

Wattsonic High Voltage Three Phase All-In-One ESS

• 6.0KW • 8.0KW • 10.0KW • 12.0KW

Features



Integrated smart EMS
support various power applications



< 10ms UPS level
emergency grid power back-up



Up to 20kVA peak off-grid
loading capability for 60 seconds



Asymmetric output for both
on/off-grid loading under zero injection



Both On & Off-grid ports can be
paralleled to support bigger loading (Q2-2021)





Plug in and Play

Wall mounted or stackable, easily installation



Standard Running Modes



Maximum Solar
Self-consumption



Emergency Power
Back-up (UPS Level)



Parallel
Connection



Zero-injection



Peak Valley Mode



Peak Load Shifting, one key to
optimize grid connection capability



Smart Micro Grid Solution
(Off-grid)



Three Phase Connection
with Asymmetric Output



Battery High Voltage
Max. 750V



Always on UPS
< 10ms



Zero Grid Injection Function



LiFePO₄, Superior Safety



Modular Design

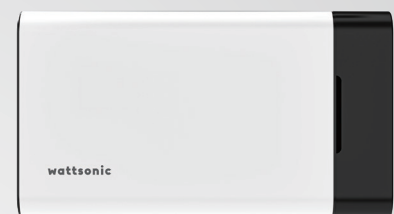
	Master BMS-2.3	Master BMS-3.84
Operation Voltage [Vdc]	200~900	200~900
Max. Charge/Discharge Current [A]	30	50
Recommend Charge/Discharge Current [A]	30	50
Functions	Pre-charge, Over-Less Voltage/ /Over-Less Temperature Protection, Cells Balancing/SOC-SOH calculation etc.	
Communication Protocol/Connector Type	CAN/RS485 ModBus, TCP/IP/ RJ45	
Power Connection Type	Amphenol MC4	
User Interface	LCD Display(Optional, need to be confirmed 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 be confirmed upon order)	
Installation Method	Floor or Wall Mounted	
Warranty	10 years	

Master BMS



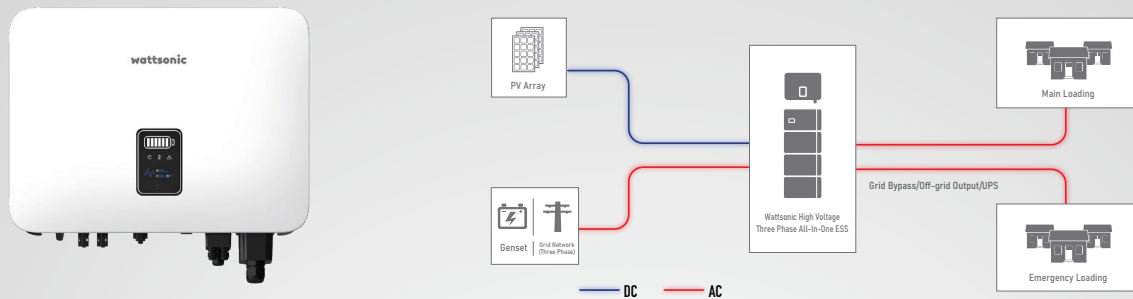
Nominal Voltage/Capacity per Module	76.8V/2.3KWH	76.8V/3.84KWH
Expand Capability	Up to 8 Modules series at 18.4KWH	Up to 8 Modules series at 30.7KWH
DOD Recommended	90%	90%
Max. Charge/Discharge Current [A]	30A Continual	50A Continual
Recommend Charge/Discharge Current [A]	25A Continual	25A Continual
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	680*319*152.6 per module
Weight	28kg	38kg
Charge Temperature Range [C]	0~45	0~45
Discharge Temperature Range [C]	-20~55	-20~55
Ingress Protection	IP21(Optional IP65, need be confirmed upon order)	
Installation Method	Floor or Wall Mounted	Floor 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 Module



*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/23kWh, 537V/26.8kWh, 614V/30.7kWh



