

MF-SCS-233KWH-UE

HYBRID INVERTER

233 kWh Liquid-Cooling Battery



MasterPower®

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PRODUCT FUNCTION

- **Advanced Energy Storage:** Stores 233 kWh of electricity for future use, ensuring a reliable energy reserve. It supports integration with multiple power sources, including solar energy, diesel generators, and the grid, offering versatility in energy input.
- **Smart Load Management:** Balances grid demand by charging during off-peak hours and discharging during peak hours, optimizing energy distribution. By leveraging time-of-use pricing, it helps reduce electricity costs and enhance overall energy efficiency.
- **Intelligent Energy Management:** Optimizes charging and discharging efficiency through an advanced Energy Management System (EMS). With remote monitoring and real-time control capabilities, it enhances operational oversight and improves energy utilization.
- **Reliable Backup Power:** Provides a dependable backup power supply during grid failures, keeping critical equipment operational. With seamless, uninterrupted power delivery, it is ideal for mission-critical applications such as data centers and hospitals.
- **Independent Off-Grid Power:** Delivers a stable power supply to homes, businesses, or communities in off-grid areas, enabling independent operation. As a key component of microgrid systems, it ensures efficient and reliable energy distribution.
- **Scalable & Flexible Design:** Features a modular design that supports parallel system integration for seamless capacity expansion. Its customizable configuration allows adjustments in power output and storage capacity to meet specific

PRODUCT FEATURES

- **High Energy Density:** Designed with high-energy-density 1P52S 280Ah batteries, this system offers a compact size, making it ideal for space-constrained environments. Its optimized structure reduces weight, enhancing ease of installation and transportation.
- **Long Lifespan:** Designed for longevity, it supports over 8000 charge-discharge cycles with minimal degradation, ensuring stable long-term performance.
- **High-Efficiency Conversion:** With superior charge and discharge efficiency and a charge/discharge current of 180A, it minimizes energy loss while delivering millisecond-level response times to meet urgent power demands.
- **Safe & Reliable:** Equipped with multiple protection mechanisms, including safeguards against overcharging, over-discharging, overheating, and short circuits. With an IP54 protection rating, fire-resistant materials, and a flame-retardant design, it further enhances operational safety.

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PRODUCT PARAMETER

Battery Energy Storage

Cell Chemistry	LFP 3.2V / 280Ah
Module Combination	1P52S
System Combination (Modules)	5 in series
Capacity (kWh)	233
Nominal Voltage (V)	832
Voltage Range (Vdc)	702~936
Discharge Depth	90% DoD
Thermal Management Mode	liquid-cooling
Thermal Control Management	Aerosol Extinguishing

AC Output

Rated AC Output	125
Max. AC Output Power (kVA)	150
Rated Output Voltage (Vac)	400
Output Voltage Range (Vac)	340~440 (Settable)
Rated Grid Frequency (Hz)	50/60
Max. Output Current (A)	182
Adjustable Power Factor	>0.99
THDi	<3%

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DC Input/Output

Max. Power (kW)	250
Voltage Range (V)	761~923
Max. Current (A)	320

* The charging power of the DC interface is related to the load power, battery SOC and temperature. The discharge power of the DC interface is related to the battery's state of charge

System Characteristic

Communication	CAN, RS485, WiFi, LTE
Warranty	3 years free, paid from the 4th to the 15th
Certifications	IEC/EN62619:2022, IEC/EN62477-1:2012+A11+A1+A12 IEC/EN61000-6-2:2019, IEC/EN61000-6-4:2019, EN 50549-1:2019, EN 50549-10:2022

