AC side output characteristics		
Rated output power	500kW	750kW
Rated grid voltage	400V/230V(-20%-15%)	AC400, 3P4W+PE
Rated grid frequency	50Hz	50Hz
Maximum output current	722A	1083A
General parameters		
Isolation transformer		None
Container anti-corrosion grade	C3	C3
Operating temperature range	-20°C~55°C	-20°C~50°C
Relative humidity	0-95% (non-condensing)	0-95% (non-condensing)
Maximum working altitude	2000m	2000m
Cooling method	HVAC	Battery compartment HVAC/PCS compartment forced
Noise	≤75dB	≤75dB
Dimensions (W×D×H)	6058*2438*2896mm	6058*2438*2896mm
Max. Weight	22300 kg	28300 kg
Fire Fighting System	Fire alarm system	Fire alarm system
Fire extinguishing medium		Heptafluoropropane
Communication interface	Ethernet	Ethernet

30kW/107kWh&50kW/125kWh&100kW/215kWh Outdoor Cabinet Air Cooling PV/Energy Storage System

PRODUCT FEATURES

-  **System response time < 100ms, full power and auxiliary service demand**
-  **Modular design, simple and fast operation and maintenance, improve the system utilization**
-  **Four-layer safety protection design to enhance safety and reliability**
-  **Support multi-machine parallel, support grid-connected or off-grid operation, optional photovoltaic, diesel generators, etc**



PRODUCT PARAMETERS

System model	Epoch-S30/107/30-W-WL	Epoch-S50/125/50-W-WL	Epoch-S100/215/100-W-WL
DC side parameters			
Cell Type	LFP280	LFP280	LFP280
Module Model	1P20S	1P20S	1P20S
System Configuration	1P120S-1P240S	1P140S-1P240S	1P240S
Battery Capacity(BOL)	107.5kWh~215kWh	125.4kWh~215kWh	215kWh
Battery Voltage Range	336V~864V	392V~864V	672V~864V
AC side parameters			
Rated Power	30kW	50kW	100kW
Rated Grid Voltage	400Vac		
Rated Grid Frequency	50Hz±5Hz		
Grid Type	3P4W		
Power Factor	0.8 (Leading)-0.8 (Lagging)		
Dimension (W*D*H)	1900*1330*2100mm		
System parameters			
Output Harmonics	<3% (@Rated power)		
Max Weight	2500KG		
IP level	IP55 (Battery room); IP34 (Electrical room)		
Altitude	No derating below 2000m		
Operating temperature	-20°C~55°C		
Operating noise	≤75dB (A)		
Cooling mode	Battery room: air conditioning; Electrical room: forced air cooling		
Fire Fighting System	Automatic fire extinguishing (FM200)		
Communication Protocols	Modbus TCP/RTU		
Standards	BS7671, IEC 62933, IEC62619, CE-EMC, UKCA, UN3480		

Epoch-S100/215-W-WL

Integrated Outdoor Battery Energy Storage Cabinet

PRODUCT FEATURES

- Plug-and-Play for ready to use
- Compact with modular design
- Parallel operation up to 60Nos
- Unbalanced loads operation
- Support with solar
- MPPT for PV input (Optional)
- Virtual Power Plant enabled
- IP55 grade, suitable for outdoor
- Intelligent remote monitoring
- Product standard warranty: 5 years

APPLICATIONS:

- Peak Shaving
- Energy Arbitrage
- Grid Support Services
- Renewable Energy Integration
- Time-of-Use

PRODUCT OVERVIEW

Epoch-S100/215-W-WL is a compact and Plug-and-Play battery energy storage system with easy to be transported, installed and maintained. It is an All-in-One system comprises of PCS, batteries, BMS, EMS, MPPT, automatic fire control system and temperature control system. High-performance EV grade LiFePO4 batteries ensures high safety and reliability with four layers of safety protection with intelligent BMS design. The synergy of the system components and unique design enable to achieve effective charging and discharging for various applications with high energy density and maximized battery lifetime to provide the lower LCOS. It supports AC Coupling and DC coupling applications with its ease in integration and suitable for all ranges of C&I energy storage projects.



