

BROGEN



EV SYSTEM
CATALOGUE

2025

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Level 2 AC Charging Stations

A Strategic Investment for Your Business

Level 2 AC charging stations offer a practical solution for businesses seeking to accommodate electric vehicle drivers. Operating at 240 volts and delivering significantly higher amperage compared to Level 1 chargers, these EV charging stations provide a substantial charging rate. Typically, a Level 2 charger can add from 12 to 32 miles of range per hour of charging, making it an ideal option for public locations such as parking garages and lots. By installing Level 2 electric vehicle charging stations, you can provide a valuable amenity to customers and enhance their overall experience.



- **Maximize Property Value**

Attract environmentally conscious customers and increase property desirability.

- **Enhance Customer Satisfaction**

Provide a convenient amenity that keeps customers engaged and returning.

- **Optimize Space Utilization**

Our compact charging stations fit seamlessly into various parking layouts.

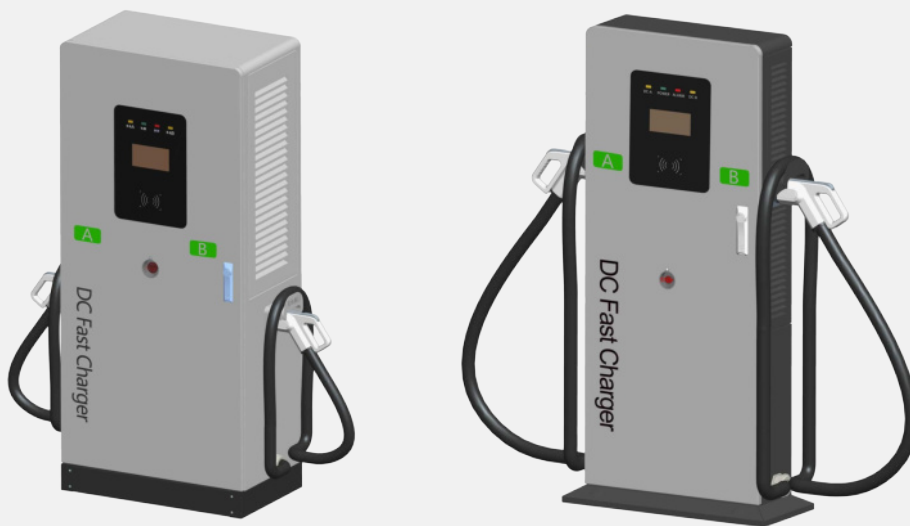
- **Lower Operational Costs**

Enjoy efficient charging technology and reduced energy consumption.

Level 3 DC Fast Charging Stations

A Profitable And Sustainable Investment

Level 3 DC fast chargers offer the most rapid charging options available for electric vehicles. By delivering high-power direct current, these DC chargers can replenish a vehicle's battery significantly faster than Level 1 or Level 2 chargers. Ideal for locations frequented by long-distance travelers, such as highway rest stops, shopping centers, and restaurants, DC fast chargers can add approximately 100 to 250 miles of range in just 30 to 45 minutes. Installing Level 3 DC fast charging stations enables you to attract EV drivers and enhance customer satisfaction.



- **Increased Customer Satisfaction**

Attract and retain electric vehicle drivers by offering fast and convenient charging options.

- **Enhanced Revenue Generation**

Drive incremental sales through extended customer dwell times and additional purchases.

- **Strong Return On Investment**

Benefit from lower operating costs and higher profitability.

- **Competitive Advantage**

Position your business as a leader in sustainable mobility.

Whether you operate a gas station, retail establishment, restaurant, or auto dealership, our Level 3 DC fast chargers can help you thrive in the evolving electric vehicle landscape.

EV Charger Module

Our ultra-wide voltage range constant power charging modules offer numerous advantages, including high-efficiency, high power density, stability, reliability, and exceptional environmental adaptability. These modules are capable of delivering full power output across a wide voltage range of 300 V to 1000 V. Additionally, by paralleling the modules, they can meet the diverse requirements of large, medium, and small-scale charging scenarios in the market.



- **Enhanced Charging Efficiency**

Our high-efficiency charging modules reduce energy loss during the conversion process, significantly improving charging efficiency. This not only shortens charging times but also enhances the overall user experience, encouraging repeat customers.

- **Unmatched Stability and Reliability**

Designed to operate under various challenging conditions — such as extreme temperatures and high humidity — our modules offer superior stability and reliability. This ensures that your charging stations provide consistent, long-term performance, minimizing downtime and maintenance costs.

- **Comprehensive Safety Features**

Safety is a top priority in our charging modules. Equipped with advanced protection mechanisms, including overcurrent, overvoltage, and overtemperature protection, our modules help prevent potential hazards such as fires and electric shocks, safeguarding both your infrastructure and your customers.

