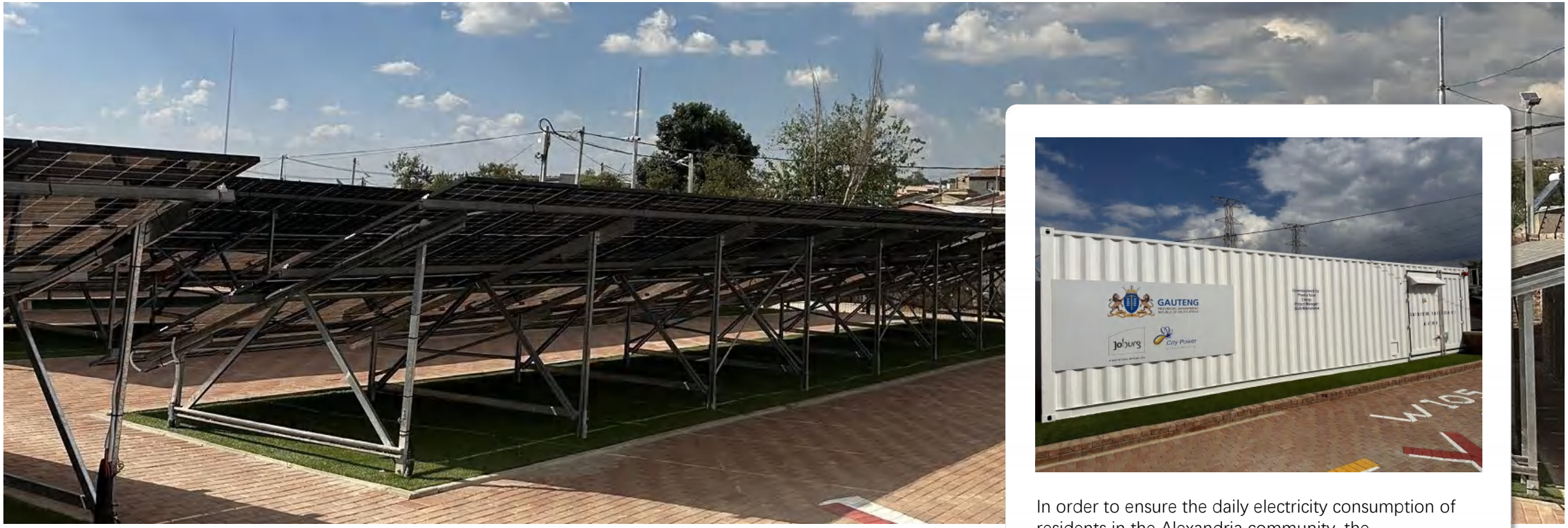

Case brochure

C&I energy storage projects



In order to ensure the daily electricity consumption of residents in the Alexandria community, the Johannesburg City Power and Gauteng Provincial Government jointly invested in the construction of a 500kW/1MWh microgrid system to cope with the frequent power outage crisis. FASCO MEGA ENERGY provided a 500kW MPS hybrid inverter for this project, combined with EMS to manage the charging and discharging of the microgrid system effectively.

AMARASTA MICRO-GRID PROJECT

500kW/1MWh | MPS0500 | Self consumption | 2024.03

C&I energy storage projects

This is a farm project in Botswana, South Africa. It consists of 358kW PV ,730kW diesel generators and 1MW/1.6MWh BESS. 2 FASCO MEGA ENERGY MPS hybrid inverter are used to digitally manage the energy of PV, batteries and DG to meet the daily power supply of major loads such as farm water pumps and harvesters. The successful implementation of the project can not only help the farm to ensure production, but also play an important role in promoting the coordinated development of the ecological environment.

Farm Microgrid Project

1MW/1.6MWh | MPS0500 | Self consumption | 2024.06

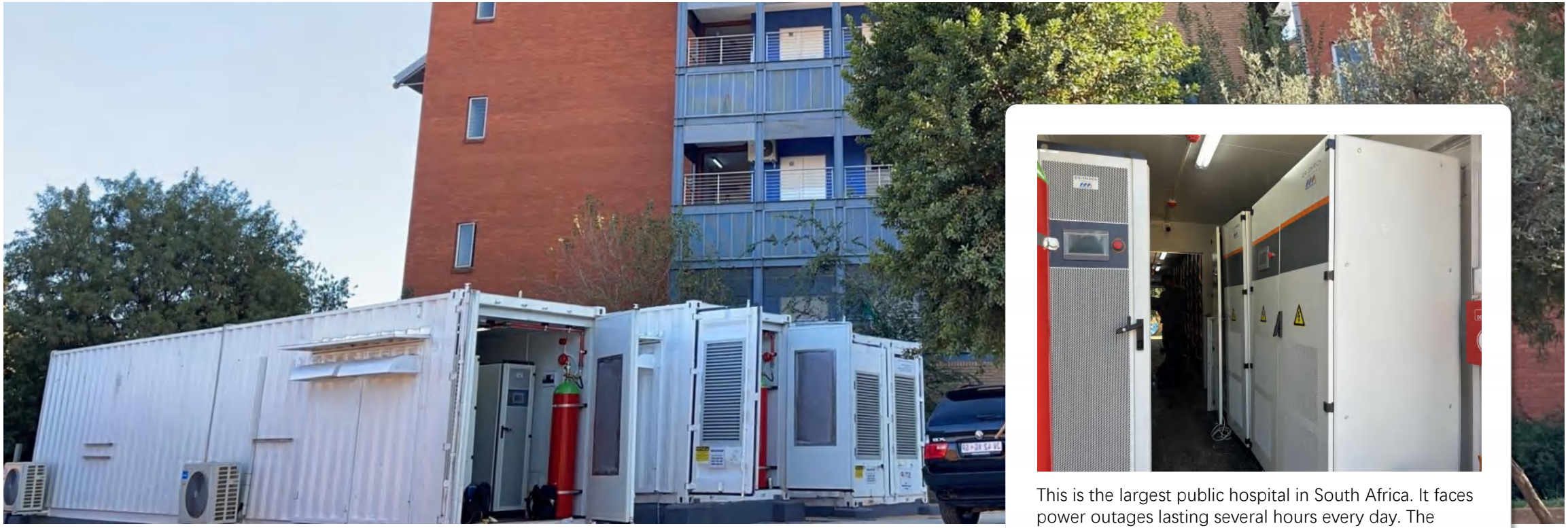
C&I energy storage projects

Herholdt Warehouse Power Backup Project

100kW/200kWh | MPS0100 | Backup power | 2023.11

Herholdt is a well-known renewable energy industry player in Africa. Headquartered in Bloemfontein, its business covers the southern African region. In order to reduce the impact of power rationing policies on the company, they installed 100kW/200kWh energy storage systems in their 10 warehouses in South Africa, which are used for product display and as backup power. FASCO MEGA ENERGY MPS0100 hybrid inverter contributed to the success of the project.

C&I energy storage projects



This is the largest public hospital in South Africa. It faces power outages lasting several hours every day. The hospital has been using two 1.5MWh diesel generators. In order to reduce energy costs and noise pollution, the hospital operator decided to install a clean energy system. The project consists of a 1.5MW/3MWh energy storage system and a 1.5MWp rooftop PV system. With the help of 6 FASCO MEGA ENERGY MPS0250, a hybrid power system is formed, which can operate reliably even when the power grid fails.

Thelle Mogoerane Regional Hospital project

1.5MW/3MWh | MPS0250 | Backup power | 2024.05

C&I energy storage projects

This is a solar-storage-charging project located in the suburbs of Cape Town. It uses FASCO MEGA 250kWh MEGA series PCS and 400kWh lithium batteries, combined with solar panels installed in the parking lot, to provide sufficient green electricity for the 40 charging piles in the entire charging station. This not only creates convenience for local residents and reduces the load pressure on the power grid during peak hours, but the project also uses intelligent charging and discharging strategies to make this investment more cost-effective.

