

POWERGEN

ENERGY STORAGE SYSTEM

YOUR ENERGY SAVING SPECIALIST



Zhongrui Green Energy Technology (Shenzhen) Co., Ltd.

ZRGP is a national high-tech enterprise with a global vision. With independent research and development capabilities and focus on ESS solutions, ZRGP is becoming a world leading supplier of BMS, ESS, modules and monitoring systems. Our business scope integrates R&D, design, production and sales.

Headquartered in China, with multiple sales offices, product centers, factories, and wholly-owned subsidiaries around the world, ZRGP is committed to providing you with safe, lightweight and long-life green energy products.



ZRGP's industrial park boasts comprehensive facilities, including automated intelligent production lines, testing and aging sections, warehouse areas, office spaces, employee dormitories, cafeteria etc. A majority of the production and testing equipment possessed by the company is imported from Germany, whose advanced level and automation level are on the cutting edge of the industry.

21000m²

Factory Area

3GWh

Per Year

90+

Countries We Export To

Company Advantages

- Years of research and development experience
- Sales and after-sales outlets all over the world
- Highly information-based automated factory
- Scientific production process control ability



To produce world-class energy storage products
To serve the consumers in the global market

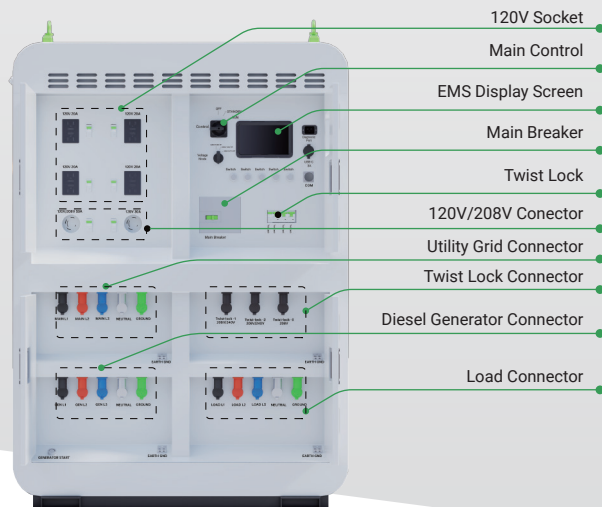
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PowerGen Mobile

560 kWh 270kVA



Key Features

Multi-Source Energy Input

Powered by a 560kWh LiFePO4 battery, supporting grid, diesel generators, and 120kW solar DC charging for seamless energy integration.

Portable Durability

Towable for rapid deployment, with IP54/NEMA 3R protection ensuring durability in harsh environments.

Optimized Generator Usage

Pairs with 400kVA generators, reducing upfront investment, fuel consumption, and maintenance costs for smarter power solutions.

Smart Operation and Maintenance

Comes with a complete EMS that is easy to upgrade, featuring big data management checks, proactive handling, and intelligent SOC calibration to ensure optimal performance with zero downtime.

Product Parameter

Battery Energy Storage	
Cell Chemistry	LiFePO4
Nominal Energy(kWh)	560
Voltage Range(Vdc)	750~908.8
Nominal Charging Current(A)	330
Nominal Discharging Current(A)	330
Max. Discharging Current(A)	400
DOD	90%

Mobile Charging	
USB C *1(W)	120
USB A *1(W)	10

PV Input	
Input Power(kW)	120
Input Voltage Ranger(Vdc)	750~908.8

AC Output(480Vac On-Grid)	
Rated Power(kVA)	270
Rated Voltage(Vac)	480 (-15%~15%)
Rated Frequency(Hz)	60 (-5~5)
AC Connection	3P4W
THDi	≤ 3%
Voltage Ripple Coefficient	≤ 1%
Power Factor	0.99/-1~1

AC Output(For Load 480Vac Off-Grid)	
Rated Power(kVA)	270
Max. Power(kVA)	324
Rated Voltage(Vac)	480(±15%)
Rated Frequency(Hz)	60(±5)
AC Connection	3P4W
Power Factor	0.99/-1~1

AC Output(For Conector 208Vac Output)	
Rated Power(kVA)	35
Rated Voltage(Vac)	208
AC Connection	3P4W

AC Output(For Conector 240Vac Output)	
Rated Power(kVA)	24
Rated Voltage(Vac)	240
AC Connection	2P3W