- **Cost-Effective Performance**

The optimized performance of our charging modules translates into lower energy consumption and reduced operational costs. This allows you to maximize your return on investment while offering cost-effective solutions to your customers.

EV On-Board Charger

The on-board charger (OBC) in electric vehicles converts alternating current from the grid into direct current to charge the vehicle's traction battery. At the same time, it features an inverter function that allows for energy transfer from the battery back to the alternating current grid.



- Up to 40 kW
- For both PHEV and BEV
- High-voltage versions available
- Platform design adaptable for various products
- Bidirectional power flow (V2X) versions available
- For worldwide usage with a wide input range, 1 phase and 3 phase



Our offerings				
Power	Rated input	Input voltage range	Output voltage range	Cooling method
6.6 kW (Low voltage)	220 VAC / 32 A	90 - 265 VAC	0 - 95 VDC	Air cooling
6.6 kW (Mid - high voltage)	220 VAC / 32 A	90 - 265 VAC	0 - 850 VDC	Air cooling / Liquid cooling
20 kW (1-phase)	220 VAC / 96 A	90 - 265 VAC	0 - 850 VDC	Liquid cooling
20 kW (3-phase)	380 VAC / 96 A	152 - 456 VAC	0 - 850 VDC	Liquid cooling
40 kW @ 3 ϕ 6.6 kW @ 1 ϕ	/	267 - 456 VAC @ 3 ϕ 154 - 265 VAC @ 1 ϕ	200 - 715 VDC	Liquid cooling
1.2 kW	220 VAC / 6 A	90 - 265 VAC	0 - 140 VDC	Air cooling
2.0 kW	220 VAC / 10 A	90 - 265 VAC	0 - 450 VDC	Air cooling
3.3 kW	220 VAC / 16 A	90 - 265 VAC	0 - 500 VDC	Air cooling
4.0 kW	220 VAC / 20 A	90 - 265 VAC	0 - 450 VDC	Air cooling
6.0 kW (1-phase)	220 VAC / 30 A	90 - 265 VAC	0 - 450 VDC	Air cooling
6.0 kW (3-phase)	380 VAC / 30 A	152 - 456 VAC	0 - 450 VDC	Air cooling

Please be aware that the input and output voltage ranges provided below represent the general range for this power category. For specific product details, kindly reach out to us.

• Enhanced Safety

Features comprehensive protection mechanisms during charging, including input/output overvoltage and undervoltage protection, short circuit protection, over-temperature protection, etc., ensuring reliable and safe operation.

• Excellent Heat Dissipation

The housing is precision die-cast as a single unit and incorporates a 3D water channel design for efficient heat dissipation.

• Versatile Configuration

Offers multiple low-voltage signal ports and a wide voltage output range. Customizable and adjustable charging strategies are available to suit the requirements of various vehicle systems.

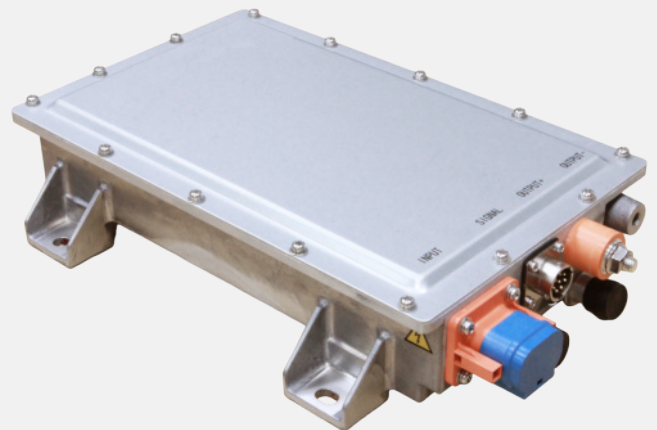
• High Power Density

Employs advanced high-frequency digital control technology, achieving high power density and facilitating seamless integration into the vehicle's overall system.

DC/DC Converter

The DC/DC converter transforms high-voltage direct current into the low-voltage direct current, supplying power to the vehicle's low-voltage systems and charging the auxiliary battery.

- Up to 7.5 kW
- For both PHEV and BEV
- Possible combination DC/DC + OBC
- 400 V and 800 V versions for different input voltage ranges
- Platforming solution (from low to high power)
- Efficiency up to 95%
- CAN interface



• Exceptional Performance

Maintains voltage regulation accuracy of less than 1%.

• Flexible Configuration

Customizable to meet specific vehicle requirements, with support for online software upgrades.

• High Power Density

Employs advanced high-frequency digital control technology, achieving high power density and facilitating seamless integration into the vehicle's overall system.

