

Alcor

C&I Liquid - Cooled Energy Storage System




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Tecloman Alcor C&I liquid-cooled energy storage system uses 315Ah lithium-iron-phosphate battery cells. The maximum capacity of a single unit can reach 262kWh with ultra-high energy density.


It adopts an integrated design with built-in secondary BMS, liquid cooling system, fire protection system, anti-condensation system, etc. It can be flexibly configured into large-scale C&I energy storage power stations. Compared with the previous generation of products, the energy density is increased by 12%, significantly saving costs and station space for you.


Product Introduction





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Compact structure
Covers an area of 1.344m².
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315Ah battery cells
New 315Ah energy storage-dedicated battery cells with high energy density and high safety.
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Liquid cooling thermal management system
Intelligent liquid cooling thermal management system with a temperature difference of less than 5°C within the cluster.
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C3 anti-corrosion grade
Weather-resistant coating with a service life of up to 25 years.
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Three-level fire protection
Module-level and cabin-level fire protection, combustible gas detection, exhaust ventilation system, water immersion and automatic pressure relief functions.
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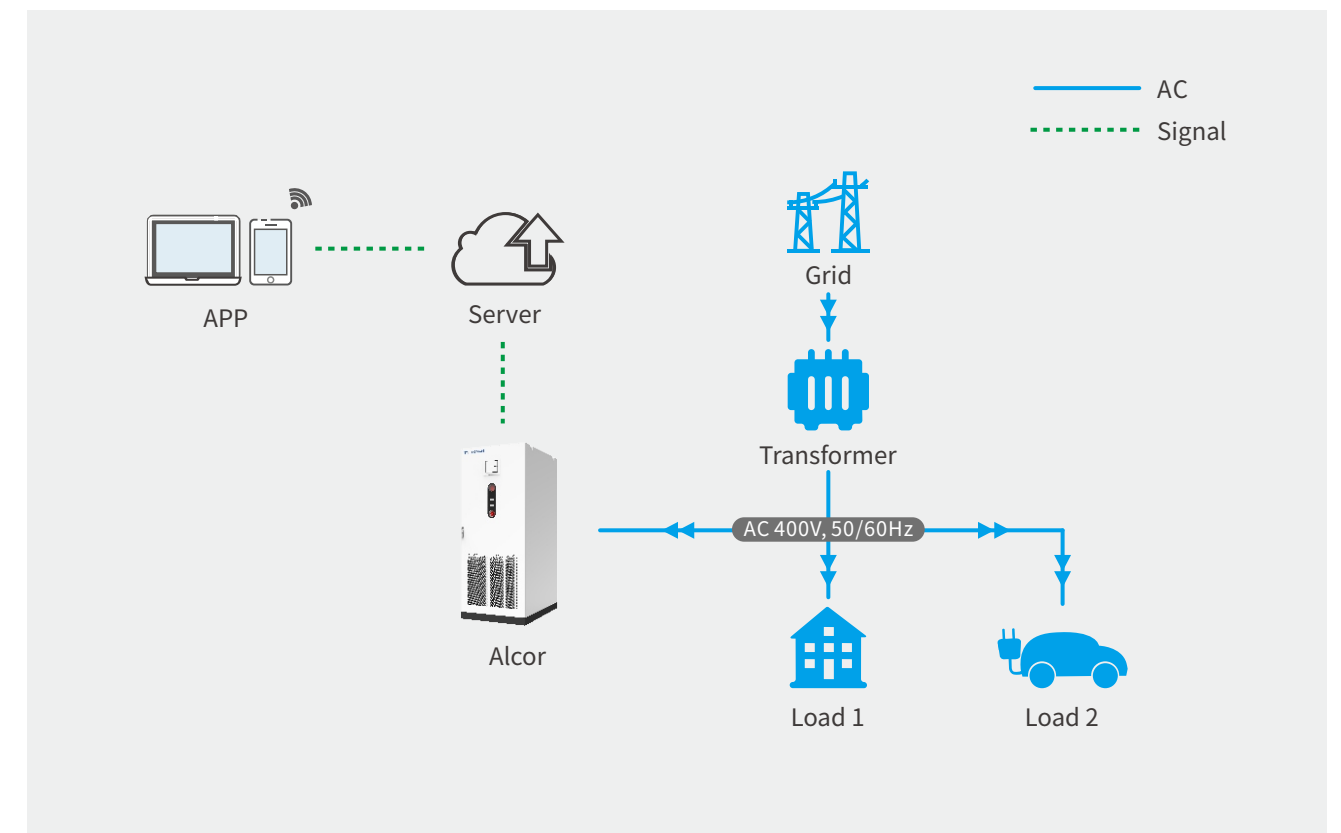
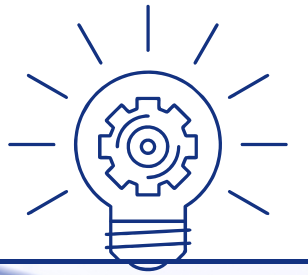
Millisecond-level fusing mechanism
DC fusing in the PCS circuit and DC fusing in the battery cluster circuit.

