

MARSTEK

Power Anywhere & Anytime



MARSTEK MARS I PLUS

7-in-1 1000V V-Boost 12kW Three-Phase Residential ESS



Intelligent Control Center

7-in-1 Integration for Three-Phase
Centralized Home Energy
Management



Stronger Power Support

12kW Power to Deliver Robust
Performance for the Whole Home



Flexible & Futureproof

5.12~30.72kWh Capacity,
Expandable to 48kW Output



MARSTEK AI

AI-Driven Energy Optimization



Economy & Eco-Friendly

Smart Saving and Protecting
the Planet



Safe & Durable

10 Year Warranty, IP65 Rated,
Built to Last

Marstek Energy Co., Limited

Add: BLDG#A, Changfang Industrial Park, No.2 Guihua 5th Road, Pingshan District, Shenzhen, Guangdong, China

Tel: 86-755-28398778

Email: market@marstekenergy.com

Web: www.marstekenergy.com



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	RS-485 for Meter, RS-485 for Heat Pump, Parallel CAN * 2, DC BUS CAN (For V2G), RS-485 for EMS, Wi-Fi/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		