



# Robot Lithium Battery Solution

**Product Brochure**



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# ABOUT US

## ▶ Company Profile

Hunan Fedepo New Energy Technology Co., Ltd. is located in Changsha, a famous city with long history. Affiliated with Five Intelligent Group, we are a national high-tech enterprise specializing in the R&D, design, production, and sales of new energy power batteries and energy storage batteries, the company has always adhered to the development philosophy of "Technology-led, Innovation-driven, Quality-first, and Serving the World". We are committed to providing safe, reliable, efficient, and intelligent overall lithium-battery-pack solutions for domestic and international customers.

## ▶ Development Concept

Since the establishment, Febatt has actively implemented the strategy of open cooperation, deeply integrated into the development pattern of the global new energy industry, and established long - term and stable strategic cooperation relationships with several well-known domestic and foreign new energy cell manufacturers. At the same time, we have carried out comprehensive and in-depth cooperation with several well-known domestic universities and scientific research institutions, jointly promoting technological innovation and progress in the industry, and providing solid technical support and talent guarantee for the company's sustainable development.



## ▶ Product Matrix

Febatt has a rich and diverse product matrix. In the field of robotic power, we have built a diversified product portfolio to precisely meet the multi-scenario demands of cleaning robots, logistics robots, service robots, industrial robots, and special-purpose robots. In the field of electric mobility, Febatt provides efficient and stable power support for all kinds of electric transportation.

## ▶ R&D Strength

We highly value technological research and development as well as innovation. We have an R&D team with high professional qualities and strong innovation capabilities. Currently, our R&D team have over 40 R&D engineers of various specialties, covering multiple disciplinary fields including materials science, electrochemistry, and electronic engineering. By the end of 2024, we had accumulated 33 patents related to lithium batteries.

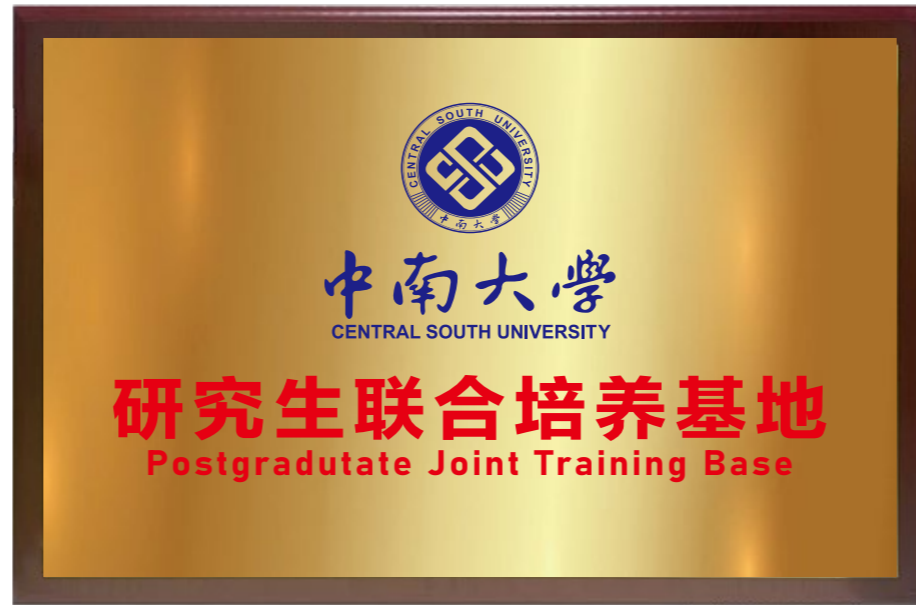
## ▶ Quality Management

In terms of quality management, Febatt fully implements the quality management policy of the parent group. We place the customer at the core of our operation and firmly adheres to the business philosophy that "Quality is life, and service is the soul." We have established a comprehensive quality management system. It conducts quality control throughout the entire process, from raw material procurement, product design and development, manufacturing, to after-sales service, to ensure that every product meets high-quality standards. By providing customers with high-quality, reliable products and comprehensive, personalized services, we have won widespread recognition and trust from domestic and international customers.