Our offerings

Power	Input voltage range	Output voltage range	Cooling method
0.6 kW - voltage reduction	40 - 200 VDC	0 - 16 VDC	Natural cooling
1.0 kW - voltage reduction	44 - 454 VDC	0 - 16 VDC	Air cooling
1.2 kW - voltage reduction	40 - 700 VDC	0 - 32 VDC	Natural cooling
1.5 kW - voltage reduction	80 - 700 VDC	0 - 16 VDC	Air cooling
2.0 kW - voltage reduction	300 - 750 VDC	0 - 450 VDC	Air cooling
2.0 kW - voltage reduction	240 - 420 VDC	0 - 16 VDC	Liquid cooling
2.4 kW - voltage reduction	40 - 700 VDC	0 - 32 VDC	Air cooling
3.0 kW - voltage reduction	200 - 900 VDC	0 - 32 VDC	Air cooling
3.6 kW - voltage reduction	40 - 700 VDC	0 - 32 VDC	Air cooling
4.0 kW - voltage reduction	300 - 750 VDC	0 - 450 VDC	Air cooling
6.0 kW - voltage reduction	200 - 900 VDC	0 - 32 VDC	Air cooling
6.0 kW - voltage reduction	300 - 750 VDC	0 - 450 VDC	Air cooling
2.5 kW - voltage increase	40 - 68 VDC	35 - 400 VDC	Air cooling
5.0 kW - voltage increase	40 - 68 VDC	35 - 400 VDC	Air cooling
7.5 kW - voltage increase	40 - 68 VDC	35 - 400 VDC	Air cooling

Please be aware that the input and output voltage ranges provided below represent the general range for this power category. For specific product details, kindly reach out to us.

OBC+DCDC Combo

Integrated On-Board Charger & DC/DC Converter System

This system integrates the functionality of an onboard charger and a DC/DC converter into a single unit. Both the onboard charger and DC/DC converter provide real-time data on voltage, current, and other parameters via the CAN bus, facilitating communication and status feedback with the BMS and VCU.

- Compact and lightweight design
- For worldwide usage with a wide input range, 1 phase and 3 phase
- Bidirectional power flow (V2X) versions available
- High-voltage versions available
- Scalable platform for various products



• Enhanced Safety

Features comprehensive protection mechanisms during charging, including input/output overvoltage and undervoltage protection, short circuit protection, over-temperature protection, etc., ensuring reliable and safe operation.

• Excellent Heat Dissipation

The housing is precision die-cast as a single unit and incorporates a 3D water channel design for efficient heat dissipation.

• **Versatile Configuration**

Offers multiple low-voltage signal ports and a wide voltage output range. Customizable and adjustable charging strategies are available to suit the requirements of various vehicle systems.

• **High Power Density**

Employs advanced high-frequency digital control technology, achieving high power density and facilitating seamless integration into the vehicle's overall system.

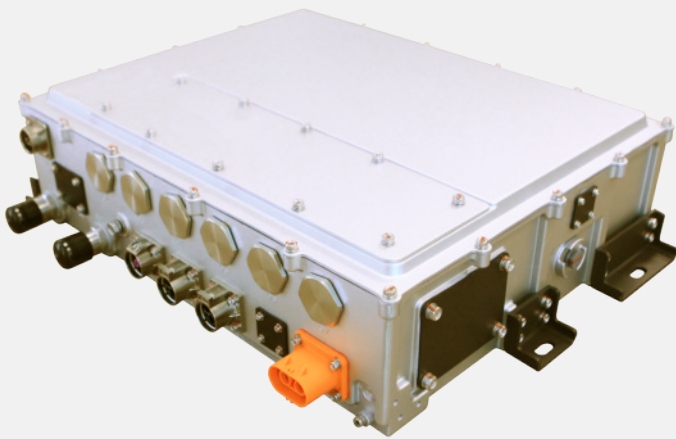
Our offerings						
On-board Charger		DC/DC Converter			PDU	Cooling method
Power	Output voltage range	Power	Input voltage range	Output voltage		
3.3 kW	50 - 450 VDC	1 kW	40 - 545 VDC	14 V	No	Air cooling
3.3 kW	95 - 450 VDC	1.5 kW	88 - 454 VDC	14 V	No	Liquid cooling
3.3 kW	95 - 450 VDC	1.5 kW	88 - 454 VDC	14 V	No	Air cooling / liquid cooling
6.6 kW	95 - 450 VDC	1.5 kW	88 - 454 VDC	14 V	No	Air cooling / liquid cooling
6.6 kW	200 - 450 VDC	2 kW	206 - 454 VDC	14 V	Yes	Liquid cooling
6.6 kW	250 - 460 VDC	2 kW	300 - 460 VDC	14 V	No	Liquid cooling
6.6 kW	270 - 450 VDC	2 kW	270 - 450 VDC	14 V	Yes	Liquid cooling
6.6 kW	200 - 420 VDC	2.5 kW	200 - 450 VDC	14 V	No	Liquid cooling
6.6 kW	360 - 785 VDC	3 kW	360 - 785 VDC	14 V	No	Liquid cooling
6.6 kW @1 ϕ 9.9 kW @3 ϕ	350 - 800 VDC	3 kW	350 - 800 VDC	14 V	No	Liquid cooling
6.6 kW @1 ϕ 9.9 kW @3 ϕ	200 - 450 VDC	2.5 kW	200 - 450 VDC	14 V	No	Liquid cooling
6.6 kW @1 ϕ 9.9 kW @3 ϕ	230 - 500 VDC	2.5 kW	230 - 500 VDC	14 V	Yes	Liquid cooling

