

MARSTEK MARS II

7-in-1 1000V V-Boost Residential ESS

Up to 15kW Hybrid Inverter, 4 MPPT for Max. 24kW PV Input

1000V V-Boost Battery Eliminates Battery Imbalance

SG Ready Heat Pump Integration

40kW EV DC Charger & 15kW V2X Power (EV DC Charger Required) & 11kW EV AC Charger

Whole-Home Backup, Switchover <10ms

Integration of Fuel Generator for Emergency Charging

AI Optimized TOU Management for Cost Savings

Anti Feed-In with Smart Meter of MARSTEK, Shelly, etc.

10.1" HD Touchscreen with Localized EMS

Open API for Third-Party EMS Integration

Modular Design, Flexible Expansion up to 6 Battery Packs & 46.08kWh

Parallel Scale up to 4 Sets, 60kW & 184.32kWh

LFP Cells with 6000+ Cycles, 10 Years Warranty, 15 Years Lifespan

IP65 Waterproof, -25°C to 60°C, Sub-30dB Operation



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SPECIFICATIONS



Model	MST-MARS II-8KTP		MST-MARS II-10KTP		MST-MARS II-12KTP		MST-MARS II-15KTP	
PV Input								
Max. PV Power	16kW		20kW		24kW		24kW	
Max. DC Input Voltage	1000V							
Nominal DC Input Voltage	650V							
Start-up Voltage	120V							
MPPT Voltage Range	200V~850V							
Number of MPP Trackers	4							
Number of PV Strings Per MPPT	1							
Max. Input Current Per MPPT	16A							
Max. Short-circuit Current Per MPPT	20.8A							
AC Output and Input (On-grid)								
Nominal Output Power	8kW		10kW		12kW		15kW	
Nominal Output Current	11.6A		14.5A		17.4A		21.7A	
Nominal Output Voltage	380V / 400V							
Nominal Grid Frequency	50Hz / 60Hz							
Power Factor	0.8 leading ~ 0.8 lagging							
Total Current Harmonic Distortion	THDi < 3%							
Max. Input Apparent Power	12kVA		15kVA		18kVA		18kVA	
Max. Input Current	17.4A		21.7A		26.1A		26.1A	
Efficiency								
Max. Efficiency	98.20%		98.50%		98.50%		98.50%	
European Efficiency	97.80%		97.80%		97.80%		97.80%	
MPPT Efficiency	99.50%		99.50%		99.50%		99.50%	
Battery Conversion Efficiency	97.80%		97.80%		97.80%		97.80%	
Generator								
Max. Input Apparent Power	12kVA		15kVA		18kVA		18kVA	
Nominal Input Voltage	3L/N/PE; 380V / 400V							
Frequency	50Hz / 60Hz							
Max. Input Current	18.2A		22.7A		27.3A		27.3A	
AC Output (Backup)								
Nominal Output Power	8kW		8kW		12kW		15kW	
Max. Output Apparent Power	8.4kVA		10.5kVA		12.6kVA		15.8kVA	
Max. Output Current	12.2A		15.2A		18.3A		22.9A	
Peak Output Current (1 Second)	150%~200%							
Nominal Output Voltage	380V / 400V							
Power Factor	50Hz / 60Hz							
Total Voltage Harmonic Distortion	THDv < 2%							
Disruption Time of Backup Switch	< 10ms							
Battery Connection								
Battery Module Models	MST-MARS II-7.5KBAT							
Number of Modules Per Inverter	1~6PCS							
Nominal Voltage of Battery Module	800V							
voltage Range of Battery Module	650V~950V							
Protection								
Safety Protection Feature	Insulation monitoring, Residual current monitoring, Anti-islanding protection, DC reverse polarity protection, AC OV/OC/SC protection, Type II DC/AC surge protection.							
General Data								
Dimensions (W/H/D)	680*235*505mm							
Weight	60kg							
Storage Temperature Range	-40°C~70°C							
Operating Temperature Range	-25°C~60°C							
Relative Humidity Range	0~100%							
Max. Operating Altitude	4000m, derating from 2000m							
Cooling	Natural cooling							
Standby Power Consumption	<25W							
System Ingress Protection Rating	IP65							
Noise Level	<30dB							
Display	10.1" LCD, App							
Communication	RS485 for Meter, RS485 for Heat Pump, Parallel CAN * 2, DC BUS CAN (For EV Charger), RS485 for EMS, USBA for EMS Dongle, Wifi/BT/Ethernet, Battery Access CAN (Internal)							
General IO	DI*4, DO*2, CT*3, +5V power, +12V power, DRAM							
Standard Compliance								
Safety Standard	IEC/EN62109-1							
EMC Standard	IEC/EN61000-6-1~4 Class B							
On-grid Standard	EN 50549-1:2019, VDE 4105:2018							