

MARSTEK

Power Anywhere & Anytime

MARSTEK MARS I PLUS

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

Up to 12kW Hybrid Inverter, 4 MPPT for Max. 24kW PV Input
1000V V-Boost Battery Eliminates Battery Imbalance
SG Ready Heat Pump Integration
25kW EV DC Charger & 12kW 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 & 30.72kWh
Parallel Scale up to 4 Sets, 48kW & 122.88kWh

LFP Cells with 6000+ Cycles, 10 Years Warranty, 15 Years Lifespan
IP65 Waterproof, -25°C to 60°C, Sub-30dB Operation



Marstek Energy Co., Limited

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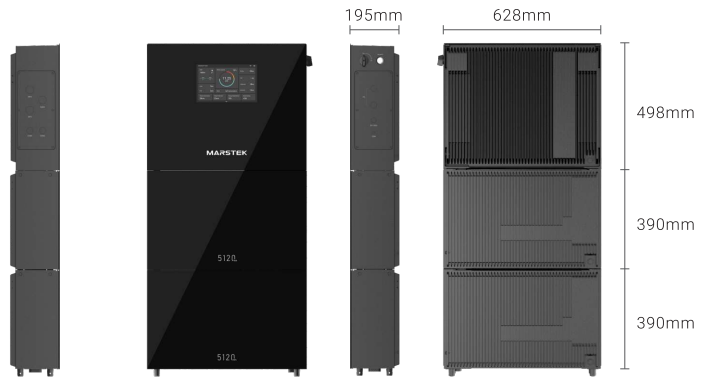
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SPECIFICATIONS



Model	MST-MARS I PLUS-8KTP	MST-MARS I PLUS-10KTP	MST-MARS I PLUS-12KTP
PV Input			
Max. PV Power	16kW	20kW	24kW
Max. DC Input Voltage	1000V		
Nominal DC Input Voltage	650V		
Start-up Voltage	200V		
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
Nominal Output Current	11.6A	14.5A	17.4A
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	12kW	15kW	18kW
Max. Input Current	17.4A	21.7A	26.1A
Efficiency			
Max. Efficiency	98.20%	98.50%	98.20%
European Efficiency	97.80%	97.80%	97.80%
MPPT Efficiency	99.50%	99.50%	99.50%
Battery Conversion Efficiency	97.80%	97.80%	97.80%
Generator			
Max. Input Apparent Power	12kVA	15kVA	18kVA
Nominal Input Voltage	3L/N/PE; 380V / 400V		
Frequency	50Hz / 60Hz		
Max. Input Current	18.2A	22.7A	27.3A
AC Output (Backup)			
Nominal Output Power	8kW	10kW	12kW
Max. Output Apparent Power	8.4 kVA	10.5kVA	12.6kVA
Max AC Output Current	12.2A	15.2A	18.3A
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 I PLUS-5.0KBAT		
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)	628*195*498mm		
Weight	55kg		
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 V2G), 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		