



# MARSTEK MARS II

## 7-in-1 1000V V-Boost 15kW Three-Phase Residential ESS



### Intelligent Control Center

7-in-1 Integration for 3-Phase  
Centralized Home Energy  
Management



### MARS Strongest Power Support

15kW Power to Deliver More Robust  
Performance for the Whole Home



### Flexible & Futureproof

8~48kWh Capacity,  
Expandable to 60kW 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. 5B & 6, Phase 2, New Energy Vehicle Industrial Park, Jinque Rd., Pingshan, Shenzhen, Guangdong, China

Tel: 86-755-28398778

Email: [market@marstekenergy.com](mailto:market@marstekenergy.com)

Web: [www.marstekenergy.com](http://www.marstekenergy.com)



## 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                    | 120V                                                                                                                                                                  |  |                   |  |                   |  |                   |  |
| 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              |  |
| Nominal Output Current              | 11.6A                                                                                                                                                                 |  | 14.5A             |  | 17.4A             |  | 21.7A             |  |
| 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           | 12kVA                                                                                                                                                                 |  | 15kVA             |  | 18kVA             |  | 18kVA             |  |
| Max. Input Current                  | 17.4A                                                                                                                                                                 |  | 21.7A             |  | 26.1A             |  | 26.1A             |  |
| 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%            |  |
| Generator                           |                                                                                                                                                                       |  |                   |  |                   |  |                   |  |
| Max. Input Apparent Power           | 12kVA                                                                                                                                                                 |  | 15kVA             |  | 18kVA             |  | 18kVA             |  |
| Nominal Input Voltage               | 3L/N/PE; 380V / 400V                                                                                                                                                  |  |                   |  |                   |  |                   |  |
| Frequency                           | 50Hz / 60Hz                                                                                                                                                           |  |                   |  |                   |  |                   |  |
| Max. Input Current                  | 18.2A                                                                                                                                                                 |  | 22.7A             |  | 27.3A             |  | 27.3A             |  |
| AC Output (Backup)                  |                                                                                                                                                                       |  |                   |  |                   |  |                   |  |
| Nominal Output Power                | 8kW                                                                                                                                                                   |  | 10kW              |  | 12kW              |  | 15kW              |  |
| Max. Output Apparent Power          | 8.4kVA                                                                                                                                                                |  | 10.5kVA           |  | 12.6kVA           |  | 15.8kVA           |  |
| Max. Output Current                 | 12.2A                                                                                                                                                                 |  | 15.2A             |  | 18.3A             |  | 22.9A             |  |
| 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 II-8KBAT                                                                                                                                                     |  |                   |  |                   |  |                   |  |
| Total Energy Capacity               | 8.038kWh                                                                                                                                                              |  |                   |  |                   |  |                   |  |
| Battery Type                        | LiFePO <sub>4</sub>                                                                                                                                                   |  |                   |  |                   |  |                   |  |
| Number of Modules Per Inverter      | 1~6PCS                                                                                                                                                                |  |                   |  |                   |  |                   |  |
| Battery Modules Voltage Range       | 800V                                                                                                                                                                  |  |                   |  |                   |  |                   |  |
| Cell Capacity                       | 314Ah                                                                                                                                                                 |  |                   |  |                   |  |                   |  |
| Dimensions (W/H/D)                  | 676*250*285mm                                                                                                                                                         |  |                   |  |                   |  |                   |  |
| Weight                              | 60kg                                                                                                                                                                  |  |                   |  |                   |  |                   |  |
| 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)                  | 676*250*501mm                                                                                                                                                         |  |                   |  |                   |  |                   |  |
| Weight                              | 45kg                                                                                                                                                                  |  |                   |  |                   |  |                   |  |
| 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 EV Charger), 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                                                                                                                                        |  |                   |  |                   |  |                   |  |