

JinkoSolar Signs Supply Agreement for SunTera Liquid-Cooled Energy Storage System with Powerchina Jiangxi Electric Power Engineering

Recently, JinkoSolar, one of the largest and most innovative solar module manufacturers in the world, has signed a supply agreement with Powerchina Jiangxi Electric Power Engineering Co., Ltd. to provide 5MW of Tiger Neo N-type bifacial modules and a 6.88MWh SunTera liquid-cooled energy storage system for the Saudi Aramco East-West Pipeline Pump Station Community Project.

The project aims to build a new residential community for the Saudi Aramco pipeline pump stations and pressure reducing stations, replacing existing communities located in hazardous areas. Once completed, the community will accommodate 1,748 Saudi Aramco employees and contractors working at the pump stations, with Powerchina Jiangxi Electric Power Engineering acting as the project's EPC general contractor.

In addition, the project also incorporates JinkoSolar's new-generation large-scale SunTera liquid-cooled energy storage system. The system, housed in standard 20-foot containers, features non-uniform fine flow channels, ensuring real-time temperature differences within ≤ 2.5 ° C for the battery cells. With various liquid cooling control modes, the system reduces auxiliary power consumption by 20% and increases service life by 10%. It stands out with its features of high-efficiency liquid cooling, utmost safety, optimal cost, and intelligent operation and can endure ambient temperatures of up to 60° C, making it suitable for the high-temperature requirements of Saudi Arabia and adaptable for various energy storage projects in different scenarios. The system can be perfectly paired with DC/DC controllers, PCS energy storage inverters, and relevant micro-grid system equipment, ensuring seamless coverage of off-grid applications in photovoltaic-energy-storage-diesel hybrid systems.



Figure 1: Project Photos

SUNTERA

JKS-3440AL

Liquid Cooling Energy Storage System



JKS3440AL is a fully integrated, scalable, turnkey energy storage system for C&I and utility applications. Utilizing LFP battery technology that comes with a BMS, liquid cooling, fire suppression, smoke & temperature sensor, off-gas detection, deflagration venting, water dry pipe, it safeguards the overall safety and prolongs the system life. The industry leading high energy density enables its containerize capacity up to 3.44MWh in a 20' container. The ESS is all backed by JinkoSolar as a single point of contact for contracting, delivery, warranty and service.

EFFECTIVE LIQUID COOLING



Non-uniform and refined pipeline design, achieving temperature difference $\leq 2.5\text{ C}$



Five liquid cooling control modes and auxiliary power consumption decrease by 20%

HIGHER SAFETY



Multiple level protection from cell to system to prevent from uncontrolled heat spread



Equipped with deflagration venting, gas fire protection and water suppression to ensure the final protection

HIGHER EFFICIENCY



Adopting cluster management technology and system efficiency increases by 1%



Cell to Cell active balance ensures the consistency between cells

INTELLIGENT O&M



Smart management and real time monitoring ensures high efficient commission



Compact design with side-by-side layout and standard 20ft container design ensures 6.88MWh/40ft



ESS in Power Generation

Support the widescale deployment of renewable energy and provide ancillary services of the grid



ESS in Power Transmission and Distribution

Release existing transmission capacity and relieve network peak load



ESS in Power Consumption

Supplement to the electricity supply, reducing the cost and ensuring the stable power network



Items	Parameters
Type of cell	Lithium Iron Phosphate(LFP)
Cell	3.2V/280Ah
Max. charge/discharge power	0.5P
Battery combination mode	1P384S×10
Rated capacity	3.44 MWh
Rated voltage	1228.8V
Voltage range	1075.2~1382.4V
Cooling method	Liquid Cooling
Environmental temperature	-20~50°C
Environmental humidity	≤95%RH, Non condensation
Altitude	≤ 2000m / <4000m (optional, derating)
Noise level	< 80dB(A), @1m
IP Grade	IP54
Storage temperature	-20~45°C
Corrosion-proof grade	C3 (EN ISO 12944)/C4 (optimal)/C5(optimal)
Fire protection	Gas Sensors+Deflagration Venting + FM 200/Novac 1230/ Aerosol + Water Dry Pipe
External communication interface	Ethernet/Fiber (Optinal)
Dimensions (L×W×H)	6058×2438×2896mm
Weight	≈35000 kg

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