AC Output(For Socket 120Vac Output)	
Rated Power(kVA)	12
Rated Voltage(Vac)	120
AC Connection	1P2W

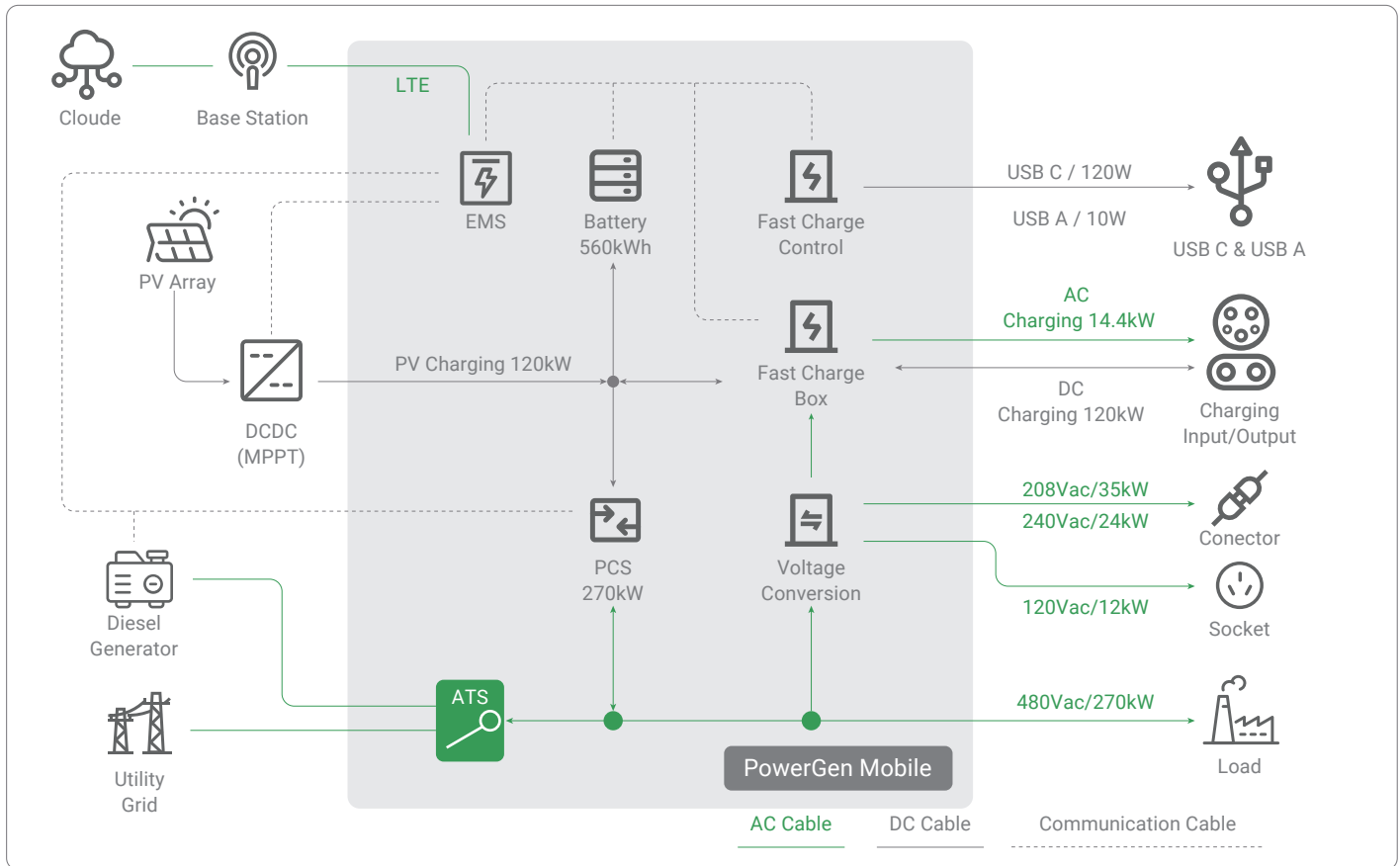
EV Charging & Charging ESS(AC Charging)	
Interface Type	Combo (SAEJ1772)
Current Rating(A)	60
Power Rating(kW)	14.4
Input/output Voltage(Vac)	240±10%
Input Frequency(Hz)	60
AC Connection	2P3W

EV Charging & Charging ESS(DC Charging)	
Interface Type	Combo (SAEJ1772)
Rated Power(kW)	120
Output Voltage(to EV)(Vdc)	150~1000
Input Voltage(to ESS)(Vdc)	750~908.8

