StarTimes solar

HP10-Box5 Pro LV Series

Stacked Household Lithium Battery System

HP10-Box5 Pro series adopts industrial aesthetic and N+1 stackable design. The system is composed of 100Ah modules, supports a maximum of 20 parallel groups, and the capacity can be expanded to 102kWh. Matched with main stream brands of inverters, the system can be applied to grid-connected, off-grid, photovoltaic and all kinds of green and low-carbon applications of household ESS.

5.1 | 10.2 | 15.3 | 20.4 kWh

Industrial Aesthetics

5.1 kWh for one system, industrial aesthetic design, stackable/wall-mounted/vertical installation;

Wide Compatibility

The system matches 20+ brands of mainstream inverters;

High Security

LFP Prismatic Cell, which is highly safe and reliable.

Ultra-Long Life

Ultra-long cycle cell, design life of 15 years, The system can reach up to 6000 cycles

High Scalability

Optional expansion functions: anti-theft, fire protection, LCD monitoring and display module, etc.

Battery Datasheet

Model	HP10-Box5 Pro	HP10-Box10 Pro	HP10-Box15 Pro	HP10-Box20 Pro
				
Battery Module	Box5Pro*N			
Cell Type	100Ah LFP Prismatic Cell			
Number of Modules	1	2	3	4
Nominal Voltage	51.2V			
Operating Voltage Range	45.0~56.4V			
System Nominal Energy[1]	5.12kWh	10.24kWh	15.36kWh	20.48kWh
Available System Nominal Energy	4.86kWh	9.72kWh	14.6kWh	19.45kWh
Max. Output Power	5kW	10kW	15kW	20kW
Peak Output Power	5.4kW, 10s	10.5kW, 10s	15.5kW, 10s	20.0kW, 10s
Max. Charging Current	50A	100A	150A	200A
Max. Discharge Current	100A	180A	270A	270A
Charge and Discharge Efficiency	≥97%			
Overview				
Dimensions [W*H*D][2]	580*250*440mm	580*400*440mm	580*550*440mm	580*700*440mm
Weight[3]	46kg	105kg	152kg	200kg
Communication	CAN/RS485			
Installation	Stack/Wall/Stand			
Enclosure Rating	IP21			
25℃ Cycle Life	≥6000 Cycles @80%DOD&70%EOL			
Operating Temperature[4]	Charge: -5~50℃; Discharge: -20~50℃; Recommended: 15~35℃			
Operating Humidity	5%~95%[Non-Condensing]			
Cooling Mode	Natural Cooling			
Operating Altitude	≤4000m			
Safety/Standards				
Certification	UL1973、IEC62619、IEC62477、CE-EMC、VDE2510-50、CEI0-21、UKCA、UN38.3			

* Note:

[1] Test environment: 0.2C charge and discharge @25℃&100%DOD; [2] The size of a single battery, not including the base, more than 2 including the base;

[3] Weight error ±2kg; [4] -5℃~10℃, power reduction of 10%~15%; [5] The matching inverter brand is updated periodically

* Declaration:

This information is only a brief description of the product performance, if you need the latest product information, please contact our business personnel or log in to the official website to download.