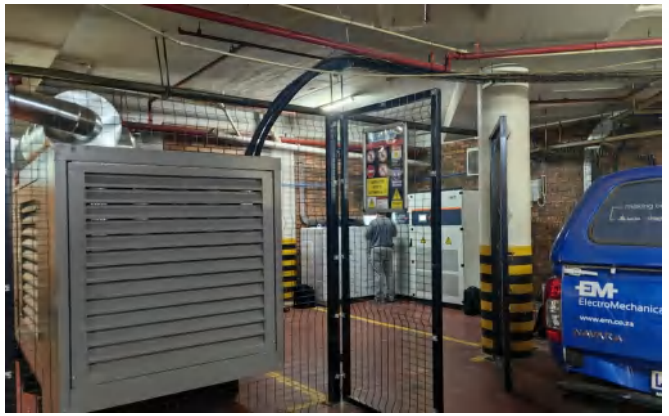
Cape Town Solar Storage & Charging Project

250kW/400kWh | MEGA0250TS | Transformer expansion | 2024.07

C&I energy storage projects

Sandton power backup project

250kW/500kWh | MPS0250 | Backup power | 2024.04



With the rapid increase in fuel costs, diesel generators are now only started in emergencies. In order to improve the current energy consumption environment, plant operators combine the renewable energy storage capacity of BESS with the supplementary power generation of DG sets to provide efficient and sustainable power supply for the factory. FASCO MEGA 250kW MPS hybrid inverter plays a key role in the entire energy production and supply process. It not only maximizes the use of clean energy electricity, but also quickly starts BESS to provide continuous power supply for important loads during power outages.

C&I energy storage projects

Norway PV Charging Station Project

250kW/520kWh | MEGA0250TS | Dynamic expansion | 2022.04

In order to meet the power supply capacity of the station and support the demand for high-power fast charging, in April 2022, FASCO MEGA provided a 250kW/520kWh BESS and 50KW rooftop PV for this project, which together with the three fast charging piles at the base, formed an intelligent power supply system. After the project operation, it not only provided convenient and economical charging services for more new energy vehicles but also obtained additional economic benefits.

C&I energy storage projects

Dairy Farm Microgrid Project

150kW/300kWh | MPS0150 | Self consumption | 2024.03

This is a dairy farm in Johannesburg that consumes about 100,000 kWh of electricity per year. In addition to milking machines and automatic feeding systems, air circulation equipment and other load equipment in cow sheds and nearby buildings also need to be powered. In order to save energy costs and produce green solar power in the future, the farm operator decided to enable a PV & storage hybrid power supply system, which includes 1 FASCO MEGA MPS hybrid inverter, 300kWh battery and 200kW ground PV panels. The system has been successfully connected to the grid, with a self-sufficiency rate of 90%, which can reduce the purchase of electricity to almost zero.

C&I energy storage projects

Dairy Farm Microgrid Project

50kW/150kWh | MPS0050 | Self consumption | 2023.04

Due to weak power infrastructure, farms located in the suburbs haven‘t access to reliable power sources. To generate electricity, they rely heavily on fossil fuels. As fuel costs continue to rise, low-income farmers are even more unable to afford expensive energy expenditures. For this reason, the local government install a microgrid system for the farm. The PCS of the system uses a FASCO MEGA MPS hybrid inverter, which not only helps residents use the available local resources to generate electricity but also empowers them to manage and control this distributed new energy.

C&I energy storage projects

This is a food processing plant in Amsterdam. A 300kWh PV power generation system has been installed on the roof. PV and power grid provide 90% of the energy used in the plant. Due to the influence of sunshine time, the effective PV power generation time is only 3-4h/day. In order to solve the problem of solar power generation time deviation and reduce production energy costs, the company installed a 2MW/2MWh BESS. The PCS uses the MEGA series of FASCO MEGA After the delivery of this BESS, it follows a one-charge, one-discharge operation strategy every day to help the company shift peak loads and improve the utilization rate of PV.

Dutch C&I Energy Storage Project

2MW/2MWh | MEGA0500TS | Peak shaving and valley filling | 2023.07

C&I energy storage projects

Dairy Farm Microgrid Project

250kW/400kWh | MEGA0250TS | Transformer expansion | 2024.07

This is a charging station project in an international resort in Malaysia, which alleviates the existing power supply limitation problem by integrating energy storage between the grid and the charging station. The project consists of a 250kW/400kWh BESS, four 120kW DC fast chargers and two 22KW AC slow chargers. With the grid connection of the project, it not only promotes green travel, but also enhances connectivity within the town and ultimately achieves sustainable development.

C&I energy storage projects

C&I energy storage projects

300kW/600kWh

MPS0150

Backup power

2023.05

This is the TOYOTA production base in Amanzimtoti, South Africa, which is mainly used to produce two models, "Hilux" and "Corolla". After a long period of riots and frequent power outages, the economic benefits of the factory have suffered serious damage. In early 2023, in order to ensure continuous power supply for production, TOYOTA operators finally decided to install two 150kW MPS hybrid inverters and a 600kWh lithium battery system to improve the utilization efficiency of rooftop photovoltaic power generation, achieve self-generation and self-use, and help the company's green transformation.

C&I energy storage projects

Ghana Hotel energy storage project

50kW/55kWh | MPS0050 | Self consumption | 2024.02

This is a hotel located in Kumasi, Ghana. In order to face energy challenges, the hotel operator installed a 50kW/55kWh FASCO MEGA outdoor cabinet energy storage system and a rooftop photovoltaic system. The combination of the two can not only effectively reduce electricity bills, but also provide 55kWh of stored energy. When a power outage occurs, the system can provide long-term backup power for key loads such as elevators and lighting. This not only improves customer experience but also obtains considerable investment returns when online, killing two birds with one stone.

C&I energy storage projects

Pakistan Microgrid Project

300kW/612kWh | MPS0150 | Self consumption | 2022.04

As Pakistan's economy develops, frequent power outages have caused losses to the industrial economy. For this reason, FASCO MEGA and AlphaESS have provided two 150kW/306kWh microgrid systems for a garment factory in Lahore to provide energy supply for key production equipment in the event of a power outage. In the absence of sunlight, the solar energy generated by the roof can also be consumed, thereby achieving self-use and improving the company's energy autonomy and resilience.

C&I energy storage projects

Data center backup power project

150kW/170KWh | MPS0150 | Backup power | 2024.03

This is a data center located in Cape Town, South Africa. It uses a 150kW/170kWh energy storage system + 160KW PV to replace UPS as the main backup power supply to improve the utilization rate and operating income of the data center's power assets. With the growth of future business, customers can flexibly expand capacity according to actual power needs. For this reason, the customer selected three 50kW MPS hybrid inverters on the AC side of the project, which were quickly put into use through brief wiring debugging.

C&I energy storage projects

This project is located in an undeveloped area of Africa with very weak power public facilities. Only 2% of the local rural people have access to electricity. Due to the rich local solar resources, renewable energy has great potential. In October 2020, FASCO MEGA and local PV dealers jointly provided a set of 50kW / 100kWh micro grid system and 248kWp Ground photovoltaic system for this area, Help them improve their living conditions.

Sierra Leone Microgrid Project

50kW/100kWh | MPS050 | Self consumption | 2020.10

C&I energy storage projects

Farm Solar energy storage project

200kW/200kWh | MEGA0100TS | Dynamic expansion | 2023.12

This is a dairy farm near Port Elizabeth. As the scale of breeding continues to expand, the demand for electricity fluctuates greatly, and the original power system is difficult to transform. For this reason, the farmer uses two FASCO MEGA energy storage PCS, each connected to a 100kWh lithium battery, in conjunction with two 130kWp Huawei photovoltaic inverters and a 130kW diesel generator to jointly power the farm's production equipment.

C&I energy storage projects

Wenzhou Steel Plant On-Grid Project

300kW/650kWh | PMA060 | Peak shaving and valley filling | 2023.08

The operation of steelworks shows us that the heavy processing enterprise has a great demand for high-quality electricity in the production process. However, the high load period of the steelworks almost coincides with the peak and valley of the local power. Coupled with the continuous operation of various production processes such as smelting and hot rolling, the power of steel mills often exceeds the power demand. So, based on the actual situation of the steelworks, FASCO MEGA uses five 60kW PMA modular inverters combined with 650kWh LFP to form a set of 10-foot ESS to provide reliable power support for the steelworks.

C&I energy storage projects

Agriculture Microgrid project

50kW/200kWh | MPS0050 | Self consumption | 2023.10

The project is located in a rural area in Port Elizabeth. A 52KW photovoltaic system and Huawei string inverters are installed on site. The customer's main load is a water pump. In order to ensure the healthy growth of crops in the field and completely solve the hidden dangers of power outages, the customer purchased a FASCO MEGA 50kW hybrid inverter and a 200kWh lithium battery. Through perfect cooperation with the photovoltaic system, the farm has 24-hour electricity supply, further increasing crop yields.

C&I energy storage projects

Community Microgrid Project

500kW/500kWh | MPS0500 | Backup power | 2024.03

Dominica is located on the east side of the Caribbean Sea. Natural disasters such as hurricanes and tsunamis occur frequently in summer, and power outages are common, causing many families and companies to prepare diesel generators to cope with emergencies. However, diesel generators are noisy, fuel is expensive, and seriously pollute the air. To this end, FASCO MEGA and local battery partners have provided the community with a noise-free, clean and economical micro grid solution. From then on, pregnant women and children can enjoy a quiet and comfortable environment.