Compatible Diesel Generator	
Rated Power(kVA)	≤400
Rated Voltage(Vac)	480
Rated Frequency(Hz)	60

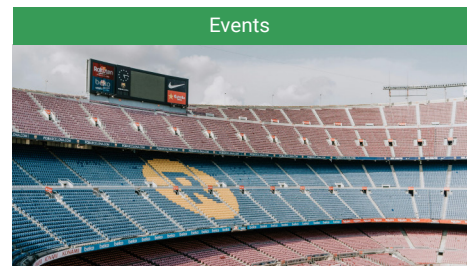
General Parameters	
Product Model	Z-XG560270H1-US03
Parallel Capable	Yes (Up to 6)
Ingress Rating	IP54 / NEMA 3R
Working Temperature(°F/°C)	-4~131 / -20~55
Storage Temperature(°F/°C)	-40~149 / -40~65
Relative Humidity	5~ 95% (No condensing)
System Noise(dB)	<75
Cooling	Air cooling
Fire Suppression System	Included
Altitude(m)	5,000 (>3,000 derating)
Certifications	UL1973, UL9540, UL9540A UL1741, UL9741, UL2202(UL2231-1, UL 2231-2) UL991, UL1998
Dimensions- W*D*H (mm/in)	1752*4140*2000 / 69*163*79
Weight(kg/lb)	~5800 / ~12,786.8

System Layout



Application

The ESS applies to events (off-grid, solar-storage, UPS), agriculture (silent operation, solar-PV, small-farm power), construction (noise reduction, genset optimization), and on/off-grid sites, enabling clean, efficient, and reliable power.



PowerGen Mate



106 kWh-----200 kWh

High-Voltage Battery System

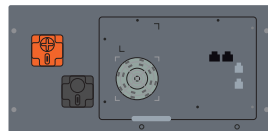
Our robust high-voltage lithium battery system excels in mobile applications and harsh environments, making it the ideal energy storage solution for demanding hybrid power systems.

As the core energy storage unit, our system is designed for seamless integration with Gen-set, PCS, and controllers,

Providing reliable energy storage support for your hybrid energy system while reducing integration complexity—we focus on the battery, so you can focus on system value.