## Company Honors



National High-tech Enterprise



Postgraduate Joint Training Base, Central South University



Postgraduate Joint Training Base, Xiangtan University

## Product Certifications



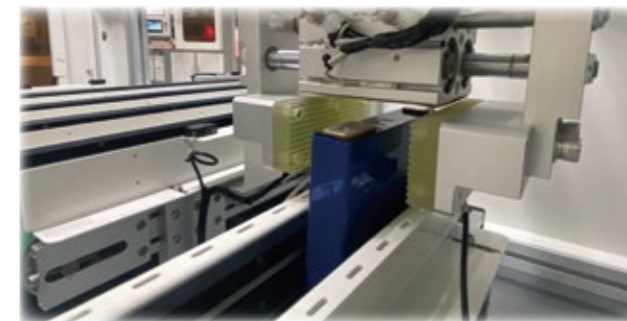
## ▶ Pack Workshop



## ▶ Company Qualifications

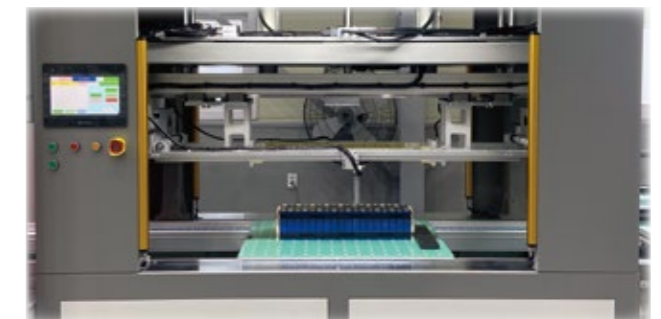
### 🛡️ International Safety Certifications

The lithium battery packs produced by Febatt meet the requirements of international safety certifications such as UL and CE, ensuring the safety of products on a global scale.



### 🛡️ Battery Management System (BMS) Certifications

The BMS systems equipped in Febatt's lithium battery packs comply with ISO quality standards. The BMS has multiple safety functions, including over-charge protection, over-discharge protection, short-circuit protection and so on which have guaranteed the safe using of the batteries.



### ♻️ Environmental Adaptability Tests

Febatt conducts strict environmental adaptability tests on lithium battery packs. The test items include high & low temperature tests, vibration tests, etc., which have ensured that the lithium battery packs can operate stably in different usage environments.

## ▶ Partners





## Battery Solutions for Robot

- ① AGV / IGV / RGV    ② Driverless Cart    ③ Cleaning Robot    ④ Service Robot  
⑤ Industrial Robot    ⑥ Medical Robot    ⑦ Underwater Robot    ⑧ Special Robot



▶ Model: FEB4860RBM

Voltage:	48V
Capacity:	60Ah
Dimension:	77*71*19.5mm
Weight:	34Kg
Communication:	CAN/RS485



▶ Model: FEB2538RBM

Voltage:	25.6V
Capacity:	38.4Ah
Dimension:	310*210*120mm
Weight:	8.5Kg
Communication:	CAN/RS485



▶ Model: FEB5950RBM

Voltage:	59.2V
Capacity:	50Ah
Dimension:	460*410*100mm
Weight:	34Kg
Communication:	CAN/RS485



▶ Model: FEB48100RBM

Voltage:	48V
Capacity:	100Ah
Dimension:	620*325*240mm
Weight:	55Kg
Communication:	CAN/RS485

## ▶ Application Scenarios





# Driverless Cart Battery | 02



▶ Model: FEB2510RBM

Voltage:	25.6V
Capacity:	10Ah
Dimension:	190*150*85mm
Weight:	4.5kg
Communication:	CAN/RS485



▶ Model: FEB2227RBM

Voltage:	22.4V
Capacity:	27.2Ah
Dimension:	290*210*94mm
Weight:	7.5kg
Communication:	CAN/RS485



▶ Model: FEB4840RBM

Voltage:	48V
Capacity:	40Ah
Dimension:	420*265*140mm
Weight:	35Kg
Communication:	CAN/RS485



▶ Model: FEB4626RBM

Voltage:	46.8V
Capacity:	26Ah
Dimension:	280*180*80mm
Weight:	6kg
Communication:	CAN/RS485

## ▶ Application Scenarios



# Cleaning Robot Battery | 03



▶ Model: FEB2519RBM

Voltage:	25.2V
Capacity:	19.25Ah
Dimension:	181*181*91mm
Weight:	4.7Kg
Communication:	CAN/RS485



