

# Li-HV Residential

## Single Phase Hybrid Series

### Inverter Options

3.0/3.6/4.2/5.0/6.0/7.0/8.0kW

### HV Battery Options

2.3 kWh    6.9/9.2/11.5kWh

3.84 kWh    11.5/15.3/19.2kWh



Multi-protection, ultra safe



Easy installation and O&M



Superior compatibility



Within 10ms UPS-level switching



Low operating noise



## Facilitation of installation



Install without hesitation, since the design of AIO and plug-and-play. Especially with the 3-in-1 cable innovation, the battery module connection is straightforward when combined with Power, COM, and Ground cables.



Wattsonic packed everything you'll need, including necessary items and ready accessories, filled with connectors and cables. There is no need for additional preparation.

Power

+

Com.

+

Earthing together

## Robust Load & Backup

Up to 97.6% max efficiency  
Max. 15A PV input current  
Max. 30A charge/discharge current  
Both on & off-grid ports can be paralleled

## Dynamic adaptation

85-465V super wide battery voltage range  
Integrated Smart EMS support various power applications

## Long Cycle Life & Superb Performance

10 years standard warranty      10,000 cycles at 90% DOD  
1C/1C continual charge and discharge  
15A PV Input Current, 2 MPPTs





## Intelligent O&M Everything is under control

Through the multifunctional LCD and numerous applications, it enables excellent remote control and data monitoring. Software checks, updates, and bug fixes are available anytime and anywhere. It also serves as a communication channel for quick after-sales support.





# More than a spark of creation

Cloud-based artificial intelligence algorithms will constantly check the data to create the appropriate automatic, built-in operating mode for your home. You may switch via the app between general and various running modes with a quick glimpse and click.