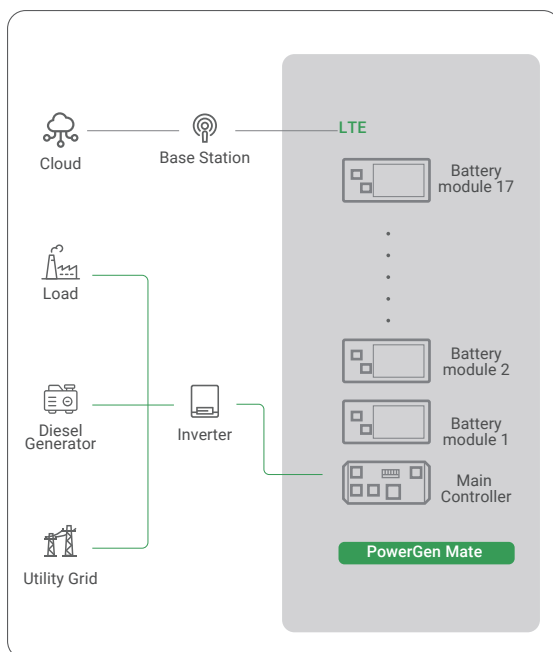


Main control

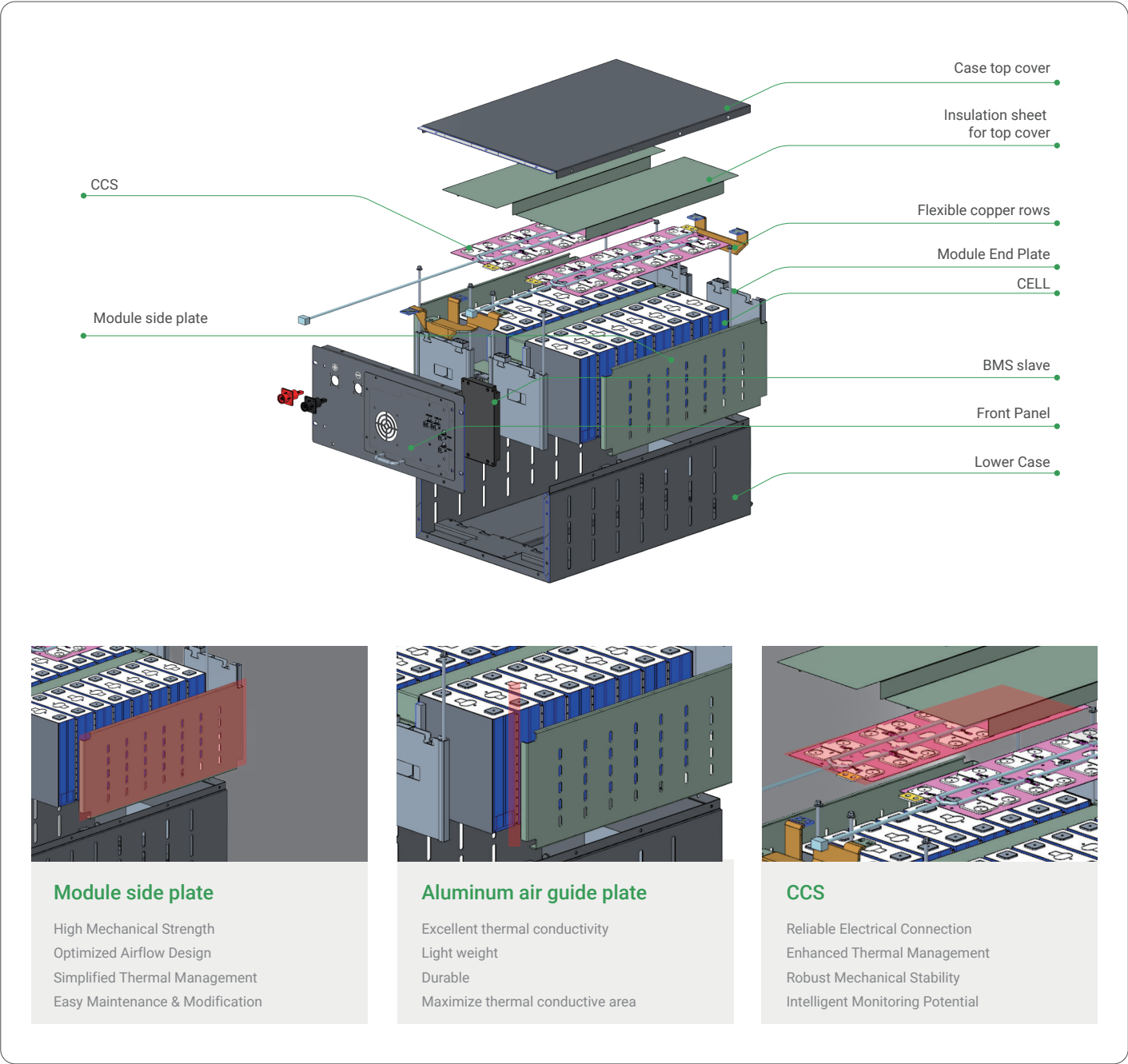


Battery module

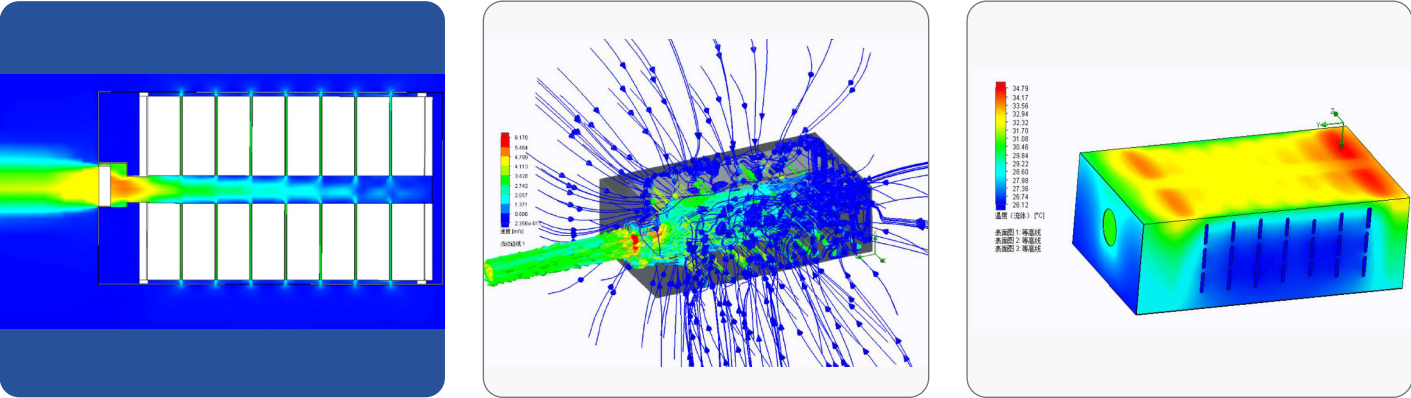
System Layout



Battery Exploded View



Unique ventilation ducting design for battery modules



■ Main Parameters

Battery Module	
Module energy (kWh)	11.776
Rated voltage of module (V)	51.2
Module Operating Voltage (V)	40-58.4
Module capacity (Ah)	230
Continuous charging current (A)	115
Continuous discharge current (A)	115
Peak charging current (A)	460A 30S(2C)
Peak discharge current (A)	460A 30S(2C)
Operating Temperature	Charge:0°C~55°C Discharge:-30°C~55°C
Battery module combination	support Max 17 modules connected in series
Weight (kg)	99
Dimension(mm)	484*236*643

Cell Selection	
Cell type	LiFePO4
Cell model	3.2V 230Ah
Nominal Capacity	230Ah
Nominal Voltage	3.2V
Operation Voltage	2.5~3.65
Standard Discharging Current	115A
Max. Continuous Discharge Current	230Ah
Max . peak Discharge Current	460A 60s SOC>20%
Standard Charging Current	115A
Max. Continuous Charge Current	230Ah
Max . peak Charge Current	460A 60s SOC>20%
Operation Temperature	Charge:0~55°CDischarge:-30~55°C
Cycle life	Cycle number>4000 times(remaining capacity>80%)
