



**We are specialized in mobile
power suppliers
and the electrification
of off-road machinery**



Company Profile

Hangzhou Lanli Electric Technology Co., Ltd. (referred to as "Lanli") is an innovative company dedicated to mobile power supply and the electrification of off-road machinery. Established in 2016, our founding team consists of experienced professionals from the fields of construction equipment and agricultural machinery.

Lanli acknowledges difficult access to charging stations that differentiates off-road machinery from regular vehicles. Therefore, we believe that a necessary condition for the electrification of off-road machinery is to have a set of mobile power products that can "deliver electricity to the machines." Therefore, Lanli has developed a series of mobile charging products and a range of electrification methods for off-road machinery, such as excavators, loaders, sugarcane harvesters, and aerial work platforms.

Lanli also collaborates with business partners to develop a wide range of electric machinery applications suitable for mining, agriculture, subways, steel plants, scrap metal yards, and industrial dismantling. As a member of the electric business ecosystem, Lanli is committed to a scenario-oriented approach and intelligence-based solutions, continuously improving the functionality and breadth of its mobile charging product series. Upholding the philosophy of portability and altruism, the company strives to supply electric power to all the electric vehicle and machines even in Off Road and Off Grid states.

Development Concept

"Power to machines." Let all electric machines stay powered off Road ,and off Grid.

"Electrify first, power up next." Maximize electric edge.

"Scene-oriented, intelligence-oriented." Let electricity become the real strength for scene profitability.

"Build an electric ecosystem." Cooperate to enhance ecological viability and profitability.

Patent Qualification



Development History

From the first hour of the electric excavator, stride towards the finalized off-road electric future.

Exhibit at bauma CHINA

- The birth mobile-powered electric excavator
- Deployment of the first mobile power supplier designed for 7-20 tons excavators

2018

Surviving in a narrow gap and focusing on the market

- Special electric dismantling machine
- Seek the path of compromise with reality

2020

2016

Set up
Capital 60 million yuan

Subsidiaries:

Licheng: Core components

Lijin: Machine fuel-to- electric transformation

Aiwote: Series research and development

2019

Changsha
International Exhibition

- -Completion of the first 20-tons electric excavator.
- Expansion of the application market
- -Steel mill. -Scrapyard
- Subway tunnel
- Accumulated work hours exceeded 10,000

Make it possible for all off-road machines
Stay powered off-road and off-grid

LANLI

Returning to the core business

- Switching from electrification to mobile power suppliers
- Power supply facilitates electrification
- MBB500 series released, powering excavator up to 60 tons

- Using mobile power suppliers to galvanize off-road electrification

Future

2023

2021

To survive within the
crevices by harnessing the
potential of full electrification

- "Electrify first, power up next."
Electrification diversified
- Electric excavators (5-40 tons)
- Electric sugarcane harvesters
- Electric aerial work platforms
- ...
- Applications: steel mills,
automotive dismantling, dock
loading and unloading,
river dredging

2024

Continuous innovation

- Mobile power supplier series upgraded
- MBB500, MBB200, MBB50
- Comprehensive exploration of business cooperation models

Cooperative Partner

HITACHI

Reliable Solutions

LIUGONG
柳工

SDLG 山东临工

KOBELCO

SANY

CATL 宁德时代

ZOOMLION

株式会社 菊池制作所

北京城建集团
BEIJING URBAN CONSTRUCTION GROUP CO.,LTD



启源芯动力

Cooperate for
common
prosperity,
help each other
for
mutual benefits!

CAT®

KOMATSU

LINCE 联诚集团

HD HYUNDAI
CONSTRUCTION EQUIPMENT

Haulotte

国机重工
SINOMACH

ITOCHU

伊藤忠商事



中国铁建



津西集团
JINXI GROUP



MBB500

All-terrain mobile
power supply vehicle



Product overview

The MBB500 all-terrain mobile power supply vehicle is a large mobile power product developed by Hangzhou Lanli Electric Technology Co., Ltd. It can carry over 6 tons of energy storage batteries (over 560 kWh) and is capable of moving on various complex unpaved roads. It is an essential mobile power source or emergency power supply for medium to large electric machinery in environments such as mines, construction sites, and farms.

