

MARSTEK

Power Anywhere & Anytime

MARSTEK VENUS A

2.4kW 4 MPPT Balcony ESS with 1.2kW AC-Coupling

4 MPPT for 2.4kW Solar Power, 1.2kW Bidirectional On-Grid Power
1.2kW Backup Power, Peak at 1.44kW
EPS Switchover in 15ms

Plug & Play, Seamlessly Integrates with Your Existing Solar Setup
Modular Design, 2.12kWh Per Unit, Flexible Expansion up to 5 Units & 12.72kWh

Anti Feed-In with Smart Meter of MARSTEK, Shelly, etc.
Whole-Home Backup with MARSTEK SmartBox
AI Optimized TOU Management for Cost Savings

LFP Cells with 6000+ Cycles, 10 Years Warranty, 15 Years Lifespan
IP65 Waterproof, -20°C to 60°C



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Product Manual

SPECIFICATIONS



Model	MARSTEK VENUS A	
Host Battery Parameter		
Rated Voltage	41.6V (13S)	
Battery Energy	2.12kWh	
Life Cycle	>6000(25°C)	
Battery Type	LiFePO ₄	
Depth of Discharge	90%	
PV Input		
Maximum Input Power	2.4kW	
MPPT Operating Voltage Range	16V~60V	
Maximum Input Current (Single Channel)	20A	
MPPT Track Number	4	
MPPT Efficiency	99.80%	
Back-up (Off-grid)		
Rated Output Power	1.2kVA	
Peak Output Power	1.44kVA, 60s	
Rated Output Voltage	230V, 50Hz	
THDu (Linear Load)	<3%	
AC Input/Output		
Rated Output Power	1.2kVA	
Working Phase	L/N/PE	
Rated Grid Voltage	230V, 50Hz	
Rated Grid Output Current	5.22A / 3.48A & 5.22A	
Power Factor	> 0.99(default), 0.8lagging...0.8leading(adjustable)	
THDi	<3%	
Efficiency		
Battery Side - AC Side Maximum Efficiency	>94.5%	
Protection		
Protection Class	I	
Overvoltage Withstand Level	DC II /AC III	
Basic Parameters		
Ambient Temperature Range	-20°C~ + 60°C (Storage-30°C~ + 85°C)	
Relative Humidity	0-95%	
IP Level	IP65	
Cooling Method	Natural Cooling	
Maximum Altitude	2000m	
Photovoltaic connection	MC4	
Off-grid port	European Socket	
Display	LED	
Communication	Bluetooth, WIFI, EtherNet	
Dimensions	400*285*168mm	
Weight	24kg	



Model	MST-E2.0ST	
Battery Parameter		
Rated Voltage	41.6V (13S)	
Battery Energy	2.12kWh	
Life Cycle	>6000(25°C)	
Battery Type	LiFePO ₄	
Depth of Discharge	90%	
Number of Storage Units	0~5PCS	
Total Storage Capacity	2.12kWh ~ 12.72kWh	
Basic Parameters		
Ambient Temperature Range	-20°C ~ + 60°C (Storage -30°C ~ + 85°C)	
Relative Humidity	≤95%	
IP Level	IP65	
Cooling Method	Natural Cooling	
Maximum Altitude	2000m	
Dimensions	400*285*108mm	
Weight	17kg	