



工程机械行业解决方案

Solutions for the Construction Machinery Industry



合普动力股份有限公司
HEPU POWER CO., LTD.

高效节能、稳定可靠的绿色方案

Efficient, energy-saving, stable and reliable green solutions

合普动力 创新科技

HEPU POWER INNOVATION TECHNOLOGY

合普动力股份有限公司成立于2010年3月，是一家专注于提供环保节能、绿色动力系统的国家高新技术企业。公司坐落于广东肇庆国家高新区迎宾大道26号，注册资金6500万元，占地80亩，建筑面积75,000平方米，公司可年产电动汽车动力总成20万套、电动汽车电机30万台、控制器30万台、电动车辆电机20万台、电梯曳引机10万台、工具类小电机280万台。

合普动力拥有一支高素质技术研发团队，并与中国科学院、中国机械科学研究总院、华南理工大学共同开发出动力总成、永磁同步电机、低压交流电机、高压交流电机等产品，服务于电动乘用车、电动物流车、电动叉车、电动工程车、电动场地车、电动工具等新能源行业。合普动力拥有国际先进的永磁同步技术和高低压交流电机技术，建立了广东省重点实验室、广东省工程技术研发中心、广东省企业技术中心，配备了6大测试试验平台、自动化绕线嵌线生产线、铸件加工中心、整机性能数字化检测中心，并创建了零缺陷质量保证体系，为客户提供完美的产品和优质的服务。

Hepu Power Co., Ltd. was established in March, 2010. It is a national high-tech enterprise which specializes in providing environment-friendly and energy-saving power system. Hepu Power Co., Ltd. is located in No.26 Yingbin Avenue, Zhaoqing National High-Tech Industrial Development Zone, Guangdong Province with registered capital of 65 million RMB. It covers an area of 55,000m² with 75,000m² building area. The annual production capacity per year is: electric vehicles powertrain 200,000 units, electric vehicles motors 300,000 units, controller 300,000 units, off-road vehicles motors 200,000 units, elevator traction machine 100,000 units, electric tools motors 2,800,000 units.

Hepu Power has a strong technical team and cooperates with CAS (Chinese Academy of Science), CAM (China Academy of Machinery Science and Technology) and SCUT (South China University of Technology) to develop the permanent magnet synchronous motors, AC motors, etc. Its products had been widely applied into new energy industries such as electric vehicles, electric logistic car, electric buses, electric forklifts, electric construction vehicles, electric off-road vehicles, electric tools, etc. Hepu Power possesses international advanced technologies for PMSM motor and AC motors. Hepu Power has built Guangdong key laboratory, R&D center and equipped with six type-test platforms, automatic wiring and winding production line, casting machining center and an overall performance digital testing center. We also have created a strict quality control system to provide perfect products and services to our customers.

助力双碳 行业绿色智能新方案

Support the dual carbon goals New green and intelligent solutions

合普动力凭借多年积累的通用自动化和新能源汽车领域的应用经验，为工程机械行业客户提供特定场景要求下的工程机械电动化产品绿色智能新方案。强工艺+高环境适应性的工程机械产品解决方案既能应对各种复杂严苛工况，又能满足高性能驱动要求，同时在最大程度上确保设备的可靠性和低能耗。合普动力愿继续与客户携手同行，一起迎接国家“双碳”战略的机会和挑战，实现工程机械装备产业升级，拥抱绿色智能的工程机械新时代。

Hepu Power, with years of accumulated experience in the fields of general automation and new energy vehicles, provides customers in the construction machinery industry with green and intelligent new solutions for engineering machinery electrification products under specific scenario requirements. The engineering machinery product solution with strong technology and high environmental adaptability can not only cope with various complex and harsh working conditions, but also meet high-performance driving requirements, while ensuring equipment reliability and low energy consumption to the greatest extent possible. Hepu Power is willing to continue working hand in hand with customers to embrace the opportunities and challenges of the national "dual carbon" strategy, achieve the upgrading of the construction machinery and equipment industry, and embrace the new era of green and intelligent construction machinery.

CONTENTS 目录

一 解决方案 Solution

工业车辆行业解决方案——叉车 / Industrial vehicle industry solutions - Forklifts	001
高空作业平台解决方案——伸缩臂叉车 / Aerial work platform solutions - Telescopic arm forklift	002
高空作业平台解决方案——臂式高空作业平台 / Aerial work platform solutions - Arm type aerial work platform	003
挖机行业解决方案——挖掘机 / Excavator industry solutions - Excavators	004
装载机行业解决方案——滑移装载机 / Loader industry solutions - Skid steer loaders	005
混凝土机械行业解决方案——搅拌车 / Concrete machinery industry solutions - Mixer trucks	006
混凝土机械行业解决方案——混凝土泵车 / Concrete machinery industry solutions - Concrete pump trucks	007
重装行业解决方案——起重机、矿卡 / Heavy equipment industry solutions - Cranes,mining trucks	008
智慧农业解决方案——电动拖拉机、小麦收割机 / Smart agriculture solutions - Electric tractors,wheat harvesters	010
工程环卫行业解决方案——环卫车 / Environmental sanitation industry solutions - Environmental sanitation vehicles	012
工程环卫行业解决方案——无人环卫车 / Environmental sanitation industry solutions - Unmanned environmental sanitation	013

二 产品附录 Product Appendix

P30-113-80HP	015
MG8-60-115JWQ-Z	017
MC5-38-48SY	019
MC80-175-HP	021
MG155-300-374	023
TZ260XS50H-360	025
CSD-1BPT-7000-HP	027
MG310-620-540V	029
P70-165-VDH	031
DC20双电控 / DC20 dual controller	033
C30控制器 / C30 controller	035
C15控制器 / C15 controller	036
C70控制器 / C70 controller	037
C120控制器 / C120 controller	038

工业车辆解决方案——叉车

Industrial Vehicle Solutions —— Forklift

高效率 High Efficiency

永磁同步电机的功率密度与同容量的异步电机相比，体积和重量都有较大的减少，整车效率提升10%
Permanent magnet synchronous motors offer higher power density compared to asynchronous motors of the same capacity, significantly reducing volume and weight, improving overall vehicle efficiency by 10%.

高安全 High Efficiency

具备EN1175功能安全认证，满足全球客户需求
Compliant with EN1175 functional safety certification, meeting global customer requirements.

高集成 High Integration

大吨位叉车集成式电控方案，整车安装更便捷
Integrated control solution for large-tonnage forklifts, easier for vehicle installation.

驱动一体桥 Integrated drive axle



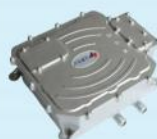
CIP系列
同轴双驱集成桥总成
coaxial dual-drive integrated
axle powertrain

低压油泵驱动方案 Low-voltage hydraulic pump drive solution



P系列
电机+控制器+减速器三合一
Motor + Controller + Gearbox
three-in-one

高压方案 High-voltage solution



C70控制器
C70 controller

+



驱动电机
Drive Motor

+



减速箱
Gearbox

低压水冷驱动方案 Low-voltage water-cooling drive solution



C30控制器
C30 controller

+



驱动电机
Drive Motor

+



减速箱
Gearbox

低压风冷驱动方案 Low-voltage air-cooling drive solution



DC20双电控
DC20 dual controller

+



驱动电机
Drive Motor

+



减速箱
Gearbox



高空作业平台解决方案——伸缩臂叉车平台

Aerial Work Platform Solutions —— Telescopic arm forklift

高效率 High Efficiency

高效永磁同步多合一，提升整机续航

High-efficiency multi-in-one permanent magnet synchronous system enhances vehicle endurance.

高集成 High Integration

二合一驱动及油泵产品，整机布局优化

2-in-1 drive and hydraulic pump solution, optimizing overall layout.

高可靠 High Reliability

车规级系统，质保售后无忧

Automotive-grade system ensures worry-free after-sales service.



MG系列
电机+减速器二合一
Motor+Gearbox two-in-one



MG系列
电机+减速器二合一
Motor+Gearbox two-in-one



C70控制器
C70 controller



高空作业平台解决方案——臂式高空作业平台

Aerial Work Platform Solutions —— Arm type aerial work platform

高效率 High Efficiency

高效永磁同步多合一，提升整机续航
High-efficiency multi-in-one permanent magnet synchronous system enhances vehicle endurance.

