

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, 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			