▶ Model: FEB2227RBM

Voltage:	22.4V
Capacity:	27.2Ah
Dimension:	290*210*94mm
Weight:	7.5kg
Communication:	CAN/RS485



▶ Model: FEB1402RBM

Voltage:	14.8V
Capacity:	2.2Ah
Dimension:	80.7*33*80mm
Weight:	0.22kg
Communication:	CAN/RS485



▶ Model: FEB4603RBM

Voltage:	46.8V
Capacity:	3.35Ah
Dimension:	160*73*50mm
Weight:	1.2kg
Communication:	CAN/RS485

## ▶ Application Scenarios



# Service Robot Battery | 04



▶ Model: FEB2560RBM

Voltage:	25.2V
Capacity:	60Ah
Dimension:	265*250*100mm
Weight:	7.5Kg
Communication:	CAN/RS485



▶ Model: FEB1260RBM

Voltage:	12.8V
Capacity:	60Ah
Dimension:	290*220*110mm
Weight:	7.6Kg
Communication:	CAN/RS485



▶ Model: FEB3821RBM

Voltage:	38.4V
Capacity:	21Ah
Dimension:	328*317.6*88.5mm
Weight:	12Kg
Communication:	CAN/RS485



▶ Model: FEB2531RBM

Voltage:	25.6V
Capacity:	31Ah
Dimension:	280*275*100mm
Weight:	10Kg
Communication:	CAN/RS485

## ▶ Application Scenarios



# Industrial Robot Battery | 05



▶ Model: FEB6473RBM

Voltage:	64V
Capacity:	73.5Ah
Dimension:	450*460*192.5mm
Weight:	52Kg
Communication:	CAN/RS485



▶ Model: FEB4845RBM

Voltage:	48V
Capacity:	45Ah
Dimension:	300*190*245mm
Weight:	24Kg
Communication:	CAN/RS485



▶ Model: FEB2530RBM

Voltage:	25.6V
Capacity:	30Ah
Dimension:	195*160*175mm
Weight:	7.5Kg
Communication:	CAN/RS485



▶ Model: FEB4603RBM

Voltage:	46.8V
Capacity:	3.35Ah
Dimension:	160*73*50mm
Weight:	1.2kg
Communication:	CAN/RS485

## ▶ Application Scenarios





# Medical Robot Battery | 06



▶ Model: FEB3832RBM

Voltage:	38.4V
Capacity:	32.4Ah
Dimension:	320*220*125mm
Weight:	14g
Communication:	CAN/RS485



▶ Model: FEB2250RBM

Voltage:	22.4V
Capacity:	50Ah
Dimension:	350*170*240mm
Weight:	1.2kg
Communication:	CAN/RS485



▶ Model: FEB2502RBM

Voltage:	25.2V
Capacity:	2.9Ah
Dimension:	100*80*45mm
Weight:	0.65kg
Communication:	CAN/RS485



▶ Model: FEB4810RBM

Voltage:	48V
Capacity:	10Ah
Dimension:	160*140*65mm
Weight:	2kg
Communication:	CAN/RS485

## ▶ Application Scenarios





# Underwater Robot Battery | 07



▶ Model: FEB2117RBM

Voltage:	21.6V
Capacity:	17Ah
Dimension:	160*φ100mm
Weight:	2Kg
Communication:	CAN/RS485



▶ Model: FEB14137RBM

Voltage:	14.5V
Capacity:	137.2Ah
Dimension:	φ100mm*308mm
Weight:	9.2kg
Communication:	CAN/RS485



▶ Model: FEB2120RBM

Voltage:	21.6V
Capacity:	20Ah
Dimension:	187*83.5*75mm
Weight:	1.9kg
Communication:	CAN/RS485