高可靠 High Reliability

车规级系统，质保售后无忧
Automotive-grade system ensures worry-free after-sales service.

多集成 High Integration

三合一驱动及油泵产品，整机布局优化
3-in-1 drive and hydraulic pump solution, optimizing overall layout.

高压方案 High-voltage solution



MC系列
电机+电控二合一
Motor + Controller two-in-one

80V低压多合一平台方案 80V low-voltage multi-in-one platform solution



P系列
电机+控制器+减速器三合一
Motor + Controller + Gearbox
three-in-one



MG系列
电机+减速器二合一
Motor+Gearbox two-in-one



C15控制器
C15 controller



驱动电机
Drive Motor



油泵电机
Pump Motor



C30控制器
C30 controller

挖机行业解决方案——挖掘机

Excavator Industry Solutions —— Excavators

高效率 High Efficiency

由于采用了永磁体，电动机在运行时不需要额外的电流来产生磁场，从而降低了能量损耗，提高了效率

Using permanent magnets, the motor does not require additional current to generate a magnetic field during operation, reducing energy loss and improving efficiency.

高可靠 High Reliability

IP67级防护，空载Class 5高EMC等级，高抗震等级，挖掘机最严苛的工况亦能适应

Ip67 protection level, Class 5 no-load EMC, high vibration resistance—adaptable to the harshest excavator working conditions.

供电多样化 Diverse Power Supply Options

可根据不同机型需求配置相应的供电方式，纯电、拖电、混电、增程等

Can be configured with various power supply modes according to machine requirements: pure electric, towed electric, hybrid, or range-extended.



MC系列

电机+电控二合一

Motor + Controller two-in-one



C70控制器

C70 controller



MG系列

电机+减速器二合一

Motor+Gearbox two-in-one



装载机行业解决方案—— 滑移装载机

Loader Industry Solutions—— Skid steer loaders

高效率 High Efficiency

具有大的装载能力和快速的行驶速度，能够满足不同工程需求

Offers large loading capacity and fast travel speed, suitable for various construction needs.

高可靠 High Reliability

滑移转向技术使得装载机在狭小空间内也能灵活转向，适应各种工作环境。

Skid-steering technology allows for flexible turning in narrow spaces, adapting to all kinds of work environments.

高精度 High Precision

能实现高速且稳定的非接触运动，控制精度优于传统电机。对于电动永磁同步滑移装载机来说，在进行精准的物料装卸、定位等操作时更具优势

Capable of high-speed and stable non-contact motion, with better control precision than traditional motors. This is particularly advantageous in precise material handling and positioning for electric PMSM skid steer loaders.

高效生产 High Productivity

高性能、高效率电机电控系统，整车工作效率更高、续航时间更长

High-performance and efficient motor control system improves overall work efficiency and extends battery life.



油泵电机
Pump Motor



驱动电机
Drive Motor



P系列
电机+控制器+减速器三合一
Motor + Controller + Gearbox
three-in-one



C15控制器
C15 controller



混凝土机械行业解决方案——搅拌车上装系统

Excavator Industry Solutions —— Mixer Truck Upper Body System

高功率 High Power

搅拌车在满载混凝土启动或爬坡时需大扭矩，在低速时即可提供高扭矩，减少对传动系统的压力

Mixer trucks require high torque when starting under full load or climbing; high torque can be provided even at low speed, reducing stress on the transmission system.

高可靠 High Reliability

高效节能、高可靠性、精准控制等核心优势，尤其适用于电动化、智能化转型的工程车辆需求

Core advantages such as high efficiency, high reliability, and precise control make it ideal for the electrification and intelligent transformation of construction vehicles.

供电多样化 Diverse Power Supply Options

具备 HFI、ASC、转矩估算等功能，安全保护性能高

Features include HFI, ASC, torque estimation, and more—offering high safety protection performance.



MC系列
电机+电控二合一
Motor + Controller two-in-one



MG系列
电机+减速器二合一
Motor+Gearbox two-in-one



C120控制器
C120 controller



混凝土机械行业解决方案——混凝土泵车上装系统

Concrete machinery industry solutions——Concrete pump truck mounted system

高效率 High Efficiency

在效率、控制精度、可靠性和环保性等方面具有显著优势，尤其适合泵车高压、长时、高精度的作业需求
It has significant advantages in efficiency, control accuracy, reliability and environmental protection, and is especially suitable for high-pressure, long-term and high-precision operation needs of pump trucks.

高可靠 High Reliability

振动和防护等级振动等级高，适应高粉尘、强振动工况

Vibration and protection level High vibration level, suitable for high dust, strong vibration conditions.

小体积 Small volume

高功率密度适应泵车安装空间狭小场景

The high power density is suitable for the small installation space of the pump truck.



MG系列
电机+减速器二合一
Motor+Gearbox two-in-one



MG系列
电机+减速器二合一
Motor+Gearbox two-in-one



C120控制器
C120 controller



重装行业解决方案——起重机上装系统

Reloading industry solutions——Crane mounted system

高效率 High efficiency

效率可达95%以上，远超传统柴油机的40%~50%大幅减少能源浪费

The efficiency can reach more than 95%, far exceeding the 40% to 50% of traditional diesel engines to significantly reduce energy waste.

高耐久性 High durability

永磁电机寿命可达10~15年（传统柴油机寿命约5~8年）且无需频繁更换机油、冷却液

Permanent magnet motor life can reach 10 to 15 years (traditional diesel engine life of about 5-8 years) and without frequent replacement of oil, coolant.

高可靠 High Reliability

通过高效节能、精准控制、环保合规和智能化升级，解决了传统柴油机的高污染、高噪音、低效维护等问题，尤其适用于港口、城市建筑、工厂等场景

Through high efficiency and energy saving, precise control, environmental compliance and intelligent upgrading, it solves the problems of high pollution, high noise and inefficient maintenance of traditional diesel engines, especially for ports, urban buildings, factories and other scenarios.



MC系列
电机+电控二合一
Motor + Controller two-in-one



MC系列
电机+电控二合一
Motor + Controller two-in-one



单电机260平台
Single motor 260 platform



C120控制器
C120 controller



重装行业解决方案——矿卡上装系统

Reloading industry solutions——Mining truck mount system

产品集成化 Product integration

在0转速时即可输出峰值扭矩，减少传统传动系统（如变速箱）的依赖，简化结构并提升重载启动能力

Peak torque is delivered at 0 RPM, reducing reliance on conventional drivetrains such as gearboxes, simplifying construction and increasing heavy-duty starting capability.

高可靠 High Reliability

凭借高效、高可靠性和智能化控制，解决了矿卡在动力性、能耗和维护成本方面的痛点，尤其适用于矿山重载、连续作业和严苛环境

With high efficiency, high reliability and intelligent control, it solves the pain points of mining cards in terms of power performance, energy consumption and maintenance costs, especially for heavy duty mines, continuous operations and harsh environments

长续航 Long endurance

加强型制动能量回收方案设计，续航时间更长

Enhanced braking energy recovery scheme design, longer endurance



液电电机
Hydraulic motor



MC系列
电机+电控二合一
Motor + Controller two-in-one



C120控制器
C120 controller



智慧农业解决方案——电动拖拉机

Smart agriculture solutions——Electric tractor

产品谱形全 Multiple product spectrum

满足不同吨位和不同技术路线电动和混动拖拉机的驱动需求

To meet the driving needs of different tonnage and different technical routes of electric and hybrid tractors.

高安全 High security

具备HFI、ASC、转矩估算等功能，安全保护性能高

With HFI, ASC, torque estimation and other functions, high safety protection performance.

高集成 High integration

将电机和电控系统集成在一个模块中，减少了零部件数量和整车线束长度，使动力系统结构更加紧凑，有助于优化整车空间布局，为车辆设计提供更大的灵活性操控性

The integration of the motor and electronic control system in one module reduces the number of parts and the length of the vehicle harness, makes the powertrain structure more compact, helps to optimize the vehicle space layout, and provides greater flexibility for the vehicle design.



