

Distributed Liquid-cooled ESS

Ener Hexon® Smart 232L Liquid-cooled ESS is based on All-in-one design, highly integrating 5 liquid-cooling battery PACK, 1 sub-controller, 1 PCS, 1 BMS, 1 EMS, 1 liquid-cooled unit and electrical auxiliary equipment for cabinet structure, etc. The cabinet integrates liquid-cooled pipes with a rated capacity of 232kWh. The ESS can provide peak-shaving, grid frequency modulation, power capacity expansion, standby power supply, black start and other functions, which can be flexibly deployed in various scenarios such as C&I parks, gas stations, PV&ESS&EV charging stations, mining areas and airports.

Ener Hexon® Smart 232L



Features

■ Safe

- Smart liquid-cooled temperature control system, the temperature difference between batteries inside PACK is $< 2.5^{\circ}\text{C}$, ensuring the consistency of battery temperature control, increasing life by 15% ;
- Verified by a number of destructive tests such as short circuit, burning, fire resistance, etc., making the product safe and reliable;
- Electrical multi-dimensional fusion perception and multi-level protection;
- "Emergency avoidance design", BMS, EMS thermal backup, reducing failure rate by 5%;
- Early thermal runaway prewarning design, integrating detection, fire suppression, combustible gas detection, smoke prevention and explosion relief functions, which interacts with BMS and EMS to realize PACK-level targeted fire extinguishing;
- Full "mirror" surface design with core components integrated within the cabinet to reduce the risk of hidden failure;
- IP67 PACK-level protection and IP55 system-level protection.

■ Simple

- All-in-one design and modular installation, single cabinet covering an area of just 1.3m^2 ;
- Applicable to multiple industrial scenarios and easy to connect to the grid;
- Anti-installation short-circuit error, convenient and safe for maintenance;
- Easily plug and play with aviation plug and simple capacity expansion covering power range from 125kW to 1.25MW;
- Factory prefabrication and integrated transportation to reduce the transportation, installation and commissioning fees by 15%.

■ Smart

- Real-time leakage monitoring and smart replenishment to reduce on-site operation and maintenance work;
- Remote cloud operation and maintenance, supporting remote and local monitoring;
- Smart balancing strategy and system AI prewarning to ensure the consistency of battery life cycle;
- Support black start function with reliable power supply in off-grid/micro-grid mode;
- Support multiple operation modes (VPP, grid-connected, off-grid) to improve revenue.

Technical Parameters

Type	Name	Parameters	Remarks
DC Parameters	Cell type	LFP-3.2V-280Ah	
	Rated capacity[kWh]	232	
	Nominal voltage[V]	832	Voltage range 728~936
	Charge-discharge rate	≤0.5CP	
AC Parameters (grid connected)	Rated power[kW]	125	
	Grid voltage[V]	400 (-20%~10%)	
	Rated current[A]	180	
	Rated grid frequency [Hz]	50/60	
	Grid frequency range [Hz]	45~55/55~65	
	THDi	<3% (rated power)	
	Power factor adjustable range	>0.99 (rated power) -1 (leading)~1 (lagging)	
AC Parameters (off grid)	AC off-grid voltage[V]	400 (-5%~5%)	
	AC off-grid frequency[Hz]	50/60	
	Off-grid output voltage distortion rate	<1% (Linear load)	
System Parameters	Cooling mode	PACK Liquid-cooled, PCS air-cooled	
	Fire protection system	Perfluoro(2-methyl-3-pentanone)+ Water fire protection	
	Anti-corrosive level	C3	(C4\C5 optional)
	Ingress protection	IP55	
	Operating temperature range[°C]	-15~+45	
	Storage temperature[°C]	-20~+45	SOC@30%~50%, <6months
	Operating humidity range	0~95%RH	No condensation
	Installation mode	Outdoor	
	Operating condition	Max. 2 charge and 2 discharge per day	
	System communication interface	Ethernet/RS485	
	External system communication protocol	Modbus TCP/Modbus RTU	
	Altitude[m]	<2000	>2000 derating
	Dimension W*D*H[mm]	1000*1300*2300	
Weight[kg]	2300+5%kg		
Certificate	GB/T 36276、GB/T 34131		

■ Product continues to iterate, specifications may be updated without prior notice.

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