C&I energy storage projects

Winter Olympics Microgrid Project

500kW/1000kWh | MPS0250 | Self consumption | 2021.12

The project is located at the Chongli South Transportation Hub Station of the Beijing Winter Olympics. The project is centered around a flexible substation and includes various distributed power sources such as small wind power generation,PV, and BESS, as well as DC charging piles, office lighting, and other loads. It constructs an AC/DC hybrid microgrid that includes multiple elements of grid source and load storage, achieving on-site consumption of distributed power sources. FASCO MEGA participated in the construction of this project and provided two sets of MPS0250 hybrid inverters, which were combined with external power to achieve 100% clean energy supply.

C&I energy storage projects

The Tarim Desert Highway is the world's longest grade highway that runs through a mobile desert. It is 522 km long and has 86 diesel generation stations along the route. In order to actively respond to the country's dual-carbon policy, the Tarim Oilfield upgraded and renovated the original 86 stations. In addition to configuring PV, it also vigorously deployed micro grid systems. FASCO MEGA 86 MPS0030 were used in the project with their high degree of integration and intelligence. after the project is put into operation, it will reduce diesel consumption along the route by 1,000 tons and reduce carbon dioxide emissions by about 3,410 tons each year.

Taklimakan Desert Highway microgrid

2580kW/6450kWh | MPS0030 | off-grid | 2022.06

C&I energy storage projects

China-Mongolia Border Microgrid Project

50kW/128kWh | MPS0050 | Backup power | 2022.06

Ganqimaodu Port, located at the border between China and Mongolia, is the largest highway port in China in terms of freight volume. The local area often encounters sandstorms and frequent power outages, which not only damages the precision inspection equipment at the checkpoint, but also affects the efficiency of the port inspection work. Therefore, FASCO MEGA provided it with a 50kW/128kWh smart microgrid solution, which forms a friendly and coordinated energy supply system with the existing 40.5kW PV power generation system at the base to jointly ensure the power safety of the port.

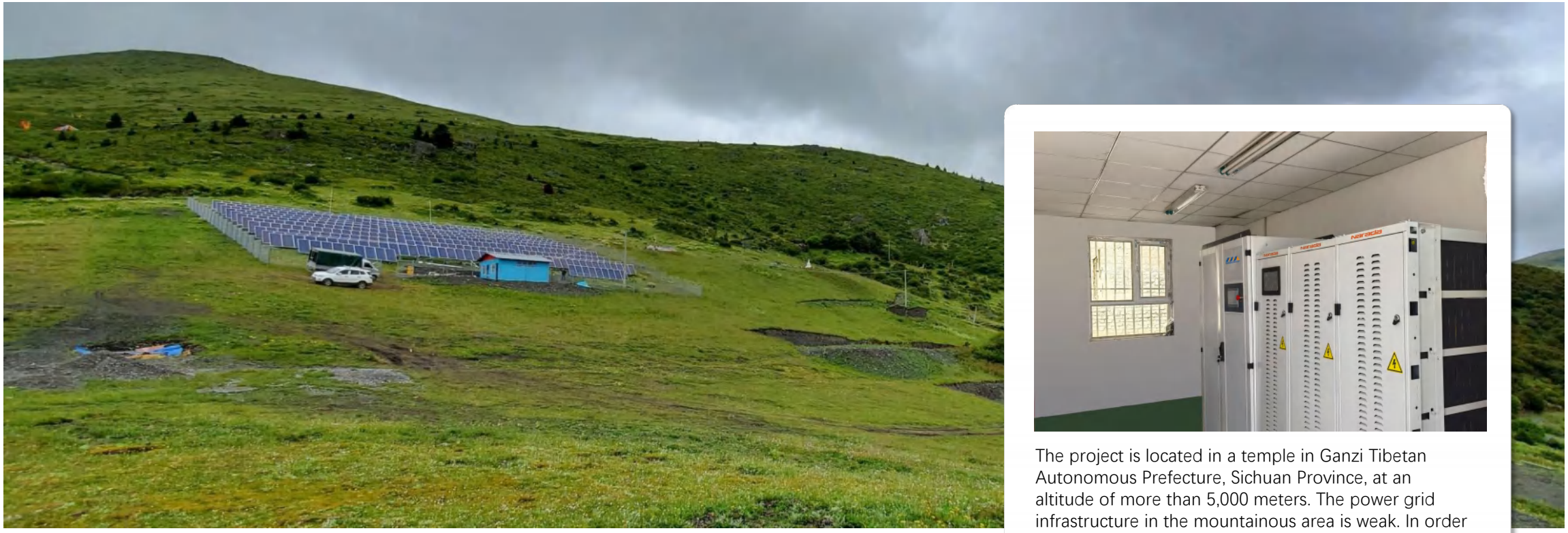
C&I energy storage projects

Shanxi Microgrid Project

600kW/3000kWh | MPS0030 | off grid | 2022.05

Coal mining produces large amounts of dewatered water, which is often considered wastewater. In order to convert it into a source of clean water, 20 sets of FASCO MEGA MPS0030 hybrid inverters were applied to 20 sites. Each site is equipped with a 10kW generator, 30 kW inverter, 15.8kwp PV, and 150kWh battery, which together form an off-grid microgrid to supply power to the regulating valves and electric valves of the local coal mine drainage pipes, effectively promotes the coal mine's recycling of drainage water and contributes to green development.

C&I energy storage projects



The project is located in a temple in Ganzi Tibetan Autonomous Prefecture, Sichuan Province, at an altitude of more than 5,000 meters. The power grid infrastructure in the mountainous area is weak. In order to ensure the continuity of power supply at night, Megarevo deployed a 150kW/391.68kWh microgrid system for the temple in June 2021. PCS adapt FASCO MEGA new generation MPS0150 high-power hybrid system, which uses intelligent control algorithms to coordinate photovoltaics and batteries to provide electricity for local residents.

Ganzi Prefecture, Sichuan Microgrid Project

150kW/391.68kWh | MPS0150 | Self consumption | 2021.06

C&I energy storage projects

This is a rural primary school in Louthberg, South Africa. There are more than 200 students in the school. The main daily load is lighting and electrical equipment in the cafeteria. Frequent power outages have caused great trouble to the school's education. The 30kW/50kWh energy storage system solves this problem. By combining rooftop photovoltaics and diesel generators, it can completely realize off-grid power supply.

School power backup project

30kW/50kWh | MPS0030 | Backup power | 2023.09

C&I energy storage projects

Warehouse power backup project

500kW/500kWh | MEGA0500 | Backup power | 2024.01

This is a fruit cold storage warehouse near Mpumalanga Province, South Africa. All the recycled fruits are washed with high-pressure water guns and then placed in the warehouse for cold storage. In order to maximize the industrial economy, the customer decided to use ESS + diesel power generation to provide continuous power for the warehouse. 500KW PCS of FASCO MEGA was applied to it, reducing the company's electricity operating costs through peak shifting and valley filling strategies. And it continues to power the warehouse as a backup power source when it is off-grid.

C&I energy storage projects

Henan Solar Storage &Charging Project

150kW/300kWh | MEGA0150 | Dynamic expansion | 2021.08

The Henan Smart Solar Storage and Charging Project uses FASCO MEGA 150kW energy storage converter on the AC side, which is matched with 300kWh lithium batteries, 300kWp photovoltaic panels, photovoltaic inverters, 8*30kW charging piles and EMS control systems, forming a flexible power supply system through AC coupling. It is understood that the project has been running stably for three years, with "0" safety accidents and equipment failures in three years.

Residential energy storage projects

South Africa Residential Project

18kW/30kWh | R8KL1&R5KL1D-G2 | Backup power | 2024.03

This is a small farm project located in Port Elizabeth, South Africa. The customer has purchased a diesel generator. In order to achieve 100% self-generation and self-use of energy, the customer used a FASCO MEGA 8 kW and 5 kW single-phase hybrid inverters, combined with batteries and rooftops PV to form an intelligent power supply system. The project has been successfully connected to the grid. In addition to stable operation, it has also brought rich returns on investment.

Residential energy storage projects

South Africa Residential Project

The Project is located in Johannesburg. Although the housing has been installed in the early photo-voltaic, but due to the outbreak of South Africa's power crisis, and the night power outage time is getting longer, the utilization rate of PV power generation system is extremely low. FASCO MEGA and local partner EASYPOWER deployed a 10kW/10kWh ESS for the residence. The inverter uses FASCO MEGA R10KL low-voltage hybrid inverter and is connected to the PV through 4-way MPPT to easily realize power transfer.