MC系列
电机+电控二合一
Motor + Controller two-in-one



MG系列
电机+减速器二合一
Motor+Gearbox two-in-one



C70控制器
C70 controller



智慧农业解决方案——小麦收割机

Smart agriculture solutions——Wheat harvester

高功率 High power

在相同的体积和重量下，能够输出比传统异步电机更大的功率和转矩，即具有更高的功率密度

Under the same volume and weight, it can output more power and torque than the traditional asynchronous motor, that is, it has a higher power density.

高效率 High efficiency

解决了传统动力系统能耗高、响应慢、维护繁琐等问题

The problems of high energy consumption, slow response and cumbersome maintenance of traditional power system are solved.

智能化 Intelligente

具备UDS诊断及OTA等功能，助力无人化农机发展

UDS diagnostic and OTA functions to help unmanned agricultural machinery development.



拨和轮电机
Dial and wheel motor



风机电机
Fan motor



C70控制器
C70 controller



环卫车行业解决方案——环卫车

Sanitation vehicle industry solutions——Sanitation truck

高节能 High energy saving

永磁同步电机效率可达到95%以上，使环卫车在长期运行中能够有效降低能源消耗和运行成本

The efficiency of permanent magnet synchronous motor can reach more than 95%, so that the sanitation vehicle can effectively reduce energy consumption and operating costs in long-term operation.

高环境适应性 High environmental adaptability

具较高的动态响应速度和较强的过载能力，能在短时间内快速启动和停止，适应各种复杂的工作环境，对于需要频繁启停或精确控制的环卫车具有显著优势

With high dynamic response speed and strong overload capacity, it can start and stop quickly in a short time, adapt to a variety of complex working environments, and has significant advantages for sanitation vehicles that need frequent start and stop or precise control.

高性能 High performance

转速与电源频率严格保持同步，不受负载变化的影响，不会出现转速波动问题，运行更加平稳、可靠，能够给需要稳定动力支持的环卫车提供更好的性能

Speed and power frequency are strictly synchronized, not affected by load changes, there will be no speed fluctuations, the operation is more stable and reliable, and it can provide better performance for the sanitation vehicle that needs stable power support.



水泵电机
Pump motor



风机电机
Fan motor



C30控制器
C30 controller



环卫车行业解决方案——无人环卫车

Sanitation vehicle industry solutions——Unmanned sanitation vehicle

高精度 High precision

可以精确控制转速和转矩，有助于无人环卫车实现精准的路径规划和任务执行

The speed and torque can be precisely controlled, which helps the unmanned sanitation vehicle achieve accurate path planning and task execution.

高环境适应性 High environmental adaptability

具有较宽的调速范围和良好的过载能力，能适应不同的负载和工况变化

It has a wide speed range and good overload capacity, and can adapt to different loads and working conditions

高可靠 Intelligentize

永磁同步电机具有高控制精度和高可靠性，适用于需要高动态性能和低噪音的应用场合，有助于无人环卫车提升车辆的稳定性和作业效率

The permanent magnet synchronous motor has high control accuracy and high reliability, which is suitable for applications requiring high dynamic performance and low noise, and helps to improve the stability and efficiency of the vehicle.



C30控制器
C30 controller



驱动电机
Drive Motor



MC系列
电机+控制器高压二合一
Motor + Controller High voltage 2-in-1



产 品 附 录

Product Appendix



P30-113-80HP

电机+控制器+减速器三合一

Motor + Controller + Gearbox three-in-one



产品概述/Product Overview

针对叉车、高空作业车上装系统开发的电机电控减速箱三合一产品，系统具备可靠性好，具备节省三相动力线束，小型化，产品拓展性高，防护等级IP67，快速平顺等优点。

The three-in-one motor, controller and gearbox product developed for the upper system of forklifts and aerial work vehicles has the advantages of good reliability, saving three-phase power wiring harness, miniaturization, high product expandability, protection level IP67, fast and smooth operation, etc.

产品优势/Product Advantages

- 1、极致集成与空间效率：体积压缩，体积较分体式减少30%~40%；轻量化突破，整体重量降低 15%~25%，助力续航提升（电动车续航增加 5%~8%）。
- 2、能效跃升与损耗最小化：全链路高效，电机与电控高度集成直连，损耗降低 8%~12%；减速箱精准匹配，传动效率达 98%（分体系统约93%~95%）。
- 3、动态性能与控制精度：毫秒级响应，信号传输延迟趋近于零，响应时间 <0.5ms，适合高动态场景（油泵系统精准启停）；扭矩控制无缝衔接，电机参数与减速箱齿比通过电控算法实时优化，扭矩波动减少 60%。
- 4、成本优化：设计成本下降，集成设计，成本降低 15%~20%。

1、Ultimate integration and space efficiency: Volume compression, The volume is reduced by 30%~40% compared with the split type; Lightweight breakthrough, The overall weight is reduced by 15%~25%, which helps to improve the battery life (the battery life of electric vehicles increases by 5%~8%).

2、Energy efficiency improvement and loss minimization: Full-link high efficiency, The motor and electronic control are highly integrated and directly connected, reducing losses by 8%~12%; Precise matching of the reduction gearbox, The transmission efficiency reaches 98% (about 93%~95% for the split system).

3、Dynamic performance and control accuracy: Millisecond response, signal transmission delay approaches zero (response time <0.5ms), suitable for high dynamic scenarios (precise start and stop of oil pump system); Seamless torque control, motor parameters (such as magnetic field distribution) and gear ratio of reducer are optimized in real time through electronic control algorithm, and torque fluctuation is reduced by 60%.

4、Cost optimization: Design cost reduction,integrated design reduces cost by 15%~20%.

技术规范/Technical Specifications

型号 / Model	P30-113-80HP
满功率输出 Full Power Output	72~96 V
电压范围 Voltage Range	72~96 V
额定电压 Rated Voltage	80 V
速比 Ratio	2 or 3
峰值转速 Peak Speed	6000/9000 (rpm)
额定转速 Rated Speed	4400/6600 (rpm)
峰值扭矩 Peak Torque	90/60 (N. m)
额定扭矩 Rated Torque	40/24 (N. m)
峰值功率 Peak Power	30 (kw)
额定功率 Rated Power	15 (kw)
冷却方式 Cooling method	自然冷却 Natural cooling

应用车型/Application Model

工程车：起重机上装、矿卡上装、伸缩臂上装、电动叉车上装，农业机械上装，电动装载机上装

Engineering vehicles: Crane mounts, Mining truck mounts, Telescopic arm mounts, Electric forklift mounts, Agricultural machinery mounts, Electric loader mounts



驱动形式/Drive Type

油泵上装 Oil pump mounts

MG8-60-115JWQ-Z

电机+减速器二合一

Motor + Gearbox two-in-one



产品概述/Product Overview

此套轮边系统使用的电机是我司160平台，作为我司年产量最大的平台，已在市场经过多年验证，目前已供客户有：2T&3T叉车，知豆（A00级乘用车），盈峰中联（环卫车）等多个客户和车型，具有多套生产模具，生产周期稳定，生产工艺稳定，质量管控已细化，质量稳定，生产周期稳定情况下保证交期稳定。

The motor used in this wheel side system is our company's 160 platform. As the platform with the largest annual output of our company, it has been verified in the market for many years. It has been supplied to customers including 2T&3T forklifts, Zhidou (A00-class passenger cars), Yingfeng Zhonglian (sanitation vehicles) and other customers and models. It has multiple sets of production molds, stable production cycle, stable production process, refined quality control, stable quality, and stable delivery time under the condition of stable production cycle.

