

Haier

Smart Cube

the fully integrated solution



- ▶ Energy Controller
- ▶ DC EV Charging Module
- ▶ Battery

All-in-One design

Combining Hybrid Solar Inverter, DC EV Charger, Battery Pack, Energy Controller and integrating Heat Pump into one powerful energy system.

5 layers

Battery safety protection

5 mins

Fast commissioning

0 ms

Backup switching time

280 Ah

Large capacity battery cell

up to 20 systems

In parallel

4 layers

Comprehensive system protection

15 mins

Stackable installation

100 %

Off-grid power output

1-click

Full system diagnosis

960kWh

Max. ES capacity



Simple



Versatile



Robust



Smart

Energy Controller 3.0-6.0 kW Single Phase

Smart Cube EC	HH1P-3K	HH1P-3.6K	HH1P-4K	HH1P-4.6K	HH1P-5K	HH1P-6K	Units
DC Input (from PV)							
Max. PV power	6000	7360	8000	9200	10000	12000	W
Max. DC input voltage			600				V
Nominal Dc input voltage			350				V
Start-up voltage			100				V
MPPT voltage range			50~550				V
Number of MPP.trackers			2				
Number of PV strings per MPPT			1				
Max.input current per MPPT			16				A
Max.short-circuit current per MPPT			20				A
AC Output (on-grid)							
Nominal output power	3000	3680	4000	4600	5000	6000	W
Max. output apparent power	3300	3680	4400	5000	5500	6600	VA
Nominal output current	13.6	16.0	18.2	20.9	22.7	27.3	A
Max. output current	15.0	16.0	20.0	22.7	25.0	30.0	A
Nominal output voltage			220/230/240				V
Nominal grid frequency			50/60				Hz
Power factor			0.8 leading ~ 0.8 lagging				
Total current harmonic distortion			THDi< 2%				
Efficiency							
Max.efficiency			98%				
European efficiency	97.0%	97.1%	97.2%	97.3%	97.4%	97.4%	
AC Output (backup)							
Peak output power (10 seconds)	4500	5520	6000	6900	7500	9000	W
Nominal output voltage			220/230/240				V
Nominal output frequency			50/60				Hz
Power factor			0.8 leading ~ 0.8 lagging				
Total voltage harmonic distortion			THDv<2%				
Disruption time of backup switch			0				ms
Battery Connection							
Battery module models			HBP-5.0/8.0				
Number of modules per controller			1~6				psc
Battery module voltage range			300~600				V
Protection							
Safety protection feature	DC around fault protection, Arc fault circuit interrupter, DC reverse polarity protection Insulation monitoring,Residual current monitoring, Type II DC/AC surge protection Anti-islanding protection, AC overcurrent/overvoltage/short-circuit protection.						
General Data							
Dimensions(W / H / D)			700/300/245				mm
Weight			18				kg
Storage temperature range			-40~70 (-40~158)				°C (°F)
Operating temperature range			-30~60 (-22~140)				°C (°F)
Relative humidity range			0%~95%				
Max. operating altitude			4000 ²				m
Cooling			Natural convection				
System ingress protection rating			IP66				
Communication	WLAN/Fast Ethernet /RS485/Communication module(4G/3G/2G)						
Standard Compliance							
Standard	CE, IEC/EN 62109-1, IEC/EN 62109-2,IEC/EN 62477,IEC/EN 61000-6-1,IEC/EN 61000-6-2						

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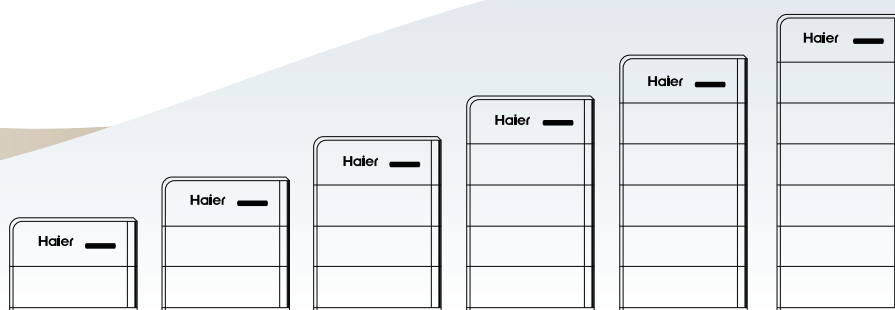
Energy Controller 5.0-25.0 kW Three Phase