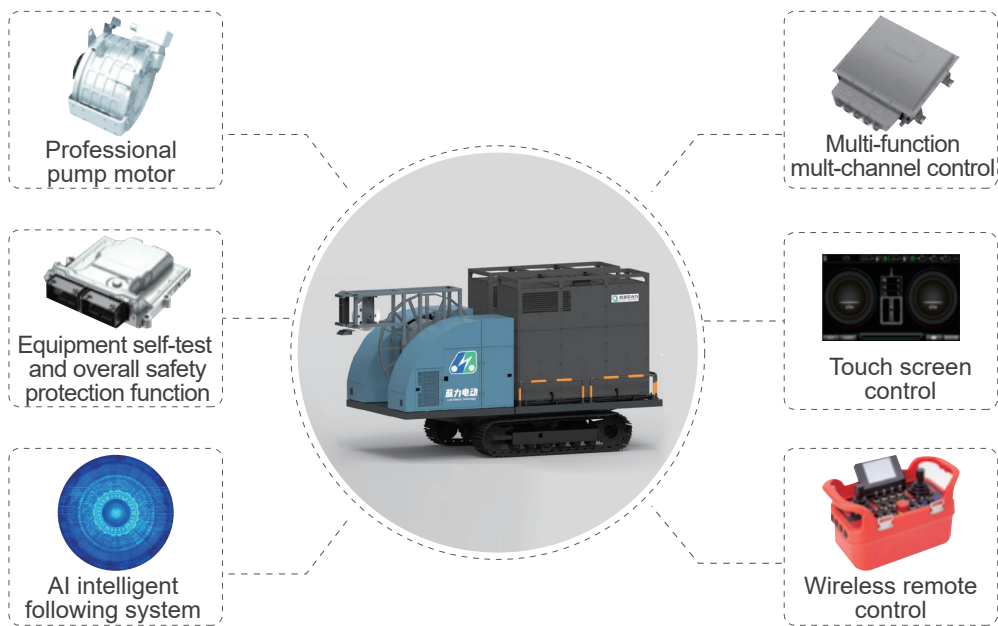
It can directly drive ordinary motors and electric machinery under 250 kW, or it can be adapted through a transformer to become a mobile DC or AC charging station, serving as a power center for electric machinery in off-grid conditions. It can also store electricity during off-peak hours and supply power during peak hours, taking advantage of time-of-use electricity rates. Additionally, it can store wind and solar energy that cannot be fed into the grid and transfer it to locations where it is needed, benefiting from spatial price differences in electricity.

Most importantly, it enables sites that are not suitable for electric machinery but consume large amounts of diesel to utilize clean and cost-effective green electricity, achieving both environmental protection and economic benefits.

Product specifications

Vehicle dimensions	5510*2300*3150mm (length, width,height)
Maximum gross Weight	11200kg
Maximum climb	23°
Running speed	0~5km/h
Battery capacity	564kWh
4 charging input interfaces	compliant with GB/T 20234-2015
Rated voltage output	380VAC (0-100Hz frequency conversion)
Output customization 1	AC 250kVA (sinusoidal output)
Output Customization 2	DC voltage output 510~720VDC
Rated output power	200kW
Maximum output power	300kW
Electric cable reel	Automatic winding and unwinding
Max cable payout lenght (customizable)	30m
Operation mode	Manual LCD screen operation, remote control
Optional	Automatic tracking
Safety protection	leakage, short circuit, overload, overcurrent, overheating, power phase shortage etc.