产品优势/Product Advantages

- 1、高度集成化与空间优化，电机与减速箱共享壳体或共轴设计，整体体积减少20%~30%；轻量化提升，重量降低10%~15%，显著提升系统功率密度（可达3-5kW/kg）。
- 2、能效提升与损耗降低，减少机械传动损耗，传动效率提升2%~5%，传统分体系统效率约92%~94%，集成系统可达96%~98%；低噪音运行，密集成设计，整体噪音降低5~10dB。
- 3、降低转动惯量，电机转子与减速箱输入轴直接耦合，响应时间缩短20%~30%；

1、High integration and space optimization: Motor and gearbox share shell or coaxial design, the overall volume is reduced by 20% to 30%; Lightweight improvement: The weight is reduced by 10% to 15%, increasing the power density of the system (up to 3-5kW/kg).

2、Improved energy efficiency and reduced losses: Reduce the mechanical transmission loss: the transmission efficiency is increased by 2%~5%, the efficiency of the traditional split system is 92%~94%, and the integrated system can reach 96%~98%; Low noise operation: Dense design, the overall noise is reduced by 5~10dB.

3、Dynamic performance and control optimization: Reduced inertia, Direct coupling of the motor rotor to the reducer input shaft shortens response time by 20-30%.

技术规范/Technical Specifications

型号 / Model	MG8-60-115JWQ-Z
满功率输出 Full Power Output	72~115 V
电压范围 Voltage Range	72~115 V
额定电压 Rated Voltage	80 V
速比 Ratio	2
峰值转速 Peak Speed	6000 (rpm)
额定转速 Rated Speed	4500 (rpm)
峰值扭矩 Peak Torque	65 (N.m)
额定扭矩 Rated Torque	10.6 (N.m)
峰值功率 Peak Power	10 (kw)
额定功率 Rated Power	5 (kw)

应用车型/Application Model

滑移装载机、伸缩臂车 Skid steer loader, Telescopic truck



MC5-38-48SY

电机+控制器+制动器三合一

Motor + Controller + Gearbox three-in-one



产品概述/Product Overview

MC5-38-48SY是合普动力针对仓储车、托盘车、剪刀叉等车型轮边驱动开发的电机电控制动器三合一产品，具备节省三相动力线束，小型化，产品拓展性高，防护等级IP67等优点。

MC5-38-48SY is a three-in-one product of motor and electronically controlled brake developed by Hepu Power for wheel-side drive of storage trucks, pallet trucks, scissor forks and other vehicles. It has the advantages of saving three-phase power wiring harness, miniaturization, high product expandability, and protection level IP67.

产品优势/Product Advantages

- 1、结构紧凑，轻量化设计：重量减轻，减少10%-20%重量，实现轻量化；安装便捷，模块化设计简化装配流程，降低整车或设备布局复杂度。
- 2、能效提升与损耗降低：减少线缆损耗，降低因长距离传输导致的能量损耗8%-12%；降低EMI干扰，集成设计缩短高频信号传输路径，减少电磁干扰，提升控制稳定性。
- 3、动态响应与控制精度提升：缩短通信延迟，电机与电控直接集成，减少信号传输时间，提升动态响应速度；协同控制优化，通过统一算法实时协调电机与电控参数（如电流、电压、磁场），提升控制精度和系统效率。
- 4、成本节约与可靠性增强：设计成本，集成设计，成本降低10%~20%；维护便捷：模块化设计便于故障诊断和更换，减少停机时间。

1、Compact structure, lightweight design: Weight reduction, Reduce weight by 10%-20% to achieve lightweight; Easy installation, Modular design simplifies the assembly process and reduces the complexity of vehicle or equipment layout.

2、Improved energy efficiency and reduced losses: Reduce cable loss, Reduce energy loss caused by long-distance transmission by 8%-12%; Reduce EMI interference, The integrated design shortens the high-frequency signal transmission path, reduces electromagnetic interference, and improves control stability.

3、Improved dynamic response and control accuracy: Shorten communication delay, Direct integration of motor and electronic control reduces signal transmission time and improves dynamic response speed; Collaborative control optimization, Real-time coordination of motor and electronic control parameters (such as current, voltage, and magnetic field) through a unified algorithm improves control accuracy and system efficiency.

4、Cost savings and reliability enhancement: Design cost: Integrated design reduces costs by 10%-20%; Easy maintenance, Modular design facilitates fault diagnosis and replacement, reducing downtime.

技术规范/Technical Specifications

型号 / Model	MC5-38-48
满功率输出 Full Power Output	48~72 V
电压范围 Voltage Range	48~72 V
额定电压 Rated Voltage	48 V
峰值转速 Peak Speed	4300 (rpm)
额定转速 Rated Speed	1650 (rpm)
峰值扭矩 Peak Torque	38 (N.m)
额定扭矩 Rated Torque	14.5 (N.m)
峰值功率 Peak Power	5 (kw)
额定功率 Rated Power	2.5 (kw)
冷却方式 Cooling method	自然冷却 Natural cooling

应用车型/Application Model

高尔夫场地车、三轮车、低速代步车、搬运车、堆垛车
Golf carts, Tricycles, Low-speed scooters, Transporters, Stackers



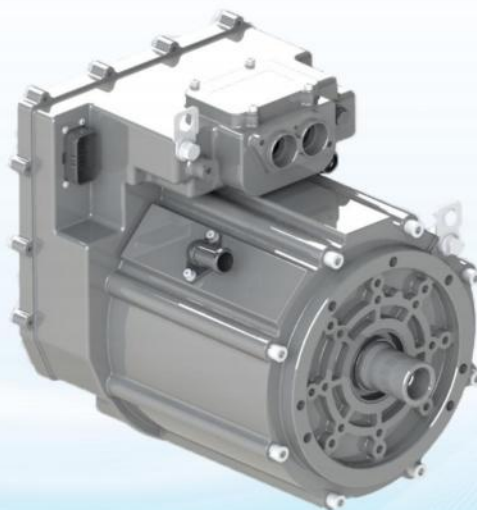
驱动形式/Drive Type

后驱集成桥、左右半轴、上装直驱、中置直驱
Rear drive integrated axle, left and right half shafts, upper direct drive, mid-mounted direct drive

MC80-175-HP

电机+控制器二合一

Motor + Controller two-in-one



产品概述/Product Overview

MC80电机控制器二合一，广泛应用于新能源汽车，各类工程车等，具有高集成、高效率、环境适应性强、可靠性高等特点。

MC80 two-in-one motor controller is widely used in new energy vehicles, various types of engineering vehicles, etc. It has the characteristics of high integration, high efficiency, strong environmental adaptability and high reliability.

产品优势/Product Advantages

- 1、拓展性高：平台化设计，可满足30~80KW功率需求。
 - 2、集成度高：将电机和电控系统集成在一个模块中，减少了零部件数量和整车线束长度，使动力系统结构更加紧凑，有助于优化整车空间布局，为车辆设计提供更大的灵活性。
 - 3、减重降本：集成设计有效减轻动力系统的重量10%-20%，进而提升车辆的续航里程和性能，降低成本。
 - 4、效率提升：减少了能量传输过程中的损耗，从而提高了整个动力系统的效率8%-12%。
 - 5、增强可靠性：集成化设计有助于更好地进行电磁屏蔽和散热管理，提高系统的稳定性和可靠性。
 - 6、安装维护便捷：集成度高，安装过程更加简便，减少安装时间和成本；在维护时，也更容易进行故障诊断和部件更换。
 - 7、可靠性：总成10g振动标准，满足集成桥应用。
1. High scalability: Platform design, can meet 30~80KW power demand.
 2. High integration: Integrating the motor and electronic control system into one module reduces the number of components and the length of the vehicle wiring harness, making the power system structure more compact, helping to optimize the vehicle's spatial layout and providing greater flexibility for vehicle design.
 3. Weight reduction and cost reduction: The integrated design effectively reduces the weight of the power system by 10%-20%, thereby improving the vehicle's range and performance and reducing costs.
 4. Efficiency improvement: Reduces the loss in energy transmission, thereby improving the efficiency of the entire power system by 8%-12%.
 5. Enhanced reliability: Integrated design helps to better manage electromagnetic shielding and heat dissipation, and improves system stability and reliability.
 6. Easy installation and maintenance: Due to the high integration, the installation process is simpler, reducing installation time and cost; during maintenance, it is also easier to perform fault diagnosis and component replacement.
 7. Reliability: Powertrain 10g vibration standard, meeting integrated axle applications.