10kW/10kWh | R10KL1 | self-consumption | 2023.06

Residential energy storage projects

Saipan Residential Project

5kW/10kWh | R5KL1 | self-consumption | 2023.03

The beautiful island of Saipan is a place where typhoons occur frequently. In order to reduce the impact of disasters, the federal government has increased the development of renewable power systems through the implementation of the VCUC Act. FASCO MEGA participated in this plan, working with local partners to provide many sets of 3-6kW single-phase hybrid inverters to Saipan, helping the local area build a flexible power grid.

Residential energy storage projects

Philippines Residential Project

15kW/30kWh | R5KL1 | self-consumption | 2021.06

The project is located in Manila, Philippines. The rising fuel costs have brought unprecedented economic burden to families. In order to meet this challenge, residents began to actively seek alternative energy solutions. FASCO MEGA single-phase hybrid inverter + battery + PV has become an ideal choice. By installing these two systems, residents are expected to achieve energy self-sufficiency, thereby reducing dependence on traditional fuels. The case shown has been running stably for more than 1,200 days and has been highly recognized by installers and users.

Residential energy storage projects

US Residential Project

16kW/20kWh | R8KLNA | self-consumption | 2022.11

Due to the good solar conditions and preferential policies, in April 2022, FASCO MEGA provided customers with a set of 16kW/20kWh residential energy storage solutions to help customers achieve self-consumption. Two 48V split-phase inverters R8KLNA are adopted in the scheme to meet the energy demand of customers through parallel connection. After one month's comprehensive verification, the project shows an excellent economy.

Residential energy storage projects

US Residential Project

10kW/20kWh | R10KLNA | self-consumption | 2023.06

The project is located in California. With the implementation of NEM 3.0, the income of photo-voltaic power generation has decreased. In order to improve the return on investment, the photo-voltaic installer installed a 10KW/20kW energy storage system for the user. The inverter selected is the first generation of FASCO MEGA split hybrid inverter. With the Online operation of the system, it has created a safe, comfortable and economical energy use experience.

Residential energy storage projects

Germany Residential Project

8kW/16kWh | R8KH3 | self-consumption | 2022.04

The project is located in Munich, Germany. When renovating their new house, the users determined that they needed a green electricity supply. To this end, the users installed a PV system on the roof and added an 8kW/16kWh BESS and a wall-mounted charging box indoors. After the system was put into operation, the daily photovoltaic power generation was used to power the family's washing machine, dishwasher and heat pump. The user family was also very happy. In this way, not only did they reduce their electricity bills, but they also participated in the energy transition.

Residential energy storage projects

Czech Residential Project

32kW/40kWh | R8KH3 | self-consumption | 2024.05

In the project in Pilsen, Czech Republic, four FASCO MEGA hybrid inverters were used in parallel, which is a very interesting solution. It can mix and convert electricity from different sources to meet the power needs of home lighting, new energy vehicle charging and water heaters. In addition, it can also realize intelligent power management and monitoring through MEGAREVO'S little sun EMS APP, thereby increasing power generation revenue.

Residential energy storage projects

Italy Residential Project

10kW/10kWh | R5KL1-G2 | self-consumption | 2023.08

The project is located in a rural area of Bari, Italy. The main loads of the household are heat pumps and new energy vehicles. In order to reduce expensive electricity costs, the project adopts two FASCO MEGA R5kL1-G2 series hybrid inverters+10kWh lithium battery energy storage system, combined with 8kw rooftop photo - voltaics for residents, to jointly provide clean energy for users and reduce their living energy costs.

Grid side energy storage project

Power station frequency regulation project

100MW/200MWh | MEGA0630 | Grid-side frequency modulation | 2021.05

The project is located in Shaoyang City, Hunan Province, which is a peaking and frequency modulation project of the power grid side constructed by the State Grid.
The DC side uses 1C high-rate batteries. In order to improve the utilization efficiency of the energy storage system, 80* FASCO MEGA MEGA0630 energy storage converters were installed. The product has the highlights of safety, reliability, intelligence and efficiency, and the highest efficiency can reach 98.7%, which can better meet the needs of scene application.

Grid side energy storage project

Power station frequency regulation project

10MW/10MWh | MEGA0630 | Grid-side frequency modulation | 2023.02

The project is located in the Pearl River Thermal Power Plant in Guangzhou. In order to better solve the problem of power supply and demand in summer, the thermal power plant plans to participate in the grid AGC frequency modulation by installing 10MW/10MWh ESS combined generator units. FASCO MEGA take part in this project construction and provided 16 MEGA series 630kW PCS for the project. Each container consists of 4 units and a transformer, providing strong support for the charging and discharging management and intelligent operation of ESS.

FASCO

MEGA ENERGY

FASCO Center - Al Saray Roundabout

www.fasco-lb.com

FASCO
MEGA ENERGY

Building up intelligent and green energy systems

Who We Are

Professional Hybrid Micro-grid Energy System Provider

We are a technology company dedicated to technology and quality control, focusing on building smart micro-grid, we are keen to productize hybrid micro-grid solutions and make products ready to use, in order to maximize the user experience.

Mission

Building up intelligent and green energy systems

Vision

Let people use energy freely

Company Founding Team

With 15 years of industry experience, our founding team has held positions as general managers in major foreign enterprises and large publicly listed companies within the sector.

Core Technologies

Our core expertise includes proprietary control technologies at the application layer and advanced power electronics.

Project Experience

The team has managed projects totaling over 100 MW, with a focus on practical on-site applications of the systems. They are well-versed in both off-grid and grid-tied systems.

FASCO
MEGA ENERGY

Manufacturing & Supply

The MassPoint company has a full set of automated production equipment and sophisticated detection equipment, standard production process.

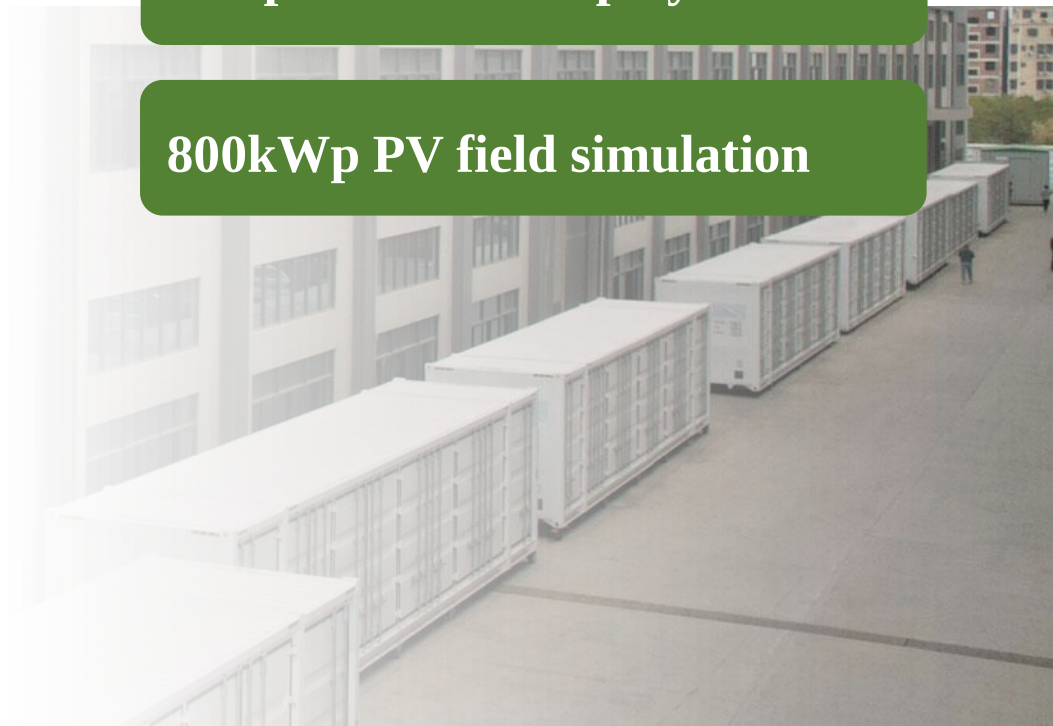
Annual production capacity: **100** **MWh**

Average manufacturing time: **35** **days**

11500+ square meter

25+ production employees

800kWp PV field simulation



What makes us different from others

We are good at productizing solutions, so you don't have to worry about selection, don’t worry about cumbersome installation and commissioning, don't worry about after-sales maintenance. We've been on the front lines, so we know what you want.