Typical Dimension	53.72*174*203.11
Weight	4.11+0.12kg

FC100AH

5.12 kWh-----158.72 kWh



Key Features



Safety

Tier-1 LifePo4 Battery with Intelligent BMS for Safety and Performance



Reliability

Battery & BMS R&D Since 2014, 80,000 Battery Modules in 90+ Countries



High Usable Capacity

100% Usable Capacity



Easily Scalable

Supports Parallel Connection of up to 31 Units for Maximum Capacity of 158.72 kWh*



Intelligent Management

App-based Monitoring and Analysis, Remote Diagnosis, and OTA Updates



High adaptability

Flexible configuration and strong product adaptability

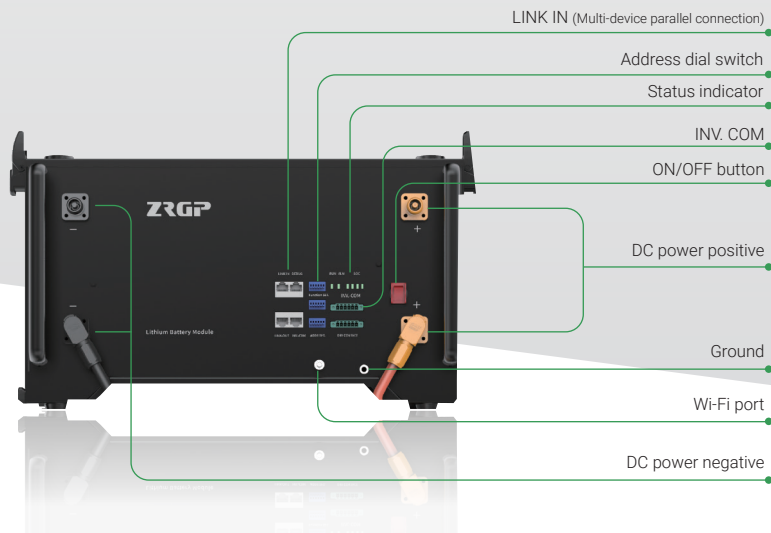
■ Main Parameters

ZR-FC48100-1630J2	
Cell Model (Ah)	100Ah/3.2V
Combination Mode	16S1P
Nominal Capacity (Ah)	100
Rated Energy(kWh)	5.12
Initial Internal Resistance (mΩ)	< 50
Rated Voltage (V)	51.2
Charge Cut-off Voltage (V)	59.2
Discharge Cut-off Voltage (V)	43.2
Standard Charge Current (A)	20
Max.Charge Current (A)	95
Standard Discharge Current (A)	50
Max.Discharge Current (A)	95
Operating Temperature (°C)	Charge 0°C ~ +55°C Discharge -20°C ~ +55°C
Life Cycle ^[1]	8000 times
Communication	RS485/CAN/WIFI
Weight (kg)	45±1
W*D*H (mm)	440×420×132
Certification	CEI 0-21/CE/UKCA/IEC 62619/UN 38.3/MSDS