技术规范/Technical Specifications

型号 / Model	MC80-175-HP
满功率输出 Full Power Output	300~600 V
电压范围 Voltage Range	220~600 V
额定电压 Rated Voltage	336 V
峰值转速 Peak Speed	12000 (rpm)
额定转速 Rated Speed	4775 (rpm)
峰值扭矩 Peak Torque	175 (N.m)
额定扭矩 Rated Torque	70 (N.m)
峰值功率 Peak Power	80 (kw)
额定功率 Rated Power	35 (kw)

应用车型/Application Model

商用车：微面，轻卡，无人物流车，皮卡

工程车：电动叉车，农业机械，电动装载机、起重机、挖掘机、搅拌车、矿卡、伸缩臂叉装车、伸缩臂车

Commercial vehicles: Minivans, Light trucks, Unmanned logistics vehicles, Pickup trucks

Engineering vehicles: Electric forklifts, Agricultural machinery, Electric loaders, Cranes, Excavators, Mixer trucks, Mining trucks, Telescopic forklifts, Telescopic trucks

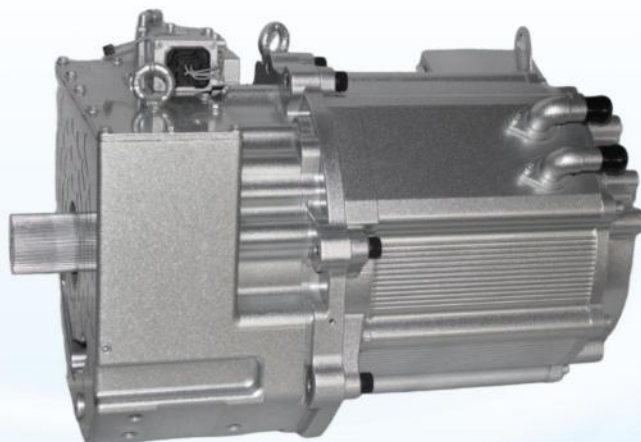


后驱集成桥，上装，中置直驱 / Rear drive integrated axle, top mounted, mid-mounted direct drive

MG155-300-374

两档变速箱+电机二合一

Two-speed gearbox + motor two-in-one



产品概述/Product Overview

合普动力针对8-10米客运/公交驱动系统开发的电机减速箱二合一产品，系统有可靠性好，换挡动力不中断，快速平顺等优点。
Hepu Power has developed a two-in-one motor reducer product for 8-10m passenger/bus drive systems. The system has the advantages of good reliability, uninterrupted shifting power, fast and smooth shifting, etc.

产品优势/Product Advantages

- 1、高度集成化与空间优化：电机与减速箱共享壳体或共轴设计，整体体积减少20%~30%；轻量化提升，重量降低10%~15%，显著提升系统功率密度（可达3-5kW/kg）。
 - 2、能效提升与损耗降低：减少机械传动损耗，传动效率提升2%~5%，传统分体系统效率约92%~94%，集成系统可达96%~98%；低噪音运行，密集成设计，整体噪音降低5~10dB。
 - 3、动态性能与控制优化：降低转动惯量，电机转子与减速箱输入轴直接耦合，响应时间缩短20%~30%；高扭矩输出稳定性，齿轮箱与电机参数协同设计（如齿比与电机转速匹配），低速时输出更大且平稳的扭矩（如电动汽车爬坡扭矩波动减少50%）；支持高速电机，集成减速箱扩展电机转速范围（如电机15,000rpm + 减速箱10:1 = 车轮1500rpm），兼顾高速电机效率与终端需求。
 - 4、可靠性增强与长寿命：减少故障点，消除联轴器磨损、轴对中偏差等传统问题，系统平均无故障时间（MTBF）提升30%~50%；抗振性与环境适应性，刚性集成结构耐受高振动场景（如工程机械冲击负载），防护等级可达IP67（防高压水、防尘）。
- 1、High integration and space optimization: Motor and gearbox share shell or coaxial design, the overall volume is reduced by 20% to 30%; Lightweight improvement: The weight is reduced by 10% to 15%, increasing the power density of the system (up to 3-5kW/kg).
- 2、Improved energy efficiency and reduced losses: Reduce the mechanical transmission loss: the transmission efficiency is increased by 2%~5%, the efficiency of the traditional split system is 92%~94%, and the integrated system can reach 96%~98%; Low noise operation: Dense design, the overall noise is reduced by 5~10dB.
- 3、Dynamic performance and control optimization: Reduced inertia, Direct coupling of the motor rotor to the reducer input shaft shortens response time by 20-30%; High torque output stability, The co-design between the parameters of gearbox and the motor (e.g., the tooth ratio matches the motor speed), and the output is larger and smoother at low speeds (e.g., the electric vehicle climbing torque fluctuation is reduced by 50%); Support high speed motor, The integrated gearbox extends the motor speed range (such as motor 15,000rpm+ gearbox 10:1 = wheel 1500rpm), taking into account high-speed motor efficiency and end requirements.
- 4、Increased reliability and durable years: Reduce fault, Eliminate the problems of coupling wear and shaft alignment deviation, and increase the mean time to failure (MTBF) of the system by 30% to 50%; Vibration resistance and environmental adaptability, The rigid integrated structure can withstand high vibration scenarios (such as the impact load of construction machinery), and the protection level can be IP67 (high pressure water and dust protection).

技术规范/Technical Specifications

型号 / Model	MG155-300-374
满功率输出 Full Power Output	320~400 V
电压范围 Voltage Range	320~400 V
额定电压 Rated Voltage	374 V
减速箱档位 Gear	2
减速箱速比 Ratio	9.2/3.2
峰值转速 Peak Speed	12000 (rpm)
额定转速 Rated Speed	4500 (rpm)
峰值扭矩 Peak Torque	300 (N. m)
额定扭矩 Rated Torque	144 (N. m)
峰值功率 Peak Power	155 (kw)
额定功率 Rated Power	68 (kw)

应用车型/Application Model

环卫车、混动高空作业车上装、装载机、起重机、公交车、矿卡、搅拌车、重卡

Sanitation trucks, Hybrid aerial work vehicle tops, Loaders, Cranes, Buses, Mining trucks, Mixer trucks, Heavy trucks



上装直驱, 中置直驱 Top mounted direct drive, mid-mounted direct drive

TZ260XS50H-360

单电机260平台

Single motor 260 platform



产品概述/Product Overview

合普动力针对47米高空作业上装系统开发的永磁同步电机，具备高精度运动控制，低速大扭矩特性，快速启停响应等特点。

The permanent magnet synchronous motor developed by Hepu Power for the 47-meter aerial work upper system has the characteristics of high-precision motion control, low-speed and high-torque characteristics, and fast start-stop response.

产品优势/Product Advantages

- 1、减少能量浪费：无励磁损耗，综合效率高达95%（液压系统效率通常<70%），降低燃油消耗或电池能耗。
- 2、静音作业：消除液压泵噪声（噪音降低20~30dB），适合医院、居民区等敏感区域（如夜间环卫车作业）。
- 3、复杂环境适应性与可靠性：宽温域运行，采用耐高温永磁体和密封设计，适应-40℃（寒区除雪车）至120℃（高温工业环境）极端温度；抗振动与防尘：无电刷结构避免振动导致的接触故障，IP67防护等级，耐受工地扬尘、雨水侵蚀（如矿用自卸车举升系统）；免维护设计，无液压油泄漏风险，减少维护频率（如垃圾压缩车液压系统维护成本降低50%）。
- 4、智能化与系统集成：机电一体化控制，与电控系统深度集成，实现转速、转矩、位置的多参数协同（如泵车臂架运动轨迹智能规划）。

1、Reduce energy waste: No excitation loss, comprehensive efficiency up to 95% (hydraulic system efficiency is usually <70%), reducing fuel consumption or battery energy consumption.

2、Silent operation: Eliminate hydraulic pump noise (noise reduction of 20~30dB), suitable for sensitive areas such as hospitals and residential areas (such as nighttime sanitation vehicle operations).