Function configuration



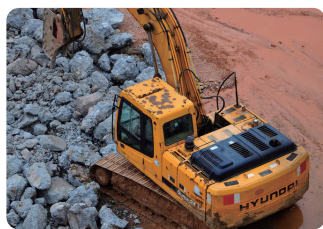
Applications



Loader



Excavator



Crusher

Field operations in mines



Slope climbing



Mountaintop operation



High-efficiency operations



Automatic cable reeling



MBB200

Companion mobile
power supply trailer



Product overview

The MBB200 mobile power supply trailer is a medium-sized power supply product developed by Hangzhou Lanli Electric Technology Co., Ltd. The design concept of this product is to cover the temporal and spatial blind spots of the power grid, ensuring smooth operation of medium and small electric machinery. Although the power grid seems to be everywhere, there are actually many power supply blind spots for electric machinery. For example, a 20-tons excavator cannot move if there is no sufficiently large power source within 100 meters, regardless of whether it has a battery on board. As the number of electric machines increases, the issue of power grid blind spots will become more pronounced.

The MBB200 features a compact size, flexible mobility, and high output power. It can support electric machinery with motor power ranging from 20 kW to 200 kW. It can also be adapted through transformer devices to become a DC or AC power source, providing electricity to machinery in factories, construction sites, or agricultural fields, ensuring a proactive power supply for all electric machinery.

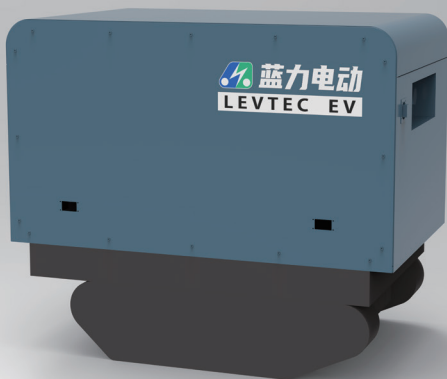
Product specifications

Trailer dimensions	4648x2040x1930mm
Trailer weight	<3000kg
Battery capacity	142kWh
DC charging pile	GBT/T 20234-2015
Charging power	142kW
AC charging power	40kW
Mode of movement	Towed type
Rated output power	142kW
Maximum output power	200kW
Output frequency	0-100Hz Variable frequency
Customized output1	Sinusoidal three-phase AC 132kVA/380VAC
Customized output 2	DC voltage output 490-690VDC
Safety protection	leakage, short circuit, overload, power phase shortage etc.
Mobility method option	electric track remote control



MBB50

Dual-purpose
(routine & emergency)
mobile power supply
vehicle



Product overview

The MBB50 is a multifunctional mobile power supply vehicle, which is specifically engineered to meet the requirements of both routine operations and emergency scenarios. It has the capability to output AC at 380V and 220V, along with DC within the voltage ranges of 200 - 700V and 48 - 100V. Typically, it serves as a universal power supply on-site, providing essential power support for all electric machinery and vehicles, thereby alleviating concerns about operational endurance. In the event of a disaster, the MBB50 can function as an emergency power supply, delivering critical power for communication and disaster relief tools to any location where it is needed. Additionally, the MBB50 can be equipped with specialized batteries that enable 5C charging and discharging, with a cycle life of up to 20,000 cycles. It can also act as a power transfer system, providing online power supply services for electric vehicles in operation, enabling a 10-minute power supply and an additional hour of workload.

Solution1: Mobile power supply, multiple power output modes (ordinary battery)

Equipped with economical batteries, diversified power output modes

Output 1:380VAC 30kW	High power mobile AC power supply
Output 2:220VAC 6.6kW	Emergency mobile power supply
Output 3:2000-700VDC 60kW	DC mobile charging pile
Output 4:48-100VDC 5kW	Aerial work platform vehicle/ forklift truck

Solution 2: Power transfer expert,
5C charge-discharge, 20,000 cycle life

Configure high-performance batteries with excellent charge and discharge performance