General Parameters

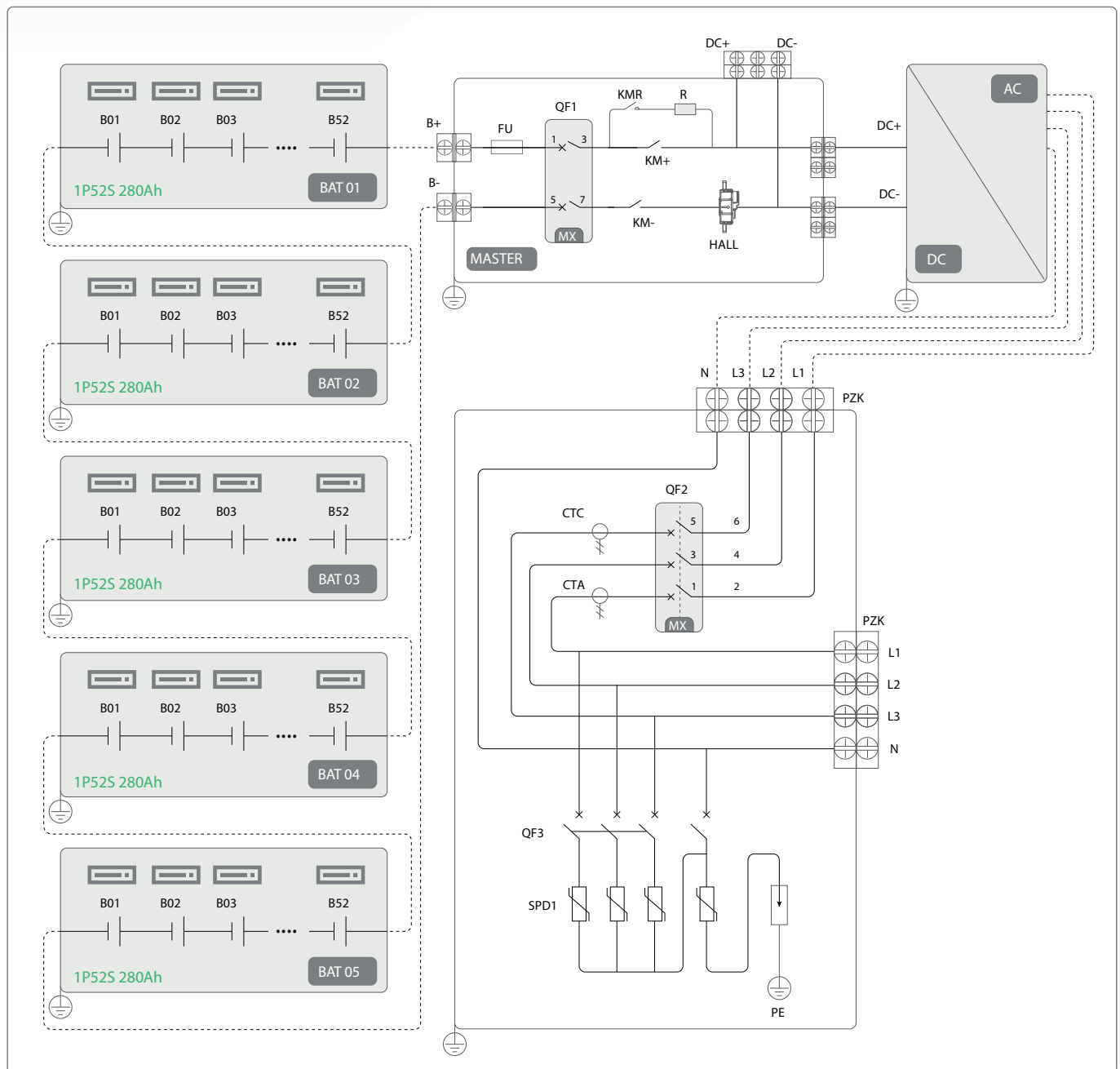
Dimensions - W*D*H	1100*1455*2303 (±10) / 43*57.3*93.4
Total Weight (kg/lb)	2630 (±10%) / 5798 (±10%)
Operation Altitude	4000m/13122ft(2000m/6561ft derating)
Noise Level @1m	<75 dB(A)
IP Rating	IP54
Operating Temperature(°C/°F)	-20~55/-4~131
Operating Humidity (RH)	0 to 95%,
Storage Conditions	-20~30°C/-4~86°F, Up to 95% RH, non-condensation, State of Energy (SoE): 50% initial

