

MARSTEK MARS II

7-in-1 Three Phase Residential ESS

15kW On-grid, 24kW 4 MPPT PV Input
Modular Batteries, 1 Unit 7.68kWh,
Dynamic Expand up to 6 Units, Total 46.08kWh

Support Anti Feed-in, 100% Self Consumption
Maxium Money Saving with AI Optimization
With "MARSTEK CT002" / "Shelly" Smart Meter

Support Heat Pump by SG-Ready / RS485
Support Wi-Fi / Bluetooth / Ethernet / RS485

Support 15kW V2G

TFT Touchable Screen
IP65 Waterproof



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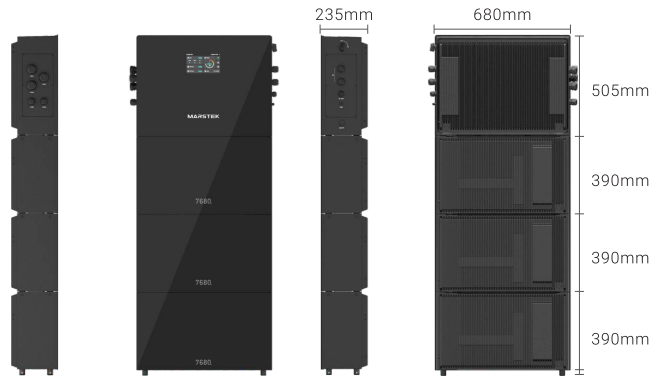
Web: www.marstekenergy.com



Product Manual

RESIDENTIAL ESS | THREE-PHASE

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	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	15kW
Max. Output Apparent Power	8.8kVA	11kVA	13.2kVA	16.5kVA
Nominal Output Current	12.2A	15.2A	18.2A	22.8A
Max. Output Current	13.4A	16.7A	20.1A	25.1A
Nominal Output Voltage	380V / 400V			
Nominal Grid Frequency	50Hz / 60Hz			
Power Factor	0.8 leading ~ 0.8 lagging			
Total Current Harmonic Distortion	THDi < 2%			
Nominal Input Power	12kW	15kW	18kW	22.5kW
Max. Input Apparent Power	12kVA	15kVA	18kVA	22.5kVA
Nominal Input Current	16.3A	20.4A	24.6A	30.7A
Max. Input Current	18.2A	22.7A	27.3A	34.1A
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%
AC Output (Backup)				
Nominal Output Power	8kW	10kW	12kW	15kW
Peak Output Current (1 Second)	17.4A (12000VA)	21.7A (15000VA)	26A (18000VA)	32.6A (22500VA)
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	760V~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	50 kg			
Storage Temperature Range	-40°C~70°C			
Operating Temperature Range	-20°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	7" LCD, App			
Communication	RS485 for Meter, RS485 for Heat Pump, Parallel CAN * 2, DC BUS CAN (For EV Charger), RS485 for EMS, USB A 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	EN50549-10, VDE4105			