Please be aware that the input and output voltage ranges provided below represent the general range for this power category. For specific product details, kindly reach out to us.

Integrated Auxiliary Inverter

Combined DC/AC and DC/DC Converter Module

This system integrates the functionality of a DC/AC oil pump, DC/AC air pump, DC/DC converter and PDU (optional). The compact system offers exceptional control performance to meet the high-performance requirements of electric vehicle manufacturers.



- Compact and lightweight design
- Quiet operation
- Enhanced safety
- High reliability
- Scalable platform for various products

• Scalable

With a modular, scalable design, our solution provides the flexibility needed to support a wide range of vehicle types and configurations, ensuring smooth integration and customization to fit specific requirements.

• Cost-Effective

Our auxiliary inverter solution consolidates multiple inverters into one, reducing redundancy and lowering overall costs while boosting system efficiency.

• Compact

The lightweight, integrated design helps reduce the system's overall size and weight, saving space, wiring, and costs, making it ideal for electric commercial vehicle applications.

• High Reliability

Fewer connections enhance the reliability of our auxiliary inverters, while the compact design simplifies both installation and maintenance, ensuring long-term stability.

3-in-1 Auxiliary Inverter									
DC/DC									
Input voltage (low voltage)	12 VDC			24 VDC					
	(9-18 VDC)			(15-36 VDC)					
Input voltage (high voltage)	380 VDC (220-500 VDC)			380 VDC (220-500 VDC)					
	540 VDC (400-750 VDC)			540 VDC (400-750 VDC)					
Output voltage	14 VDC			27.5 VDC / 27 VDC					
Power	1.5 kW			3 kW					
Rated current	107 A			110 A					
Peak current 60s	128 A			125 A					
DC/AC oil pump & air pump									
Input voltage (low voltage)	12 VDC / 24 VDC (9-36 VDC)								
Input voltage (high voltage)	380 VDC (220-500 VDC)			540 VDC (400-750 VDC)					
Output voltage.frequency	3-phase 220 VAC, 50 Hz			3-phase 220 VAC, 50 Hz			3-phase 380 VAC, 50 Hz		
Power	2.2 kW	3.7 kW	5.5 kW	2.2 kW	3.7 kW	5.5 kW	2.2 kW	3.7 kW	5.5 kW
Rated current	9 A	13 A	25 A	9 A	13 A	25 A	5.5 A	9 A	13 A
Peak current 60s	18 A	26 A	50 A	18 A	26 A	50 A	11 A	18 A	26 A

More options are available upon request. For specific product details, kindly reach out to us.

Electric Hydraulic Power Steering - EHPS

EHPS, or electric hydraulic power steering, uses an electric motor to power the pump, adjusting pressure for steering assistance. This system enhances steering smoothness, precision, energy efficiency, and vehicle stability at high speeds.



- Increased controllability
- Speed-dependent steering assistance
- Dual power versions available
- Tailored OEM solutions available
- Adapt to commercial vehicles

Our offerings

Our offerings					
Dual Power EHPS Pump	High voltage module motor parameters				
	Rated Power	Peak Power	Rated Voltage	Flow	Max pressure
	1.5 kW	3.0 kW	400 - 750 VDC	12 L/min	13±0.3 MPa
	3.0 kW	7.5 kW	400 - 700 VDC	20 L/min	15±0.3 MPa
	Low voltage module motor parameters				
	Rated Voltage	Peak Power	Rated Speed	Peak current	Peak torque
	12 VDC	1.2 kW	1000 rpm	120 A	10.5 N·m
	24 VDC	2.0 kW	1200 rpm	120 A	13.0 N·m

For specific product details or OEM solution discussion, kindly reach out to us.