Productize the solution

One product solves one scenario

Strong customization capability

Customization comes from research and development capabilities

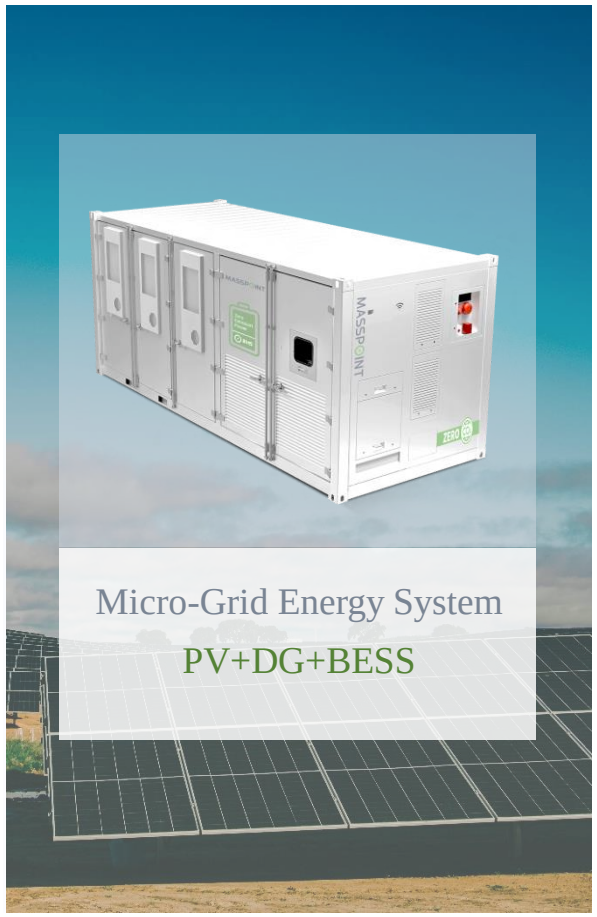
Industry-leading knowledge

12 years of experience in power electronics industry

Real project experience

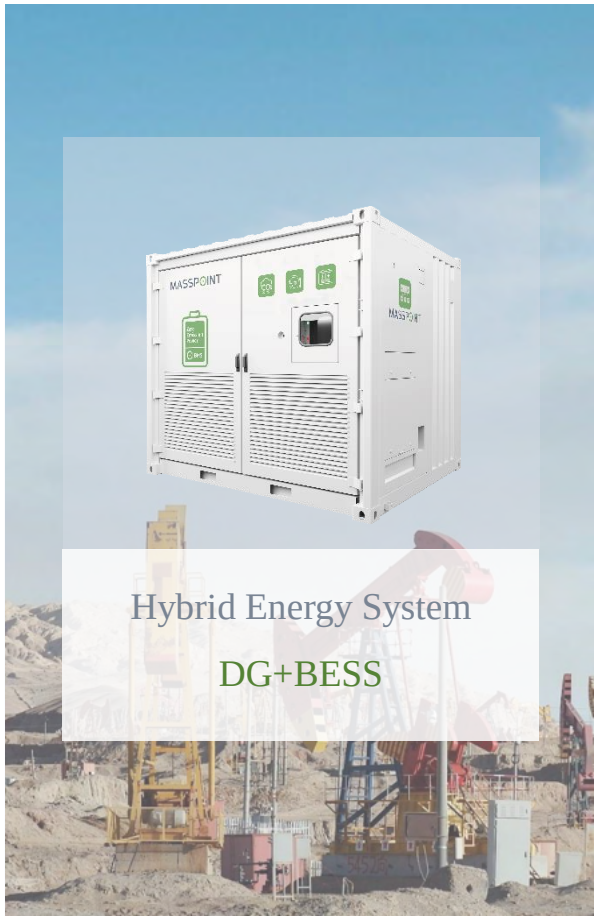
Personnel have been to more than 100 project sites

Product Series



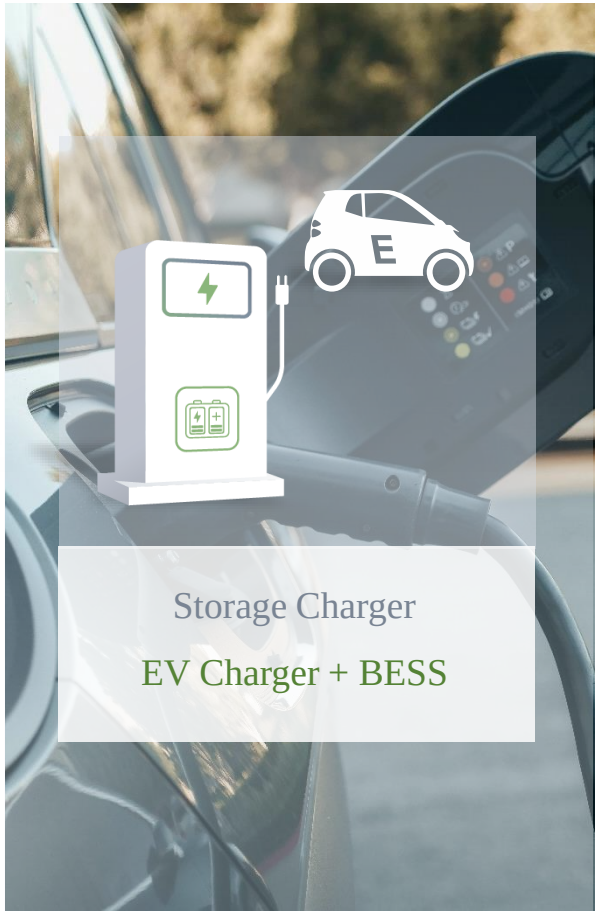
Micro-Grid Energy System

PV+DG+BESS



Hybrid Energy System

DG+BESS



Storage Charger

EV Charger + BESS

Energy Control System (ECS&EMS)

Control Core

Design Philosophy

Simplest installation

Based on many years of field experience, the installation of the product must be the least labor-intensive.

Precise control

The switching, generation and use of energy must be precisely controlled.

Standard specification

According to different countries and regions, the corresponding relevant standards are met.

Micro-Grid Energy System

Pollution-free green micro-grid system,
controllable and visual micro-grid system

System Architecture

◆ LFP Battery+BMS

◆ Energy Control System（ECS&EMS）
Controller for PV+ESS+DG Hybrid Micro-grid

◆ Fire Suppression System

◆ Air Conditioning

◆ Power Converting System (PCS)

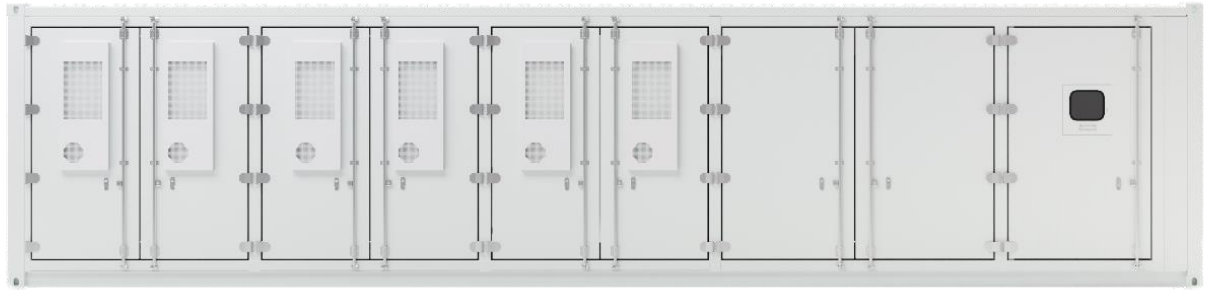
◆ DCDC converter for PV connection

◆ Connecting Box
Interface for Diesel Genset connection, PV input, Load

Specification

System Model	Delta-400-250/430-CE	Delta-800-500/1075-CE	Delta-1600-1000/2150-CE
Battery Parameter			
Battery Capacity	215~430kWh	430~1075KWh	1290~2150kWh
Battery Type	LFP		
PV Input Parameter			
PV Array Power	400kW	800kW	1600kW
PV Connection Method	AC Coupling /DC Coupling		
Diesel Genset /Electric Supply Input Parameter			
Wiring Method	3+N+PE/3+PE,380/400/415V		
Rated Frequency	50/60Hz		
Max. Input Current	455A	911A	1823A
System Output Parameter			
Wiring Method	3+N+PE/3+PE,380/400/415V		
Rated Frequency	50/60Hz		
Rated Power	250kW	500kW	1000kW
Basic Parameter			
System Dimension	2991*2438*2591	6058*2438*2591mm	12192*2438*2591mm
Weight	< 8t	< 21t	< 30t
Cooling Method	Forced air-cooling		
Working Temperature	-30~50℃		
Altitude	2000m		
Ingress Protection	IP54		
Certificates	IEC62619、UN38.3、IEC61000、IEC62477、NRS-097		

