GUANGZHOU WANON ELECTRIC AND MACHINE CO.,LTD

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WeChat Public Account

MICRO-GRID SYSTEM
ONE-STOP SOLUTION

ABOUT WANON

1.886 billion
Saonon's Brand Value

GUANGZHOU WANON ELECTRIC AND MACHINE CO.,LTD. stock code（in China）: 603766

Wanon, a subsidiary of Loncin Motor Co., Ltd., is a comprehensive national high-tech enterprise established in 2005 with a registered capital of 110.5 million yuan. Wanon is a leading brand of intelligent energy system solutions specializing in the R&D, design, manufacturing, operation and maintenance, and contracting and construction of diesel power generation products, one-stop micro-grid solutions, and integrated power solutions.

With an electric power laboratory, which is intelligent, multifunctional, and advanced in the industry, we have the mature ability to develop intelligent environmentally friendly power supply equipment, and have broken up technological monopolies of foreign enterprises in medium- and high-end products, such as the solar/wind/diesel hybrid energy system with battery storage, intelligent control, digital parallel connection, acoustic insulating materials, high-voltage power transmission, and ultra-low temperature start. With the computer aided engineering (CAE)-based structural simulation and analysis technology, we have made breakthroughs in research on finite element analysis (FEA)-based structural optimization, noise, vibration, and harshness (NVH), and computational fluid dynamics (CFD)-based thermal management, to ensure product performance and quality to the maximum extent, becoming an industry pioneer in promoting technological upgrading through basic research.

60+
R&D Personnel

10+
Development of National and Industry Standards

100+
Inventions and Patents

30+
High-tech Products

Wanon has always adhered to the development concept of "intelligent energy and green energy", endeavored to become an internationally renowned brand in commercial energy storage and micro-grids, kept pace with the times, and made constant innovation. Meanwhile, Wanon has striven to provide customers with reliable power solutions and the world with low-cost and green electricity.

Partners

Project Cases


Canton Tower


People's Bank of China


Rental Project of Saudi Arabia Government


China Mobile


Asia-Africa-Europe-1 (AAE-1)


China Tower


Pertamina


China National Offshore Oil Corporation


Towngas Financial Data Center


Guangzhou Asian Games City


Wanda Plaza


New Baiyun International Airport


Maldives Kandinma Resort


Djakarta-Bandung High-speed Railway


Siberian Gold Ore Project

POWER THE WORLD FORWARD WITH GREEN ENERGY

Globalization Services

Concurrently, our products are sold to more than 80 countries and regions, such as the Middle East, Southeast Asia, Africa, Europe, and the Americas, and our exhibition footprint covers the United States, Mexico, Brazil, Nigeria, Russia, South Africa, Kenya, Saudi Arabia, the United Arab Emirates, Pakistan, Sri Lanka, Myanmar, Cambodia, Thailand, and Malaysia. The brand influence of Wanon has spread to overseas markets and our after-sales service network features full coverage.

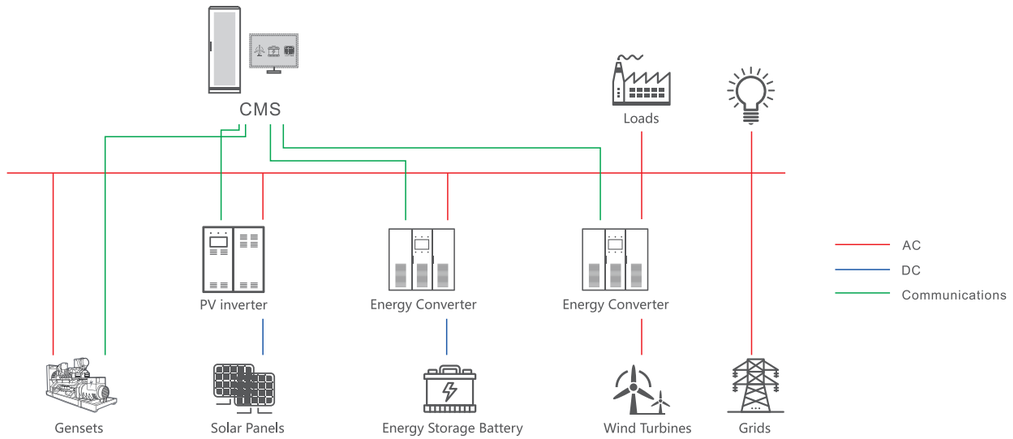
Thanks to the rapid growth of wind power, solar power, energy storage, and diesel engines and in the face of markets at home and abroad worth of trillions of RMB, we will continue to deepen our leading technological strength in clean energy, energy storage, and diesel generators, utilize our advantage in supply-chain channels, rich customer resources, and technological advantages to provide customers with one-stop micro-grid solutions, and realize the perfect transition from traditional energy to micro-grids and new energy for industrial and commercial use.