Smart Cube EC	HH3P-5K	HH3P-6K	HH3P-8K	HH3P-10K	HH3P-12K	HH3P-15K	HH3P-17K	HH3P-20K	HH3P-25K	Units	
DC Input (from PV)											
Max. PV power	8000	9600	12800	16000	19200	24000	27200	32000	40000	W	
Max. DC input voltage					1100						V
Nominal DC input voltage					600						V
Start-up voltage					180						V
MPPT voltage range					160~1000						V
Number of MPP.trackers	2			3			4				
Number of PV strings per MPPT					1						
Max.input current per MPPT					16						A
Max. short-circuit current per MPPT					20						A
AC Output (on-grid)											
Nominal output power	5000	6000	8000	10000	12000	15000	17000	20000	25000	W	
Max.output apparent power	5500	6600	8800	11000	13200	16500	18700	22000	27500	VA	
Nominal output current	7.6	9.1	12.2	15.2	18.2	22.8	25.8	30.4	38.0	A	
Max. output current	8.4	10.0	13.4	16.7	20.1	25.1	28.4	33.4	41.8	A	
Nominal output voltage					380/400						V
Nominal grid frequency					50/60						Hz
Power factor					0.8 leading ~ 0.8 lagging						
Total current harmonic distortion					THDi< 2%						
Efficiency											
Max. efficiency	98.1%	98.2%	98.3%	98.3%	98.3%	98.3%	98.3%	98.3%	98.3%		
European efficiency	96.1%	96.6%	97.1%	97.5%	97.7%	97.9%	97.9%	97.9%	98.0%		
Ac Output (backup)											
Peak output power (10 seconds)	7500	9000	12000	15000	18000	22500	25500	30000	30000	W	
Nominal output voltage					380/400						V
Nominal output frequency					50/60						Hz
Power factor					0.8 leading ~ 0.8 lagging						
Total voltage harmonic distortion					THDv<2%						
Disruption time of backup switch ¹					0						ms
Battery Connection											
Battery module models					HBP-5.0/8.0						
Number of modules per controller					1~6						psc
Battery module voltage range					300~600						V
Protection											
Safety protection feature	DC around fault protection, Arc fault circuit interrupter, DC reverse polarity protection Insulation monitoring,Residual current monitoring, Type II DC/AC surge protection Anti-islanding protection, AC overcurrent/overvoltage/short-circuit protection.										
General Data											
Dimensions (W/H/D)					700/300/260						mm
Weight					36						kg
Storage temperature range					-40~70 (-40~158)						℃ (°F)
Operating temperature range					-30~60 (-22~140)						℃ (°F)
Relative humidity range					0%~95%						
Max. operating altitude					4000 ²						m
Cooling					Smart air cooling						
System ingress protection rating					IP66						
Communication	WLAN/Fast Ethernet /RS485/Communication module(4G/3G/2G)										
Standard Compliance											
Standard	CE, IEC/EN 62109-1, IEC/EN 62109-2,IEC/EN 62477,IEC/EN 61000-6-1,IEC/EN 61000-6-2										

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Battery 5.0 / 8.0 kWh

Smart Cube BAT	HBP-5.0	HBP-8.0	Units
Performance Specification			
Battery type	LiFePO ₄		
Total energy capacity	5.38	8.06	kWh
Usable energy capacity ¹	5.2	7.8	kWh
Battery modules voltage range (single phase system)	300~600		V
Battery modules voltage range (three phase system)	600~900		V
Max. charge / discharge power	2500	4000	W
Peak charge / discharge power (10 seconds)	3750	6000	W
General Data			
Weight	55	70	kg
Dimensions(W/H/D)	767/270/260		mm
Storage temperature range	-25~60 (-13~140)		°C (°F)
Operating temperature range	-20~55 (-4~131)		°C (°F)
Relative humidity range	5%~95%		
Max. operating altitude	4000 ²		m
Cooling	Natural convection		
System ingress protection rating	IP66		
Installation method	Floor standing / Wall-mounted ³		
Standard Compliance			
Standard	CE, IEC/EN 60730-1, UN 38.3, IEC/EN 62619,IEC/EN 63056,IEC/EN 62040		



Number of battery modules ⁴	1	2	3	4	5	6	pcs
Total energy capacity	8.06	16.12	24.18	32.24	40.03	48.36	kWh
Max. charge / discharge power	4	84	12	16	20	24	kW
Total weight	112	183	254	325	396	467	kg
Total height (with base)	640	910	1180	1450	1720	1990	mm
Total width (with decorative covers)	850						mm
Total depth (with decorative covers)	260						mm

1. Test conditions: 100% depth of discharge, 0.2c average charge & discharge rate at 25°C, at the beginning of life

2. Possible derating occurring

3. Up to 2 battery packs

4. The data in the table is based on the combination of Smart Cube BAT 8.0 and Smart Cube EC three-phase as an example, with a ground mounted installation