Inverter

PV INPUT(DC)	6.0KW	8.0KW	10.0KW	12.0KW
Max. DC Input Power [W]	7,800	10,400	13,000	15,600
Start-up PV Voltage [Vdc]	180	180	180	180
Max. Input DC Voltage [Vdc]	1,000	1,000	1,000	1,100
Nominal Input DC Voltage [Vdc]	620	620	620	620
MPPT Voltage Range [Vdc]	200~850	200~850	200~850	200~850
Number of MPP Trackers	2	2	2	2
PV String per MPPT	1/1	1	1	1
Max. PV Input Current [A]	13/13	13/13	13/13	13/13
Max. Short Current [A]	18/18	18/18	18/18	18/18

INPUT& OUTPUT DC (BATTERY)

Battery Voltage Range [Vdc]	180~750			
Max. Charging/Discharging Current [A]	25/25			
Inverter Built-in Over-current fuse Capacity [A]	63			
Battery Ready Optional Function	YES			

AC OUTPUT/INPUT @GRID

Nominal Output Power [kW]/Max. Output Power [kW]	6/6.6	8/8.8	10/11	12/13.2
Max. Input Apparent Power [kVA]	12*	16*	16.5*	16.5*
Max. Battery Charging Power [kW]	6	8	10	12
Nominal Output Voltage [V]	3/N/PE, 230(400)			
Nominal Output Frequency [HZ]	50/60Hz		45~55Hz/55~65Hz	
Max. AC Current Output [A]	10	13.3	16.5	20
Output Power Factor	0.8 leading..0.8 lagging			
Output THDi (@Nominal Output)	<3%	<3%	<3%	<3%
DCI	<0.5%In	<0.5%In	<0.5%In	<0.5%In

AC OUTPUT @BACK UP WITH BATTERY

Max. Output Apparent Power [kVA]	6.6	8.8	11	13.2
Peak Output Apparent Power [kVA]	12, 60sec**	16, 60sec**	20, 60sec**	20, 60sec**
Peak Apparent Output Power per Phase [kVA]	2.6***	3.3***	4***	5***
Nominal Output Voltage [V]	230(400)	230(400)	230(400)	230(400)
Automatic Switch Time [ms]	<10	<10	<10	<10
Nominal Output Frequency [HZ]	50/60	50/60	50/60	50/60
Output THDv (@Linear Load)	<3%	<3%	<3%	<3%

Parallel Capability Maximum 10 inverters can be paralleled at On-grid ports, Off-grid ports parallel function to be available Q2-2021

Battery Options-2.3kWh(Based on Inverter Max. 25A Charge&Discharge Capacity)

Voltage (Vdc)	230V	307V	384V	460V	537V	614V
Capacity [kWh]	6.9kWh	9.2kWh	11.5kWh	13.8kWh	16.1kWh	18.4kWh
Max. Discharging Power [kW]	5.7kW	7.6kW	9.6kW	11.5kW	12kW	12kW

Battery Options-3.84kWh(Based on Inverter Max. 25A Charge&Discharge Capacity)

Voltage (Vdc)	230V	307V	384V	460V	537V	614V
Capacity [kWh]	11.5kWh	15.3kWh	19.2kWh	23kWh	26.8kWh	30.7kWh
Max. Discharging Power [kW]	5.7kW	7.6kW	9.6kW	11.5kW	12kW	12kW

* Maximum power imported from grid to support back-up loading and charge battery.

** Only upon sufficient PV and battery available power.

*** Peak output apparent of power per phase is the max output apparent power that won't trigger the overload protection.

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

EFFICIENCY

PV Max. Efficiency	98.6%
PV Europe Efficiency	97.5%
PV Max. MPPT Efficiency	99.9%
Max. Battery to load Efficiency	98.2%

PROTECTION

PV Input Reverse Polarity Protection	YES
Battery Input Reverse Polarity Protection	YES
Anti-Islanding Protection	YES
Insulation Resistance Detection	YES
Residual Current Monitoring Unit	YES
Output Over Current Protection	YES
Grid Output Short Protection	YES
Output Over Voltage Protection	YES

GENERAL DATA

Operating Temperature Range [C]	-30~60
Relative Humidity	0~100%
Operating Altitude [m]	4000
Cooling	Fan Free
Noise [dB]	<25
User Interface	LED&APP
Communication with BMS	CAN&RS485
Communication with Meter	RS485
Communication with Portal	Wi-Fi/Ethernet
Weight [kg]	26
Size (W*H*D) [mm]	550*410*175
Mounting	Wall Mounted
Protection Degree	IP65
Standby Self-Consumption [W]	<15
Topology	Transformerless