





Wattsonic High Voltage 3-Phase All-In-One ESS

6kW - 20kW optional

Quick and easy installation 

<10ms UPS level emergency
grid power back-up 

Open interface for external
control and management 

Integrated smart EMS support
various power applications 

Within the compact appearance, wattsonic residential three phase hybrid series includes smart inverter, BMS and customizable energy storage batteries pack. You can easily find the suitable assemble while we have 6kW-20kW optional. Under the reliable control of the inverter, the whole system can work well without any disturbance or work as your custom mode.



10 years **10,000 cycles**
standard warranty at 90% DOD

1C/1C continual charge and discharge



Built-in Isolators for both PV and battery

Superior LiFePO4 battery safety performance

Whole system safety tested and certificated by Dekra/TUV Germany



AIO kit, plug and play

Power + Com. + Earthing together



Easy WIFI configuration via App



All in one, plug and play



Integrated smart EMS support various power applications



Monitor anytime& anywhere



Wall mounted or stackable, easily installation



Both on & off-grid ports can be paralleled to support bigger loading



Master BMS

	Master BMS-2.3	Master BMS-3.84
Operation Voltage [Vdc]	150~900	200~900
Max. Charge/Discharge Current [A]	30	50
Recommend Charge/Discharge Current [A]	30	50
Functions	Pre-charge, Over-Less Voltage/ Over-Less Temperature Protection, Cells Balancing/SOC-SOH calculation etc.	
Communication Protocol/Connector Type	CAN/RS485 ModBus, TCP/IP/ RJ45	CAN/RS485 ModBus, TCP/IP/ RJ45
Power Connection Type	Amphenol MC4	Amphenol MC4
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

	Master BMS-2.3	Master BMS-3.84
Nominal Voltage/Capacity per Module	76.8V/2.3KWH	76.8V/3.84KWH[50Ah]
Expand Capability	3~8 batteries series connection	3~8 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/ RJ45	CAN/ RJ45
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, 460V/13.8kWh, 537V/16.1kWh, 614V/18.4kWh.

*Battery System Configuration Options[3.84kWh]: 230V/11.5kWh, 307V/15.3kWh, 384V/19.2kWh, 460V/23.0kWh, 537V/26.8kWh, 614V/30.7kWh.

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



Hybrid Inverter

PV Input	6.0KW	8.0KW	10.0KW	12.0KW	15.0KW	20.0KW
Max. DC Input Power [kW]	9.0	12.0	15.0	18.0	22.5	30.0
Start-up Voltage [V]	135	135	135	135	135	135
Max. DC Input Voltage [V]*	1000	1000	1000	1000	1000	1000
Rated Input DC Voltage [V]	620	620	620	620	620	620
MPPT Voltage Range [V]	120~950	200~950	200~950	200~950	200~950	200~950
Number of MPP Trackers	2	2	2	2	2	2
Number of DC Inputs per MPPT	1/1	1/1	1/1	2/2	2/2	2/2
Max. Input Current [A]	15/15	15/15	15/15	30/30	30/30	30/30
Max. Short-circuit Current [A]	20/20	20/20	20/20	40/40	40/40	40/40

Battery Side	6.0KW	8.0KW	10.0KW	12.0KW	15.0KW	20.0KW
Battery Type	Lithium Battery (with BMS)					
Battery Voltage Range [Vdc]	135~750					
Max. Charging/Discharging Current [A]	25/25		40/40		40/40	

Protection	Grid Side	6.0KW	8.0KW	10.0KW	12.0KW	15.0KW	20.0KW	
DC Reverse Polarity Protection	Integrated	Rated Output Power [kW]	6.0	8.0	10.0	12.0	15.0	20.0
Battery Input Reverse Connection Protection	Integrated	Max. Output Apparent Power [kVA]	6.6	8.8	11.0	13.2	16.5/15.0 ¹⁾	22.0
Insulation Resistance Protection	Integrated	Max. Input Apparent Power [kVA]**	12.0	16.0	16.5	24.0	30.0	30.0
Surge Protection	Integrated	Max. Charging Power of Battery [kVA]	6.0	8.0	10.0	12.0	15.0	20.0
Over-temperature Protection	Integrated	Rated AC Voltage [V]	3L/N/PE; 220/380V; 230/400V; 240/415V					
Residual Current Protection	Integrated	Rated AC Frequency [Hz]	50/60	50/60	50/60	50/60	50/60	50/60
Islanding Protection	Integrated	Max. Output Current [A]	10.0	13.3	16.5	20.0	25.0/21.7 ²⁾	33.5
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	6.0/8.0/10.0KW 12.0/15.0/20.0KW	Back-up Side	6.0KW	8.0KW	10.0KW	12.0KW	15.0KW	20.0KW
Over Voltage Category	PV:II ; Main:III	Rated Output Power [kW]	6.0	8.0	10.0	12.0	15.0	20.0
Dimensions(WxHxD mm)	534x418x210	Max. Output Apparent Power [kVA]	6.6	8.8	11.0	13.2	16.5	22.0
Weight (KG)	26.0(6-10KW)/28.0(12KW)/31.0(15-20KW)	Max. Input Current [A]	10.0	13.3	16.5	20.0	25.0	33.5
Protection Degree	IP65	UPS Switching Time	<10ms	<10ms	<10ms	<10ms	<10ms	<10ms
Standby Self-consumption(W)	<15	Rated Output Voltage [V]	3/N/PE; 220/380V; 230/400V; 240/415V					
Topology	Transformerless	Rated Output Frequency [Hz]	50/60	50/60	50/60	50/60	50/60	50/60
Operating Temperature Range (C)	-30~60	Peak Output Apparent Power [kVA]** 12.6s	16.6s	20.6s	20.6s	25.6s	25.6s	25.6s
Relative Humidity(%)	0~100	Voltage Harmonic Distortion	<3%@Linear load					
Operating Altitude(m)	3000(>3000m derating)	Efficiency	6.0KW	8.0KW	10.0KW	12.0KW	15.0KW	20.0KW
Cooling	Natural Convection Smart Fan	Max. Efficiency	98.1%	98.2%	98.2%	98.4%	98.4%	98.4%
Noise Level (dB)	<25 <40	European Efficiency	97.3%	97.4%	97.4%	97.5%	97.5%	97.5%
Display	OLED & LED	Compliance	IEC/EN 62109, IEC/EN 61000, EN50549-1, TOR Generator Type A, VDE-AR-N-4105					
Communication	CAN, RS485, WiFi/LAN(Optional)							

*Max.operating DC voltage is 950V, max.withstanding DC voltage is 1000V.

**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) AS 4777.2: 15.0kVA; 2) AS 4777.2: 21.7A