









ENERGY STORAGE FOR POWER PLANTS

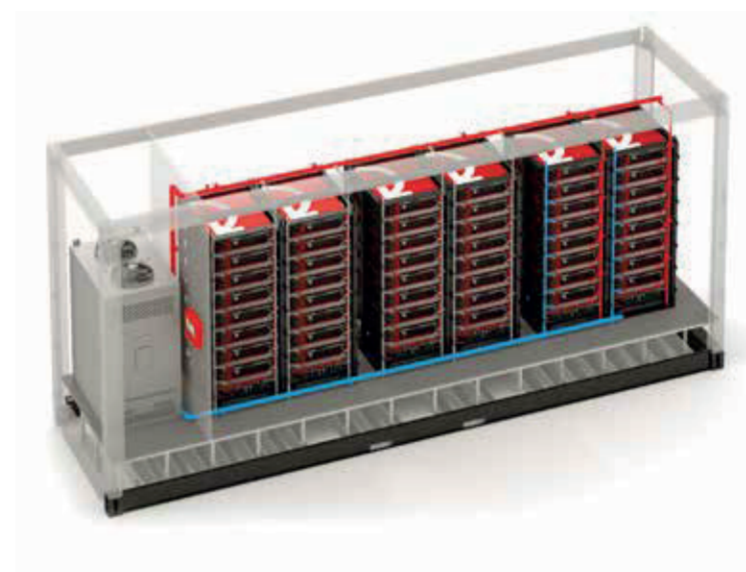
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Easy Integration
- 
Modular
- 
Mobile Plug
- 
Remote Control
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High Efficiency
- 
Multitasking

Energy Storage Systems: A Key Enabler of Renewable Integration

The intermittent nature of renewable energy sources, such as solar and wind, poses a challenge in maintaining grid stability and meeting baseload demand. Traditional power grids rely on consistent baseload power from fossil fuel-fired plants, but renewable energy sources can contribute significantly to grid stability if effectively integrated.

Energy storage systems offer a transformative solution by enabling the storage of excess renewable energy when production is abundant and its distribution when demand peaks. This ability to store and dispatch energy on demand mitigates the intermittency of renewable sources, making them more predictable and reliable.

As the world transitions towards a sustainable energy future, energy storage systems assume a pivotal role in reducing reliance on fossil fuels and accelerating the integration of renewable energy sources. By enabling a more stable and reliable power grid, energy storage systems are paving the way for a cleaner and more sustainable future.



Applications

- + Peak Shaving
- + Load / Peak Shifting
- + Spinning Reserve Displacement
- + Ramp Rate Control
- + Frequency Regulation
- + Energy Arbitrage
- + Black-Start
- + UPS / Bridging Power
- + Transitional Power
- + Power Factor Correction

SERVICES

- + Operation and Maintenance
- + Adaptable for Different Energy Markets
- + Quick Malfunction Response
- + Capacity and warranty Augmentation

High Voltage Liquid-Cooled Batteries



Basic Properties	PBQ-166300	PBQ-1331300
Cell Type	LiFePO4 - 302Ah - Prismatic	LiFePO4 - 302Ah - Prismatic
Series/Parallel Configuration	1P52S	1P416S
Nominal Voltage	166.4V	1331.2V
Nominal Capacity (*)	302Ah	
Nominal Energy Capacity	50.252kWh	402.022kWh
Operating Voltage Range	145.6V - 187.2V	1164.8V - 1497.6V
Max. Charge Voltage	187.2V	1497.6V
Standard Charge/Discharge Current	150A / 150A	
Max. Cont. Charge/Discharge Current	150A / 150A	
Limited Charge Current	10A	
Cycle Life (*)	≥6000 Cycles	
Normal Operating Temperature	25°C	
Charging Temperature	0~50°C	
Discharging Temperature (**)	-20~50°C	
Storage Temperature	-20~55°C	
Self Discharge	Per month ≤ 3%	
Warranty	10 Years	
Functional Properties		
Communication	CAN, RS485	CAN
Scalability	Max. 8 units in series	Max. 16 units in parallel
Cooling	Liquid Cooling	Liquid Cooling
BMS Protections	UV, OV, OC, UT, OT, SC	UV, OV, OC, UT, OT, SC
LED Indicators	Alarm, Run, SOC	Alarm, Run, SOC
Circuit Breaker	No	Integrated to Master BMS Unit
Physical Properties		
Protection Level	IP67	IP67
Humidity	5% - 85% RH (non-condensing)	5% - 85% RH (non-condensing)
Altitude	<3000 m	<3000 m
Dimension (WxDxH)	848x1157x244.5 mm	988x1200x2390 mm
Weight	370±10 kg	3400±50 kg

(*) Test Conditions: 25°C, 90% DOD, 0.5C Charge/Discharge
(**) Performance may vary in different conditions

High Voltage Liquid Cooled 20-Foot HQ Battery Container



Basic Properties	PBQ20-6P 416S	PBQ20-10P 416	PBA40-16P 240S
Cell Type	LifePo4-302 Ah	LiFePO4 - 302Ah - Prismatic	LifePo4-100 Ah-Prismatic
Series/Parallel Configuration	6P416S	10P416S	16P240S
Nominal Voltage	1331.2V		768V
Nominal Current (*)	1812Ah	3020A	934A
Nominal Energy Capacity	2412kWh	4020kWh	1228kWh
Operating Voltage Range	1164.8V - 1497.6V		672V - 864V
Max. Charge Voltage	1497.6V		864V
Cycle Life (*)	≥6000 Cycles		
Normal Operating Temperature	25°C		
Operational Temperature	-15~40°C		
Storage Temperature (**)	-20~50°C		
Self Discharge	Per month ≤ 3%		
Functional Properties			
Communication	Uplink 3xLAN, Downlink Battery Cluster 2xCAN, PCS CAN/RS485, Aux RS485		
Cooling	Liquid Cooling (Integrated Closed Loop)		Air Cooled
BMS Protections	UV, OV, OC, UT, OT, SC		
LED Indicators	Alarm, Run, SOC		
Circuit Breaker	Integrated Master BM of Each Cluster 1500 V 0		1500 V - 350 A - Circuit Breaker
Physical Properties			
Protection Level	IP54		
Humidity	0% - 85% RH (non-condensing)		
Altitude	<3000 m		
Dimension (WxDxH)	5500x2700x2896 mm	7500x2700x2896 mm	13500x2400x2896 mm
Weight	22 Tons	36 Tons	18 Tons

(*) Test Conditions: 25°C, 90% DOD, 0.5C Charge/Discharge
(**) Performance may vary in different conditions