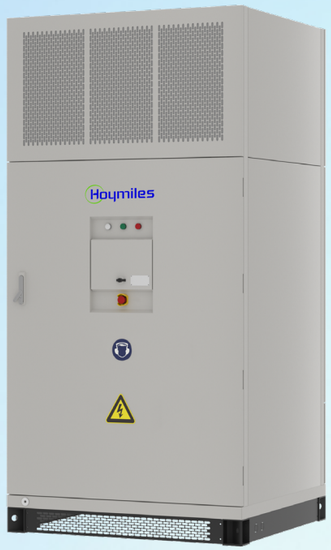
Hoymiles

Open Energy for All

Power Conversion System

The HPCS2500-E series is an ANPC PCS launched by Hoymiles, with a maximum efficiency of over 99% and a footprint of only 1.5 m².
Featuring an intelligent liquid-cooling design, the PCS operates without derating even at 51 °C ambient temperature.
With an IP65 protection rating, the PCS adapts to complex outdoor environments, including high altitude, high salt fog, high temperature, and extreme cold.

HPCS2500-E



Features

01 ANPC topology, peak efficiency > 99%.

02 Supports constant voltage/current/power modes.

03 Supports functions including primary frequency regulation, rapid voltage adjustment, and VSG.

04 Millisecond-level response enables multiple system protections.

05 Intelligent liquid-cooling design maintaining full power at 51°C ambient temperature.

06 IP65 protection rating, adapts to complex outdoor environments.

Region: Global Version: REV1.5

Technical Specifications

Model	HPCS2500-E		
DC Side			
DC Voltage Range	1000 V - 1500 V		
Max. Continuous DC-Side Current @40°C	2806 A	1403 A	1936 A
Number of inputs	1		
AC Side (On-Grid)			
Rated Output Power @51°C	2500 kVA	1250 kVA	1725 kVA
Max. Continuous Output Power @40°C	2750 kVA	1375 kVA	1898 kVA
Rated Output Current	2092 A	1046 A	1443 A
Max. Output Current	2301 A	1151 A	1588 A
Rated AC Voltage	690 V		
AC Voltage Range	586.5 V - 759 V	552 V - 759 V	
Rated Grid Frequency / Grid Frequency Range	50 Hz / 45 Hz - 55 Hz, 60 Hz / 54 Hz - 66 Hz		
DC Injection	< 0.5%In		
AC Current Harmonic	< 2% (@Rated Power)	< 3% (@Rated Power)	
Power Factor	> 0.99 (@Rated Power)		
Power Control Precision	≤ 1%Pn (Output Power > 20% * Pn)		
Reactive Power Adjustment Range	-105% - 105%	-110% - 110%	
Grid Type	3P3W		
Switching Time			
Charge / Discharge Switching Time	< 20 ms (@Rated charging and discharging power)		
AC Side (Off-Grid)			
Rated AC Voltage	690 V		
AC Voltage Range	586.5 V - 759 V	552 V - 759 V	
Output Voltage Precision	< 2%		
Rated Grid Frequency / Grid Frequency Range	50 Hz / 45 Hz - 55 Hz, 60 Hz / 54 Hz - 66 Hz		
Output Voltage Imbalance	< 2% (< 4% in short time)		
AC Voltage Harmonic	< 3% (Linear load)		
DC Injection	< 0.5%Un (Balanced linear load)		
Efficiency			
Peak Efficiency	99%		
Protection and Overload			
DC Input	Load switch + Fuses		
Reverse Polarity Protection	Integrated		
AC Output Protection	Circuit Breaker		
Surge Protection	DC Type II / AC Type II		
Grid Monitoring and Grounding Fault Monitoring	Integrated		
Insulation Monitoring	Integrated		
Overheat and Overtemperature Protection	Integrated		
Short Circuit Protection	Integrated		
DC Overvoltage and Undervoltage Protection	Integrated		
AC Line Phase Sequence Error Protection	Integrated		
Cooling System Failure Protection	Integrated		
Communication Failure Protection	Integrated		
Anti-islanding Protection	Integrated, Combination of active and passive		
Overload Capacity	Operate for a long time at 1.1 times the rated load. Operate for no less than 2 minutes at 1.2 times the rated load.	Operate for a long time at 1.1 times the rated load. Operate for no less than 2 minutes at 1.2 times the rated load. Operate for no less than 10 seconds at 3 times the rated load.	
General Data			
Dimensions (W×H×D)	1250 mm × 2530 mm × 1150 mm		
Weight	≈ 1700 kg		
Operating Temperature	-40°C to 60°C (> 51°C, Derating operation)		
Operating Humidity	0% - 100%RH (Non-condensing)		
Altitude	≤ 5000 m (> 3000 m, Derating operation)		
IP Rating	IP65, C4 (C5 Optional)		
Cooling Method	Intelligent Liquid Cooling		
Isolation Method	Transformerless Isolation		
Overvoltage Degree	DC port : II, AC port : III		
Display and Communication			
Display	HMI + LED		
Communication Interface	RS485, CAN, Ethernet		
Communication Protocol	ModbusRTU, ModbusTCP, CAN2.0, IEC61850	ModbusRTU, ModbusTCP, CAN2.0, IEC61850, IEC104	
Standard and Regulation			
Compliance	IEC/EN 62477, IEC/EN 61000, IEC/EN 50549		

* Subject to change without notice.

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