Output 1:380VAC 30kW	High power mobile AC power supply
Output 2:220VAC 6.6kW	Emergency power supply
Output 3:2000-700VDC 60kW	DC mobile charging pile
Output 4: DC I/O (5C charge/discharge)	Recharge for 10 minutes, work for an extra hour

Product specifications

Vehicle dimensions	1800*1100*1500mm
Running speed	0-5km/h
Maximum gross Weight	1800kg
Ground clearance	150mm
Mode of movement	electric rubber track
Safety protection	leakage, short circuit, overload, overcurrent, overheating, power phase shortage etc.
Battery capacity	50kWh
Maximum climb	25°
Charging input interface	National standard charging pile /380VAC 30kW
Max cable payout lenght	5m
Suitable altitude	≤2000m

Electric transformation

Electrification of excavator

Transformation scheme

Excavators consume a large amount of fuel and have long working hours, with annual fuel costs reaching hundreds of thousands or even millions of yuan. Converting excavators from diesel to electric can save up to 70% in fuel costs each year, making it a venture with both significant economic and environmental benefits.

We have developed an electric powertrain that integrates a motor, generator, compressor, and cooling fan, fully replacing the function and position of the original engine. At the same time, we replace the original engine's MCU with an electric powertrain controller (MCU) to ensure communication with the main VCU.

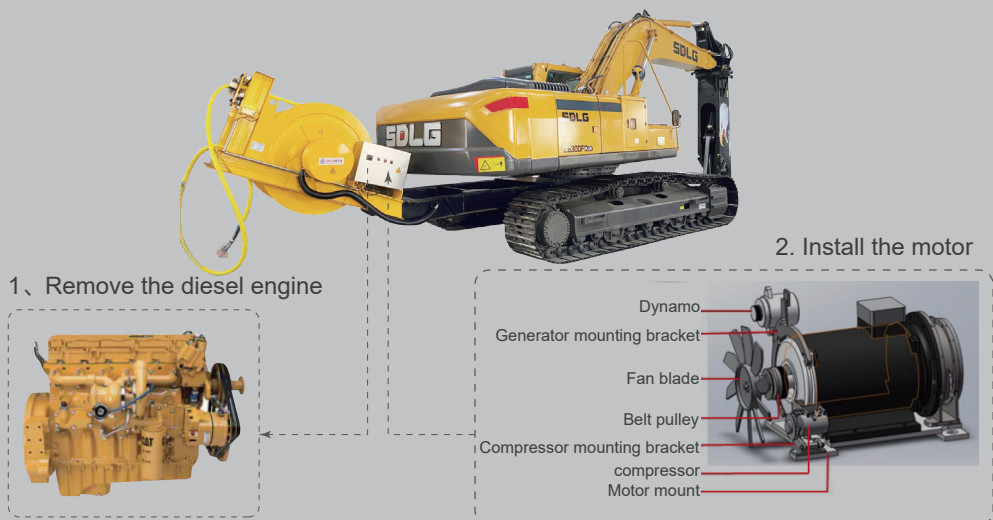
This allows the modified electric excavator to retain the original operating methods and performance completely.

Product features

- 1) The electric powertrain replaces the engine assembly without altering the original machine's working capabilities or maintenance performance, ensuring high overall reliability.
- 2) The electric powertrain of the excavator can be seamlessly connected to the MBB series power supply vehicles. Even in work scenarios without grid power, there is no worry about electricity supply.

Technical parameter

Excavator tonnage	5~60 tons
Motor power	15kW~315kW
Cable specification	16~240mm ²
Cable winding and unwinding	Spring/ electric type
Cable outlet mode	Top-outlet/ Bottom-outlet
Driving mode	Soft start/variable frequency start/ diesel-electric dual drive