[1] Based on 70% DOD, 0.2C charge & discharge @ ±25°C, 70% EOL

FC280AH

14.33 kWh-----215 kWh



Key Features



Safety

Tier-1 LifePo4 Battery with Intelligent BMS for Safety and Performance



Reliability

Battery & BMS R&D Since 2014, 80,000 Battery Modules in 90+ Countries



High Usable Capacity

100% Usable Capacity



Easily Scalable

Supports Parallel Connection of up to 15 Units for Maximum Capacity of 215 kWh



Intelligent Management

App-based Monitoring and Analysis, Remote Diagnosis, and OTA Updates



High adaptability

Flexible configuration and strong product adaptability

■ Main Parameters

Battery	ZR-FC48280-1650J1
Battery Chemistry	LiFePO4
Nominal Energy (kWh)	14.33
Nominal Capacity (Ah)	280
Standard Charging/Discharging Current (A)	140
Max. Charging/Discharging Current (A)	200
Nominal Voltage (V)	51.2
Recommend Charging Voltage (V)	56.8
Max. Charging Voltage (V)	58.4
Discharge Cut-off Voltage (V)	43.2
General Parameters	
Parallel Capacity	Maximum 15 units
Dimension (W*D*H)	440*795*222mm/17.3*31.3*87in.
NetWeight (Approximate)	115kg / 253lb
Storage Conditions	-20°C to 55°C / -4°F to 131°F (0°C to 35°C / 32°F to 95°F Recommended) Up to 90%RH, non-condensing Initial SoC: 50%
Operating Temperature(°F/°C)	Discharge: -4~122 / -20~50 Charge: 32~122 / 0~50
Safety Function	Over-charge, Over-discharge, Over-current, Low/High-temperature, Short-circuit Protections
Cooling	Natural Cooling
Max. Operating Altitude	2000m / 6561ft
Cycle Life	8000 cycles @77°F(25°C), 0.5C, 80%DOD, 80%EOL
Communication	RS485/CAN/WIFI
System Characteristic	
CELL Certification	UN38.3, MSDS, CE, IEC62619, UL1973, UL9540A
Installation Method	Rack Mounting
Installation Scene	Indoor
Enclosure	IP20
Warranty ^[1]	10 Years

[1] Please refer to the warranty letter for details

Monitoring System Z-CLOUD



Z-Cloud is an all-encompassing device management and monitoring solution primarily designed for residential environments, while also catering to national agents, secondary agents, installers, and end users. It provides a robust system for homeowners to monitor and manage their energy usage in real time, enhancing efficiency and facilitating smarter home energy management. Additionally, Z-Cloud can oversee large-scale power stations and energy storage systems in commercial and industrial settings.



Instant Insights through Remote Data Monitoring and Analysis

Remote data monitoring, automatic curve generation, and comprehensive big data analysis provide a clear overview of product operation status at a glance.



Enhance Customer Satisfaction with Remote Firmware Upgrades

Remote firmware updates and automated operation and maintenance reports significantly boost customer satisfaction by ensuring seamless and efficient service.



Enhanced Security with Distributed Architecture and Data Encryption

Our distributed architecture and robust data encryption ensure that cloud data remains secure and reliable.