Our offerings

Electric Hydraulic Power Steering Pump

Rated Power	Peak Power	Rated Voltage	Flow	Max pressure
2.2 kW	4.4 kW	380 / 220 VAC	12±1.5 L/min	13 MPa
3.0 kW	6.0 kW	380 / 220 VAC	17±1.5 L/min	15 MPa
3.0 kW	9.0 kW	247 VAC	18±2 L/min	17±0.5 MPa
4.0 kW	10.75 kW	380 / 220 VAC	18±2 L/min	17±0.5 MPa
5.5 kW	11 kW	380 VAC	28 L/min	17±0.5 MPa

For specific product details or OEM solution discussion, kindly reach out to us.

•Enhanced Safety

The dual power electric steering pump operates using both a high voltage battery pack (DC540V) and a low voltage battery (DC24V). If the high voltage supply disconnects suddenly, the low voltage system takes over, allowing the electric power steering to function seamlessly.

•Improved Comfort

When manoeuvring, the steering is light to handle. But at a high speed, the steering is more stable.

•Improve Fuel Economy

The steering pump is no longer powered by the engine, but by an electric motor that operates only when steering assist is needed, enhancing overall fuel economy.

Electric Power Steering - EPS

EPS (Electric Power Steering) uses an intelligent electric motor to assist with steering. The EPS control unit calculates the optimal steering assistance based on real-time driving conditions, ensuring smooth and responsive vehicle handling.



- Light and responsive steering
- Compatible with steer-by-wire chassis
- Enables ADAS and Autonomous Driving
- Supports CAN/CANFD interface
- ASIL-D functional safety compliant
- OTA upgrade capability

Our offerings

Type	Operating Voltage	Rack Stroke	Maximum Rack Force	Steering Axle Load
C-EPS	12 VDC	-	46/54 Nm	700/850 kg
P-SBW	12 VDC	±35/±50/±58 mm	4 kN	500 kg
P-EPS	12 VDC	±76 mm	6 kN	1000 kg
DP-EPS	12 VDC	±78 mm	6 kN	1350 kg
DP-EPS	12 VDC	±79 mm	7 kN	1500 kg
DP-EPS	12 VDC	±78.5 mm	11/12 kN	1650 kg
DP-EPS	12 VDC	±67.5/±78.5 mm	12 kN	1750 kg
R-EPS	24 VDC	±137 mm	18 kN	4500 kg

For specific product details or OEM solution discussion, kindly reach out to us.

- **High Steering Rack Force**

Maximum rack force up to 18kN.

- **Wide Application**

Both fuel vehicles and new energy vehicles can be carried. For small cars to buses & light commercial vehicles.

- **Fast matching and rapid development**

we use advanced control concepts and intelligent algorithms for broad vehicle model compatibility, enabling seamless integration and control via CAN communication and K-line protocols.

RCB Steering Gear

The Electro RCB steering system offers innovative all-electric power steering for commercial vehicles. Its efficient ball screw transmission features self-locking, ensuring stability of the vehicle wheels when the driver is not steering, preventing unintentional directional changes. Fleet operators and manufacturers seeking advanced technology should prioritize the eRCB steering system.



- Allows ADAS and autonomous driving
- Reduced noise and rattles
- Speed-dependent steering assistance
- Supports CAN/CANFD interface
- Complies with ASIL-D functional safety
- Offers OTA upgrades

Our offerings

Type	Driving Force	Output Angle	Total Turn Numbers	Operating Voltage Range	Rated Motor Speed	Rated Motor Torque	Application
RCB Gear - EPS	20.5 : 1	±42°	5.2	DC 12 V/24 V	1050 RPM	6 Nm/8 Nm	Light truck/medium bus/mini bus
	20 : 01	±45°	5	DC 12 V/24 V	1050 RPM	3.2 Nm	
RCB Gear - EHPS	(21.64-24.67) : 1	±47°	6.15	DC 24 V±20%	1800 RPM / 1000 RPM	4 Nm/7.98 Nm	Medium and heavy trucks/buses

For specific product details or OEM solution discussion, kindly reach out to us.

- **Reduced Noise and Rattles**

Compact structure, reliable, high stability, high safety, energy saving and environmental protection.

- **Active Return Control**

The controller is able to collect the steering wheel angle, and by controlling the motor, it can realize the active return control.

- **Emergency Steering Available**

In the event of hydraulic assist failure, the electric motor provides full power assist temporarily to help stop the vehicle safely.

- **High Temperature Resistance**

With new oil seal materials, the system can withstand temperatures up to 135 °C, withstand peaks of 150 °C, and function effectively at -40 °C.

- **No Hydraulic Fluid, No Leaks**

The electric power RCB steering system eliminates hydraulic fluid use, preventing leaks and reducing environmental impact.

