

Stacking Battery System All-in-one-ESS



PHASE RENEWABLES

"The Green Choice"



Integration Design and Modular Installation

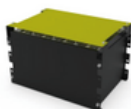
Your Energy Security, Flexibility, Cost Control

- Compact and Easy Installation**
- 10,000 Battery Cycles Cell Life**
- UK / EU Compliant CE, IEC 62612, UN38.3, and G99**
- 10-year warranty**
- IP65 Rated**
- Mobile App allowing you to monitor and control your energy usage**

ALL-in-one System Safety Design

Triple Level Safety Design

100Ah Cell



Module Level

- Comply with GB/T18384 electric shock protection requirements
- Comply with UL94-V0 flame retardant requirements and test national standard
- Comply with the requirements of GB/T31467.3-2015 combustion of 130B00



Pack Level

- Thermal management, control battery temperature rise ($\leq 10^{\circ}\text{C}$)
- High performance BMS comprehensive protection including over/under voltage, over current, short circuit, high and low temperature
- Positive and negative double fuse design meets the Australian AS4777 safety standard

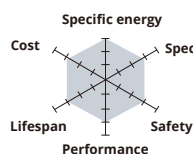


System Level

- Battery connection abnormal protection
- Triple protection with thermomagnetic switch, MOS FET high speed switch, fuse
- System leakage protection, insulation monitoring, overload and short circuit protection

Safety, Reliability, Long Life of CATL Cell

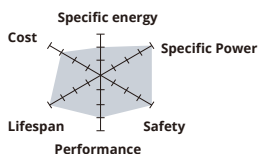
Safety



NCM

- Unstable crystal structure
- Thermal runaway temp: 200°C

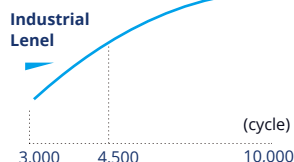
VS



LFP

- Stable bond
- Thermal runaway temp: 800°C
- Thermal runaway low temperature rise, no spark

Long life

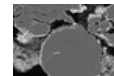


- CATL LFP battery with the cell life up to 10000 times, leads the battery industry

Optimizing anode/cathode/electrolyte



Graphite with self-healing structure [volume ED2350wh/l]



Martia coating



Battery Model		TE-PAS5.1	
Physical		BMS	
Battery type	LFP (LiFePO4)	Max. Charge/Discharge Current	50A/80A
System Weight	54KG	Rated DC power	4096W
Dimension (W x D x H)	540*530*240	Max. Charge/Discharge Power	2825W/4096W
IP Protection	IP65	Operating Temperature Range	0 to 50°C charging -10 to 50°C discharging
Warranty	5 Year Product Warranty, 10 Year Performance Warranty	Humidity	0~95% (No condensation)
Electrical		Certificate	
Energy Capacity	5.12kwh	Safety (Cell)	Pack: IEC/EN 62619;UN38.3 Cell: IEC/EN 62619;UN38.3;UL1973
Usable Capacity	4.6kwh		
Depth of Discharge (DoD)	90%		
Nominal Voltage	51.2V		
DC Circuit Breaker	125A		
Operating Voltage Range	44.8-56.5V		
Internal Resistance	<20mΩ		
Cycle Life	10000cycle		
Hybrid Inverter Model		TE-HYS3K6-D1-01	TE-HYS5K-D1-01
		PV String Input	PV String Input
Max. DC Voltage		580V	580V
Nominal Voltage		400V	400V
MPPT Voltage Range		80V-560V	80V-560V
Start Voltage		130V	130V
Number of MPPT Tracker		2	2
Strings Per MPPT Tracker		1	1
Max. Input Current Per MPPT		15A	15A
Max. Short-circuit Current Per MPPT		18A	18A
		AC Output (Grid)	AC Output (Grid)
Nominal AC Output Power		3680W	5000W
Max. AC Apparent Power		7360VA (from grid)	7360VA (from grid)
Max. AC Output Power		3680W	5000W
Nominal AC Voltage		230Vac	230Vac
AC Grid Frequency Range		50 / 60Hz±5Hz	50 / 60Hz±5Hz
Max. Output Current		16A	22A
Max. Input Current		32A	32A
Power Factor (cosΦ)		0.8leading-0.8lagging	0.8leading-0.8lagging
THDi		<3%	<3%
		Battery Input	Battery Input
Battery Type		LFP (LiFePO4)	LFP (LiFePO4)
Nominal Battery Voltage		48V	48V
Charging Voltage Range		40-60V	40-60V
Max. Charging Current		50A	100A
Max. Discharging Current		80A	100A
Battery Capacity		100-400Ah	100-400Ah
Charging Strategy for Li-ion Battery		Depend on the BMS	Depend on the BMS
		AC Output (Backup)	AC Output (Backup)
Max. Output Apparent Power		4000VA	5000VA
Peak Output Apparent Power		6900VA 10sec	6900VA 10sec
Max. Output Current		16A	20A
Nominal Output Voltage		230V	230V
Nominal Output Frequency		50/60Hz	50/60Hz
Output THDv (@Linear Load)		<3% (Linear Load)	<3% (Linear Load)
		Efficiency	Efficiency
Max. PV Efficiency		97.6%	97.6%
Euro. PV Efficiency		97.0%	97.0%
		Protection	Protection
DC Switch		Bipolar DC Switch (125A/Pole)	Bipolar DC Switch (125A/Pole)
Anti-islanding Protection		Yes	Yes
Output Over Current		Yes	Yes
DC Reverse Polarity Protection		Yes	Yes
String Fault Detection		Yes	Yes
AC/DC Surge Protection		DC Type II;AC Type III	DC Type II;AC Type III
Insulation Detection		Yes	Yes
AC Short Circuit Protection		Yes	Yes
General Specifications			
Dimensions W x H x D	540*590*240mm		
Weight	32kg		
Operating Temperature Range	-25°C~+60°C		
Noise (dB)	<25		
Cooling Type	Natural Convection		
Max. Operation Altitude	2000m		
Operation Humidity	0~95% (No Condensation)		
IP Class	IP65		
Topology	Battery Isolation		
Communication	RS485/CAN2.0/WIFI/4G		
Display	LCD/APP		
Certification & Standard	IEC/EN 62109-1&2, IEC/EN61000-6-1, IEC/EN61000-6-2; EN61000-6-3, IEC/EN61000-6-4, IEC/EN61000-3-11, EN61000-3-12, IEC60529, IEC 60068, IEC61683, IEC62116, IEC61727, EN50549-1, AS 4777.2, NRS 097, VDE-AR-N-4105, CE10-21, G98, G99, C10/C11		