INTRODUCTION OF MICRO-GRID SYSTEMS

(Wanon Provides You with One-stop Micro-grid System Solutions)

In the field of micro-grid technology, Wanon provides more cost-effective clean energy solutions for commercial, industrial, and civil facilities in grid-connected, off-grid, and residential storage scenarios. Micro-grid systems are customized by combining clean energy, energy storage systems, public grids, and gensets according to customer requirements.

A micro-grid is composed of a distributed power source, energy storage devices, energy conversion devices, and monitoring and protection systems. It is an independent system that can realize automatic control, protection, and management, which can be grid-connected or off-grid. A micro-grid is a combination of multiple energy technologies and energy storage technologies. How to establish a micro-grid depends on different renewable energy sources.



Advantages of Micro-grid Systems

Fast Construction and Cost Effectiveness

For example, in order to build a large power grid on an island, it is necessary to lay submarine cables and set up poles and other power-distribution infrastructure, and the construction of a micro-grid system is cheaper and faster than that of a large power grid

Flexible Operation and be Green and Economic

New energy power generation and energy storage devices can realize the local consumption of energy, self-generated electricity for self-use, and surplus electricity for grid-connection so as to reduce electricity costs and gain profits.

Stable Power Supply and High Reliability

In some remote areas or areas far from the main grid, the power supply is extremely unstable due to the instability of the main grid or the absence of a main grid. A micro-grid can operate either grid-connected or off-grid to ensure the stable supply of power.

In areas where there is a lack of energy supply or with easy access to green energy, Wanon's technical team can design reliable micro-grid systems based on the cost, capacity, and layout. There are a wide range of applications in industry, commerce, agriculture, and civil use.

Application Scenarios

01 Islands

There are approximately 100,000 islands in the world. Power supply to islands without a large power grid is a major challenge in terms of the application of micro-grids.
Renewable energy generation equipment (photovoltaics and wind turbines) can be combined with a micro-grid and an energy storage system to store surplus energy and provide continuous power to the island all day long.
For islands with diesel gensets, photovoltaics, wind turbines, and energy storage systems can be expanded to reduce diesel consumption, reduce the electricity cost per degree, and improve economic benefits to reduce environmental pollution and carbon emissions.

02 Mines

Most mines are located in remote areas, where there is no access to the main grid or the capacity of the main grid is small, and the load and power fluctuation are large. The construction of a micro-grid with photovoltaics and wind turbines can effectively reduce the electricity cost. The power grid can be quickly constructed. Moreover, energy storage systems or diesel gensets can better ensure the frequent switching of large loads and improve the reliability of power supply.

03 Remote Villages

There are remote areas in every country that cannot be covered by main grids or where such grids are expensive to build. Standalone micro-grids can be used for power supply. If there is grid coverage in the later stage, the micro-grid can operate either grid-connected or off-grid. Wanon's comprehensive management system (CMS) can easily and seamlessly switch between grid-connected and off-grid scenarios.

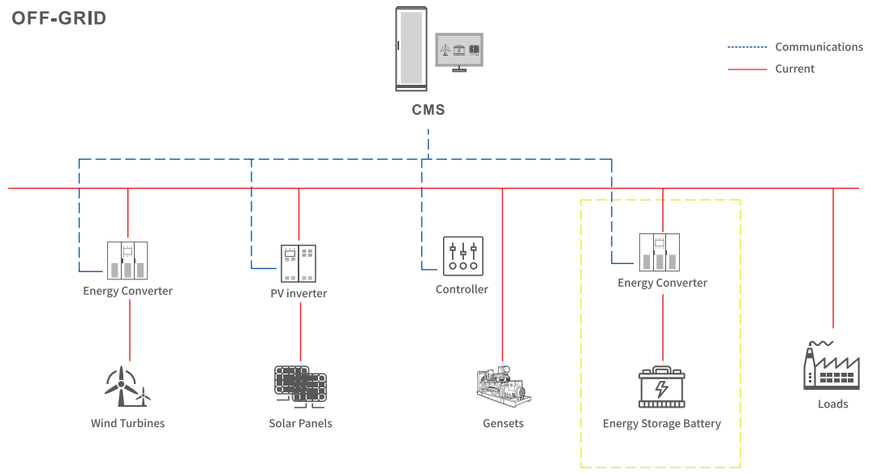
Additionally, the micro-grid system can still be widely used in all kinds of buildings, areas without power, communication stations, deserts, or places with abundant light and wind energy resources.

WANON PROVIDES MICRO-GRID SYSTEM SOLUTIONSFOR A VARIETY OF SCENARIOS

OFF-GRID MICRO-GRID SOLUTIONS

An off-grid micro-grid is a power supply mode that can be built and operated independently, without an external grid. It can ensure the balance and stability of power generation and supply.

An off-grid micro-grid converts renewable energy (e.g., solar energy and wind energy) into electricity. When renewable energy is abundant, not only the converted electricity can be directly supplied to the load, but also the surplus electricity can be stored with energy storage devices. When renewable energy is insufficient, the stored electricity can be used for power supply. The use of renewable energy can be maximized to reduce the use of fossil energy.