UN38.3

ESS-Inverter

Off-grid Hybrid Inverter

Dual-channel MPPT
High PV utilization

6 parallel capacity expansion
Better compatibility

DC overmatching 1.5 times
Improve the
overall system income

Compatible with
lithium/lead-acid battery,
More flexible configuration

Typical Configuration

Inverter Datasheet

Model name	5000SO
Off-grid Output	
Max. Output Power	5kVA
Nominal Output Voltage	220Vac
Output Voltage Range	220Vac±10%
Nominal Output Current	22.7A
Peak Power & Duration	8kVA(10s)
Grid Parameter	
Max. AC Input Current	60A
Norminal AC Voltage	220Vac
AC Voitage Range	176-264V
Nominal AC Frequency	50/60Hz
THDi	<3%
Battery Parameter	
Battery Type	Lithium-ion/Lead-Acid
Nominal Battery Voltage	48V/51.2V
Battery Voltage Range	42-58V
Max.Charging Voltage	58V
Charging Curve	3 stages
Max. Charging Current	100A
Max. Discharging Current	100A
PV Input	
Max. DC Input Power	8000W
Starting Voltage	120V
Input Voltage Range	100-500V
MPPT Voltage Range	100-500V
Full Load MPPT Voltage Range	350-450V
Numbers of MPPT	2
Max. Input String Per MPPT	1
Nominal Input Voltage	360V
Max. DC Input Current	13A/13A
Max. Short-circuit Current	18A/18A
Efficiency	
European Efficiency	97.3%
Max.Efficiency	97.5%
Max. Battery Charging/ Discharging Efficiency	94.00%
General Data	
Size(W*H*D)	360mm*470mm*114mm
Weight	14kg
Noise	< 45dB(A)
Operating Temperature Range	-25℃~60℃ (> 45℃ power-down)
Cooling Method	Air cooling
Parallel Units	6
Warranty	5 years
Ingress Protection Grade	IP20
Monitoring	LCD/LED/APP/WIFI/Bluetooth
Communication Port	CAN+RS485
Protection	Reverse Polarity Protection;Over Current/Voltage Protection; AC Short-circuit Protection;PV Ground Fault Monitoring;Over Temperature Protection
Certification	
CE_LVD	EN 62109-2:2011 EN 62109-1:2010
CE_EMC	EN61000-6-1, EN61000-6-2

ESS-Solar Panel

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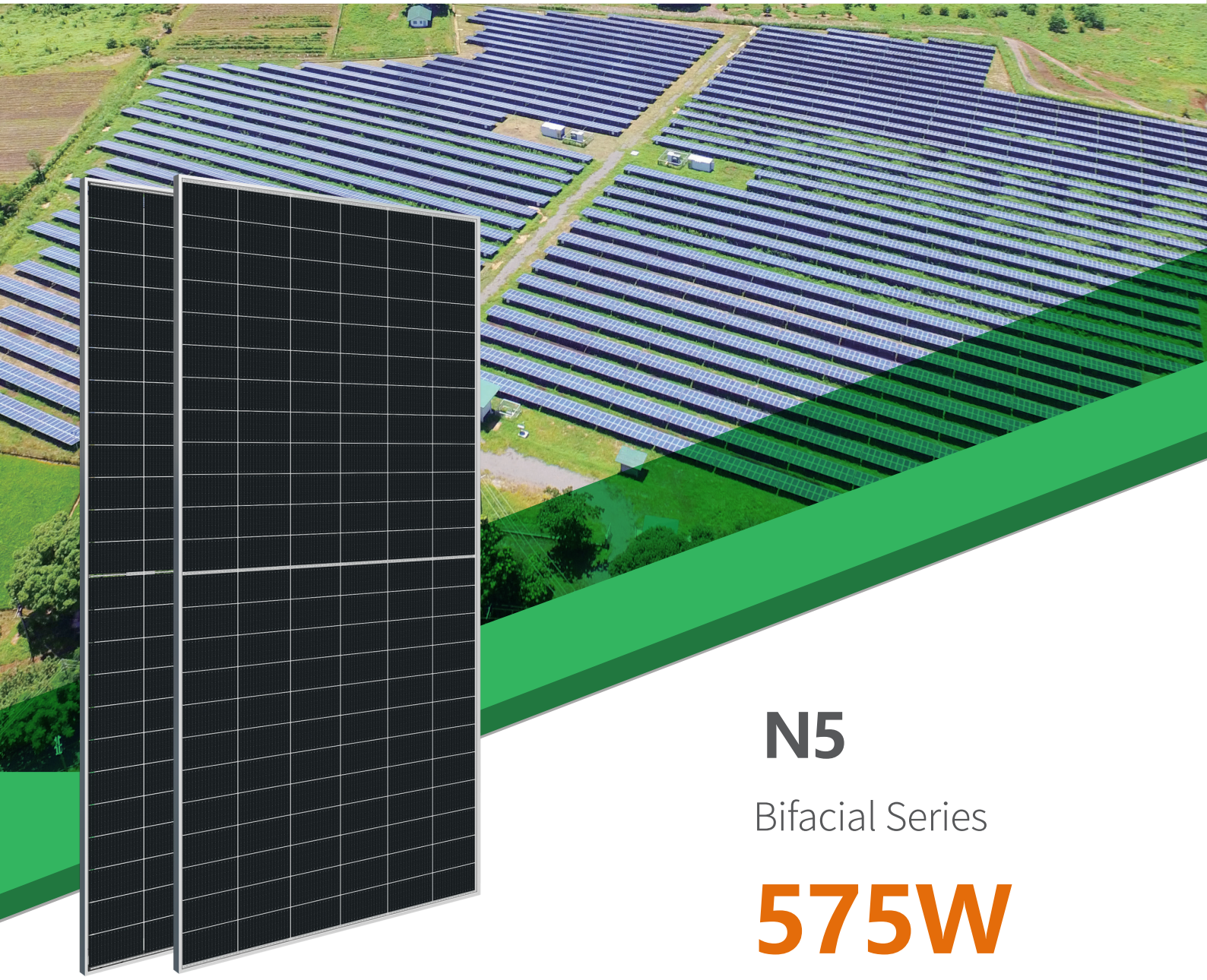