Economy Mode 

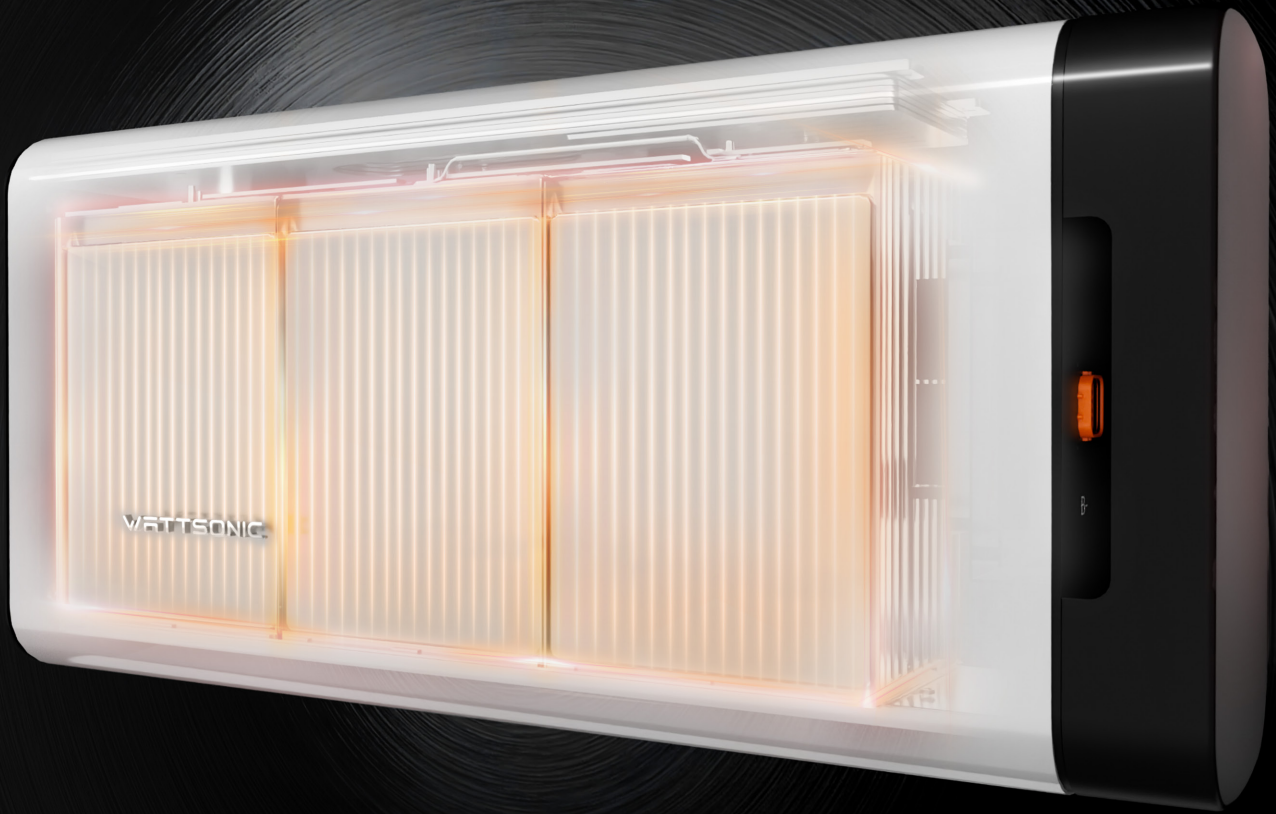
Peak load shifting Mode 

General Mode 

UPS Mode 

Off-grid Mode 





Multi-protection from self-developed technology.

## Your reliable residential ESS

Why can this series maintain stable performance and safe operation? The secret is that Wattsonic improves power battery consistency by strictly controlling various performance indicators such as lithium battery cell capacity, internal resistance, temperature characteristics, and decay speed. We also decrease the standard deviation between product batches by tightly managing numerous procedures. The whole system was safety tested and certified by Dekra/TUV Germany.

# Master BMS



	Master BMS-2.3	Master BMS-3.84
Operation Voltage [Vdc]	200~900	200~900
Max. Charge/Discharge Current [A]	30	50
Recommend Charge/Discharge Current [A]	30	50
Functions	Pre-charge, Over-Voltage/Over-Temperature Protection, Cells Balancing/SOC-SOH calculation etc.	
Communication Protocol/Connector Type	CAN/RS485 ModBus, TCP/IP	CAN/RS485 ModBus, TCP/IP
Power Connection Type	Integrated connector	Integrated connector
User Interface	LCD Display(Optional, need to confirm upon order)	
Dimension [W*H*D mm]	557*319*152.6	680*319*152.6
Weight	11kg	13kg
Operating Temperature [°C]	-20~55	-20~55
Ingress Protection	IP21(Optional IP65 , need to confirm upon order)	
Installation Method	Stackable or Wall Mounted	Wall Mounted
Warranty	10 years	10 years

# Battery Module



	2.3kWh	3.84kWh
Nominal Voltage/Capacity per Module	76.8V/2.3kWh[30Ah]	76.8V/3.84kWh[50Ah]
Expand Capability	3~5 batteries series connection	3~5 batteries series connection
DOD Recommended	90%	90%
Max. Charge/Discharge Current [A]	30A Continual	50A Continual
Recommend Charge/Discharge Current [A]	30A Continual	50A Continual
Communication Protocol/Connector Type	CAN	CAN
Power Connection Type	Amphenol MC4	Amphenol MC4
Dimension [W*H*D mm]	557*319*152.6 per module	656*322*173.3 per module
Weight	28kg	44kg
Charge Temperature Range [°C]	0~45	0~45
Discharge Temperature Range [°C]	-20~55	-20~55
Ingress Protection	IP21(Optional IP65,need to confirm before order)	
Installation Method	Stackable or Wall Mounted	Stackable or Wall Mounted
Cables Connection Method	Connection from side	Connection from side
Warranty	10 years or 10,000 cycles @90% DOD	10 years or 10,000 cycles @90% DOD

\*Battery System Configuration Options[2.3kWh]: 230V/6.9kWh, 307V/9.2kWh, 384V/11.5kWh,

\*Battery System Configuration Options[3.84kWh]: 230V/11.5kWh, 307V/15.3kWh, 384V/19.2kWh.

\*Wattsonic reserves the right to modify the technical datasheet and appearance of the product in the cataloge without prior advice to the users.