Electric Air Brake Compressor

Electric air compressors are engineered to work seamlessly with braking systems across various heavy-duty applications. These compressors not only enhance the performance of braking systems but also contribute to the overall safety and reliability of these vehicles. Brogen offers robust solutions for heavy commercial vehicles, including trucks, buses, and trains. One of Brogen's standout innovations is the latest oil-free scroll air compressors.



- Oil-Free Operation
- Low Vibration
- High Efficiency
- Maintenance-Free
- For Hybrid and Pure EV

Oil-free Piston Air Compressor					
Rated Exhaust	Exhaust Pressure	Motor Power	Dimensions	Weight	Application
120 L/min	1/1.2 Mpa	1.5 KW	340x275x275 mm	25/26 kg	buses, light trucks, logistics and other vehicles below 6 meters
160 L/min		1.6/1.8 KW	363x274x281 mm	25.5 kg	
200 L/min	1.2 Mpa	2.2 KW	495x385x355 mm	45 kg	buses, light trucks, logistics and other vehicles 6-9 meters
240 L/min		3 KW	500x285x320 mm	48 kg	
300 L/min		495x385x355 mm	45 kg		
250 L/min	1.0 Mpa	3 KW	435x314x353 mm	37.8/48 kg	4x2, 6x4, 8x4, 10x8, etc., including sanitation trucks, tractors, muck trucks, dump trucks, mining trucks; buses above 6 meters
380 L/min	1.0 Mpa	4 KW	600x355x368 mm	52 kg	
400 L/min	1/1.25 Mpa		446x314x353 mm	42.2 kg	
380 L/min	1.2 Mpa	4 KW	560x335x370 mm	65 kg	buses, light trucks, logistics and other vehicles above 9 meters

For specific product details or OEM solution discussion, kindly reach out to us.

• **Enhanced Safety**

The compressed air produced is entirely free of oil and water, enhancing safety by eliminating concerns related to oil leakage, fire hazards, and maintenance issues.

• **Quieter Operation**

Featuring minimal torque variation and a simple motion structure, the oil-free scroll air compressor operates with low noise and vibration, providing a quieter and more comfortable experience.

• **Compact Design**

With a unique structure that minimizes energy waste and requires fewer components, this compressor boasts high manufacturing precision and extremely low maintenance costs due to the absence of wearing parts.

• **Environmental Resilience**

The compressor operates reliably in extreme temperatures ranging from -40°C to +65°C, demonstrating its adaptability to various environmental conditions.

Oil-free Scroll Air Compressor					
Flow	Pressure	Motor Power	Noise	Environmental Temperature	Application
120 L/min	0.85 Mpa	1.5 KW	72 dB(A)	-40°C~65°C	buses, light trucks, logistics vehicles
220 L/min	1.0 Mpa	2.2 KW			
350 L/min	0.85-1.2 Mpa	4.5 KW	73 dB(A)		
420 L/min	0.85-1.0 Mpa	3.7 KW			
900 L/min	1.0 Mpa	12 KW	78 dB(A)	-40°C~65°C	Metro, freight trains, locomotives, passenger trains, high-speed trains and maglev trains
320 L/min	1.2 Mpa	4.5 KW	75 dB(A)		
300 L/min	1.05 Mpa	3.7 KW	74 dB(A)		

For specific product details or OEM solution discussion, kindly reach out to us.

Electric Vacuum Pump

Electronic vacuum pumps designed specifically for passenger cars, which plays a crucial role in ensuring that braking systems operate optimally, providing an auxiliary or independent vacuum source for the vacuum booster of the braking system.



- For hybrid, battery electric, and fuel cell vehicles
- Low noise and vibration levels
- Enhances comfort and safety
- Lowers CO₂ emissions

Rated Voltage	Current	Working Temperature	Vacuum Degree	Noise	Protection Class	Weight
12 VDC	≤15 Ah	-40°C~120°C	≥88 kPa	≤65 dB (A)	IP56	1.7 KG
24 VDC	≤12 Ah	-40°C~110°C	≥88 kPa	≤70 dB (A)	IP65	1.9 KG

For specific product details or OEM solution discussion, kindly reach out to us.

• High efficiency at elevated temperatures

Operates at 100% efficiency for over 80 hours at 90°C, maintaining low temperatures while ensuring high performance.

• Independent, single vacuum source

Equipped with a built-in one-way valve, eliminating the need for additional components while providing a reliable vacuum source.

• Diaphragm pump design

Features a fast evacuation rate, minimal friction, and a long service life for enhanced reliability.

Battery Thermal Management System

The battery thermal management system is a key technology to solve battery heat-related problems and ensure the performance, safety and life of power batteries. Intelligent battery thermal management system maintains longer driving range and enhances longer battery life.