N5

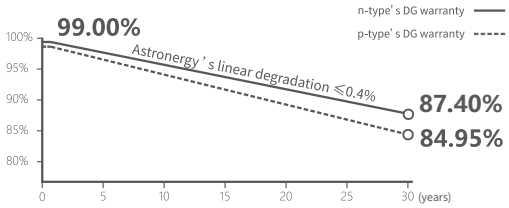
Bifacial Series

575W

Warranty

10 10-year Product Warranty

30 30-year Linear Power Warranty



Key Features

- TOPCon / Half-cut
- Low temperature coefficient (Pmpp)
- Non-destructive cutting
- PID resistance
- Low BOS cost & LCOE
- Bifacial gain

Assist carbon neutrality CO_2

TÜVRheinland CERTIFIED

c UL us LISTED

CQC

CE

ISO 9001:2015:ISO Quality Management System
ISO 14001:2015:ISO Environment Management System
ISO 45001:Occupational Health and Safety
The first solar company which passed the Nord IEC/TS 62941 certification audit

TOP PERFORMER PVEL member of group kiwa

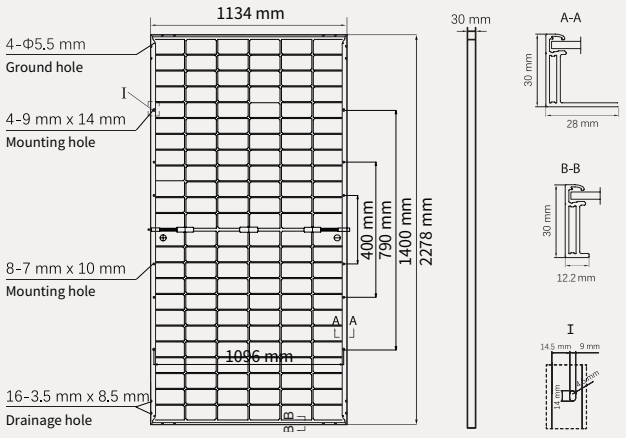
Tier 1 BloombergNEF

Underwritten by International Insurer

570~595W	0~+3%	23.0%	≤ 1.0%	≤ 0.4%
POWER RANGE	POWER SORTING	MAX MODULE EFFICIENCY	FIRST YEAR POWER DEGRADATION	YEAR 2-30 POWER DEGRADATION

