

Wattsonic High Voltage Three Phase **All-in-One** ESS

6.0KW / 8.0KW / 10.0KW / 12.0KW/ 15KW/ 20KW



Asymmetric AC output for both on/off-grid loading



Integrated smart EMS support various power applications



<10ms UPS emergency grid power back-up



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



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



Simpler

Quick and easy single person installation
Interconnects with standard household



Safer

Full high voltage protection for battery installation
Superior LifePO4 Safety Performance
Whole system safety tested and certified by Dekra Germany



Great reliability

Superior LifePO4 technology with 10,000 cycles at 90% DOD
10 years standard warranty
Modular design promotes redundancy



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	30
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	Stackable or Wall Mounted
Warranty	10 years	10 years



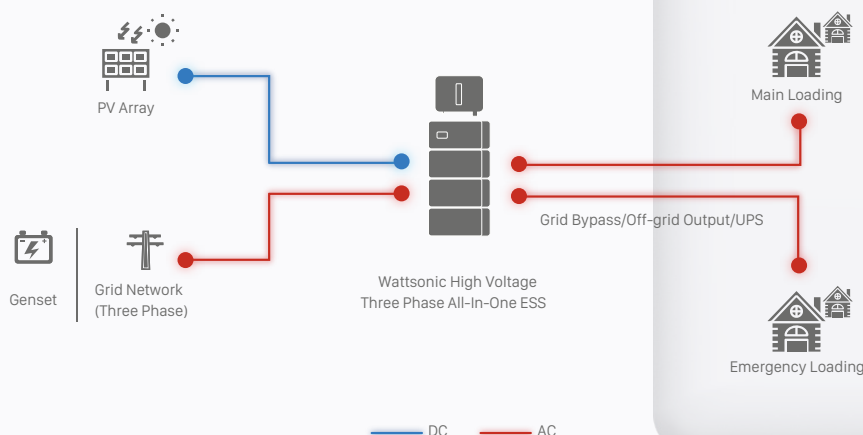
Battery Module

	WTS-R24-2.3KWh	WTS-R24-3.84KWh
Nominal Voltage/Capacity per Module	76.8V/2.3KWH[30Ah]	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]	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 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

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Hybrid Inverter

PV INPUT(DC)	6.0KW	8.0KW	10.0KW	12.0KW	15.0KW	20.0KW
Max. DC Input Power [W]	9,600	12,800	16,000	19,200	24,000	32,000
Start-up PV Voltage [Vdc]	135	135	135	135	135	135
Max. Input DC Voltage [Vdc]	1,000	1,000	1,000	1,000	1,000	1,000
Nominal Input DC Voltage [Vdc]	620	620	620	620	620	620
MPPT Voltage Range [Vdc]	120~950	200~950	200~950	200~950	200~950	200~950
Number of MPP Trackers	2	2	2	2	2	2
PV String per MPPT	1/1	1/1	1/1	1/1	2/2	2/2
Max. PV Input Current [A]	15/15	15/15	15/15	15/15	30/30	30/30
Max. Short Current [A]	20/20	20/20	20/20	20/20	40/40	40/40

EFFICIENCY	
Max. Efficiency	98.4%
Europe Efficiency	97.5%
MPPT Efficiency	99.9%
Max. Battery Charge&Discharge Efficiency	98.4%/97.5%

INPUT&OUTPUT DC(BATTERY)

Battery Voltage Range [Vdc]	135~750					
Max. Charge/Discharge Current [A]	25/25	25/25	25/25	25/25	40/40	40/40
Inverter Built-in fuse Capacity [A]	63	63	63	63	100	100
Battery Ready Optional Function	YES					

AC OUTPUT/INPUT @GRID

Nominal /Max. Output Power [kW]	6/6.6	8/8.8	10/11	12/13.2	15/24	20/32
Max. Input Apparent Power [kVA]	12 *	16 *	16.5 *	16.5 *	30 *	30 *
Max. Battery Charging Power [kW]	6	8	10	12	15	20
Nominal Output Voltage [V]	3L/N/PE, 220/380V; 230/400V; 240/415V					
Nominal Output Frequency [HZ]	50/60Hz 45~55Hz/55~65Hz					
Max. AC Current Output [A]	10	13.3	16.5	20	25	33.5
Output Power Factor	0.8 leading...0.8 lagging					
Output THDi (@Nominal Output)	<3% @Rated output power					
DCI	<0.5%In	<0.5%In	<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	16.5	22
Peak Output Apparent Power [kVA]	12, 60sec **	16, 60sec **	20, 60sec **	20, 60sec **	25, 60sec **	25, 60sec **
Rated/Max. Output Current [A]	8.7/10.0	11.6/13.3	14.5/16.5	17.4/20.0	21.7/25.0	29.0/33.5
Nominal Output Voltage [V]	3L/N/PE, 220/380V; 230/400V; 240/415V					
Automatic Switch Time [ms]	<10	<10	<10	<10	<10	<10
Nominal Output Frequency [HZ]	50/60	50/60	50/60	50/60	50/60	50/60
Output THDv (@Linear Load)	<3% @ Linear Load					
Parallel Capability	Maximum 10 inverters can be paralleled at both On-grid and back-up ports.					

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

Voltage [Vdc]	230V	307V	384V	460V	537V	614V
Capacity (2.3kWh Module)[kWh]	6.9kWh	9.2kWh	11.5kWh	13.8kWh	16.1kWh	18.4kWh
Capacity (3.84kWh Module)[kWh]	11.5kWh	15.3kWh	19.2kWh	23.0kWh	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.

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(derating@>3000)
Cooling	Natural Convection
Noise [dB]	<25
User Interface	LED&APP
Communication with BMS	CAN&RS485
Communication with Meter	RS485
Communication with Portal	Wi-Fi/Ethernet
Weight [kg]	25/40
Size (W*H*D) [mm]	534*418*210
Mounting	Wall Mounted
Protection Degree	IP65
Standby Self-Consumption at night [W]	<15
Topology	Transformerless

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