Advantages of the Solutions

Local Construction to Easily Solve the Electricity Demand in Areas Without Electricity

In areas without electricity, due to the high cost to establish a power grid, such areas often suffer from no electricity or unstable power supply. A micro-grid can effectively solve the problem. Meanwhile, in areas such as islands and mountainous areas, with abundant wind and light resources, micro-grids can provide reliable power and significantly reduce the cost of electricity.

High Integration and Easy Installation

An off-grid system is highly integrated with relatively small investment, which can be completed within a month from installation to use.

Unattended Operation and Simple Maintenance

The micro-grid system can be autonomous and self-managed, without special duty, and the components of wind turbines and PVs are not easy to damage and easy to maintain.

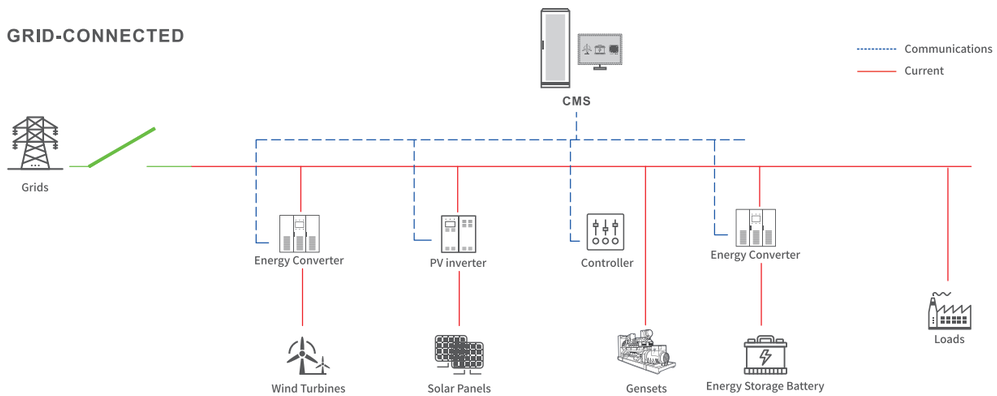
Application Scenarios

The off-grid micro-grid is widely used in remote mountainous areas, areas in shortage of electricity, islands, communication stations, and street lights.

GRID-CONNECTED MICRO-GRID SOLUTIONS

A grid-connected micro-grid is a mode that interconnects with the external grid and exchanges electricity. When the external grid fails, the micro-grid can quickly switch to the off-grid mode to ensure the stability of power supply.

The grid-connected micro-grid can convert DC current produced by wind turbines and PVs into AC current with the same voltage amplitude, frequency, and phase as those of the main grid, and interconnect with the main grid. The flexibility of this power generation system lies in that when renewable energy is abundant, the micro-grid system supplies power to the AC load while sending surplus electricity to the main grid to obtain profits. When renewable energy is insufficient, electricity can be obtained from the main grid to power the load.



Advantages of the Solutions

Low Cost and Reliable Power Supply

A micro-grid is connected to the main grid, and when its power generation is insufficient, it can obtain power from the main grid, so the system does not need to be equipped with energy storage devices, which can reduce the system cost and ensure the reliability of power supply.

Environmental Protection

The use of renewable energy to generate electricity neither consumes carbon fossil resources, nor generates greenhouse gases or pollutants.

Reduce the Pressure of the Main Grid and Maintaining the Stability of the Main Grid

A micro-grid system distributed in multiple outlets can provide local users with electricity and share part of the burden of electricity supply, thus regulating the peak load of the main grid and relieving the transmission and distribution burden of the main grid.

Electricity Independence

Regardless of the battery charge status, a grid-connected micro-grid system requires no energy storage devices and supplies power to and obtains power from the main grid anytime.

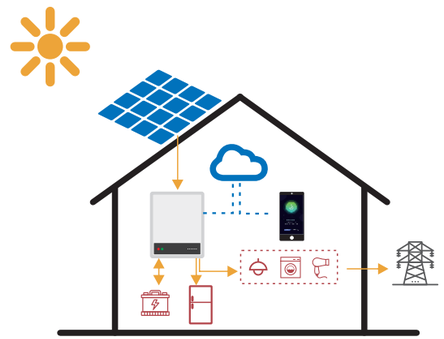
Application Scenarios

Grid-connected micro-grid systems are widely applied in all kinds of buildings, urban communities, or places with abundant renewable energy, such as deserts and coastal areas.

RESIDENTIAL ENERGY STORAGE SOLUTIONS

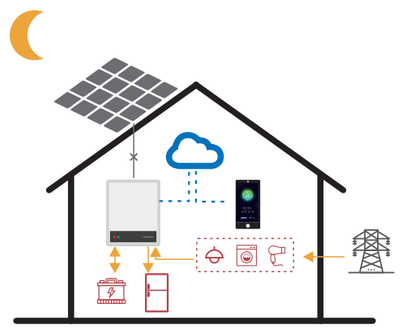
Residential energy storage refers to energy storage systems for home users.