Mechanical Specifications

Outer dimensions (L x W x H)	2278 x 1134 x 30 mm
Cell type	n-type mono-crystalline
No. of cells	144 (6*24)
Frame technology	Aluminum, silver anodized
Front / Back glass	2.0+2.0 mm
Cable length (Including connector)	Portrait: (+)350 mm,(-)250 mm; Customized length
Cable diameter (IEC/UL)	4 mm^2 / 12 AWG
① Maximum mechanical test load	5400 Pa (front) / 2400 Pa (back)
Connector type (IEC/UL)	HCB40 (Standard) / MC4-EVO2A (Optional)
Module weight	32.1 kg
Packing unit	36 pcs / box
Weight of packing unit (for 40'HQ container)	1207 kg
Modules per 40' HQ container	720 pcs (Subject to sales contract)



① Refer to Astronergy crystalline installation manual or contact technical department.
Maximum Mechanical Test Load=1.5×Maximum Mechanical Design Load.

Electrical Specifications

STC: Irradiance 1000W/m^2, Cell Temperature 25° C, AM=1.5

Rated output (Pmpp / Wp)	570	575	580	585	590	595
Rated voltage (Vmpp / V)	42.77	42.94	43.11	43.27	43.45	43.61
Rated current (Impp / A)	13.33	13.39	13.45	13.52	13.58	13.64
Open circuit voltage (Voc / V)	50.90	51.10	51.30	51.50	51.70	51.90
Short circuit current (Isc / A)	14.10	14.19	14.28	14.36	14.45	14.53
Module efficiency	22.1%	22.3%	22.5%	22.6%	22.8%	23.0%

NMOT: Irradiance 800W/m^2, Ambient Temperature 20° C, AM=1.5, Wind Speed 1m/s

Rated output (Pmpp / Wp)	428.6	432.4	436.2	439.9	443.7	447.4
Rated voltage (Vmpp / V)	40.26	40.42	40.59	40.73	40.89	41.06
Rated current (Impp / A)	10.65	10.70	10.75	10.80	10.85	10.90
Open circuit voltage (Voc / V)	48.35	48.54	48.73	48.92	49.11	49.30
Short circuit current (Isc / A)	11.39	11.46	11.53	11.59	11.66	11.73

Electrical Specifications (Integrated power)

Pmpp gain	Pmpp / Wp	Vmpp / V	Impp / A	Voc / V	Isc / A
5%	609	43.11	14.12	51.30	14.99
10%	638	43.11	14.80	51.30	15.71
15%	667	43.12	15.47	52.31	16.42
20%	696	43.12	16.14	52.31	17.14
25%	725	43.12	16.81	52.31	17.85

Electrical characteristics with different rear power gain (reference to 580W)

Temperature Ratings (STC)

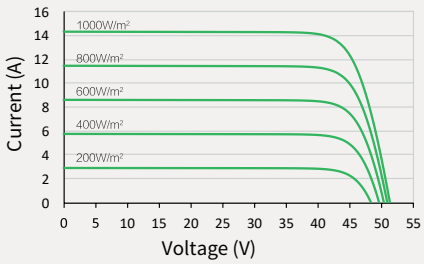
Temperature coefficient (Pmpp)	-0.29%/°C
Temperature coefficient (Isc)	+0.043%/°C
Temperature coefficient (Voc)	-0.25%/°C
Nominal module operating temperature (NMOT)	41±2°C

Operating Parameters

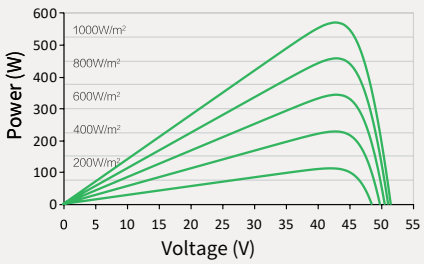
No. of diodes	3
Junction box IP rating	IP 68
Max. series fuse rating	30 A
Max. system voltage (IEC/UL)	1500V_{DC}

Curve

Current-Voltage (580W)



Power-Voltage (580W)



Current-Voltage (580W)