3、Adaptability and reliability in complex environments: Wide temperature range operation: Adopting high temperature resistant permanent magnet and sealing design, it can adapt to extreme temperatures from -40℃ (snow removal vehicles in cold areas) to 120℃ (high temperature industrial environment); Anti-vibration and dustproof: The brushless structure avoids contact failure caused by vibration, and the IP67 protection level can withstand dust and rain erosion on construction sites (such as the lifting system of mining dump trucks); Maintenance-free design: no risk of hydraulic oil leakage, reducing maintenance frequency (e.g. maintenance costs of garbage compactor hydraulic systems are reduced by 50%)

4、Intelligence and system integration: Mechatronic control: deeply integrated with the electronic control system to achieve multi-parameter coordination of speed, torque and position (such as intelligent planning of the motion trajectory of the pump truck boom).

技术规范/Technical Specifications

型号 / Model	TZ260XS50H-360XG
满功率输出 Full Power Output	307~700 V
电压范围 Voltage Range	307~700 V
额定电压 Rated Voltage	360 V
峰值转速 Peak Speed	4000 (rpm)
额定转速 Rated Speed	2200 (rpm)
峰值扭矩 Peak Torque	800 (N.m)
额定扭矩 Rated Torque	200 (N.m)
峰值功率 Peak Power	100 (kw)
额定功率 Rated Power	50 (kw)
额定功率 Rated Power	自然冷却 Nature Cooling

应用车型/Application Model

4.5T-6T轻卡、房车直驱、伸缩臂车、起重机上装直驱

4.5T-6T light truck, RV direct drive, Telescopic boom truck, Crane direct drive



驱动形式/Drive Type

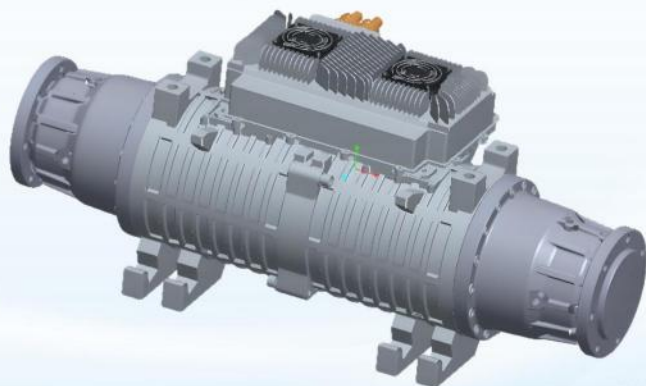
上装，中置直驱

Top, mid-mount direct drive

CDD-IBPT-7000-HP

同轴双驱集成桥总成

Coaxial dual-drive integrated bridge powertrain



产品概述/Product Overview

驱动系统：同轴电驱桥方案由电机、行星减速器、差速器与桥壳同轴布置成一个整体，传动链短，零部件少，结构简单；同轴布置、高度集成，有效释放底盘空间；不需悬置直接将车桥总成布置在底盘上即可；能实现较高能量密度，符合未来驱动桥集成化发展趋势；降低在生命周期维护中保养成本，维护保养相对简单。

Drive system: The coaxial electric drive axle solution consists of a motor, planetary reducer, differential and axle housing coaxially arranged as a whole, with a short transmission chain, few parts and a simple structure. The coaxial arrangement and high integration effectively release chassis space. The axle assembly can be directly arranged on the chassis without suspension. It can achieve a higher energy density, which is in line with the future development trend of drive axle integration. It reduces maintenance costs during the life cycle and is relatively simple to maintain.

产品优势/Product Advantages

1、结构紧凑集成优势：同轴一体布置高度集成，整体传动链短，零部件少，结构紧凑能有效释放底盘空间；承载和可靠性优势：驱动电机，控制器，减速器与桥壳高度集成，整体刚性和抗扭能力强，可做车体结构承载补强；同轴行星齿轮传动功率分流均载特性，齿轮寿命长，可靠性高。

2、维护便捷性优势：平台化模块化设计，电机/减速器相同可同时兼容大吨位驱动和单双驱，方便拆装，湿式制动，维护简单，易实现免维护；轻量化和成本优势：电机，控制器，减速器与桥壳同轴一体高度集成，部件精简减少原材料用量和加工装配成本，较传统平行轴驱动桥减重 20%，符合工程机械集成化轻量化趋势。

1、Compact structure and integrated advantages: The coaxial integrated layout is highly integrated, the overall transmission chain is short, there are fewer parts, and the compact structure can effectively release the chassis space; load-bearing and reliability advantages: the drive motor, controller, reducer and bridge housing are highly integrated, with strong overall rigidity and torsion resistance, and can be used to reinforce the vehicle body structure; the coaxial planetary gear transmission has the characteristics of power diversion and load-sharing, long gear life and high reliability.

2、Easy maintenance advantages: Platform modular design, the same motor/reducer can be compatible with large-tonnage drive and single and double drives at the same time, the fan-shaped bridge is easy to disassemble and assemble, wet brake, simple maintenance, and easy to achieve maintenance-free; Lightweight and cost advantages: the motor, controller, reducer and bridge housing are highly integrated coaxially, and the parts are streamlined to reduce the amount of raw materials and processing and assembly costs. It is 20% lighter than the traditional parallel shaft drive axle, which is in line with the trend of integrated lightweight construction machinery.

技术规范/Technical Specifications

型号 Model	同轴双驱集成桥总成 Forklift dual motor integrated axle
峰值电流 Peak Current	350~500 A
输入电压范围 Input Voltage Range	48-144 V (根据不同电压进行配置)
额定电压 Rated Voltage	80/96/115/144
峰值功率 Peak Power	15X2 (kw)
最大工作效率 Maximum Work Efficiency	≥90%
输出频率范围 Output Frequency Range	0-800 HZ
轮端扭矩 Wheel end torque	3500X2 (N. m)
低压供电范围 Low Voltage Supply Range	9-16具备防反接功能 9-16 with anti-reverse connection function
通讯及控制方法 Communication and Control methods	CAN控或线控可选执行 CAN2.0B协议 CAN control or wire control can choose to implement CAN2.0B protocol
控制方式 Control methods	闭环矢量控制 Closed loop vector control
转矩控制精度 Torque control accuracy	100Nm以下, ±3Nm, 100Nm以上, ±3% Below 100Nm ±3Nm, Above 100Nm ±3%

应用车型/Application Model

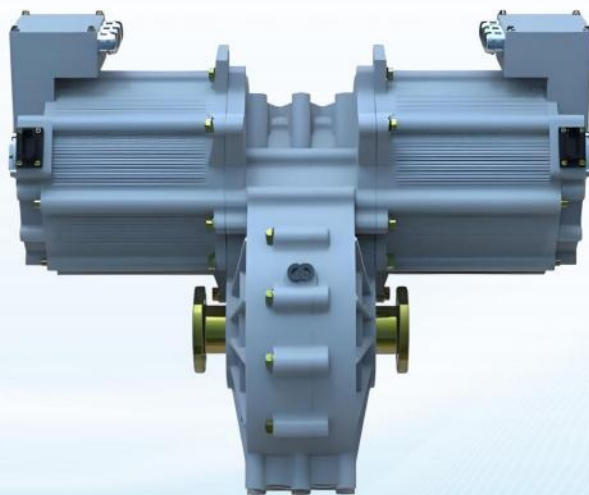
平衡重 2.5T-4.5T / Counterweight forklift 2.5T-4.5T



MG310-620-540V

减速器+双电机总成

Gearbox + dual-motor powertrain



产品概述/Product Overview

合普动力针对8-10米客运/公交驱动系统开发的电机减速箱二合一产品，系统有可靠性好，换挡动力不中断，快速平顺等优点。
Hepu Power has developed a two-in-one motor reducer product for 8-10m passenger/bus drive systems. The system has the advantages of good reliability, uninterrupted shifting power, fast and smooth shifting, etc.