Residential energy storage system is usually installed in combination with a PV system to provide electricity to home users. During the day, PV-generated power is first supplied to meet the local load, while the surplus energy is stored in the battery. Additional surplus energy, if any, can be selectively supplied to the grid. During the night, the battery discharges to meet the local load, when the PV system cannot generate power.



Daytime

PVs supply electricity for the electrical devices and energy storage batteries



Night

The energy storage battery supplies electricity to the electrical devices through the inverter

Advantages of the Solutions

Be Clean and Environmentally Friendly and Stable Power Supply

Residential energy storage solutions features a higher proportion of green electricity consumption, which can reduce electricity expenses and ensure the stability of power supply for users in extreme weather conditions.

Flexible and Efficient

Energy storage systems can dynamically absorb and store electricity from and supply electricity to the generation side or the grid to change the synchronization of electricity production, transmission, and use, thus turning the real-time balanced "rigid" power system more "flexible" and effectively improving power quality and efficiency.

Easy to Install and Convenient to Operate and Maintain

Electrochemical energy storage routes are adopted for ES systems, which boast flexible installation scale, a mature industry chain, and easy mass production, promotion, installation, operation, and maintenance.

PV-STORAGE-CHARGING SOLUTIONS

An integrated PV-storage-charging solution balances local energy generation and load through energy storage and allocation optimization. It profits from PV power generation and charging operations, while achieving efficient, stable, and safe charging.

Wanon as a one-stop solution provider of PV-storage-charging stations, provides customers with whole-lifecycle services from the calculation of station scale and return on investment (ROI) and the investment and construction of stations to delivery and operations and maintenance (O&P).

Features

Flexibility
The solutions and services related to PV power generation, power storage, and the construction of charging stations can be offered separately.

Customized Solutions
Suitable investment schemes and cooperation models are available, according to the actual conditions of the project and the customer.

One-stop Services
One-stop and comprehensive services are provided, covering the whole lifecycle of a PV-storage-charging station.

Supporting Hardware and Software
The comprehensive management system (CMS), independently developed by Wanon, can also be used to offer value-added services.

Advantages

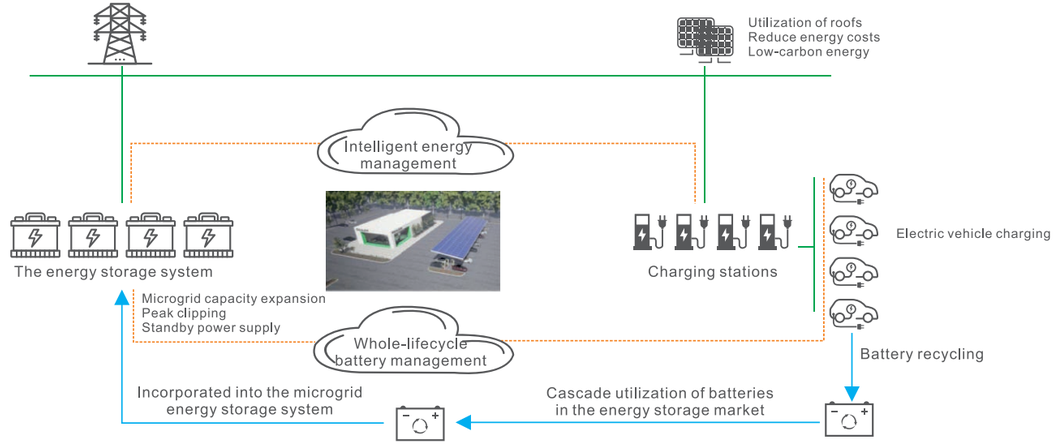
The problem of an insufficient power-distribution capacity of a charging station is addressed, and sustainable benefit can be obtained for 25 years through PV power generation;

The integrated system of PV-storage-charging cuts the use of traditional energy while raising the use of new energy to reduce carbon emissions;

The energy storage system optimizes energy storage and allocation by charging during power consumption valleys and discharging during power consumption peaks, so as to reduce charging costs.

CMS enables equipment monitoring, energy statistics and analysis, energy management, energy storage and dispatching, event alarms, and report management.

