

Mars

Three-Phase High-Voltage Energy Storage Inverter Mars Series Mars 29.9~50K



Mars 29.9~50K
Technical Parameters



Compatible with 100-314Ah battery modules



Supports three-phase independent smart anti-inversion functionality
Perfectly adapts to anti-reverse power requirements for three-phase unbalanced load applications



Supports two independent battery interfaces
Meets flexible system configuration requirements



Powerful off-grid load capacity
Supports 200% overload



Max. 20A string input current
Perfectly matched for high-power PV modules



Supports up to 10 units in parallel



Supports fast charging
Max. charging current 140A



Supports generator connection with a wide power range (10-50kVA)



Seamless fast grid-tie/off-grid switching <10ms

| Technical Parameters: | Mars-29.9k | Mars-30k | Mars-35k | Mars-40k | Mars-50k |
|---|---|----------|-----------|-----------|-----------|
| Battery Input Parameters | | | | | |
| Battery Type | Lithium Battery | | | | |
| Rated Battery Voltage (V) | 500 | | | | |
| Battery Voltage Range (V) | 160-800 (360-800 capable of full load operation) | | | | |
| Max. Continuous Charge/Discharge Current (A) | 70A*2 | | | | |
| Max. Charge/Discharge Power (KW) | 29.9 | 33 | 38.5 | 44 | 55 |
| PV Parameters | | | | | |
| Max. Input Power (KW) | 56 | 56 | 56 | 64 | 75 |
| Max. Input Voltage (V) | 1000 | | | | |
| MPPT Voltage Range (V) | 150-850 | | | | |
| Startup Voltage (V) | 180 | | | | |
| Rated Input Voltage (V) | 600 | | | | |
| Max. Input Current per MPPT (A) | 40A*3 | | | 40A*4 | |
| Max. Short-circuit Current per MPPT (A) | 60A*3 | | | 60A*4 | |
| Number of MPPTs | 3 | | | 4 | |
| Number of Strings per MPPT | | | | 2 | |
| Grid-Tie Output Parameters | | | | | |
| Rated Grid-Connected Output Apparent Power (KW) | 29.9 | 30 | 35 | 40 | 50 |
| Max. Grid-Connected Apparent Power (KVA) | 29.9 | 33 | 38.5 | 44 | 55 |
| Rated Output Voltage (V) | 3L+N+PE, 220/380V, 230/400V, 0.85Un-1.1Un | | | | |
| Rated Output Frequency (Hz) | 50/45-55, 60/55-65Hz | | | | |
| Max. Output Current (A) | 45.4/43.4 | 50/47.9 | 58.4/55.8 | 66.7/63.8 | 83.4/79.8 |
| Power factor | >0.99 (0.8 leading...0.8 lagging) | | | | |
| Total Current Harmonic Distortion | <3% | | | | |
| Off-Grid Output Parameters | | | | | |
| Rated Output Apparent Power (KVA) | 29.9 | 30 | 35 | 40 | 50 |
| Max. Output Apparent Power (KVA) | 1.5 times of rated power, 10sec; 2 times of rated power, 200ms | | | | |
| Max. Output Current | 45.4/43.4 | 50/47.9 | 58.4/55.8 | 66.7/63.8 | 83.4/79.8 |
| Rated Output Voltage (V) | 3/N/PE, 220V/380V 3/N/PE, 230V/400V | | | | |
| Rated Output Frequency (Hz) | 50Hz/60Hz | | | | |
| Total Voltage Harmonic Distortion | <3% (linear load) | | | | |
| Unbalanced Load Capacity | 100% single-phase unbalanced capability | | | | |
| Grid-tie/Off-grid Switching Time | 10ms | | | | |
| Efficiency | | | | | |
| Max. Efficiency | 97.60% | | | | |
| European Efficiency | 97.00% | | | | |
| MPPT Efficiency | >99% | | | | |
| Protection | | | | | |
| Insulation Resistance Detection | Available | | | | |
| Residual Current Monitoring | Available | | | | |
| Grid Monitoring | Available | | | | |
| String Fault Monitoring | Available | | | | |
| DC Reverse Polarity Protection | Available | | | | |
| AC Overcurrent Protection | Available | | | | |
| AC Short Circuit Protection | Available | | | | |
| AC Overvoltage Protection | Available | | | | |
| PV Switch | Available | | | | |
| Islanding Protection (Lightning, Surge, Overload, Overtemp, etc.) | Available | | | | |
| AFCI Protection | Optional | | | | |
| DC Surge Protection | Type II | | | | |
| AC Surge Protection | Type II | | | | |
| Basic Parameters | | | | | |
| Operating Temperature Range (°C) | -35 to 60°C (derating above 45°C) | | | | |
| Relative Humidity | 0-100% | | | | |
| Max. Altitude (m) | 4000m | | | | |
| Cooling Method | Smart Air-Cooling | | | | |
| HMI / Display | LED + Bluetooth + App | | | | |
| Communication Interface | RS485/RS232/CAN | | | | |
| BMS Communication | CAN/RS485 | | | | |
| Electric Meter Communication | RS485 | | | | |
| Noise (dB) | <65 | | | | |
| Dimensions (mm) | 920*645*314mm (WxHxD) | | | | |
| Weight (kg) | 90 | | | | |
| Protection level | IP66 | | | | |
| Installation Method | Wall-Mounted | | | | |
| Topology Mode | Non-Isolated | | | | |
| Night-time Power Consumption (W) | <25 | | | | |
| Monitoring Method | WiFi/4G/LAN-X | | | | |
| Design Life | 20 years | | | | |
| Warranty: 5 years/10 years | Available/Optional | | | | |
| Safety / EMC Standards | IEC/EN 61000-6-2/4, IEC/EN 62109-1/2 | | | | |
| Grid-Tie Standards | G99, VDE-AR-N 4105/VDE V 0124, EN 50549-1/EN 50549-10, VDE 0126/UTE C 5/VFR:2019, IEC 62116, IEC 61727, IEC 60068, IEC 61683, EN 50530, MEA, PEA, IEC 61727, IEC 62116, CEI 0-21, EN 50549, NRS 097, RE1699/RD 244, UNE 206007-1, NB/T32004, GB/T 37408 | | | | |