- Customizable: dimension / cooling / heating
- Intelligent temperature control
- Cooling/heating capacity ranges 5KW-8KW
- Roof top mounted & Horizontal & Vertical
- Integratable expansion tank and heating system($\geq 14\text{kW}$)
- Electronic control system
- Lightweight & Compact structure
- Control panel in real time

Our offerings

Cooling Capacity	High voltage input	Low voltage input	Size	Refrigerant type	Coolant	PTC heater
3 KW	DC250-380V	DC9-16V	L454×W565×H302	HFC-134a	50% Glycol solution	/
8 KW	DC400-750V	DC24V	L1029*W1369*H280	R134a	50% Glycol solution	integratable, $\leq 14\text{Kw}$
5 KW	DC400-750V	DC24V	L1029*W1369*H280	R134a	50% Glycol solution	integratable, $\leq 14\text{Kw}$
5 KW	DC400-750V	DC24V	L643*W599*H383	R134a	50% Glycol solution	/
7 KW	DC400-750V	DC24V	L835*W560*H310	R410a	50% Glycol solution	/
8 KW	DC400-750V	DC24V	L669*W621*H461	R134a	50% Glycol solution	/

- **Cooling and Heating Technology**

We use efficient cooling technology and intelligent temperature control algorithms to improve energy efficiency through system integration. Our BTMS maintains the stability of battery performance under different working conditions.

- **High-precision Temperature Control**

We adopt efficient cooling technology and intelligent temperature control algorithm. Intelligent predictive control of the battery thermal management system enables intelligent energy management and control.

- **Extend Battery Life and Cost Benefit**

The use of efficient battery thermal management systems can reduce energy consumption and extend battery life, thereby achieving cost savings. Then enables electric vehicles to achieve longer driving range and service life.

- **Safety and Reliability**

Our products reduce the risk of battery thermal runaway through intelligent and precise temperature control, and maintain the stability of battery performance under different working conditions.

Air Conditioning System

The automotive air conditioning system is designed to regulate the temperature, humidity, and air quality inside a vehicle, providing a comfortable environment for drivers and passengers. It typically consists of compressor, condenser, expansion valve, evaporator, blowers and air distribution system, control system and refrigerant.



Our offerings

Cooling Capacity (kcal/h)	Heating Capacity (kcal/h)	Evaporator Airflow (m ³ /h)	Condenser Airflow (m ³ /h)	Refrigerant	Size (mm) LxWxH
26000	30000	6000 (4pcs)	8000 (4pcs)	R744 (CO ₂)	50% Glycol solution
28000	32000	6000 (6pcs)	10000 (5pcs)	R744 (CO ₂)	50% Glycol solution
24000	22000	4000 (4pcs)	8000 (4pcs)	R410A	50% Glycol solution
32000	30000	6000 (6pcs)	10000 (5pcs)	R410A	50% Glycol solution
24000	22000	4000 (4pcs)	8000 (4pcs)	R410A	50% Glycol solution
32000	30000	6000 (6pcs)	10000 (5pcs)	R410A	50% Glycol solution

• Fine Control of Electronic Expansion Valve

By precisely modulating the refrigerant flow rate in response to temperature variations between the interior and exterior of the vehicle, we achieve optimal energy conservation

- **Fan Noise Reduction**

Utilizing advanced evaporator and condenser fan motor and blade design, we've developed fans that operate quietly, thereby diminishing noise and enhancing comfort levels.

- **Strict Environmental Protection Requirements**

All components are meticulously selected in accordance with stringent environmental protection criteria and undergo rigorous testing that surpasses industry environmental standards.

- **Low Voltage Power Supply Protection Technology**

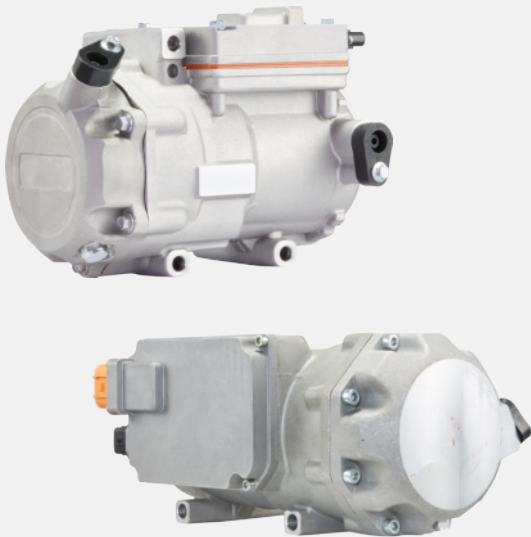
The DC-DC module ensures reliable operation even at 65°C by transforming the vehicle's high-voltage power supply into a low-voltage one, safeguarding against over-voltage, over-current, and short-circuit conditions.