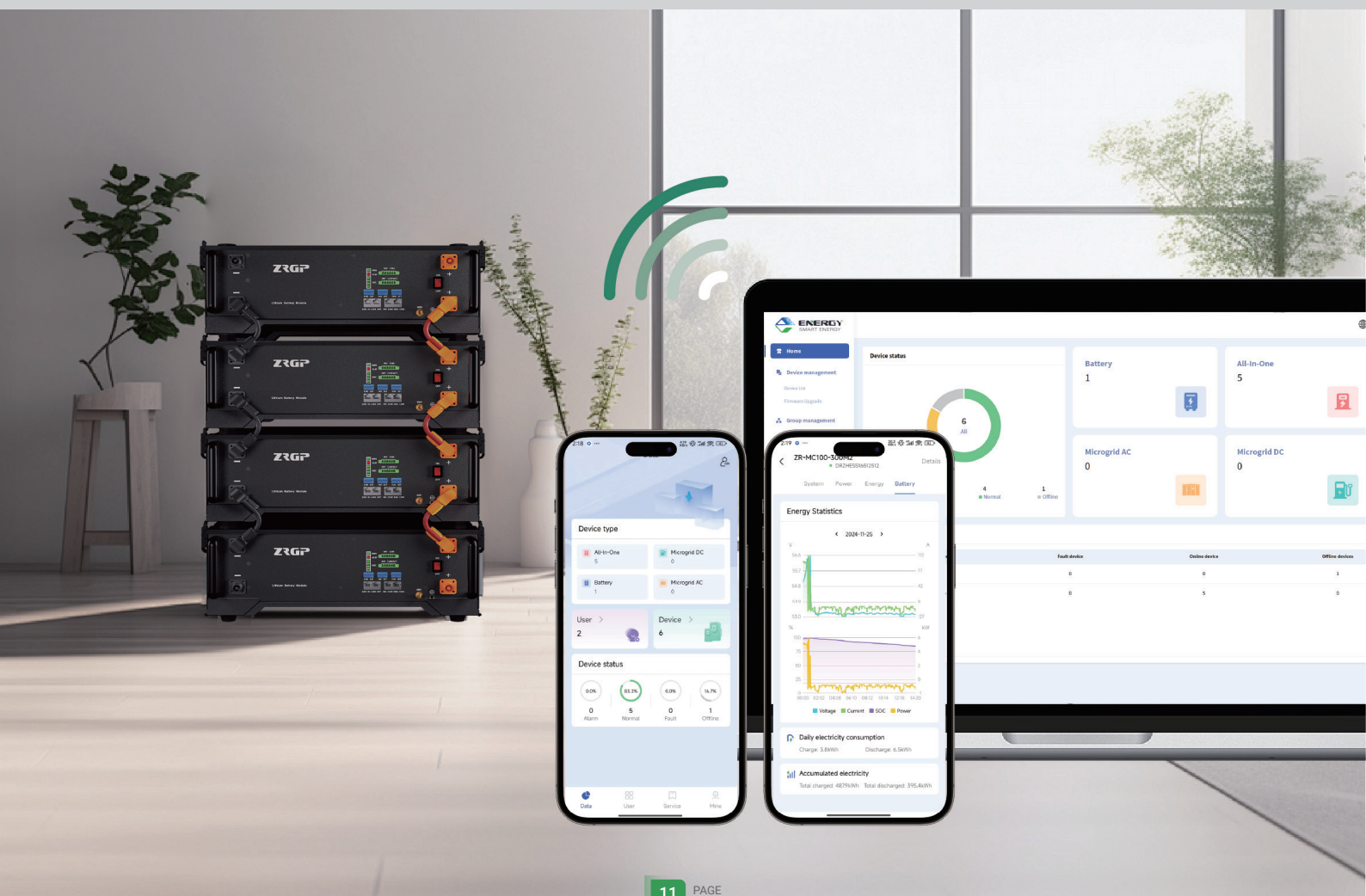
Optimize Channel Development with a Four-Tier Distribution System.

Our four-tier distribution system, extending from brand owners to end-users, strengthens product channel construction and optimizes market reach.



Seamless Integration with Intelligent Mall and Trial Applications

Our intelligent mall and new product trial applications facilitate direct contact with source manufacturers, streamlining product promotion and improving accuracy.



ProControl Base

Cabinet Level Local ESMU

High-end integrated display and control system for commercial and industrial energy storage solutions.



Features



High-Performance Data Processing MCU

Equipped with a powerful processor and ample memory, ensuring fast response to demand-side instructions and efficient data processing.



Advanced Graphics and AI Capabilities

Featuring advanced graphics processing and AI capabilities, offering robust performance for enhanced device intelligence.



High-Brightness Full-View Touch Display

1280*800 resolution, 45cd/m² brightness, full viewing angle, and three-point capacitive touch screen, allowing easy viewing of system data and settings both indoors and outdoors.



Independent Smart Local Control

Built-in modes such as self-use, peak shaving, PV priority, grid priority, backup, and battery modes provide convenient local operation. Supports local intelligent monitoring, data curve generation, parameter settings, firmware updates, maintenance report generation, and log recording for simplified after-sales service.