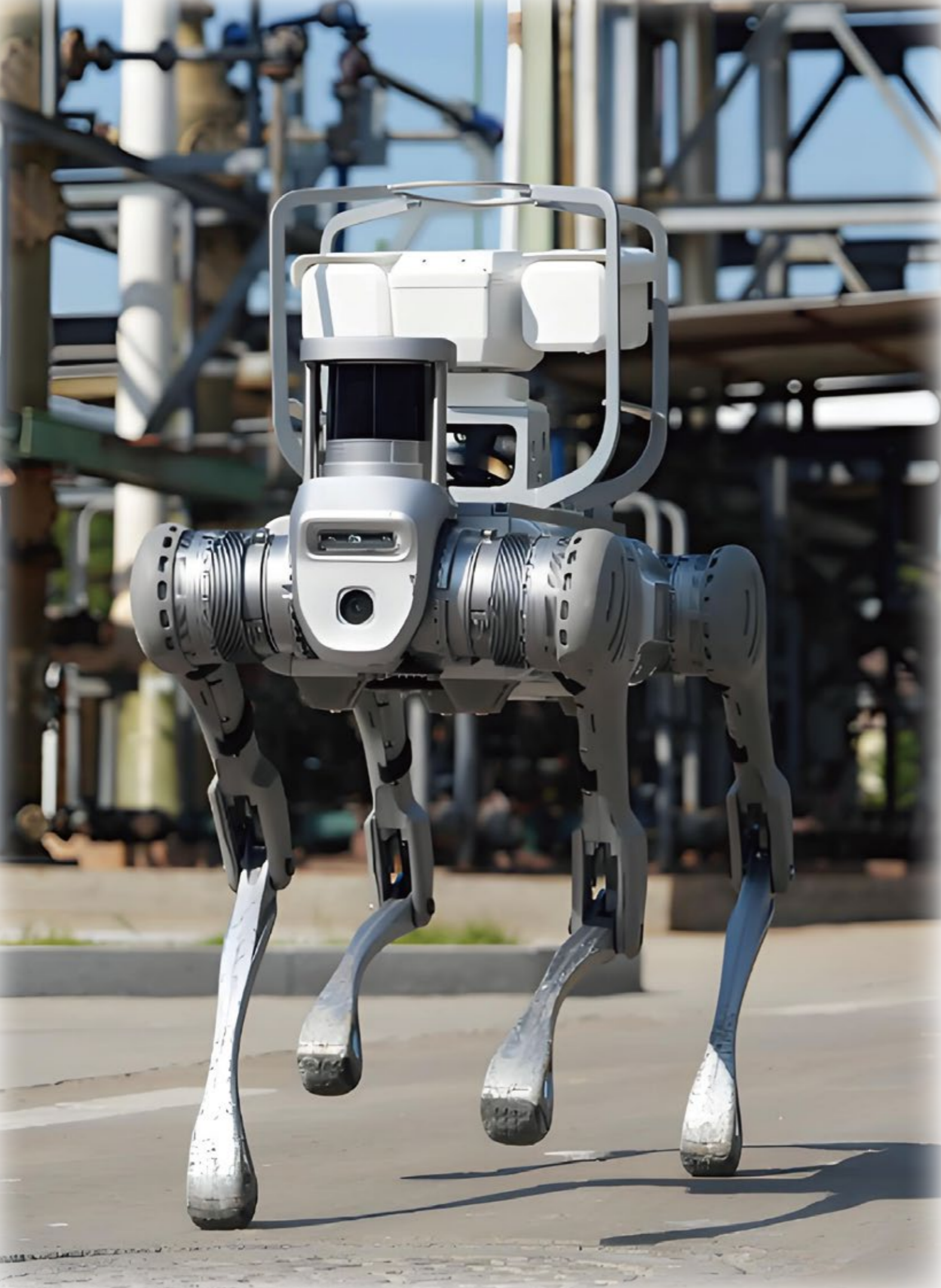


▶ Model: FEB2504RBM

Voltage:	25.2V
Capacity:	4.9Ah
Dimension:	135*75*80mm
Weight:	0.55kg
Communication:	CAN/RS485

## ▶ Application Scenarios





# Special Robot Battery | 08



▶ Model: FEB2217RBM

Voltage:	22.4V
Capacity:	17Ah
Dimension:	235*165*78mm
Weight:	4.2Kg
Communication:	CAN/RS485



▶ Model: FEB3240RBM

Voltage:	32V
Capacity:	40Ah
Dimension:	245*185*230mm
Weight:	13kg
Communication:	CAN/RS485



▶ Model: FEB3620RBM

Voltage:	36V
Capacity:	20.1Ah
Dimension:	320*210*165mm
Weight:	10kg
Communication:	CAN/RS485



▶ Model: FEB4814RBM

Voltage:	48V
Capacity:	14Ah
Dimension:	290*175*75mm
Weight:	5.5kg
Communication:	CAN/RS485