- **All DC Variable-Frequency Technology**

The system's weight has been significantly reduced, with the compressor now weighing just 7.5 kg and the frequency converter down from 44 kg to 15 kg, resulting in a more than 30% decrease in the overall weight of the air conditioning system compared to traditional AC products.

Electric Air Condition Compressor

The air conditioning compressor is essential to the system, acting as the refrigeration cycle's driving force. In electric vehicles, it's battery-powered, with a controller that adjusts motor speed to manage cooling output and temperature.



- High COP, high cooling capacity and low power consumption
- Low noise and low vibration
- Small size, light weight
- Easy to install
- Reliable quality, simple maintenance

Our offerings

Model	Refrigerating capacity (KW) / (KBtu/hr)			Input power (KW)			Coefficient of performance (COP)		
	3,000 RPM	4,000 RPM	6,000 RPM	3,000 RPM	4,000 RPM	6,000 RPM	3,000 RPM	4,000 RPM	6,000 RPM
18A	1.38/4.7	1.89/6.4	2.90/9.9	0.72	0.98	1.5	1.9	1.95	1.95
	1.38/4.7	1.89/6.4	2.90/9.9	0.74	0.99	1.56	1.85	1.9	1.85
24A	1.89/6.4	2.58/8.8	4.00/13.6	1.02	1.36	2.16	1.85	1.9	1.85
27A	2.15/7.3	2.90/9.9	4.60/15.7	1.1	1.49	2.3	1.95	1.95	2
34A	2.75/9.4	3.78/12.9	5.8/19.8	1.45	1.93	3	1.9	1.95	1.95
18C	1.38/4.7	1.89/6.4	2.90/9.9	0.72	0.98	1.5	1.9	1.95	1.95
80A	9.4/32.1	12.6/43.0	19.2/65.5	3.1	4.1	6.2	3.05	3.05	3.1

Electric Water Pump

The automotive electronic water pump's core function is to circulate coolant from the engine's hot side to the radiator for heat dissipation, ensuring the engine operates within a safe temperature range. It is typically equipped with an electric motor, pump, and sensor, and adjusts coolant flow based on engine temperature and load to boost efficiency and prolong engine life.



- Slow start protection
- PWM speed regulation
- Fault feedback protection
- Overvoltage and undervoltage protection
- Stalling protection
- Power reverse connection protection
- Built-in anhydrous protection, with dry turn protection function
- Low noise

• Energy Efficient

Our electric water pumps are engineered for energy efficiency, minimizing their draw on the vehicle's electrical system and enhancing fuel economy.

• Improved Engine Cooling

Our electric water pumps provide steady and dependable water circulation to the engine for effective cooling and superior performance.

• Wide Range of Working Temperature

Our automotive electronic water pumps operate within a temperature range of -50°C to 125°C.

• Light and Compact

Small size, easy to install and can be integrated into most engine systems.

Our offerings							
Rated Voltage	Voltage Range	Water inlet and outlet diameter	Rated Power	Rated Flow	Max Head	Working Temperature	Protection
DC12V	DC9-18V	Φ20mm	55W	5m head, flow ≥0.02t/h	≥9.5m	- 40°C-100°C	IP67
DC12V	DC9-18V	Φ20mm	80W	5m head, flow ≥1.5t/h	≥9m	- 40°C-100°C	IP67
DC12V	DC9-18V	Φ20mm	100W	5m head, flow ≥2.0t/h	≥9m	- 40°C-100°C	IP67
DC12V	DC9-18V	Φ20mm	120W	11.5m head, flow ≥0.9t/h	≥13m	- 40°C-100°C	IP67
DC12V	DC9-18V	Φ25mm	100W	5m head, flow ≥2.0t/h	≥8.5m	- 40°C-100°C	IP67
DC12V	DC9-18V	Φ25mm	120W	11.5m head, flow ≥0.9t/h	≥13m	- 40°C-100°C	IP67
DC24V	DC18-28V	Φ20mm	80W	5m head, flow ≥1.8t/h	≥10m	- 40°C-100°C	IP67
DC24V	DC18-28V	Φ20mm	120W	11.5m head, flow ≥0.9t/h	≥13m	- 40°C-100°C	IP67
DC24V	DC18-28V	Φ25mm	100W	5m head, flow ≥2.5t/h	≥9m	- 40°C-100°C	IP67
DC24V	DC18-28V	Φ25mm	120W	11.5m head, flow ≥0.9t/h	≥13m	- 40°C-100°C	IP67
DC24V	DC18-28V	Φ38mm	120W	6m head, flow 3t/h	≥9m	- 40°C-100°C	IP67

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