Schematic Diagram of Applications



Application Scenarios

1 Urban Charging Stations
Convenient charging services

- Alleviate urban traffic pollution and environmental pressure
- Suitable for private and commercial vehicles

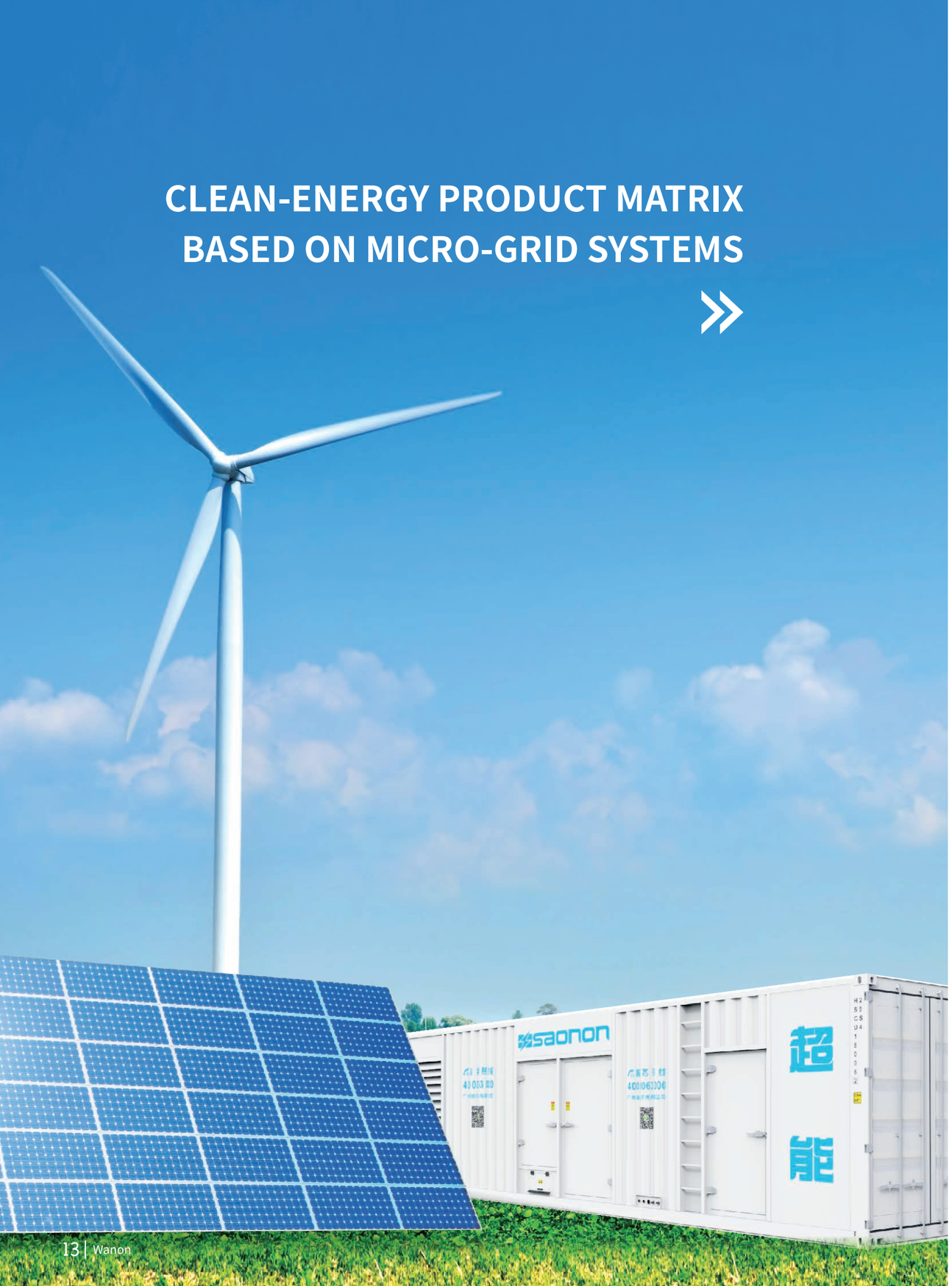
2 Highway Service Areas
Fast charging services

- Meet the charging needs of long-distance travel
- Suitable for tour and long-distance coaches

3 Industrial Parks
Reliable charging services

- Promote clean energy, energy conservation, and emission reduction
- Suitable for shuttle buses and logistics vehicles

CLEAN-ENERGY PRODUCT MATRIX BASED ON MICRO-GRID SYSTEMS



HIGH-PERFORMANCE SOLAR PV PANELS

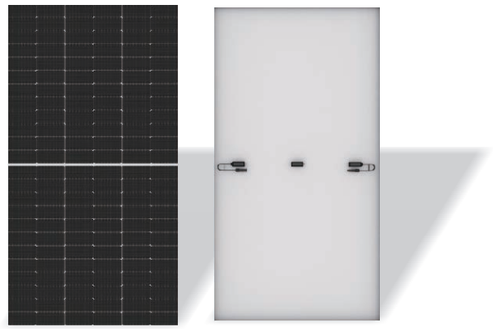
Features

N-type TOPCon leads the New-generation Mainstream Technology

- The conversion efficiency of mainstream products is up to 23.23%
- Bifaciality is up to 85%, and power-generation efficiency is increased by approximately 11.48%
- Temperature coefficient optimization is as low as -0.29%/°C
- Attenuation in the first year ≤ 1%; linear attenuation from the second to 30th years ≤ 0.4%