PRODUCT PARAMETERS

Model	Epoch-S100/215-W-WL
PV Side Parameters (Optional)	
Maximum PV input power	25kW/50kW/100kW
MPPT voltage range	200V-850V
Number of MPPTs	1/1/2
Number of PV inputs	1/1/2
Maximum input current	100A/200A/400A
General Parameters	
Dimensions (W*H*D)	1900mm*2100mm*1330mm
Packing size(W*H*D)	2100mm*2244mm*1500mm
Maximum weight	2500kg
Degree of protection	IP55(Battery Cabinet) IP34 (Electrical Cabinet)
Cooling method type	Battery Cabinet & Electrical Cabinet
Fire fighting system	FM200 automatic fire extinguishing
Anti-corrosion grade	C3
Relative humidity	0-95% (non-condensing)
Altitude**	<2000m
Operating temperature*	-20° -50°C
Noise level	≤75dB
Communication interface	RS485, Ethernet
Communication protocol	Modbus RTU, Modbus TCP/IP
Product standard warranty	5 years, 6000 cycles(0.5C, 95%DOD, EOL:70%)

Battery Parameters	
Battery cell type & capacity	LiFePO4 - 280Ah
Module model	IP20S
Battery storage capacity range	215kWh
AC On-Grid Side Parameters	
Grid connection type	3P4W
Charging / discharging power	100kW
Rated grid voltage	AC 400V
Grid voltage range	±15%
Frequency range	45Hz ~ 55Hz
Rated AC output current	144A
Power factor	0.8 (Leading)- 0.8 (Lagging)
Harmonics	≤3% (at rated power)

* The system will be derated when the ambient temperature exceeds 45°C.

** The system will be derated when the altitude is between 2000 and 3000m.

Certifications:

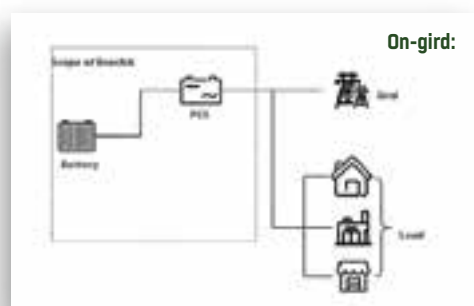
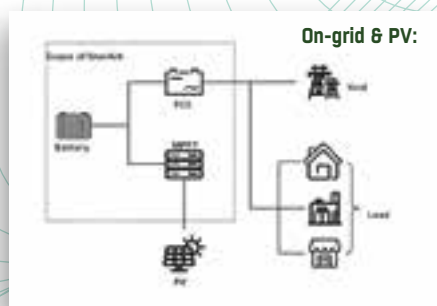
Epoch System: CE (IEC61000, IEC62619, IEC62477), UKCA, UN3480, MSDS;

Battery Cell: IEC 62619, UL1973, UL1642, UL9540A;

Battery Pack: IEC 62619, UN38.3;

PCS: IEC62477, EN50549, G99 by ENA.

Note: Product specifications are subject to change without any prior notice as per regular modifications made by company.



MKS-HW1200 1500 1725KTL-H –NA/EX

Power Conversion System

PRODUCT FEATURES

Flexible Configuration

- Modular design with up to 8 modules
- Direct interconnection with 480/600/690Vac
- Power range: 125kW-1.72MW

High Efficiency & Stability

- Maximum efficiency can reach 99%, @ DC 1000V
- Multi-string technology for better battery safety and performance.

Extensive Use

- Automatic operation strategy of peak shaving and load shifting
- Outdoor NEMA3R Cabinet

Safety & Compatibility

- Fast response time less than 10ms
- Grid-support function built-in
- Global grid certified & listed









PRODUCT PARAMETERS

Model	MKS-HW1200KTL-H-NA	MKS-HW1500KTL-H-NA	MKS-HW1725KTL-H-NA
AC parameters			
Nominal AC power	1200kVA	1500kVA	1725kVA
AC connection	Three-phase three-wire		
Overload Capability	1320kVA	1650kVA	1897kVA
AC voltage	480V[-15%~10%]V	600[-15%~10%]V	690[-15%~10%]V
AC frequency	50/60 (-5~5) Hz		
AC THDi	≤3%		
AC PF	0.99/-1~1		
DC parameters			
Max DC power	1320kW	1650kW	1897kW
DC voltage range	700~1500V	900~1500V	1000~1500V
Full power voltage range	770~1500V	940~1500V	1070~1500V
Number of DC branches	1/8	1/8	1/8
Maximum DC	1897A/237A	1897A/237A	1897A/237A
Voltage regulation accuracy	≤±1%		
Current regulation accuracy	≤±1%		
System parameters			
Peak efficiency	99%		
Size (W*H*D)	2200*2160*1300 mm		
Weight	Cabinet 1400kg + Module 100kg*n (n=1,2,...,8)		
Noise	<70dB		
Enclosure	IP55/NEMA3R		
Cooling	Air cooling		
Humidity	0-100%(No condensing)		
Max elevation	3000m/10000feet (> 3000m/10000feet derating)		
Certification	IEEE1547, UL1741, UL1741SB, CSA C22.2, FCC		
Connection parameters			
Communication	RS 485, Ethernet, CAN		
Protocol	IEC104,IEC61850		

