

# MARSTEK

Power Anywhere & Anytime

MARSTEK MARS I PLUS

## 550V V-Boost Single-Phase Residential ESS

Up to 6kW Hybrid Inverter, 2 MPPT for Max. 12kW PV Input  
550V V-Boost Battery Eliminates Battery Imbalance  
SG Ready Heat Pump Integration  
Compatible with 7kW 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, 24kW & 122.88kWh

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



### Marstek Energy Co., Limited

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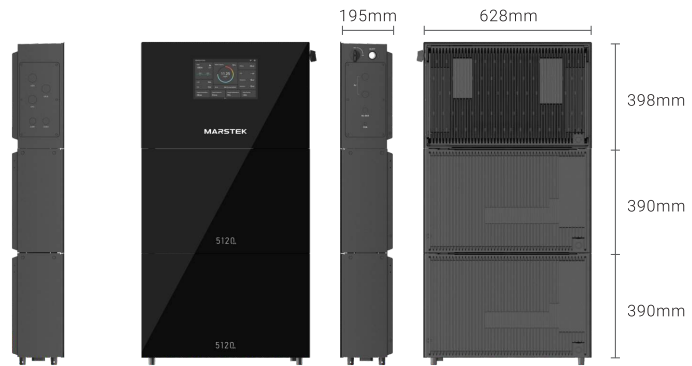
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# SPECIFICATIONS



Model	MST-MARS I PLUS-3.6KSP	MST-MARS I PLUS-4.6KSP	MST-MARS I PLUS-5KSP	MST-MARS I PLUS-6KSP
<b>PV Input</b>				
Max. PV Power	7.2kW	9.2kW	10kW	12kW
Max. DC Input Voltage	550V			
Nominal DC Input Voltage	360V			
Start-up Voltage	150V			
MPPT Voltage Range	125V~500V			
Number of MPP Trackers	2			
Number of PV Strings Per MPPT	1			
Max. Input Current Per MPPT	16A			
Max. Short-circuit Current Per MPPT	20.8A			
<b>AC Output and Input (On-grid)</b>				
Nominal Output Power	3.6kW	4.6kW	5kW	6kW
Max. Output Apparent Power	4kVA	5.1kVA	5.5kVA	6.6kVA
Nominal Output Current	15.7A	20A	21.7A	26.1A
Max. Output Current	18A	23A	25A	30A
Nominal Output Voltage	230V			
Nominal Grid Frequency	50Hz / 60Hz			
Power Factor	0.8 leading ~ 0.8 lagging			
Total Current Harmonic Distortion	THDi < 3%			
Max. Input Apparent Power	5.9kVA	7.5kVA	7.5kVA	7.5kVA
Max. Input Current	25.7A	32.6A	32.6A	32.6A
<b>Efficiency</b>				
Max. Efficiency	97.60%	97.60%	97.60%	97.60%
European Efficiency	97.10%	97.10%	97.10%	97.10%
MPPT Efficiency	99.60%	99.60%	99.60%	99.60%
Battery Conversion Efficiency	97.00%	97.00%	97.00%	97.00%
<b>Generator</b>				
Max. Input Apparent Power	5.4kVA	6.9kVA	7.5kVA	7.5kVA
Nominal Input Voltage	230Vac			
Frequency	50Hz / 60Hz			
Max. Input Current	23.5A	30A	32.6A	32.6A
<b>AC Output (Backup)</b>				
Nominal Output Power	3.6kW	4.6kW	5kW	6kW
Peak Output Current (1s)	150%~200%			
Nominal Output Voltage	230V			
Power Factor	50Hz / 60Hz			
Total Voltage Harmonic Distortion	THDv < 3%			
Disruption Time of Backup Switch	<10ms			
<b>Battery Connection</b>				
Battery Module Models	MST-MARS I PLUS-5.0KBAT			
Number of Modules Per Inverter	1~6PCS			
Nominal Voltage of Battery Module	400V			
voltage Range of Battery Module	350V~550V			
<b>Protection</b>				
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			
<b>General Data</b>				
Dimensions (W/H/D)	628*195*398mm			
Weight	35kg			
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	<35W			
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, RS485 for EMS, Wifi/BT/Ethernet, Battery Access CAN (Internal)			
General IO	DI*4, DO*2, CT*3, +5V power, +12V power, DRAM			
<b>Standard Compliance</b>				
Safety Standard	IEC/EN62109-1			
EMC Standard	IEC/EN61000-6-1~4 Class B			
On-grid Standard	EN 50549-1:2019, VDE 4105:2018, VDE 0126-1-1, EN 50438, Italy CEI 0-21			