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PRODUCT TOPOLOGY

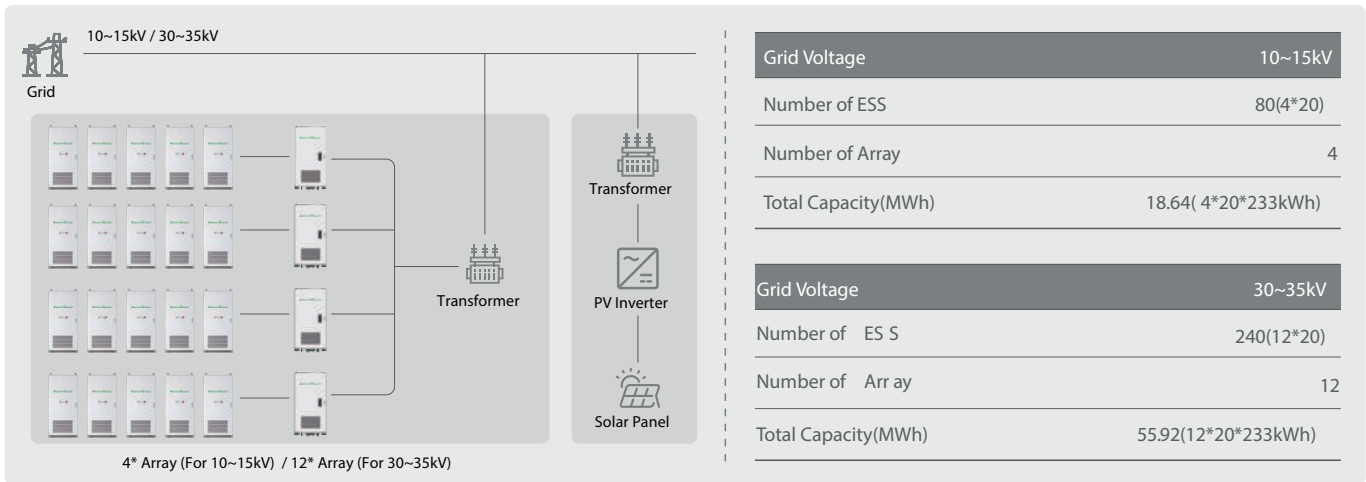
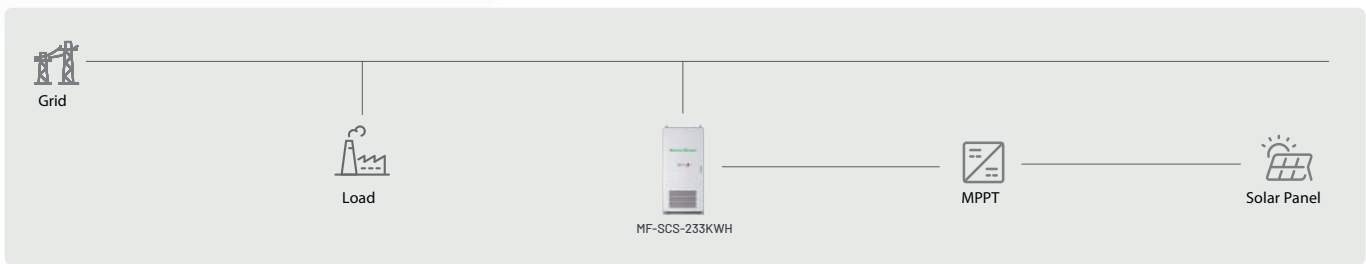


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SINGLE / MAX. PARALLEL SYSTEM LAYOUT



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ENERGY MANAGEMENT SYSTEM (EMS) STRUCTURE