Residential Energy Storage Battery (Low Voltage & Stackable)

PRODUCT FEATURES

-  Scalable from 5 kWh to 60 kWh
-  Compatible with a variety of mainstream inverter
-  Maximum Flexibility for any Applications with up to 12 Modules Connected in Parallel
-  LFP battery, safest and long cycle life
-  Stackable design, effortlessly installation
-  Capable of High-Powered Emergency-Backup and Off-Grid Function



High Efficiency
Max. efficiency 94%



Easy installation
45 Kg Battery modules


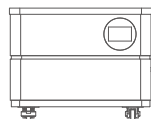
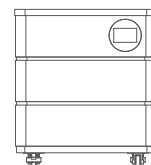
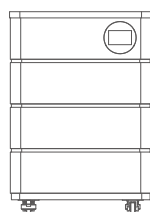


Safe and Reliable
Lithium iron phosphate
battery cells








Perfect Compatibility
Work with leading branded inverters

PRODUCT PARAMETERS

System model	SOL-5L-B	SOL-10L-B	SOL-15L-B	SOL-20L-B
External Structure				
Usable Energy	5kWh	10kWh	15kWh	20kWh
Max Cont. Output Current	100A	100A	100A	100A
Dimensions(W×D×H)(mm)	680x320x429	680x540x429	680x750x429	680x980x429
Nominal Voltage	51.2V			
Operating Voltage	43.2-58.4V			
Operating Temperature	-10°C to +50°C			
Battery Cell Technology	Lithium Iron Phosphate			
Communication	CAN / RS485			
Enclosure Protection Rating	IP55			
Round-Trip Efficiency	95%			
Scalability	Max. 12 Modules in Parallel (60kWh)			
Testing and Certification	UN38.3			
Applications	on/off-grid energy storage/off-grid power backup			

Residential Energy Storage Battery (High Voltage & Stackable)

PRODUCT FEATURES

-  **LFP Battery , safe and long Cycle life**
-  **Stackable design , easy installation**
-  **Compatible with a variety of mainstream inverter**
-  **Supports off-grid and grid-connected scenarios**
-  **High voltage solution makes higher conversion efficiency**



High Efficiency
Max. efficiency 94%



Easy installation
45 Kg Battery modules

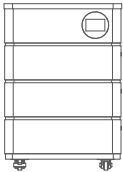




Safe and Reliable
Lithium iron phosphate
battery cells











Perfect Compatibility
Work with leading branded inverters

PRODUCT PARAMETERS

System model	SOL-20H-B	SOL-25H-B	SOL-30H-B
System structure			
Usable Energy (kWh)*1	20.45kWh	25.6kWh	30.72kWh
Number of Modules	4	5	6
Cell Type	LFP(LiFePO4)		
Nominal Voltage (V)	204.8V	256V	307.2V
Operating Voltage Range (V)	179.2~233.6V	224~292V	268.8~350.4V
Nominal Dis- / Charge Current (A)*2	50		
Operating Temperature Range (°C)	Charge: 0°C ~ +50°C; Discharge: -10°C ~ +50°C		
Communication	CAN/RS485		
Weight (kg)	225	275	325
Dimensions (W×D×H)(mm)	680x1190x429	680x1400x429	680x1620x429
Ingress Protection Rating	IP55		
Round-Trip Efficiency	≥95%		
Applications	on/off-grid energy storage/off-grid power backup		




Residential Energy Storage System (High Voltage & Stackable)

PRODUCT FEATURES

-  Scalable from 20 kWh to 30 kWh
-  Self-Consumption Optimization
-  The motherboard intelligently ADAPTS to voltage and supports up to 6 batteries in series
-  Integrated with inverter to avoid the compatibility problem
-  LFP battery, safest and long cycle life
-  Stackable design, effortlessly installation
-  High voltage solution makes higher conversion energy efficiency
-  Support 3 Phase Output