P-type PERC has High-efficiency Mature Technology

- The conversion efficiency of mainstream products is up to 22.45%
- Temperature coefficient optimization is as low as -0.35%/°C
- 30-year linear attenuation is 0.4%
- Bifaciality is up to 70%



Product Advantages

Higher Efficiency

The half-cell solar panel promises a lower temperature coefficient and higher efficiency

More Rigorous Technical Testing

Durability is tested for mechanical loads; dynamic + thermal cycling + humidity freeze

Higher Power Generation

MBB(Multi-Busbar) technology improves light utilization and current collection and effectively strengthens product power output and reliability

Higher Quality Standards

The product is third-party certified for high salt spray and ammonia corrosion tests. The whole component is certified for a wind load of 2,400Pa and a snow load of 5,400Pa

INTELLIGENT PV INVERTERS

Features

- DC overallocation by 1.5 times
- AC/DC secondary lightning protection
- Wide voltage range of the battery
- Advanced proactive islanding protection technology
- Adjustable power factor lead-lag
- DC reverse polarity protection
- AC short circuit protection
- Ground fault monitoring and residual current monitoring
- String state detection and arc fault detection
- Ultra-low power self-consumption at night < 1W
- Communication interfaces: USB/RS485/WIFI/4G/LAN/GRPS
- Compliance with multiple certifications and licenses, such as grid connection + safety regulations + electro magnetic compatibility (EMC), NB/T32004-2013, IEC/EN62109-1&2, and EN61000-6-2&4

Product Advantages

MPPT

Multiroute maximum power point tracking (MPPT), configurable according to applicationscenarios

Conversion efficiency exceeds 98.8%, effectively raising power generation

With a high protection level, the product adapts to complex environments, such as high temperature, high humidity, wind and sand, and saltspray

WIND TURBINES

Features

- 5kW-500kW wind turbines can be applied to AC or DC scenarios
- A low-speed permanent-magnet generator is used with transmission design that has direct drive and has no gearbox. The protection grade is Ip54
- Wind turbine blades made from fiber reinforced plastics (FRP) are used with a start wind velocity as low as 2.5m/s
- Proactive pitch control is available. The range of working wind speed is large. The generator can continuously and smoothly operate without shutdown protection, when the ambient wind velocity is within 25m/s.
- When the rated wind velocity is surpassed, the pitch angle of the blades can be regulated for continuous full-power output
- High-wind protection: Pitch control and shutdown protection

Product Advantages

Automatic Safety Protection (Asp) System

1 **Speed Regulation**
Proactive pitch control

2 **Control System**
Electronically controlled yaw protection

3 **Yaw Mode**
Windward electronically controlled yaw

4 **Tower Type**
Folded/independent/hydraulic pole

Equipped with an All-in-one Machine of Wind Energy Control and Conversion

Designed for variable pitch wind turbines, the product can perfectly match wind turbines based on mechanical centrifugal pitch technology

There are two working modes, namely, remote monitoring and local operation, for remote control of start/stop and active power regulation

COMPREHENSIVE MANAGEMENT SYSTEM (CMS)

CMS obtains the power and electricity information of diesel generators, PV inverters, and energy storage systems, through communication networks (e.g., RS485, CAN, and Ethernet). The power output of inverters and energy storage systems can be quickly (within 0.6s) opened, closed, and adjusted, according to the strategies of application scenarios. This product, as the information hub and commander in the micro-grid, plays an essential role in ensuring the safety, reliable power supply, and economic operation of micro-grid equipment.

Features

- An industrial all-in-one computer is adopted with a 12.1-inch resistive touch screen which can be embedded, wall-mounted, or on the desk
- 1,024x768 high resolution, memory/hard disk 4+32GB, and high and low temperature resistance -40-60°C
- The main interface displays information, such as PV information, energy storage, wind energy, diesel generators, the main grid, and load
- Parameters, such as environmental information, and CO_2 emission reduction, are displayed
- Energy-storage monitoring, battery monitoring, PCS monitoring, and battery lifecycle management
- Load overview, energy consumption analysis item by item, comparative analysis of energy consumption, and load power prediction
- Four COM ports, four USB ports, one CAN port, and one ETHERNET port

Product Advantages

Custom Energy Priority
Operation modes, such as PV priority, energy storage priority, main grid priority, and diesel power priority, can be set.

Self-managed Energy Information
Operation monitoring of power generation equipment, power generation forecast, analysis of power generation trends, and inverter monitoring

Built-in Control Solutions
Peak-shaving and control strategies, PV/wind power output fluctuation control strategies, and active participation in grid auxiliary services

INTELLIGENT ENERGY STORAGE SYSTEMS

Features

This product integrates a power conversion system (PCS), batteries, a battery management system (BMS), thermal management, power distribution, and fire protection, adopts single-serial design, and enables zero damage of parallel connection. Meanwhile, harmonic governance, reactive compensation, and three-phase imbalance governance are integrated to realize peak-load shifting and peak load and frequency modulation. Multiple cabinets can be directly connected in parallel to expand the capacity of the energy storage system and allow plug-and-play.