Electric transformation

Electrification of aerial work platform



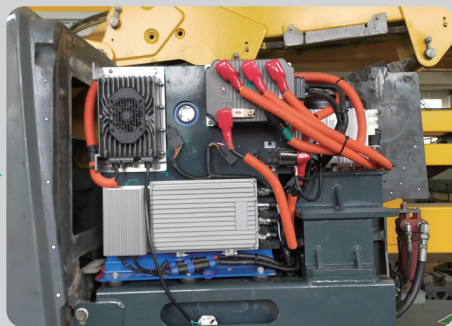
Technical parameter

Battery capacity	16/24kWh
Battery voltage	72-84V
Motor power	16/25kW
Charging mode	220VAC≤10 hours
Electric assembly weight	within +/-10% of the original engine weight
Working performance	No less than 90% of the original's

Original engine bay



After replacing the power unit



Transformation scheme

Although aerial work platforms have long working hours, they spend most of the time in a standby state, resulting in low energy consumption. They are a type of equipment that requires extremely high stability.

The electric powertrain is composed of a battery, motor, charger, and OBC (On-Board Charger), which completely replaces the system functions and special requirements of the original engine. At the same time, the electric powertrain controller (MCU) replaces the original engine's MCU, ensuring communication with the main vehicle control unit (VCU).

This allows the modified electric aerial work platform to fully retain the original machine's operating methods and performance.

Product features

- 1.Retain the original vehicle's exterior, counterweight, operation mode and maintenance approach, and be capable of converting the diesel power into battery power. The retrofit plan is supported by the original equipment manufacturers.
- 2.The charging system of the electric powertrain can be seamlessly interfaced with the MBB series power supply vehicles. Even in work scenarios where there is no public charging infrastructure, the power supply is assured without concerns.
- 3.Exhaust gas is eliminated, noise is reduced, and the environmental friendliness of the original machine is substantially enhanced.

Electric transformation

Electrification of loaders

Transformation scheme 1: cable power supply

When the loader operates in a circular area within a radius of 30 meters, using a retractable cable power supply system is the most economical and practical method to power the loader.

By replacing the original engine assembly with an electric powertrain and connecting an external high-speed winding system, the loader can move freely beyond the 30-meter range, centered around the cable outlet device.

Product features

- 1) The transformation of the system on the main unit is straightforward and does not change the operability and maintainability of the original machine.
- 2) It offers a high cost-performance ratio (the investment can be recovered within 6 months through the difference in fuel and electricity costs).
- 3) However, there are strict requirements for the power supply system, and the working range is significantly limited.

Transformation scheme 2: lithium - battery power supply

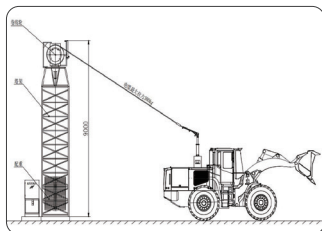
The original engine system will be fully replaced with a new one consisting of the battery, motor, control unit, system integration, and gearbox. The conversion will be complicated, but comes with the benefit of being easy to use and maintain and possesses the same performance with its diesel counterpart.

Product features

The battery can be separated from the main unit as an asset and adopted in a leasing model, significantly reducing the initial investment costs for customers. The rental fee plus electricity costs can be kept within 70% of the diesel costs. However, there needs to be a dedicated or public fast charging station near the loader to meet the charging needs during the loader's work breaks.

Technical parameter

Argument		Unit	Index
Overall dimension	Total length	mm	Unchanged
	Total height	mm	Unchanged
	Bucket width	mm	Unchanged
Main parameter	Rated bucket capacity	m3	Unchanged
	load capacity	kg	Unchanged
Permanent magnet synchronous drive motor	Rated power	kW	160
	Maximum power	kW	260
	Rated torque	Nm	850
	Maximum torque	Nm	2000
	Rated rotational speed	rpm	1800
	Maximum rotational speed	rpm	2200
	Cooling mode	Liquid cooling	
Permanent magnet synchronous driver	Rated power	kW	160
	Maximum power	kW	260
	Cooling mode		Liquid cooling



Electric transformation

Electrification of agricultural machinery

Electrification of agricultural machinery



Small semi-automatic all-electric drive Hybrid sugarcane harvester

Modern electronic control system
high degree of automation

The entire machine adopts a fully electric drive system, different from traditional cutting-type sugarcane harvesters, with a hybrid working mode. The whole vehicle is controlled by a modern electric control system, which has a high degree of automation. Operators can operate the harvester after just 1-2 days of simple training. The operation process is monitored in real-time by the main VCU, which automatically adjusts the working status of each module.