## ▶ Application Scenarios





# Charging Solutions for Robot

**AGV/AMR | Heavy-duty AGV | Top Shuttle Robots | Food Delivery Robots | Patrol Robots | Sweeping Robots**

**Warehouse Shuttle Robots | AGV Forklifts | Tractor Robots | Patrol and Inspection Robots | Sorting Robots | Lifting Robots**

# Robot Charger



## EV charger for light-load shuttle handling robot

Model: ATT24100MS / ATT4850MS

Input Voltage: AC 220V Single Phase

Output Power: 24V output DC16-32V 5~100A  
48V output DC32-60V 5~50A

Dimensions: 400\*214\*279mm

Application Scenarios: Warehouse Shuttle Robots, Top Shuttle Robots, Food Delivery Robots, Patrol Robots, Sweeping Robots, etc.



## EV charger for light-load shuttle handling robot

Model: ATT24200MS

Input Voltage: AC 220V Single Phase

Output Power: DC16-32V 5~200A

Dimensions: 447\*215\*351mm

Application Scenarios: Automatic charging for mine or transport rail robot, light load traction robot, etc.



## EV charger for heavy-duty shuttle handling robot

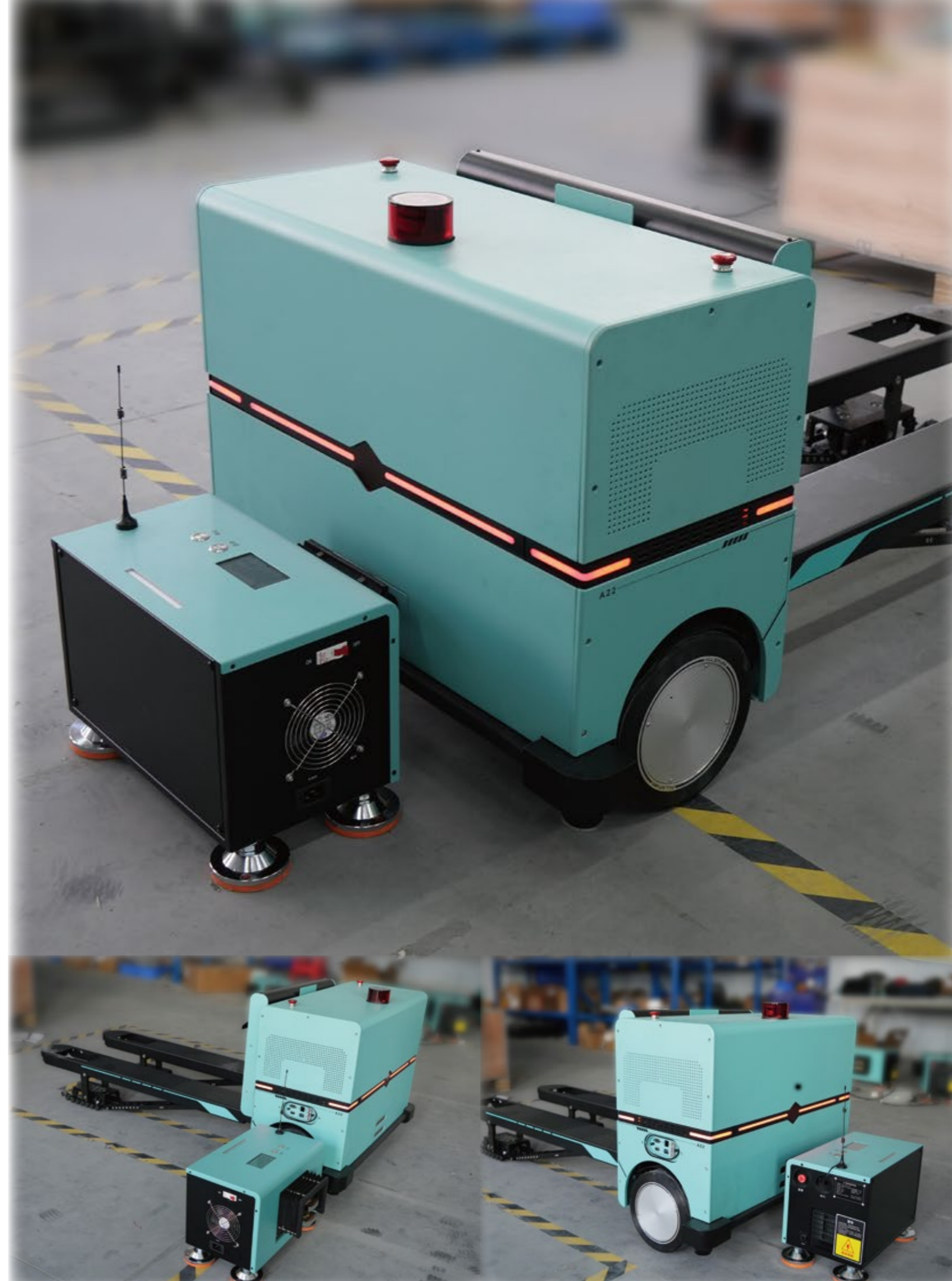
Model: ATT48100MS / ATT80100MS  
ATT48150MS / ATT80150MS  
ATT48200MS / ATT80200MS