Production series



215kWh~2MWh，100kW~1MW

Flexible.
Energy Capacity from kWh to MWh

Highly integrated.
Highly integrated system design, efficient for installation and maintenance

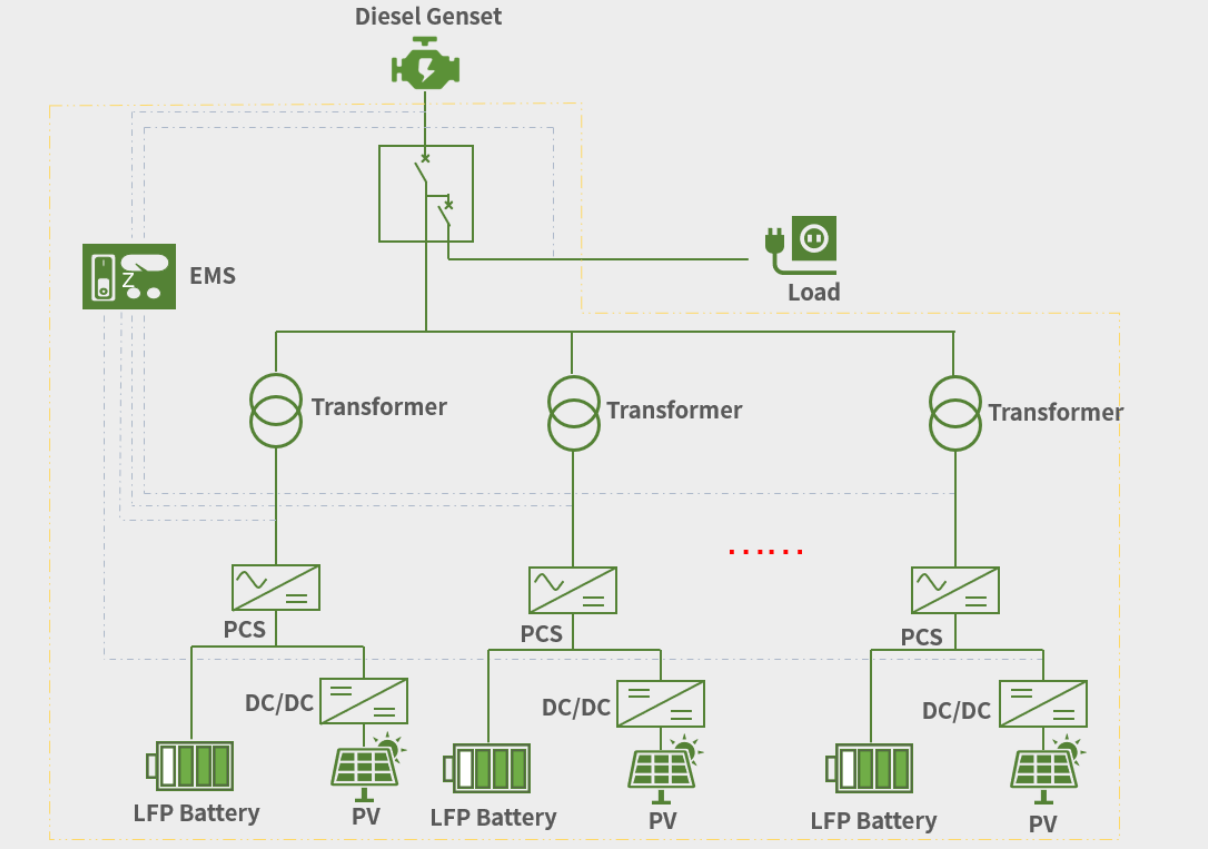
Safely designed.
Fire suppression system, temperature management system, battery protection, insulation protection

Hybrid.
PV System, Diesel Gensets, Utility Connection can be all connected and collaborating as one

Support AC and DC coupled

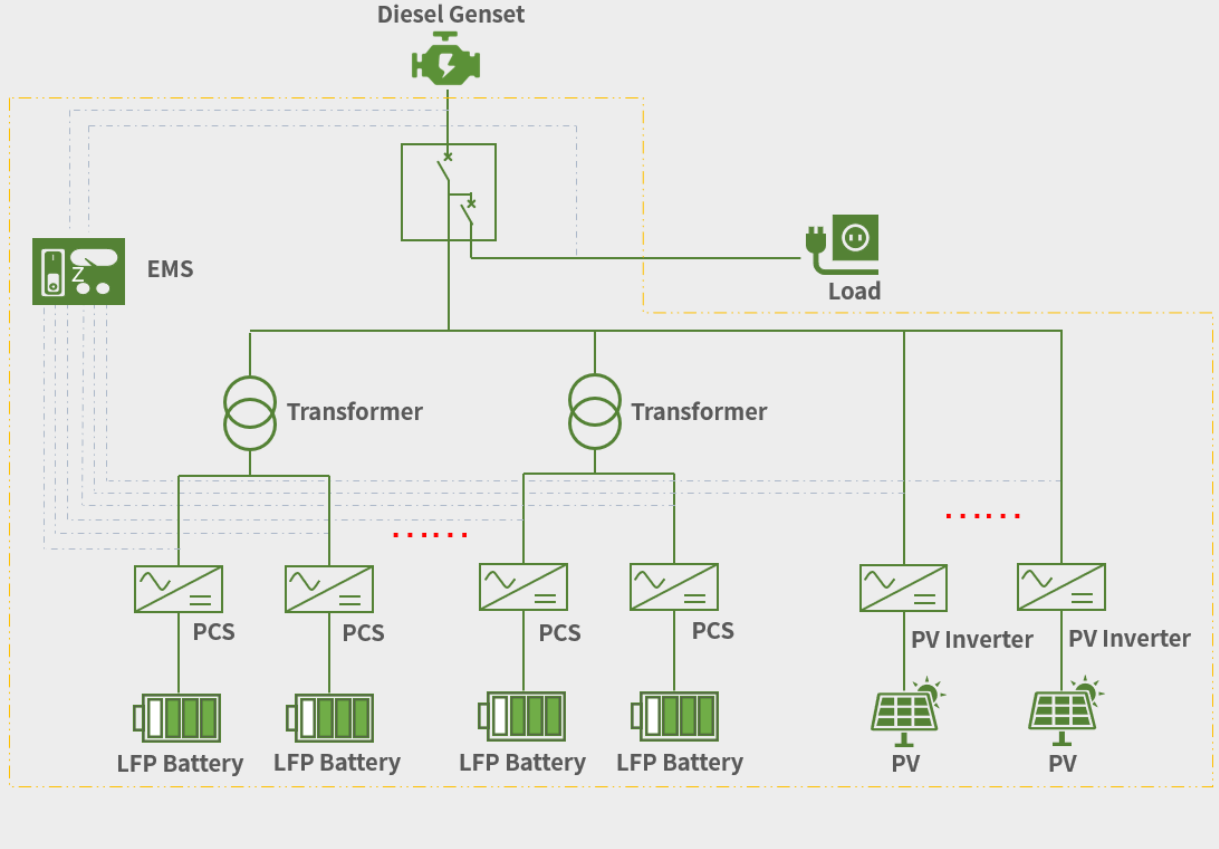
DC coupled PV

PV power is coupled to battery DC bus via DCDC converter

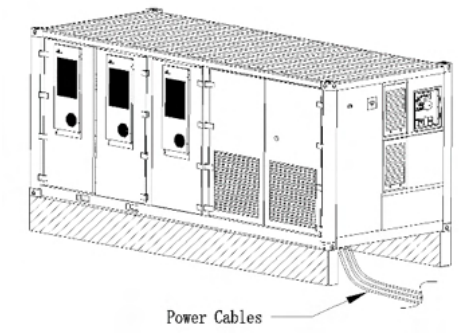
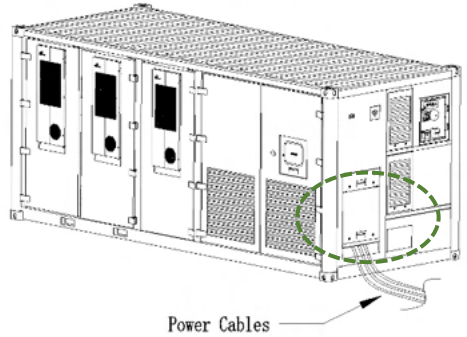