The harvester is powered by our independently researched and developed low-voltage DC high-power-density diesel generator. The vehicle has a built-in power storage battery and can be freely switched between a fully electric and hybrid modes of operation. Its high-efficiency and high-power density greatly reduces the level of energy consumption. The vehicle is limited to 5 meters in length and 5 tons in weight, requiring only a small truck for transportation.

Built-in diesel engine low voltage
DC high power density generator

The Harvester adopts an electric drive and a battery-powered storage system. The vehicle can be charged in the place with a fixed power supply and can perform work either in a pure electric mode or in a hybrid energy mode. Its high-efficiency motor drive can effectively provide the power for operation while greatly reducing the energy consumption of the whole vehicle. The energy consumption level is reduced to 1 liter/ton under the condition of guaranteeing the rated feeding quantity, reducing operation cost, increasing operating income.



High automation

The machine works efficiently with minimal training.



Significantly reduce energy consumption

An interchangeable work mode brings a flexible power output, greatly cutting energy consumption.



Cost reduction and efficiency increase

The operation cost is reduced and the operation income is increased.

Electric transformation

Electrification of locomotives

Transformation of short distance rail locomotives from oil to electricity

Diesel locomotive
renewable energy retrofit



Service weight	86t
Wheel diameter (new wheel)	1050mm
Traction power	600kW
Battery capacity	662kWh
Starting tractive effort	275kN
Continuous tractive effort	240kN
Constant power zone velocity	10-25km/h
Braking mode	Electric brake +air brake

DF4B Diesel locomotive
renewable energy retrofit

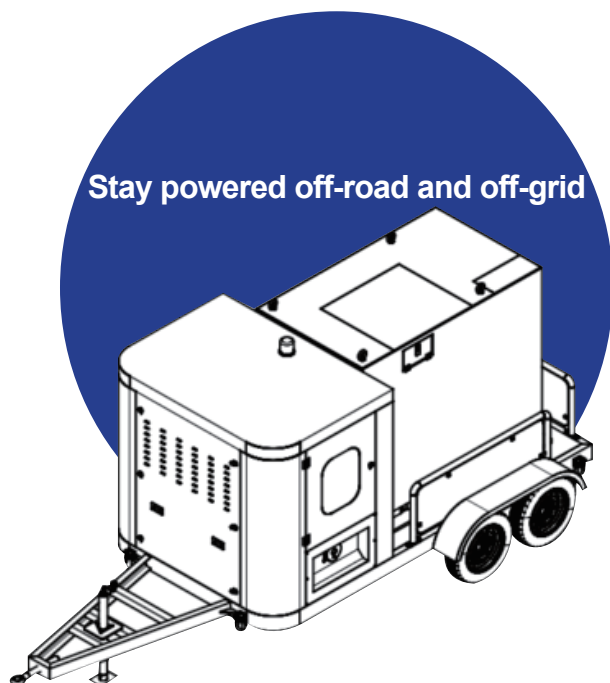


Service weight	138t
Wheel diameter (new wheel)	1050mm
Traction power at wheel rim	1650kW
Battery capacity	2000kWh+
Starting tractive effort	436kN
Continuous tractive effort	330kN
Constant power zone velocity	18-35km/h
Braking mode	Electric brake +air brake

Retrofit recording



The product appearance and performance are subjected to change without notice due to constant technological refinement. Any translation, dissemination, usage of pictures and layouts, or modification of this manual without authorization from Hangzhou Lanli Electric Technology Co., Ltd. is prohibited.



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