A Liquid- or Air-Cooled Energy Storage System can be Selected

- The air-cooled system has battery clusters, modules, and all cells connected in parallel with air supply design. The temperature difference is 3°C
- The liquid-cooled system integrates cooling, multistage piping, and the parallel connection of the same type of runner. The temperature difference is less than 3°C
- The three-layer BMS architecture, consisting of general, master, and slave control, is compatible with multiple mainstream communication protocols

Product Advantages

1 Safe and Reliable

- Multiple measures for fire prevention: 2+2 fire prevention and control and suppression measures, module- and box-level fire protection, as well as gas fire protection and water fire protection
- Voltage tolerance up to DC5,000V, no breakdown, a multilayer disconnection protection mechanism, and thermorunaway requirements stricter than the standards of Underwriters Laboratories Inc.
- Support for LVRT/HVRT and strong adaptability to power grid
- Active and passive islanding detection

2 Intelligent and Efficient

- Three- or two-level topology available and maximum efficiency > 98%
- Fast power response, ±100% charge/discharge conversion < 25ms, and faster dispatch
- Support for 1.1-times long-term overload and 1.2-times short-term overload
- Off-grid voltage/frequency (V/F) output, virtual synchronous generators (VSGs), and black start
- Support for multiple charging and discharging modes, such as constant voltage, constant current, constant AC power, and constant DC power
- Advanced neutral point offset technology, effectively reducing DC ripple voltage
- Fault recording/waveform reading and analysis as well as fast fault location
- Integration of communication ports, such as RS485, Ethernet, Ethernet for control automation technology (EtherCAT), and controller area network (CAN)

3 Economic

- Integrated design, low deployment requirements, and ready to use
- PCS and battery (air-cooled) water-cooled, high power and energy density, and a small area
- This product is composed of standardized building block-like modules, which can be connected on demand, easily maintained, and added to expand the system capacity
- Multiple units can be connected in parallel at will

Residential Energy Storage

Features

- Rated voltage: 3P/N/PE220-240V/380-415V
- Flexible capacity expansion 5-60kwh
- Optimized self-generation and self-consumption
- Support for up to 12 units in parallel
- Integrated design of energy storage and inversion
- Lithium iron phosphate battery cell with high safety and a long service life
- Stacked design for easy installation and separate maintenance
- Backup high-rate power for backup discharge and off-grid power backup
- Protection class: Ip55
- System operation efficiency: 95%

Application Scenarios

1 Peak-valley Arbitrage
Peak-valley arbitrage is achieved by charging when the electricity price is low and generating when the electricity price is high to reduce the cost of electricity.

2 Off-grid Operation
The product integrates PV power generation, energy storage, and charging, and adopts distributed PV power generation to ensure the stable electricity supply to users, including car charging piles and users in remote areas.

3 Standby Power Supply
Emergency power supply is available to ensure the uninterrupted operation of vital loads.

4 Portable Power Supply
The product is suitable for outdoor or indoor use and provides off-grid power supply for emergency relief, medical rescue, outdoor operation, or outing.

AC Energy Storage for Industrial and Commercial purposes

Features

Rated energy:	233kWH@0.5C
Rated power:	Support for 100kW or other external power
Rated output voltage:	380-400V AC (-15%-10%)
Rated output frequency:	50/60Hz
Cell specification:	280AH
Core type:	Lithium ferro-phosphate (LFP)
Thermal management mode:	Liquid- or air-cooled
Protection level:	Ip54
Safety class:	B
Access method:	3P3W/3P4W
Maximum system efficiency:	91%

Application Scenarios

1 Peak-valley Arbitrage
Peak-valley arbitrage is achieved by charging when the electricity price is low and generating when the electricity price is high to reduce the cost of electricity.

2 Dynamic Capacity Expansion
Industrial users can store energy in the low load and discharge in the peak load to reduce the overall load and achieve dynamic capacity expansion and cost reduction.

3 Standby Power Supply
Emergency power supply is available to ensure the uninterrupted operation of vital loads.

Large Energy-Storage Containers

Features

Product name:	DC liquid- or air-cooled energy-storage containers
Rated energy:	2MWh@0.5C-5.2MWh@0.5C
Rated output voltage:	900-1,500V DC
Cell specification:	220-320Ah
Core type:	Lithium ferro-phosphate (LFP)
Charging temperature:	0-50°C
Discharging temperature:	-20-50°C
Communication method:	CAN, 485, and TCP/IP
Thermal management mode:	Liquid- or air-cooled
Protection level:	Ip54
Functional safety:	Class B

Application Scenarios

Power Supply Side Energy Storage

1 System Frequency Modulation
The frequency modulation response of the energy storage system is in milliseconds, which can reduce the impact of load fluctuations on the grid and improve grid stability.

