



Smart Power

创新成就至简

Innovation makes it easy

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S 洲钜科技

HANGZHOU ZHOUJU ELECTRONIC TECHNOLOGICAL CO., LTD





# COMPANY PROFILE

## 公司简介

### 使命 / Mission

以科技驱动绿色未来，

Drive a Green Future with Technology Innovation

### 愿景 / Vision

成为全球一流的电机控制系统供应商。

World-Class Motor Control System Supplier

### 价值观 / Value

勤勉务实、开放包容；严谨专注、敢为人先；诚信履约、协同发展。

Sedulous & Pragmatical; Openness & Inclusiveness; Rigorous & Ambitious; Dare To Be The First;  
Honesty Service; Coordinated Development

则矩科技是一家致力于直流电机驱动类产品算法研究、软硬件开发、PCBA制造和销售的高科  
技企业。公司目前由杭州总部、长春研究院、安吉制造基地三部分组成。

则矩科技拥有行业一流的研发团队，其中博士五人，硕士十余人，研发工程师七十余人。公  
司拥有各类专利三十多项，为业内极少数拥有电机模型构建及算法开发能力及完全自主知识产权的  
高科技企业，引领国内的电机变频产业达到国际先进水平。

安吉制造基地占地50亩，厂房面积30000平方，电控板年产能可达2000万片。

Zhouju Technology is the high-tech company, devoting to the DC motor driver theoretical algorithm re-  
search, software and hardware development, PCBA manufacture and sales. Zhouju Technology con-  
sists of Hangzhou Head Office, Changchun Research Institute and Anji Manufacturing Base.

R&D team ranks top grade in inverter industry, including 5 doctors and 10 postgraduates, more than  
70 engineers in total. Zhouju has attained more than 30 patents, with rare ability to development  
motor driver algorithm model and independent intellectual proper-rights, which will lead domestic in-  
verter industry to advanced world standard.

Anji manufacturing base covers an area of 5 acres(20000m<sup>2</sup>). Floor area is about 7.5 acres(30000m<sup>2</sup>).  
Annual production capacity is up to 20 million pieces PCBA.

## DEVELOPMENT

# 发展

2011

入选杭州市“雏鹰计划”  
Selected for Hangzhou  
"Baby Eagle Plan"



2013

推出全球首款  
直流变频烟机驱动控制器  
Launched the World's First  
DC Variable Frequency Hood Driver



2014

被认定为国家级  
高新技术企业  
Authorized as National  
High-tech Enterprise

2015

投入杭州自主制造生产线  
Invested in Hangzhou  
Independent Production Line

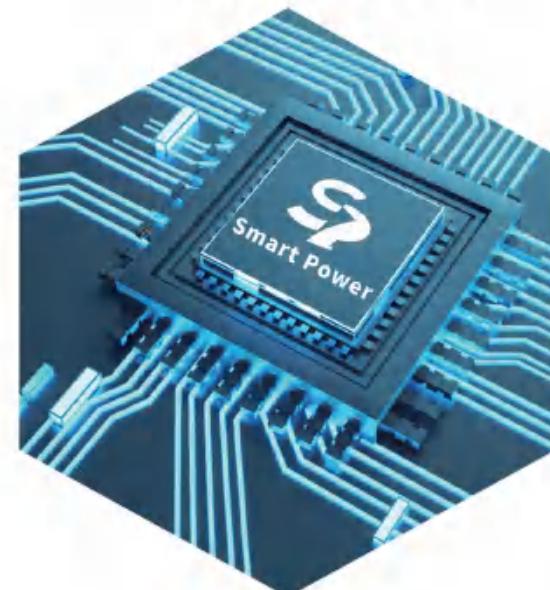
2010

成立于杭州余杭  
Established in Yuhang Zone



2022

第三代电机控制  
平台全面投入使用  
Launched the Third-generation  
Motor Control Platform



2020

被认定为浙江省企业  
高新技术研发中心  
Identified as High  
Technology R&D Center



2019

成立长春研究院  
Established Changchun  
Research Institute

## HISTORY

# 历程

# R&D STRENGTH 研发实力

## 科研团队R&D

研发中心下设长春研究院、杭州研发部、试验中心。研发人员七十余人，均为本科及以上学历，其中博士五人，硕士十余人。公司与吉林大学开展深度技术合作，拥有特聘教授四人。研发团队秉承“创新成就至简”理念，深耕直流变频驱动及智能控制领域，理论研究和技术应用水平行业领先。

R&D Center consists of Changchun Research Institute, Hangzhou R&D Department and Test Center. There are more than 70 engineers with bachelor above, including 5 doctors and 10 postgraduates. Zhouju makes thorough cooperation with Jilin University, including 4 distinguished professors. Adhering to the concept of "Innovation makes it easy", R&D team with industry leadership theoretical research and technology application keep deeply cultivating DC variable frequency driver and intelligent control.