Input Voltage: AC380V Three-phase Four-wire

Output Power: 48V output DC20-60V 5~200A  
80V output DC30-100V 5~200A

Dimensions: 560\*430\*600mm

Application Scenarios: Automatic charging for mine or transport rail robot, light load traction robot, etc.



## Robot Charger



### ▶ All-in-one EV charger with telescoping connector for AGV forklift with charging port at the side

Model: ATT24100MS / ATT4850MS

Input Voltage: AC 220V Single Phase

Output Power: 24V output DC16-32V 5~100A  
48V output DC32-60V 5~50A

Dimensions: 580\*390\*530mm

Application Scenarios: AGV unmanned forklifts, tractors, etc.



### ▶ All-in-one EV charger with telescoping connector for AGV forklift with charging port at the side

Model: ATT48100MS / ATT80100MS  
ATT48150MS / ATT80150MS  
ATT48200MS / ATT80200MS

Input Voltage: AC380V Three-phase Four-wire

Output Power: 48V output DC20-60V 5~200A  
80V output DC30-100V 5~200A

Dimensions: 580\*540\*570mm

Application Scenarios: AGV unmanned forklifts, tractors, etc.



### ▶ Split-type EV charger with telescoping connector for AGV forklift with charging port at the side

Model: ATT24100MS / ATT4850MS

Input Voltage: AC 220V Single Phase

Output Power: 24V output DC16-32V 5~100A  
48V output DC32-60V 5~50A

Dimensions: 400\*230\*260mm (Control Box Size)  
630\*250\*580mm (Telescopic Box Size)

Application Scenarios: AGV unmanned forklifts, tractors, etc.



## Robot Charger



### ▶ Split-type EV charger with telescoping connector for AGV forklift with charging port at the side

Model: ATT24200MS

Input Voltage: AC 220V Single Phase

Output Power: DC16-32V 5~200A

Dimensions: 400\*230\*260mm (Control Box Size)  
630\*250\*580mm (Telescoping Box Size)

Application Scenarios: AGV unmanned forklifts , tractors, etc.



### ▶ Split-type EV charger with telescoping connector for AGV forklift with charging port at the side

Model: ATT48100MS / ATT80100MS  
ATT48150MS / ATT80150MS  
ATT48200MS / ATT80200MS

Input Voltage: AC380V Three-phase Four-wire

Output Power: 48V output DC20-60V 5~200A  
80V output DC30-100V 5~200A

Dimensions: 655\*540\*570mm (Control Box Size)  
630\*250\*580mm (Telescoping Box Size)

Application Scenarios: AGV unmanned forklifts , tractors, etc.



### ▶ Split-type EV charger with telescoping connector for AGV forklift with charging port at the side

Model: ATT80200MS

Input Voltage: AC 380V Three-phase Four-wire

Output Power: DC30-100V 5~200A

Dimensions: 655\*540\*570mm (Control Box Size)  
630\*250\*580 (Telescoping Box Size)

Application Scenarios: AGV unmanned forklifts , tractors, etc.



## Robot Charger



### ▶ All-in-one EV Charger for robot with charging port at the front or back

Model: ATT24100MS / ATT4850MS

Input Voltage: AC 220V Single Phase

Output Power: 24V output DC16-32V 5~100A  
48V output DC32-60V 5~50A

Dimensions: 420\*400\*376mm

Application Scenarios: AGV unmanned forklifts and tractors, etc.