Product Features





Typical configuration scheme:



Typical Scheme Topology

Typical application

Peak shaving to reduce electricity costs

Charge during off-peak hours and discharge during peak hours to save electricity costs through the electricity price difference.

Demand-side response to obtain additional benefits

Participate in power grid response or the market to obtain subsidies or benefits.

Dynamic expansion

Expand the transformer to reduce short-term overload and losses caused by load changes.

Promote the consumption of renewable energy

Support distributed energy sources, store surplus electricity, increase the self-use of green electricity, and reduce carbon emissions.

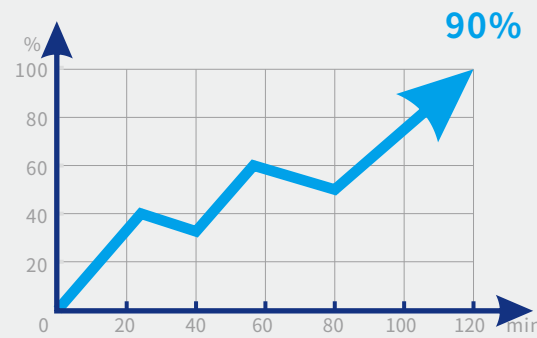
Application Scenarios



▼ AC Side

The max. system efficiency can reach up to 90%.

The average standby power consumption is not higher than 1kWh/day.



► DC Side

- More than 400 data collection points for accurate data detection.
- Adopts a precision laser welding process with a welding tensile force of $\geq 1000\text{N.M.}$ high-protection heat-insulation design with a heat-insulation temperature of up to 800°C in case of battery cell thermal runaway.
- Meets the world's most stringent thermal runaway test standard UL9540A.
- Uses V0-grade fire-retardant materials.
- The battery insulation grade is designed for high-altitude (4500m) with an insulation value $>1.5\text{G}\Omega$ (2500V/60S).
- The equipment residual value utilization rate is $>15\%$.
- High safety and stability, with fire protection linkage and thermal runaway early warning, meeting the strict requirements of C&I environments.
- The structural strength meets the requirements of an 8-level earthquake resistance and complies with the IEEE693 design standard.
- The equipment failure rate is $<0.05\%$.

Product Highlights

▼ Installation method

- Supports side-by-side and back-to-back installation.
- Simple installation and transportation, supports forklift transportation and hoisting.
- System integration and modular expansion to meet future expansion needs, with a maximum support of 5 units operating in parallel.
- Narrow and long sites with one-way operation \rightarrow prefer side-by-side installation
- Sites with sufficient depth, two - side operation or requiring enhanced back heat dissipation \rightarrow prefer back - to - back installation.



Side-by-side



Back-to-back

Model	TESS-125-262-LTE
AC (On-Grid)	
Rated Power *	125kW
Rated Voltage	400V
Rated Current	180A
AC System Type	3L/N/PE
Voltage Range	400Vac (-15% ~ +10%)
Rated Frequency	50Hz/60Hz
THDI	<3% (at rated power)
Power Factor	>0.99
Power Factor Range	±1
Overload Capability	110% overload (10 min), 120% overload (1 min)
AC (Off-grid)	
Rated Power	125kW
Rated Voltage	400V
Rated Current	216A
Rated Frequency	50/60Hz
THDU	<3% (linear load)
DC (Battery)	
Cell Type	LFP 3.2V/315Ah
Configuration	260S1P
Charge/Discharge Rate	≤0.5
Rated Battery Voltage	832
Battery Voltage Range	728V ~ 936V DC
Basic Parameters	
Noise	<75dB
Protection Rating	IP54

Product Specification

Model	TESS-125-262-LTE
Corrosion Protection	C3
Operating Temperature	-20 ~ 55°C
Firefighting Agent	Aerosol
Cooling Method	Module liquid cooling + PCS air cooling
Relative Humidity	0 ~ 95%, non-condensing
Max. Altitude	<2000m (derating at over 2000m)
Dimensions (W×D×H)	960×1400×2350 mm
Weight	2500kg
Certifications	Battery: IEC61000-6-2/4, IEC62477-1, IEC62619, UL1973, UL9540A, UN38.3 PCS: IEC62477-1, EN61000-6-2/4, EN50549-1/10
Communication	
Display	Touch Screen
Communication Interface	1RS485 + 1WAN + 1LAN
Communication Protocol	Modbus TCP / RTU

* Note: PCS power options include 100kW, 110kW, and 125kW.
Max. battery power shall not exceed 0.5P.