2 Peak-load Shifting
The contradiction of electricity consumption is alleviated during the peak. The utilization of transmission and distribution lines is reinforced, and the pressure of the grid is reduced.

3 Intraday Peak Regulation
This product charges when the electricity price is low and generates power when the electricity price is high in order to reduce the start and stop of thermal power generating units and enhance efficiency.

4 Smooth Output
New-energy generation has the characteristics of randomness, intermittency, and fluctuation. Energy-storage devices can promise smooth and controllable output, upon electricity storage, and meet the requirements of grid connection.

5 Reduce Wind and Solar Energy Curtailment
The electricity of solar and wind power plants is stored in the peak period and transmitted to other periods for grid connection to strengthen energy utilization.

CHARGING PILE SYSTEMS

For charging pile products, the output power of 90kW, 120kW, 160kW, 360kW, and 480kW can be flexibly configured. The charging process is controlled and monitored in an intelligent and perfect manner. Customers can scan the QR code or swipe the card to pay. Meanwhile, information, such as the current battery level, charging duration, current electricity prices, and charging costs, as well as the operation status are displayed on the operation platform. Moreover, our advanced digital flow equalization technology can be employed with a single connector or two connectors. The single-connector charging mode allows maximum-power charging, while the dual-connector charging mode can intelligently distribute power to meet the charging needs of different vehicles simultaneously.
IP54-rated outdoor cabinets feature a lightweight and aesthetic structure and satisfying heat dissipation. Such a cabinet can be applied in offices and office buildings, as it occupies a small area and has a nice appearance.
This product can be applied in scenarios with fixed routes and centralized management, such as public charging stations, commercial taxis, urban electric buses, and electric tour coaches for scenic spots.

90/120/160kW DC Charging Piles

Item	Model	LXDC-YZ2-90/750-A	LXDC-YZ2-120/750-A	LXDC-YZ2-160/750-A
Electrical indicators	Input voltage	380V AC±15%		
	Input frequency	50±3Hz		
	Rated power	90kW	120kW	160kW
	Output current	0-225A	0-250A	
	Output voltage	200-750VDC		
	Voltage stabilizing accuracy	⩽ ±0.5%		
	Current stabilizing accuracy	⩽ ±1%		
	Ripple coefficient	⩽ ±0.5%		
	Standby power consumption	＜50W		
	Measurement accuracy	Level 1.0		
	Power factor	0.99		
	Harmonic content	⩽ 5% (above 50% load)		
	Maximum efficiency	95%		
Environmental indicators	Noise	＜65dB		
	Working altitude	＜3,000m		
	Working temperature	-30°C-+55°C		
	Working humidity	5%-95% without frost		
	Cooling method	Forced air cooling		
Safety design	Protection design	Over-voltage/under-voltage, short circuit, overload, over-temperature, grounding, electric leakage, lightning protection, and connector temperature		
	Safety standards	GB/T20234, GB/T18487, GB/T27930, NB/T33001, and NB/T33008		
	Protection grade	IP54		
Installation and interfaces	Dimension of equipment	750mm × 580mm × 1,590mm		
	Charging connectors	Two 5m connectors in line with national standards		
	Auxiliary power supply (APS)	12V, 24V, and 12V&24V		

360/480kW Split DC Charging Piles

Item	Model	LXDC-FZ2-240/1K-A	LXDC-FZ2-320/1K-A	LXDC-FZ2-360/1K-A	LXDC-FZ2-480/1K-A
Electrical indicators	Input voltage	380V AC±15%			
	Input frequency	50±3Hz			
	Rated power	240kW	320kW	360kW	480kW
	Output current	0-250A			
	Output voltage	200～1000VDC			
	Voltage stabilizing accuracy	⩽ ±0.5%			
	Current stabilizing accuracy	⩽ ±1%			
	Ripple coefficient	⩽ ±0.5%			
	Standby power consumption	⩽240KW（ N×30W）			
	Measurement accuracy	Level 1.0			
	Power factor	0.99			
	Harmonic content	⩽ 5% (above 50% load)			
	Maximum efficiency	95%			
Environmental indicators	Noise	＜65dB			
	Working altitude	＜3,000m			
	Working temperature	-30°C-+55°C			
	Working humidity	5%-95% without frost			
	Cooling method	Forced air cooling			
Safety design	Protection design	Over-voltage/under-voltage, short circuit, overload, over-temperature, grounding, electric leakage, lightning protection, and connector temperature			
	Safety standards	GB/T20234, GB/T18487, GB/T27930, NB/T33001, and NB/T33008			
	Protection grade	IP54			
Installation and interfaces	Dimension of equipment	1200mm×810mm×1800mm（ Host）/420mm×220mm×1300mm（ Terminal）			
	Charging connectors	Two 5m connectors in line with national standards			
	Auxiliary power supply (APS)	12V, 24V, and 12V&24V			