产品优势/Product Advantages

- 1、高度集成化与空间优化：电机与减速箱共享壳体或共轴设计，整体体积减少20%~30%；轻量化提升，重量降低10%~15%，显著提升系统功率密度（可达3-5kW/kg）。
 - 2、能效提升与损耗降低：减少机械传动损耗，传动效率提升 2%~5%，传统分体系统效率约92%~94%，集成系统可达96%~98%；低噪音运行，密集成设计，整体噪音降低 5~10dB。
 - 3、动态性能与控制优化：降低转动惯量，电机转子与减速箱输入轴直接耦合，响应时间缩短 20%~30%；高扭矩输出稳定性，齿轮箱与电机参数协同设计（如齿比与电机转速匹配），低速时输出更大且平稳的扭矩（如电动汽车爬坡扭矩波动减少50%）；支持高转速电机，集成减速箱扩展电机转速范围（如电机15,000rpm + 减速箱10:1 = 车轮1500rpm），兼顾高速电机效率与终端需求。
 - 4、可靠性增强与长寿命：减少故障点，消除联轴器磨损、轴对中偏差等传统问题，系统平均无故障时间（MTBF）提升 30%~50%；抗振性与环境适应性，刚性集成结构耐受高振动场景（如工程机械冲击负载），防护等级可达IP67（防高压水、防尘）。
- 1、High integration and space optimization: Motor and gearbox share shell or coaxial design, the overall volume is reduced by 20% to 30%; Lightweight improvement: The weight is reduced by 10% to 15%, increasing the power density of the system (up to 3-5kW/kg).
- 2、Improved energy efficiency and reduced losses: Reduce the mechanical transmission loss: the transmission efficiency is increased by 2%~5%, the efficiency of the traditional split system is 92%~94%, and the integrated system can reach 96%~98%;Low noise operation: Dense design, the overall noise is reduced by 5~10dB.
- 3、Dynamic performance and control optimization:Reduced inertia,Direct coupling of the motor rotor to the reducer input shaft shortens response time by 20-30%;High torque output stability,The co-design between the parameters of gearbox and the motor (e.g., the tooth ratio matches the motor speed), and the output is larger and smoother at low speeds (e.g., the electric vehicle climbing torque fluctuation is reduced by 50%);Support high speed motor,The integrated gearbox extends the motor speed range (such as motor 15,000rpm+ gearbox 10:1 = wheel 1500rpm), taking into account high-speed motor efficiency and end requirements.
- 4、Increased reliability and durable years:Reduce fault, Eliminate the problems of coupling wear and shaft alignment deviation, and increase the mean time to failure (MTBF) of the system by 30% to 50%;Vibration resistance and environmental adaptability, The rigid integrated structure can withstand high vibration scenarios (such as the impact load of construction machinery), and the protection level can be Ip67 (high pressure water and dust protection).

技术规范 / Technical Specifications

型号 / Model	MG310-620-540V
满功率输出 Full Power Output	320~400 V
电压范围 Voltage Range	320~400 V
额定电压 Rated Voltage	374 V
减速箱速比 Ratio	3.925
峰值转速 Peak Speed	12000 (rpm)
额定转速 Rated Speed	4500 (rpm)
峰值扭矩 Peak Torque	620 (N.m)
额定扭矩 Rated Torque	290 (N.m)
峰值功率 Peak Power	310 (kw)
额定功率 Rated Power	140 (kw)
冷却方式 Cooling method	液冷 Water cooling

应用车型 / Application Model

环卫车、混动高空作业车上装、装载机、起重机、挖掘机、矿卡

Sanitation truck, Hybrid aerial work truck loading, Loader, Crane, Excavator, Mining dump truck



P70-165-VDH

双驱动力总成

Dual driving Powertrain



产品概述/Product Overview

P70-165-VDH为双电机、双减速机、双控制器集成一体的双动力三合一驱动总成，专为UTV，ATV等场地车提供强劲动力性能。

P70-165-VDH is a three-in-one drive powertrain with dual-power dual motors, dual reducers and dual controllers, designed to provide strong power performance for UTV, ATV and other field vehicles.

产品优势/Product Advantages

- 1、双电机输出，性能强劲；
 - 2、双电机独立可实现扭矩矢量控制，电子差速，实时调节扭矩输出，响应快，显著提升操纵性和安全性；
 - 3、集成度高：双套电机、减速机、控制器集成于一体，能量密度高；
 - 4、特殊场景：分布式驱动形式，可精准控制每个车轮转向和驱动力，可实现横向移动及原地掉头等特殊场景。
- 1、Dual motor output, strong performance;
 - 2、Dual motors independently can achieve torque vector control, electronic differential and real-time adjustment of torque output, which has fast response, maneuverability and safety;
 - 3、High integration: Double sets of motor, reducer, controller integrated in one, high energy density;
 - 4、Special scenes: Distributed drive form, can accurately control each wheel steering and driving force, and achieve lateral movement and in place turn-around and other special scenes.

技术规范 / Technical Specifications

型号 / Model	P70-165-VDH
满功率输出 Full Power Output	300~420V
电压范围 Voltage Range	220~450V
额定电压 Rated Voltage	336V
峰值转速 Peak Speed	12000 (rpm)
额定转速 Rated Speed	4050 (rpm)
峰值扭矩 Peak Torque	2X165 (N.m)
额定扭矩 Rated Torque	2X70 (N.m)
峰值功率 Peak Power	2X70 (kw)
额定功率 Rated Power	2X30 (kw)
冷却方式 Cooling Method	油冷 Oil Cooling

应用车型 / Application Model

UTV/ATV、轻卡、乘用车、面包车、MPV、农用机械

UTV/ATV, Light trucks, Passenger cars, Vans, MPV, Agricultural machinery



驱动形式 / Drive Type

前驱左右半轴、中置左右半轴

Front-wheel drive left and right half shafts, center-wheel drive left and right half shafts

HP80X35-P2

DC20控制器

DC20 Controller



产品概述/Product Overview

DC20系列交流电机控制器是合普动力开发的一款可用于低压交流电动车辆的控制器，结合国内外高性能闭环矢量控制算法，实现了对三相永磁同步电机的转速和转矩控制功能，具有高效、节能、环保等特点；可广泛应用于大功率AGV系统、平衡重式叉车、电动装载机电动车辆。

The DC20 series AC motor controller is developed by Hepu Power for low-voltage AC electric vehicles. The combination of high-performance closed-loop vector control algorithms achieves the speed and torque control functions of three-phase permanent magnet synchronous motors, featuring high efficiency, energy conservation and environmental protection. It can be widely applied to high-power AGV systems, counterbalanced forklifts, electric loaders and other electric vehicles.

产品优势/Product Advantages

双电控二合一，节省整车布置空间，提升功率密度。

The dual electronic control system is integrated into one, saving the overall layout space of the vehicle and enhancing the power density.

技术规范 / Technical Specifications

一般参数 / Specifications	
额定电压 / Rated Voltage	48/72/80/96V
电压范围 / Voltage Range	36~135V
持续电流 / Sustained Current	250A/200A
峰值电流 / Peak Current	550A/450A
最高效率 / Peak Efficiency	≥98%
频率范围 / Frequency Range	0~600Hz
尺寸 / Measurement	320*200*126
工作环境温度 Operating Ambient Temperature	— 40°C~85°C
海拔 / Elevation	低于1000米，1000米以上降额 使用，每升高100米降额1% For distances below 1,000 meters. Derating applies above 1,000m altitude - 1% current reduction per 100m increase.

应用车型 / Application Model

平衡重式叉车、电动装载机、高空作业平台、伸缩臂车、三支点

Counterbalanced forklift, Electric loader, Aerial work platform, Telescopic boom truck, Three-point forklift



KTZ10X45FHPA

C30控制器

C30 Controller



产品概述/Product Overview

C30系列电机控制器是合普动力自主研发、制造的低压乘用车电机控制器。

C30控制器软件平台结合国内外高性能闭环矢量控制算法，采用电动乘用车软件设计理念，结合实际行业应用，自主开发设计，实现了对三相交流永磁同步电机的转速控制和转矩控制。

C30控制器为合普动力开发的第二代控制器，实现了功率密度更高，性能更好，体积更小，成本最优的特点，可广泛应用于低速A00级乘用车、智能物流车及特种车辆等场合。

The C30 series motor controller is a low-voltage passenger car motor controller independently developed and manufactured by Hepu Power.