PRODUCT PARAMETERS

System model	SOL-20-15HT	SOL-25-15HT	SOL-30-15HT
System structure			
Inverter model	SOL-15KH-T		
Maximum Photovoltaic Input power	15KW		
Rated Photovoltaic DC input voltage	620V		
MPPT operating voltage range	200-950V		
MPPT Quantity	2		
Maximum Photovoltaic Input Current	15A/15A		
Rated Output Power to Grid	15KW		
Rated Voltage	3L/N/PE; 220/380V;230/400V;240/415V		
Frequency of Grid	50/60Hz		
Maximum Output Current to Grid	16.5A		
Battery Voltage Range	135-750V		
Maximum Battery Charge/Discharge	25A/25A		
Rated Output Power to Load	10KW		
Rated output voltage to Load	3L/N/PE; 220/380V;230/400V;240/415V		
Maximum Output Current to Load	16.5A		
Usable Energy (kWh)*1	20.45kWh	25.6kWh	30.72kWh
Number of Modules	4	5	6
Cell Type	LFP(LiFePO4)		
Nominal Voltage (V)	204.8V	256V	307.2V
Operating Voltage Range (V)	179.2 ~233.6V	224~292V	268.8~350.4V
Nominal Dis- / Charge Current (A)*2	50		
Operating Temperature Range (°C)	Charge: 0°C ~ +50°C; Discharge: -10°C ~ +50°C		
Communication	CAN/RS485		
Weight (kg)	260	300	350
Dimensions (W×D×H)(mm)	680x1250x429	680x1470x429	680x1680x429
Ingress Protection Rating	IP55		
Round-Trip Efficiency	≥95%		
Applications	on/off-grid energy storage/off-grid power backup		



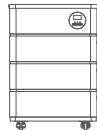

Residential Energy Storage System (Low Voltage & Stackable)

PRODUCT FEATURES

-  **Scalable from 5 kWh to 60 kWh**
-  **Self-Consumption Optimization**
-  **Maximum Flexibility for any Applications with upto 12 Modules Connected in Parallel**
-  **Integrated with inverter to avoid the compatibility problem**
-  **LFP battery, safest and long cycle life**
-  **Stackable design, effortlessly installation**
-  **Capable of High-Powered Emergency-Backup and Off-Grid Function**



PRODUCT PARAMETERS

System model	SOL-5-5.6LS	SOL-10-5.6LS	SOL-15-5.6LS	SOL-20-5.6LS
System structure				
Inverter model	SOL-5.6KL-S			
Rated Power	5600W			
Maximum PV Array Open Circuit voltage	500VDC			
MPPT Range	120-450V			
Nominal Output Voltage	220/230/240VAC			
Output Voltage Range	184-265VAC			
Nominal Output Current	25.5A/24.3A/23.3A			
Efficiency	Up to 93.5%			
Grid Input Voltage Range	120-280VAC			
Grid Frequency Range	50/60Hz(Auto Sensing)			
Maximum AC Charge Current	120A			
Maximum Solar Charge Current	120A			
Nominal DC Voltage	48VDC			
Usable Energy(kWh)	5 kWh	10 kWh	15 kWh	20kWh
Max Cont. Output Current	100A	100A	100A	100A
Dimensions(W×D×H)(mm)	680x540x429	680x750x429	680x980x429	680x1190x429
Nominal Voltage	51.2V			
Operating Voltage	43.2-58.4V			
Operating Temperature	-10°C to +50°C			
Battery Cell Technology	Lithium Iron Phosphate			
Communication	CAN / RS485			
Enclosure Protection Rating	IP55			
Round-Trip Efficiency	95%			
Scalability	Max. 12 Modules in Parallel (60kWh)			
Testing and Certification	UN38.3			
Applications	on/off-grid energy storage/off-grid power backup			



Information security management systems

Neopet Ltd. is certified that the Information security management systems is in accordance with the standard ISO/IEC 27001:2015.



Energy management

As of 2022, Neopet Ltd. already has a certificate ISO50001:2015.



Construction Certificates

Neopet Ltd. has construction categories according to the Bulgarian legislation.



Health & Safety Certification

Since 2015, Neopet Ltd. was awarded the Health & Safety Certification for our wide range of engineering work.



Standard for quality management

Neopet Ltd. is certified that the quality management system is in accordance with the standard ISO 9001:2015 for the following fields of activity: Research, consulting, engineering, construction and commissioning of electrical equipment, production installations, cable lines, buildings and adjacent infrastructure.



Environmental management systems

The implementation of ISO 14001: 2015 is a good form for organizing the work process of Neopet Ltd., as it is an active management system and helps to build and continuously improve an effective management system in our organization, in terms of protection of environment.

WE KNOW HOW



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