



-Tower(HV)

All-in-one system



Economical & efficient, AI flexible



Smart

Automatic balancing between new and old battery packs
Dynamic tariffs ready



Simple

Fast installation, modular design



Efficient

DC:AC ratio up to 2.0 for all roof types and for a fully charged battery at all times



Flexible

IP65 for outdoor applications ground or wall mounted



Worry-free

Backup available at maximum power size in <10ms and AFCI included



ALL-IN-ONE

It combines an hybrid inverter, battery packs, and management system into one elegant unit



Stable

Supports up to 150% 3ph unbalanced loads

Haier Energy

Hybrid Inverter							
Model	HAH3P-4KB1/HU9	HAH3P-5KB1/HU9	HAH3P-6KB1/HU9	HAH3P-8KB1/HU9	HAH3P-10KB1/HU9	HAH3P-12KB1/HU9	HAH3P-15KB1/HU9
PV String Input Data							
Max. PV Input Power	8kW	10kW	12kW	16kW	20kW	22.5kW	22.5kW
Max PV Input Voltage				1100V	1000V		
Full load MPPT Voltage Range	140-950V						
Startup Voltage	85V						
Max. Input Current	16A / 16A / 16A						
Max. Short Circuit Current	24A / 24A / 24A						
Number of string per MPPT	1 / 1 / 1						
Battery port							
Battery Type	LiFePO4						
Battery Voltage Range	90-700V						
Max. Charging Current	50A						
Max. Discharging Current	50A						
GRID PORT							
Rated Output Power	4kW	5kW	6kW	8kW	10kW	12kW	15kW
Max. Output Current	6.7A	8.3A	10A	13.3A	16.7A	20A	22.8A
Max. Output Apparent Power	4.4kVA	5.5kVA	6.6kVA	8.8kVA	11kVA	13.2kVA	15.75kVA
Max.Input Pow	8kVA	10kVA	12kVA	16kVA	20kVA	20kVA	20kVA
Rated Grid Voltage	220V, 230/400Vac, 3L/N/PE						
Grid Voltage Range	150-288Vac						
Rated Grid Frequency	50/60Hz						
Power Factor	Leading -0.8 ~ Lagging+0.8						
THDi	<3%						
Backup port							
Grid Max Power	8kVA	10kVA	12kVA	16kVA	20kVA	20kVA	20kVA
Rated Backup Power	4kVA	5kVA	6kVA	8kVA	10kVA	12kVA	15kVA
Rated Backup Voltage	220/380Vac, 230/400Vac, 3L/N/PE						
Rated Backup Frequency	50/60Hz						
THDv	<3% (Linear Load) / <5% (Non-Linear Load)						
Switching Time	<10ms						
Efficiency							
Max. Efficiency	98%		98.2%		98.4%		
Europe Efficiency	97.5%		97.7%		97.9%		98%
MPPT Efficiency	99.9%						
General data							
Operating Temperature Range ¹	-25°C-60°C						
Relative Humidity	0-100% (No Condensing)						
Operating Altitude	≤3000m(Without Derating)						
Cooling	Natural Convection					Intelligent Air Cooling	
Noise	<30dB					<45dB	
Topology	Transformerless						
Dimensions WxHxD (mm)	590x416x205						
Protection Degree	IP65						
Weight	29kg						
Warranty	10 Years						
HMI&COMM							
Communication With BMS	CAN / RS-485						
External Communication	RS-485 / WIFI / Ethernet						
User Interface	LED						
Certificate							
Grid Regulation	VDE-AR-N 4105, G98, G99, C10/11:2021, NTS 631, RD647:2020 UNE 217002:2020, VDE 0126-1-1, NRS 097-2-1, AS/NZS 4777.2:2020, EN 50549-1						
Safety Regulation	IEC/EN 62109-1&2, IEC/62477-1:2012						
EMC	EC/EN 61000-6-1, IEC/EN 61000-6-2, IEC/EN 61000-6-3, IEC/EN 61000-6-4						
Battery module							
Model	HBHS-4.8KB1/LPP						
Battery Type	LiFePO4						
Rated Voltage	96V						
Rated Energy	4.8kWh						
Usable Capacity	4.5kWh						
Working Voltage Range	90-108V						
Rated Charging/ Discharging Current	50A						
Max.Charging/ Discharging Current	50A						
Depth Of Discharge(DoD)	95%						
Warranty	10 Years						
Operating Temperature ¹	Charging 0°C<T<50°C Discharging -10°C<T<50°C						
Dimensions WxHxD (mm)	620x430x206						
Protection Rate	IP 65						
Communication	CAN						
Weight(kg)	57±2						
Certification	UN 38.3, EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-47 , IEC 62619						

System Parameters						
Production Configuration	HAH3P-4/5/6/8/10/12/15 KB1/HU9					
	HBHS-4.8KB1/LPP	2x HBHS-4.8KB1/LPP	3x HBHS-4.8KB1/LPP	4x HBHS-4.8KB1/LPP	5x HBHS-4.8KB1/LPP	6x HBHS-4.8KB1/LPP
System Capacity	4.8kWh	9.6kWh	14.4kWh	19.2kWh	24kWh	28.8kWh
System Weight (kg)	85±2	139±2	193±2	247±2	301±2	355±2
No. of battery modules	1	2	3	4	5	6
Working Humidity	0-95% (No Condensing)					
Dimensions WxHxD (mm)	620x990x206	620x1420x206	629x1850x206	629x1850x206 (cluster 1) 629x510x206 (cluster 2)	629x1850x206 (cluster 1) 629x940x206 (cluster 2)	629x1850x206 (cluster 1) 629x1370x206 (cluster 2)

¹Possible derating occurring