The C30 controller software platform achieves speed control and torque control of three-phase AC permanent magnet synchronous motors, integrating high-performance closed-loop vector control algorithms at home and abroad, adopting the software design concept of electric passenger vehicles in combination with actual industry applications.

The C30 controller is the second-generation controller developed by Hepu Power. It features higher power density, better performance, smaller size and optimal cost. It can be widely applied in low-speed A00-class passenger cars, intelligent logistics vehicles and special vehicles, etc.

产品优势/Product Advantages

1、选用了国内大品牌 MOSFET 管作为主功率器件；

2、效率高，功率等级可灵活搭配；

3、输入端口丰富，可集成简易VCU功能。

1、Domestic well-known brand MOSFET tubes were selected as the main power devices;

2、High efficiency, and power levels can be flexibly combined;

3、Rich input port and can integrate simple VCU functions.

技术规范 / Technical Specifications

一般参数 / Specifications	
额定电压 / Rated Voltage	48/72/80/96/115V
电压范围 / Voltage Range	36~135V
持续电流 / Sustained Current	140A
峰值电流 / Peak Current	450A
最高效率 / Peak Efficiency	≥98%
频率范围 / Frequency Range	0-800Hz
尺寸 / Measurement	283*228*175mm
工作环境温度 Operating Ambient Temperature	-40°C-55°C
海拔 / Elevation	0~3000m: 2000m以上降额使用， 每升高 100m，额定输出电流减 0-3000m: Derating applies above 2000m altitude - 1% current reduction per 100m increase.

应用车型 / Application Model

L7类车、无人物流车，小型装载机，电动叉车，观光车，UTV车型，A00乘用车、mini卡、微卡
L7 vehicle, Unmanned logistics vehicle, Small loader, Forklift, Sightseeing vehicle, UTV, A00 passenger car, Mini truck, Micro truck



KTZ10X30C15A

C15控制器

C15 Controller



产品概述/Product Overview

C15系列电机控制器是合普动力股份有限公司自主研发、制造的低压乘用车电机控制器。

C15控制器软件平台结合国内外高性能闭环矢量控制算法，采用电动乘车辆软件设计理念，结合实际行业应用，自主开发设计，实现了对三相交流永磁同步电机的转速控制和转矩控制。

The C15 series motor controller is a low-voltage passenger vehicle motor controller independently developed and manufactured by Hepu Power Co., LTD.

The C15 controller software platform achieves speed control and torque control of three-phase AC permanent magnet synchronous motors, integrating high-performance closed-loop vector control algorithms at home and abroad, adopting the software design concept of electric passenger vehicles in combination with actual industry applications.

产品优势/Product Advantages

- 1、选用了国内大品牌 MOSFET 管作为主功率器件；
 - 2、体积小，功率等级可灵活搭配；
 - 3、输入端口丰富，可集成简易VCU功能。
- 1、Domestic well-known brand MOSFET tubes were selected as the main power devices;
 - 2、Small size and the power levels can be flexibly matched;
 - 3、Rich input port and can integrate simple VCU functions.

技术规范 / Technical Specifications

一般参数 / Specifications	
额定电压/Rated Voltage	48/72/80/96/115V
电压范围/Voltage Range	36~135V
持续电流/ Sustained Current	90A
峰值电流/ Peak Current	350A
最高效率/ Peak Efficiency	≥98%
频率范围/ Frequency Range	0-800Hz
尺寸/ Measurement	230*148*145mm
工作环境温度 Operating Ambient Temperature	-40℃-55℃
海拔/Elevation	0~3000m: 2000m以上降额使用 , 每升高 100m, 额定输出电流减 0-3000m: Derating applies above 2000m altitude - 1% current reduction per 100m increase.

应用车型 / Application Model

L6类车、无人物流车，小型装载机，滑移铲车,高尔夫球车，三轮车、高速电摩、环卫车

L6 vehicle, Unmanned logistics vehicle, Small loader, Skid steer Loader, Golf cart, Tricycle, High-speed electric motorcycle, Sanitation vehicle



KTZ34X25SHPA

C70控制器

C70 Controller



产品概述/Product Overview

C70系列电机控制器是合普动力自主研发、制造的电机控制器。

C70控制器软件平台结合国内外高性能闭环矢量控制算法，采用电动乘用车软件设计理念，结合实际行业应用，自主开发设计，实现了对三相交流永磁同步电机的转速控制和转矩控制。

The C70 series motor controller is a motor controller independently developed and manufactured by Hepu Power.

The C70 controller software platform achieves speed control and torque control of three-phase AC permanent magnet synchronous motors, integrating high-performance closed-loop vector control algorithms at home and abroad, adopting the software design concept of electric passenger vehicles in combination with actual industry applications.

产品优势/Product Advantages

- 1、选用了国内大品牌 IGBT 作为主功率器件；
 - 2、效率高，功率密度高，可靠性高；
 - 3、安装位置灵活，节省整车布置空间。
- 1、Domestic well-known brand IGBT were selected as the main power devices;
 - 2、High efficiency, high power density and high reliability;
 - 3、The installation position is flexible, saving the overall layout space of the vehicle.

技术规范/Technical Specifications

一般参数 / Specifications	
额定电压/Rated Voltage	340/600V
电压范围/Voltage Range	220~450V/320~750V
持续电流/ Sustained Current	120/60A
峰值电流/ Peak Current	250/160A
最高效率/ Peak Efficiency	≥98%
频率范围/ Frequency Range	0~800Hz
尺寸/ Measurement	347*282*112mm
工作环境温度 Operating Ambient Temperature	-40~65℃
海拔/Elevation	0~3000m: 2000m以上降额使用 , 每升高 100m, 额定输出电流减少 1% 0-3000m: Derating applies above 2000m altitude - 1% current reduction per 100m increase.

应用车型/Application Model

环卫车、装载机、挖机、堆高机、物流车、搅拌车、微卡、农用机车

Sanitation vehicle, Loader, Excavator, Stacker, Logistics vehicle, Mixer truck, Micro truck, Agricultural locomotive



KTZ36X50SHPA

C120控制器

C120 Controller



产品概述/Product Overview

C120单体系列电机控制器是合普动力自主研发、制造的乘用车电机控制器。

C120单体系列控制器软件平台结合国内外高性能闭环矢量控制算法，采用电动车辆软件设计理念，结合实际行业应用，自主开发设计，实现了对三相交流永磁同步电机的转速控制和转矩控制。

The C120 single-unit series motor controller is a low-voltage passenger vehicle motor controller independently developed and manufactured by Hepu Power.

The C120 single-unit series controller software platform achieves speed control and torque control of three-phase AC permanent magnet synchronous motors, integrating high-performance closed-loop vector control algorithms at home and abroad, adopting the software design concept of electric passenger vehicles in combination with actual industry applications.

产品优势/Product Advantages

- 1、选用了国内大品牌 IGBT 作为主功率器件；
 - 2、效率高，功率密度高，可靠性高；
 - 3、安装位置灵活，节省整车布置空间。
- 1、Domestic well-known brand IGBT were selected as the main power devices;
 - 2、High efficiency, high power density and high reliability;
 - 3、The installation position is flexible, saving the overall layout space of the vehicle.

技术规范 / Technical Specifications

一般参数 / Specifications	
额定电压/Rated Voltage	340/600V
电压范围/Voltage Range	220~450V/320~750V
持续电流/ Sustained Current	250/150A
峰值电流/ Peak Current	500/320A
最高效率/ Peak Efficiency	≥98%
频率范围/ Frequency Range	0~800Hz
尺寸/ Measurement	401*283*111mm
工作环境温度 Operating Ambient Temperature	-40~65°C
海拔/Elevation	0~3000m: 2000m以上降额使用 , 每升高 100m, 额定输出电流减少 1% 0-3000m: Derating applies above 2000m altitude - 1% current reduction per 100m increase.

应用车型 / Application Model

农用车、无人物流车、A级乘用车

Agricultural vehicle, Unmanned logistics vehicle, A-class passenger vehicle



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合普动力微信公众服务号

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