

MARSTEK VENUS D

4 kW 4 MPPT Balcony ESS with 2.2 kW AC-Coupling

4 MPPT for 4 kW Solar Power
2.2 kW Bidirectional On-Grid Power | 2.2 kW Backup Power (Peak at 2.5 kW)
EPS Switchover in 15 ms

Plug & Play | 100% Compatible with Existing Solar Systems
Modular Design | 2.56 kWh per Unit
Expandable to 15.36 kWh | Up to 6 Battery Packs

AI-Optimized TOU Management for Cost Savings
Anti Feed-in with MARSTEK, Shelly, everHome, Homewizard, and other Smart Meters

>6000 Cycles LFP Cells | 10 Years Warranty
IP65 Waterproof & Dustproof | Operating Temp: -20°C to 60°C



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	MARSTEK VENUS-D
Main Unit Parameters	
Battery Storage Unit (Stack)	MST-E2.5ST-D
Number of Storage Units	0~6 pcs
Total Storage Capacity	2.56~15.36 kWh
PV Input	
Maximum Input Power	4 kW
MPPT Operating Voltage Range	25 V ~ 55 V
Maximum Input Current (Single Channel)	32 A
Number of MPPTs	4
MPPT Efficiency	99.80%
Backup (Off-Grid)	
Rated Output Power	2.2 kVA
Peak Output Power	2.5 kVA (60s)
Rated Output Voltage	230 V
THDu (Linear Load)	<3%
AC Input / Output	
Rated Output Power	0.8 kVA / 2.2 kVA
Working Phase	L/N/PE
Rated Grid Voltage / Frequency	230 V / 50 Hz
Rated Grid Output Current	3.48 A / 9.57 A
Power Factor	>0.99 (default), 0.8 lagging...0.8 leading (adjustable)
THDi (Total Harmonic Distortion of Current)	<3%
Efficiency	
Battery Side – AC Side Maximum Efficiency	>94.5%
Basic Parameters	
Ambient Temperature Range	-20°C ~ +60°C (Storage: -30°C ~ +85°C)
Relative Humidity	≤95%
IP Rating	IP65
Dimensions	480 × 320 × 105 mm
Weight	17.5 kg
Cooling Method	Natural Cooling
Maximum Operating Altitude	2000 m
General	
Grid Connector Type	BC05
PV Connector Type	MC4
Off-Grid Socket Type	European Socket
Display	LED
Communication Interfaces	Bluetooth, Wi-Fi, RS-485, Ethernet



Model	MST-E2.5ST-D
Battery Storage Parameters	
Rated Voltage	51.2V (16S)
Capacity	2.56kWh
Cycle Life	>6000(25°C)
Battery Cell Type	LiFePO ₄
Depth of Discharge (DoD)	90%
Basic Parameters	
Ambient Temperature Range	-20°C ~ +60°C (Storage -30°C ~ +85°C)
Relative Humidity	≤95%
IP Rating	IP65
Cooling Method	Natural Cooling
Maximum Operating Altitude	2000 m
Dimensions	480 × 320 × 150 mm
Weight	26 kg