Flexible Cloud Connectivity

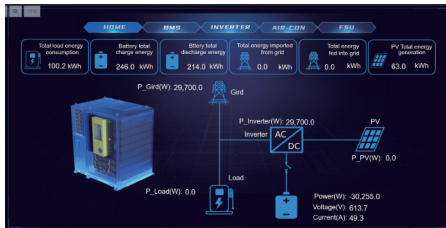
Supports multiple interfaces including LAN, WiFi, and LTE for versatile cloud platform connections based on customer needs.



Comprehensive Communication & Control Interfaces

Includes CAN, RS485, RS232, Type-C, USB3.0, LAN, TF card slot, Nano SIM, HDMI, and RTC interfaces, enabling connection to various external devices and sensors for centralized management and control.

Interface Showcase



Parameters

General Parameters

CPU	RK3568 4x A53@2.0GHz		
Memory	RAM: 4GB, EMMC: 64GB, EEPROM: 64KB, SSD: 1T(Optional)		
GPU	Mail-G52		
NPU	Support 1 Tops computing power		
OS	Ubuntu 20.04		
Brightness	450cd/m ²		
Resolution	1280*800		
Angle	Full viewing Angle		
Touch	3 point capacitive screen		
Communication interface	3* CAN, 6* RS485, 1* RS232, 1* Type-C, 1* USB3.0, 4* 1000Mbps, Lan, 1* TF card, 1* Nano SIM card, 1* HDMI, 1* RTC		
Control interface	12* DO, 16* DI, 2* NTC, 1* Buzzer		
Wireless communication	Wifi/BT, 4G, GPS		
IP Rating	IP65		
Operating temperature	-20°C~70°C		

ProControl Prime

Station Level Local EMS

Reliable control and display solution for large distributed energy storage systems.



Features



Information Summarization and Monitoring

EMS collects and uploads operational data of distributed energy storage systems for centralized monitoring. It displays system trends, performance metrics, and fault history to help users optimize operations.



Strategy Algorithm Configuration

EMS offers flexible strategy algorithms for customizing energy storage system operations based on specific needs and system conditions. This allows for optimal energy dispatch and management to maximize efficiency and cost-effectiveness.



Alarm Generation and Handling

EMS provides a user-friendly tool for creating graphical interfaces of energy storage systems. It allows real-time monitoring and management through topology, status diagrams, and device controls.



Energy Metering and Anti-Reverse Flow Control

EMS handles energy metering and anti-reverse flow control, effectively managing energy flow within the storage system and ensuring stable PCS operation.



BMS Data Collection and Display

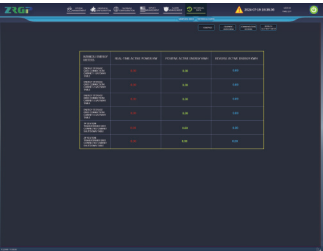
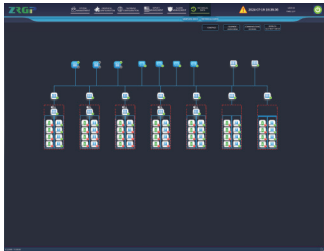
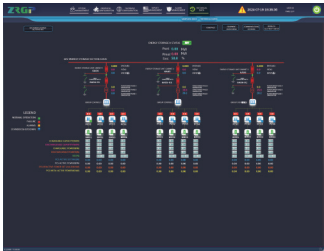
EMS communicates with Battery Management Systems (BMS) to collect real-time data on battery parameters and displays it graphically. This includes battery health, charge/discharge status, SOC, and SOH.



Profit Analysis

EMS includes robust profit analysis capabilities for in-depth assessment of energy storage system operational data. This analysis helps users evaluate economic benefits, providing strong support for decision-making.

Interface Showcase



Parameters

General Parameters	
CPU	2U Rack Server
Memory	Intel® Xeon® Gold 5218 Processor 22M Cache, 2.30 GHz, Qty 2
Hard disk capacity	64G
NIC	3*1.2T SAS
PCIE	4 Gigabit LAN cards6 PCIe 3.0
Power Supply	slots 550W power supply*2
Chassis Size	Chassis Specifications: 445*87*746mm
IP Rating	IP20
Operating Temperature	5.0°C~40.0°C (41.0°F~104.0°F)
Operating Humidity	85% RH



Our Energy Works For You



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