AC coupled PV

PV power is coupled to AC mains via PV inverter



Simple Installation & Fast Commission

	Traditional scheme	MassPoint New generation design
Installation		
Commission	 computer、 USB flash disk、 Computer cable…	 Integrated ECS&EMS control display
	● special equipment installation foundation ● installation personnel：4 ● Installation completion time:7 days	● only the site to be flattened ● installation personnel：2 ● Installation completion time: 2 day

Hybrid Energy System

A good partner of diesel generators

Optimize diesel generator power supply application scenarios

Specification

◆ LFP Battery+BMS

◆ Energy Control System (ECS&EMS)

Controller for BESS+DG Hybrid energy

◆ Fire Suppression System

◆ Power Converting System

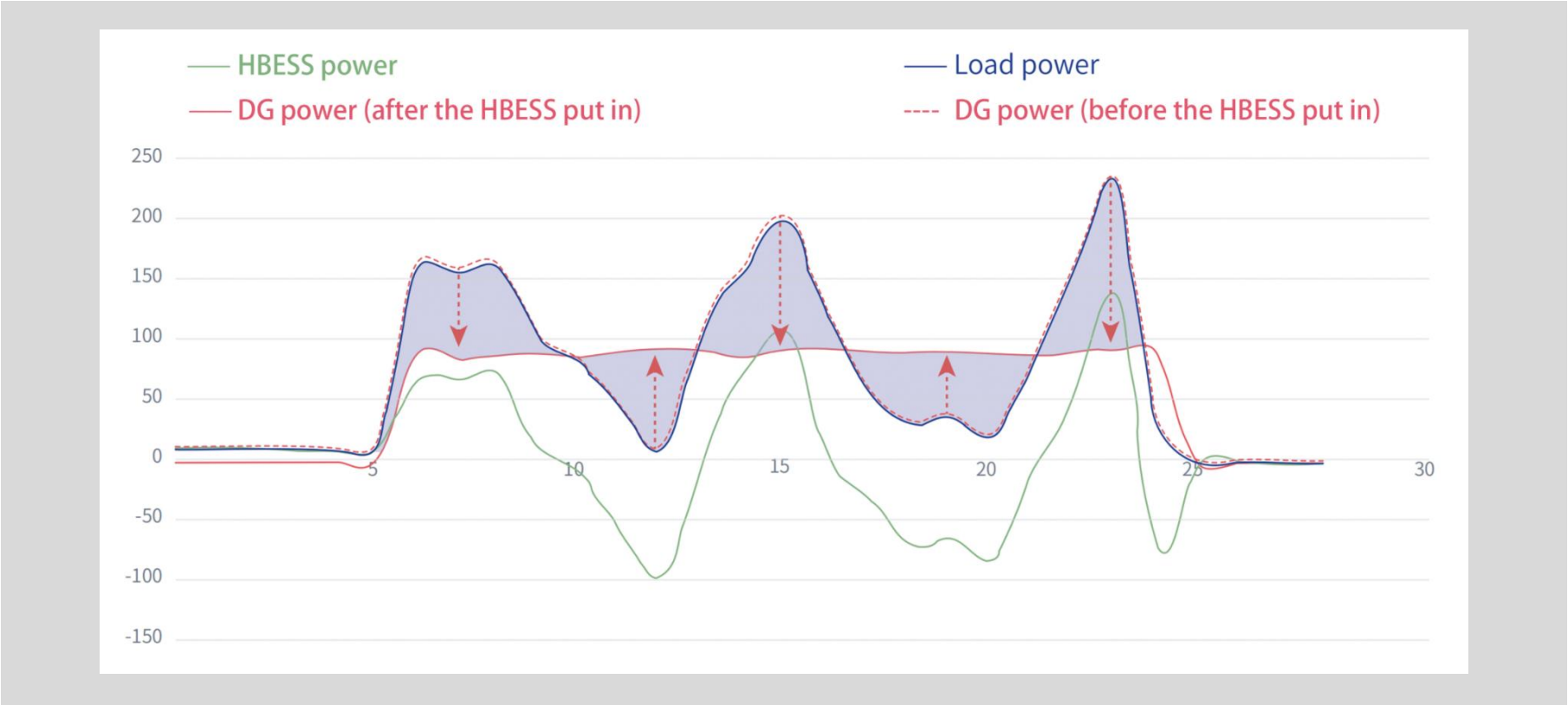
◆ Connecting Box

Interface for Diesel Genset connection, PV input, Load

All-In-One

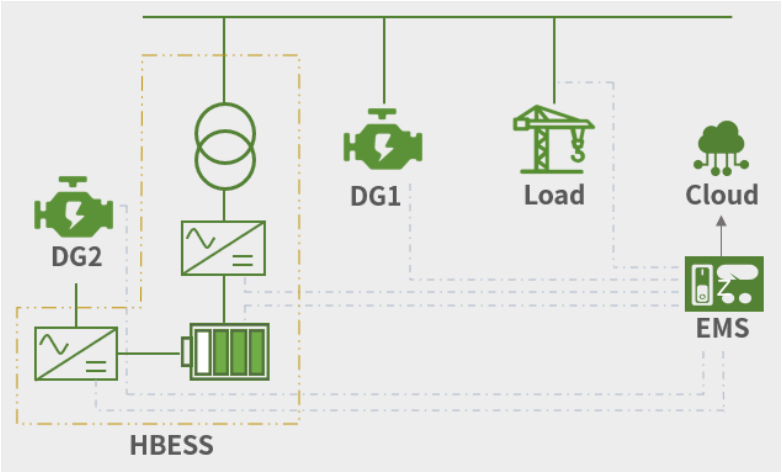
Model	Alpha-250-215-EX	Alpha-400-430-EX
Basic Parameters		
System Capacity	250kW/215kWh	400kW/430kWh
Wiring Method	Three-phase four-wire+PE	
Electrical Parameters		
Rated Power	250 kW	400 kW
Rated AC Current	378 A	607 A
Maximum AC Current	455 A	729 A
Load-Bearing Capacity	≤250kVA, Continuous ≤275kVA, 10min ≤300kVA, 1min	≤400kVA, Continuous ≤440kVA, 10min ≤480kVA, 1min
Rated Voltage	380/400 Vac	
Rated Frequency	50/60 (±2.5) Hz	
On/Off-grid Switching Settings	Yes	
On/Off-grid Switching Time	20 ms	
Battery Parameters		
Total Battery System Capacity	215.04kWh	430.08 kWh
Battery Type	Lithium-iron phosphate battery	
Maximum Continuous Charging Rate	1C@25℃	
Maximum Continuous Discharge Rate	1C@25℃	
Working Temperature Range	Charge0℃~50℃; Discharge-20℃~50℃	
System Parameters		
System Size (WxHxD)	2991×2591×2438 mm	2991×2591×2438 mm
Weight	6630 kg	8530 kg
Ingress Protection Degree	IP54	
Certification	CE (IEC62109)、UN 38.3、IEC62619	
Allowed Altitude	5000 m (Derating above 3000 meters)	
Communication Interface	RS485, Ethernet, CAN2.0	

Operating principle

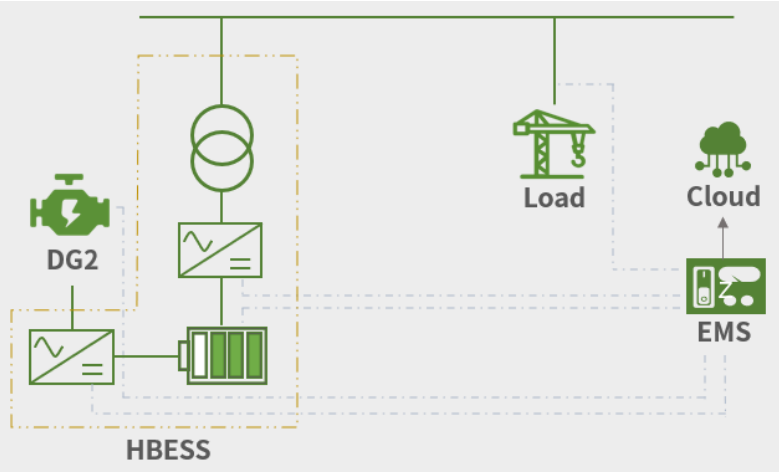


- Extreme reduction in diesel consumption
- Electric power supply is uninterrupted
- Reduce the noise of the power supply equipment
- Reduce pollution and carbon emissions