### ▶ Slit-type EV Charger for robot with charging port at the front or back

Model: ATT24100MS / ATT4850MS

Input Voltage: AC 220V Single Phase

Output Power: 24V output DC16-32V 5~100A  
48V output DC32-60V 5~50A

Dimensions: 400\*230\*260mm (Control Box Size)  
350\*320\*254mm (Telescopic Box Size)

Application Scenarios: Service robots, unmanned forklifts, sorting robots, etc



### ▶ All-in-one EV charger for robot with charging port at the front or back

Model: ATT24100MS / ATT4850MS

Input Voltage: AC 220V Single Phase

Output Power: DC16-32V 5~100A / DC32-60V 5~50A

Dimensions: 424\*251\*260mm

Application Scenarios: Food delivery robots, Patrol and Inspection robots, etc.



# Robot Charger



Specifications	
BMS Communication Method	CAN Communication
BMS Connection Method	CAN-WiFi or physical contact of CAN modules at robot and charger
Dispatching Communication Method	Modbus STA、Modbus AP
Dispatching Connection Method	Modbus-WiFi or Ethernet
WiFi Bands	2.4G、4G、5.8G
Charging Start Method	Infrared、Modbus、CAN-WiFi
Robot Charging Brush Parameters	Follow Febatt standard or drawings provided by customers
Structure of Charger	All-in-one、split-type
Charging Method	Charger Connector Telescoping; robot moving towards charger to get charged
Cooling Method	Forced air cooling
Manual Charging	All-in-one to charge manually with communication or without communication
Telescopic Stroke of Brush (with telescopic model)	200MM
Robot Positioning Distance (with telescopic model)	165MM-325MM
Height from Robot Connector Center to the Ground	185MM-400MM
Protection Level	IP20

## EV Charger with male connector for robot with female connector

Model: ATT4850MS

Input Voltage: AC 220V Single Phase

Output Power: DC32-60V 5~50A

Dimensions: 489\*402\*424mm

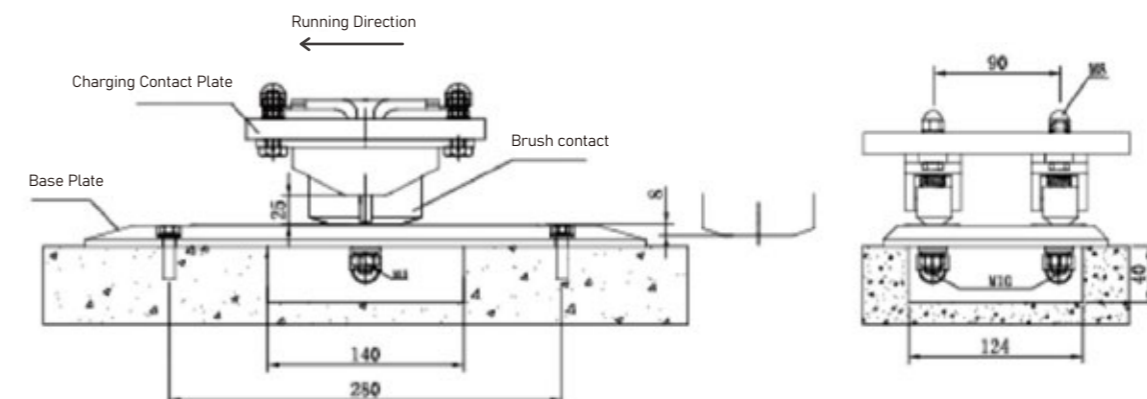
Application Scenarios: Unmanned forklift trucks, sorting robots, lifting robots, etc.



## Robot Accessories are Optional



## Installation Diagram



## Smart wireless EV charger for robot

Model: ATT2420MS / ATT4820MS  
ATT2450MS / ATT4850MS

Input Voltage: AC 220V Single Phase

Output Power: 24V output DC30V 5-50A  
48V output DC60V 5-50A

Dimensions: 402\*272\*424mm

Application Scenarios: Charge for Patrol and Inspection robots, unmanned forklift trucks, AGV in high dust, explosive, heavy duty and other harsh environments



## ▶ Business Layout



● Provide One-Stop Solution

● 24/7 Technical Support

● Five Star Service, Win-Win For The Future