## Hybrid Inverter

PV Input	3.0KW	3.6KW	4.2KW	5.0KW	6.0KW	7.0KW	8.0KW
Max. DC Input Power [kW]	4.8	5.76	6.72	8.0	9.6	11.2	12.8
Start-up Voltage [V]	80						
Max. DC Input Voltage [V]*	600						
Rated Input DC Voltage [V]	360						
MPPT Voltage Range [V]	100~550						
Number of MPP Trackers	1	1	2	2	2	2	2
Number of DC Inputs per MPPT	1	1	1/1	1/1	1/1	1/1	1/1
Max. Input Current [A]	15	15	15/15	15/15	15/15	15/15	15/15
Max. Short-circuit Current [A]	20	20	20/20	20/20	20/20	20/20	20/20
Battery Side	3.0KW	3.6KW	4.2KW	5.0KW	6.0KW	7.0KW	8.0KW
Battery Type	Lithium Battery (with BMS)						
Battery Voltage Range [Vdc]	85~465						
Max. Charging/Discharging Current [A]	30/30						

Protection		Grid Side	3.0KW	3.6KW	4.2KW	5.0KW	6.0KW	7.0KW	8.0KW
DC Reverse Polarity Protection	Integrated	Rated Output Power [kW]	3.0	3.6	4.2	5.0 <sup>3)</sup>	6.0	7.0	8.0
Battery Input Reverse Connection Protection	Integrated	Max. Output Apparent Power [kVA]	3.3	3.96 <sup>1)</sup>	4.6	5.5 <sup>4)</sup>	6.6	7.7	8.0
Insulation Resistance Protection	Integrated	Max. Input Apparent Power [kVA]**	6.0	7.2	8.4	10.0	12.0	12.0	12.0
Surge Protection	Integrated	Max. Charging Power of Battery [kVA]	3.0	3.6	4.2	5.0	6.0	7.0	8.0
Over-temperature Protection	Integrated	Rated AC Voltage [V]	L/N/PE; 220/230/240V						
Residual Current Protection	Integrated	Rated AC Frequency [Hz]	50/60						
Islanding Protection	Integrated	Max. Output Current [A]	15.0	18.0 <sup>2)</sup>	21.0	25.0 <sup>5)</sup>	28.7	35.0	36.3
AC Over-voltage Protection	Integrated	Power Factor	0.8 leading...0.8 lagging						
Overload Protection	Integrated	Max. Total Harmonic Distortion	< 3% @Rated output power						
AC Short-circuit Protection	Integrated	DCI	< 0.5%In						

General Data		Back-up Side	3.0KW	3.6KW	4.2KW	5.0KW	6.0KW	7.0KW	8.0KW
Over Voltage Category	PV:II ; Main:III	Rated Output Power [kW]	3.0	3.6	4.2	5.0	6.0	7.0	8.0
Dimensions(W×H×D mm)	534×418×210	Max. Output Apparent Power [kVA]	3.3	3.96	4.6	5.5	6.6	7.7	8.0
Weight (Kg)	27.0	Max. Input Current [A]	15.0	18.0	21.0	25.0	28.7	35.0	36.3
Protection Degree	IP65	UPS Switching Time	<10ms						
Standby Self-consumption(W)	<15	Rated Output Voltage [V]	L/N/PE; 220/230/240V						
Topology	Transformerless	Rated Output Frequency [Hz]	50/60	50/60	50/60	50/60	50/60	50/60	50/60
Operating Temperature Range(℃)	-30~60	Peak Output Apparent Power [kVA]***3.9,60s	4.7,60s	5.5,60s	6.5,60s	7.8,60s	9.1,60s	10,60s	
Relative Humidity(%)	0~100	Voltage Harmonic Distortion	<3%@Linear load						
Operating Altitude(m)	3000(>3000m derating)								
Cooling	Natural Convection	Efficiency	3.0KW	3.6KW	4.2KW	5.0KW	6.0KW	7.0KW	8.0KW
Noise Level (dB)	<25	Max. Efficiency	97.6%						
Display	OLED & LED	European Efficiency	97.0%						
Communication	CAN, RS485, WiFi/LAN(Optional)	Compliance	IEC/EN 62109, IEC/EN 61000,EN50549-1,TOR Generator Type A,VDE-AR-N-4105						

\* Max. operating DC voltage is 600V, max. withstanding DC voltage is 550V.

\*\* Max. apparent power from the grid means the maximum power imported from the utility grid used to satisfy the backup loads and charge the battery.

\*\*\* The output power will exceed the rated value only when the power in the PV array is sufficient, and the duration of the overload is related to the overload power.

1) G98: 3.68kVA; 2) G98: 16.00A; 3) AS 4777.2: 5.0kW, VDE-AR-N 4105: 4.6kW;

4) AS 4777.2: 5.0kVA, VDE-AR-N 4105: 4.60kVA, C10/I1: 5.0kVA; 5AS 4777.2: 21.7A, VDE-AR-N 4105: 21.0A, C10/I1: 21.7A.