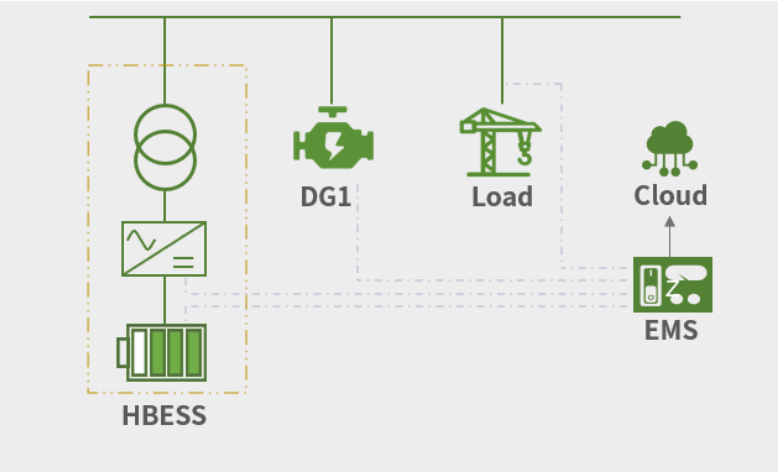
Three modes of operation



- Maximum system output power is DG1+HBESS power
- HBESS power comes from DG1 or DG2

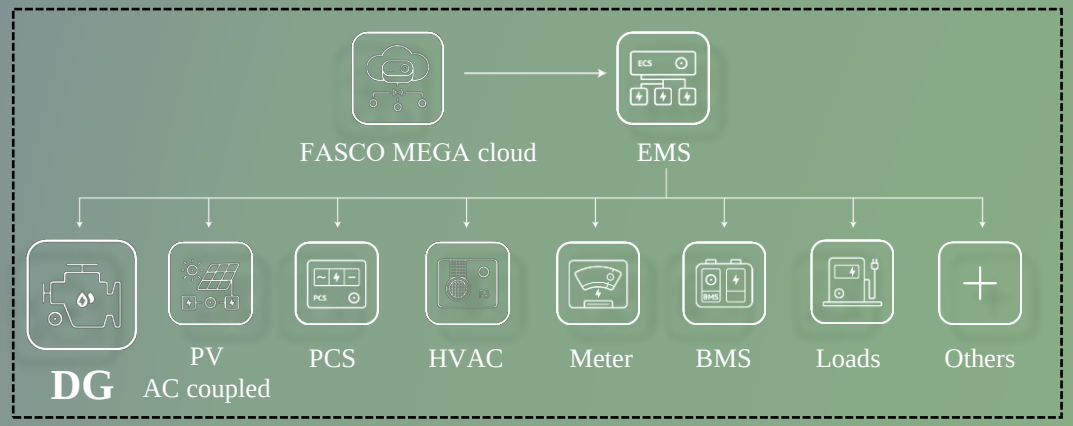


- Maximum system output power is HBESS power
- HBESS power comes from DG2



- Maximum system output power is DG1+HBESS power
- HBESS power comes from DG1

Stronger control system



FASCO MEGA EMS control module

The FASCO MEGA EMS communicates directly with the DG controller

- DG always work at peak efficiency, reduce fuel consumption.
- The entire system control becomes visual.
- The working life of DG is extended and the failure rate of DG is reduced.

Application Case

Only the application can verify the reliability of the product

Application Case 1

- Location: Zimbabwe
- Operation Type: PV-ESS-DG Hybrid Micro-grid System
- Configuration: 1000kW/1290kWh ESS,
  600kVA Diesel Genset,
  800kW PV
- Load: Stone cutter, crusher, domestic electricity
- Environment: Dusty, High temperature

Application Case 2

- Location: Johannesburg, South Africa
- Operation Type: Solar-ESS-Diesel Hybrid Micro-grid
- Configuration: 250kW/549kWh ESS, 400kVA Diesel Genset, 300kW PV
- Load: Car charging piles
- Environment: Noise sensitive

Application Case 3

- Location: Sichuan
- Operation Type: Diesel and Energy Storage
- Configuration: 400kW/430kWh ESS
  500kVA Diesel Genset
- Load: Mixers, control rooms, boilers
- Environment: Dusty and altitude: 3600m

Application Case 4

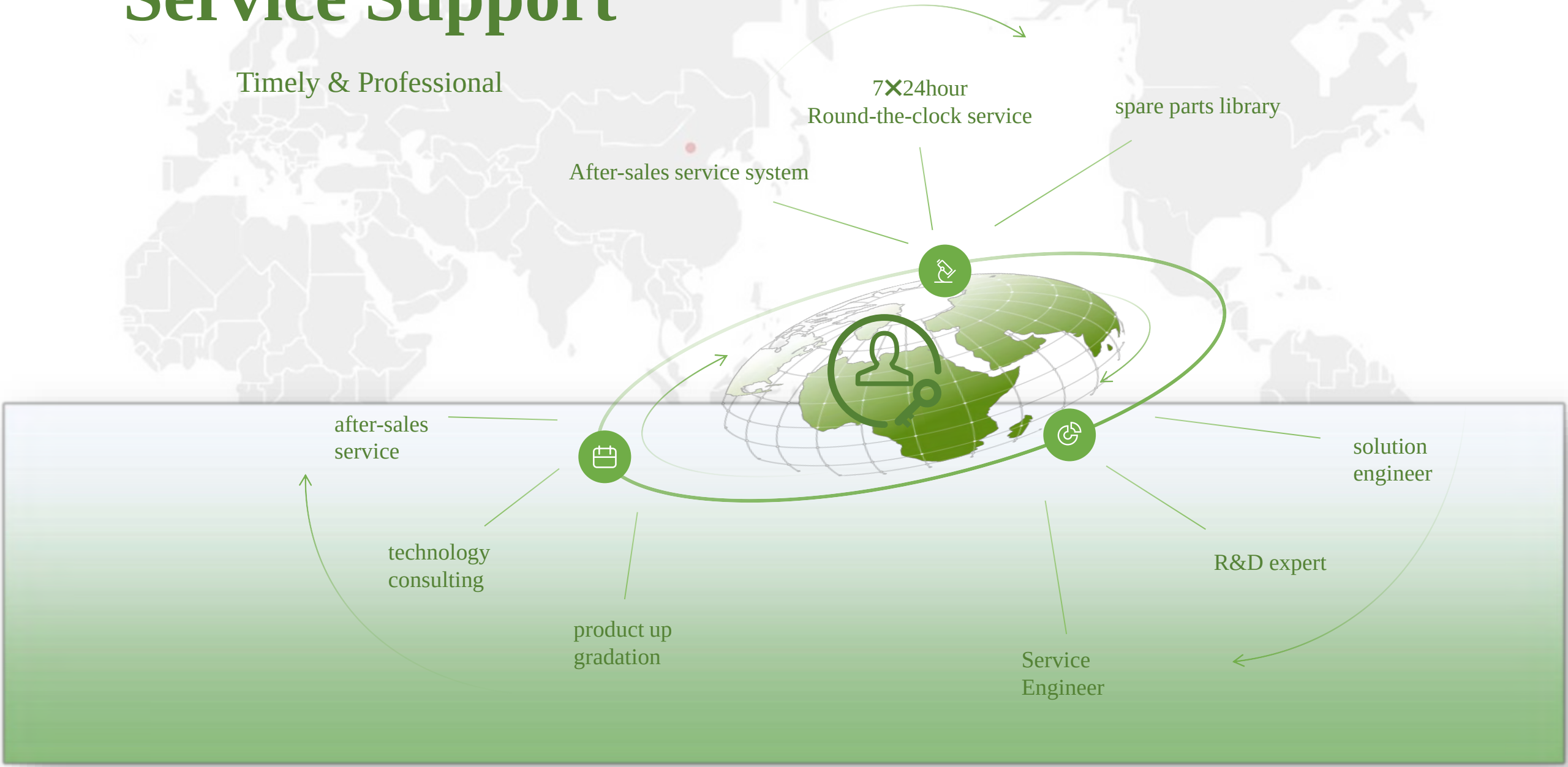
- Location: Hong Kong
- Operation Type: Diesel and Energy Storage
- Configuration: 250kW/215kWh ESS
  100kVA Diesel Genset
- Load: tower crane
- Environment: Noise sensistive, Frequent typhoons

Application Case 5

- Location: Hong Kong
- Operation Type: Diesel and Energy Storage
- Configuration: 250kW/250kWh ESS
  250kVA Diesel Genset
- Load: Pump, Electricity for daily use
- Environment: Noise sensistive, Frequent typhoons

Service Support

Timely & Professional



Driving the energy transition with FASCO MEGA ENERGY.

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