



Single-Phase Hybrid Inverter

HSA-8~12K1P-BL

「8/10/12kW」

Features



Oversizing Ratio

Higher PV / AC ratio up to 1.5, allowing greater energy harvest



Parallel Connection

Support parallel connection up to 9 units



Easy Battery Activation

Support battery activation by PV input or mains without communication with the inverter



Touch Screen

4.3" 800 x 480 interactive display without physical keys to upgrade user experience



Three MPPTs

Three MPPTs for efficient power tracking, supporting max. 27A per string



Generator Input

Support connection with diesel generator



Smart Load Management

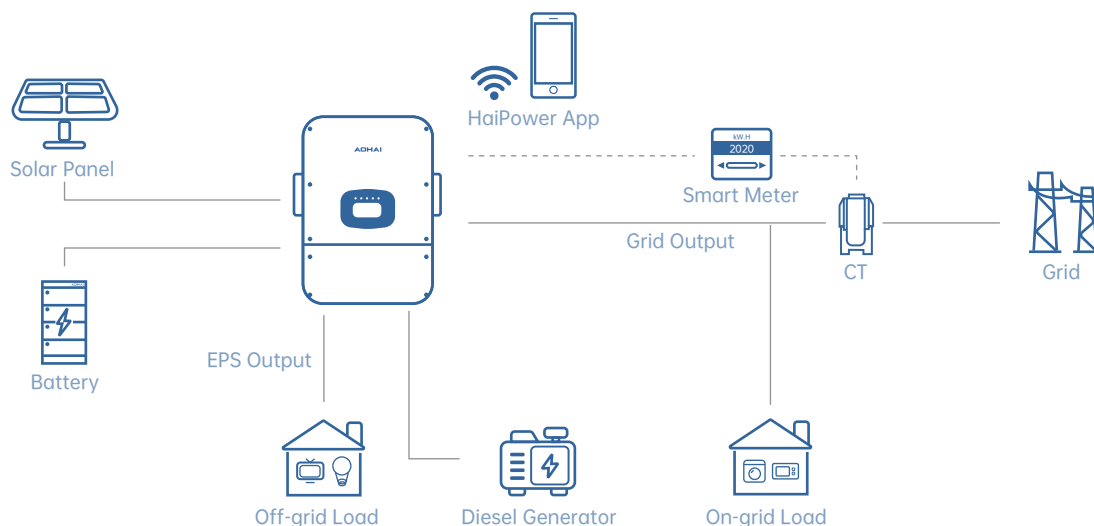
Dual AC outputs to power loads on demand prioritys



Overload Capacity

2 times the rated power for 10s

Energy Storage Solution



Specifications

Model	HSA-8K1P-BL	HSA-10K1P-BL	HSA-12K1P-BL
Technical Data			
Recommended Max. PV Array Size (Wp)	16000	24000	24000
Max. PV Input Power (W)	12000	18000	18000
Max. Input Voltage (V)	500	500	500
Start-up Voltage (V)	120	120	120
Rated Input Voltage (V)	370	370	370
MPPT Operating Voltage Range (V)	120~425	120~425	120~425
MPPT Voltage Range (full load) (V)	150~500	150~500	150~500
Max. Input Current per MPPT (A)	27+27	27+27+27	27+27+27
Max. Short Circuit Current per MPPT (A)	44+44	44+44+44	44+44+44
Number of MPPTs	2	3	3
Number of Strings per MPPT	2+2	2+2+2	2+2+2
Max. Inverter Backfeed Current to The Array (A)	0	0	0
Battery Data			
Battery Type	Lead-acid or Lithium-ion		
Rated Battery Voltage (V)	48		
Battery Voltage Range (V)	40~60		
Max. Charge / Discharge Current (A)	190	220	250
Max. Charge / Discharge Power (W)	8000	10000	12000
Battery Communication	CAN / RS485		
Number of Battery Input	2 (in parallel)		
AC Input / Output Data (Grid, Load & Generator)			
Rated AC Input / Output Active Power(W)	8000	10000	12000
Max. AC Input / Output Apparent Power (VA)	8800	11000	13200
Peak Apparent Power (off-grid)	2 times of rated power, 10s		
Rated AC Input / Output Current (A)	36.4 / 34.8 / 33.4	45.5 / 43.5 / 41.7	54.6 / 52.2 / 50
Max. AC Input/Output Current (A)	38.3	47.9	57.4
Max. Continuous AC Passthrough (grid to load) (A)	60		
Max. Output Fault Current (A)	100		
Max. Output Over Current Protection (A)	150		
Rated Input / Output Voltage (V)	220 / 230 / 240		
Input / Output Voltage Range (V)	0.85Un-1.1Un		
Grid Connection Form	L+N+PE		
Rated Grid Frequency / Range (Hz)	50 / 45~55, 60 / 55~65		
Power Factor	0.8 leading~0.8 lagging		
THDi (nominal power)	<3%		
DC Injection Current	<0.5%In		
Switch time (ms) (Typ)	4		
Efficiency			
Max. Efficiency	97.60%		
European Efficiency	96.50%		
MPPT Efficiency	>99.9%		
Protection			
PV Reverse Polarity Protection	yes		
Anti-Islanding Protection	yes		
Output Short Protection	yes		
Ground Fault monitoring	yes		
Insulation Resistance Monitoring	yes		
Over-current Protection	yes		
Over-temperature Protection	yes		
AC / DC Surge Protection	TYPE II (DC), TYPE II (AC)		
AFCI Protection	Optional		
DC Switch	yes		
Residual Current Monitoring	yes		
Grid Monitoring	yes		
General Data			
Dimension (W*H*D) (mm)	420 x 680 x 252.5 (Excluding connectors)		
Weight (kg)	36	37	37
Relative Humidity	0~100%		
Operating Temperature Range (°C)	-40 to +60, >45 Derating		
Storage Temperature (°C)	-45 to +85		
Noise Emission (dB)	<45		
Altitude (m)	2000		
Cooling Method	Intelling Air Cooling		
Ingress Protection	IP66		
Over Voltage Category	OVC II(DC), OVC III(AC)		
Topology	Non-Isolated		
Protective Class	I		
Communication Interface	RS485 / CAN / Bluetooth / WIFI, LAN / 4G / GPRS (optional)		
Power Grid Side Energy Detection Method	1CT, Meter (optional)		
Display	LCD & APP		
Standby / Internal Consumption (W)	<25 (night)		
PV Connector	MC4 compatible connector		
Battery Connector	Connector		
AC Connector	Connector		