## 科技专利Patent

公司拥有专利及软件著作权四十余项，其中发明专利11项，并于2014年通过“国家重点支持的高新技术企业”认证，2018年通过“杭州市企业高新技术研究开发中心”认定，2020年被浙江省科学技术厅认定为“省级高新技术企业研究开发中心”，2022年报批建设浙江省企业研究院。

Zhouju attained more than 40 patents and software copyrights, including 11 invention patents. In 2014 Zhouju was authorized to "High-tech enterprises by key Support". In 2018, Zhouju was awarded as "Hangzhou High-tech Research and Development Center". In 2020, Zhouju was identified as "Provincial High-tech Enterprise Research and Development Center" by Science Technology Department of Zhejiang Province. In 2022, Zhouju will submit for approval of Zhejiang Enterprise Research Institute Center.



## Manufacturing System 制造体系

生产基地位于“两山”理念诞生地的安吉工业园区，占地面积三十余亩，建筑面积三万余平方米，拥有6条SMT高速生产线、10条DIP生产线、8条成品组装线。产品工艺设计行业一流，产品制造可采用自动化生产线，同时实施ERP、MES、ESD等信息化管理平台，为企业打造高质量、高效率的制造体系。

The manufacturing base is located in Anji Industrial Park, the birthplace of the "Two Mountain Theory" (Lucid waters and lush mountains are invaluable assets). It covers an area of more than 5 acres(20000m<sup>2</sup>). The floor area is about 7.5 acres( 30000m<sup>2</sup>). There are 6 high-speed SMT production lines, 10 DIP production lines and 8 assembly lines. Zhouju manufacturing process design is top-grade in inverter industry. We implement automatic production line, ERP, MES, ESD and other information management platforms, in order to establish high-quality and high-efficiency manufacturing system.



## Quality Control Capability 品控实力

公司建立以产品质量为中心，全员参与，科学高效的管理体系，即全面质量管理体系。建立了研发设计，原材料认定，生产全流程管控，客户反馈，问题解决处理全流程控制系统，实现产品端到端解决问题。借助ERP和LEAN MES业务流程，实现产品全生命周期管理，先进先出（FIFO），产品追溯性，产品过程控制，实现可视化管理，信息化驱动式管理。



Zhouju has established the scientific and efficient quality control system of total involvement and quality first, namely total quality control. The total quality control includes RD development, raw material identification, production process control, customer feedback and point to point problem solution. With the help of ERP and LEAN MES processes, Zhouju implements product lifecycle management, first in first out (FIFO)management, product traceability management, product process control management, attainable visual management and informatization management.



# PRODUCT MENU

# 产品

- ▶ 水泵驱动控制器 WATER PUMP DRIVER CONTROLLER
- ▶ 风机驱动 FAN MOTOR DRIVER
- ▶ 压缩机驱动控制器 COMPRESSOR DRIVER CONTROLLER
- ▶ 变频油烟机控制器 INVERTER RANGE HOOD CONTROLLER
- ▶ 智能家居 SMART HOME
- ▶ 家用电器 HOME APPLIANCE

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浙江洲钜科技有限公司

innovation makes it easy

# 水泵驱动控制器 WATER PUMP DRIVER CONTROLLER

## 技术特点 TECHNICAL SPECIFICATION

- > 采用180度正弦波、无位置传感器、FOC直流水泵驱动技术
- > 采用VVVF交流水泵驱动技术
- > 恒转速、恒功率、恒压力、等比例压力、恒流量等多种控制模式
- > AC220V/380V/480V电压输入，系列产品功率范围:30W-30KW产品符合CE、UL、CCC认证要求
- > 具有恒压控制、用水自动启动、自动休眠、缺水保护等功能。支持物联网连接，可以远程实时监控水泵运行状态，远程更新程序。支持联泵功能，可以实现多台水泵联机控制。
- > 灵活的人机交互界面，丰富的控制通讯接口
- > 完善的保护机制:交直流过欠压、软硬件过电流、缺相、失步、过热、通讯故障等



单相变频水泵驱动器 - 2.2kw  
1-Phase Inverter Water Pump Driver-2.2KW



家用循环泵驱动控制器 - 120W  
Circulating Pump Driver-120W



三相变频水泵驱动器 - 22kW  
3-Phase Inverter Water Pump Driver-22KW

- > Sinewave 180°; sensorless(without position sensor); field-oriented control(FOC) DC pump driver technology
- > VVVF AC water pump driver technology
- > Various control models with constant speed, constant power constant pressure, proportional pressure and constant flow
- > Input working voltage: AC220V/AC380V/AC480V, Working power range: 30W-30KW, Certification: CE, UL, CCC etc
- > The driver supports constant pressure model, auto start, outlet valve hibernate mode, inlet valve protection, power off memory, online setting, wifi internet access, wheel pump and addition or subtraction pump connected in parallel
- > Flexible human-computer interface, multiple communication protocol port
- > Perfect protection: AC/DC over voltage and under voltage protection, SW and HW over current protection, loss phase protection, out of step protection, overheating protection, communication failure etc

## 应用场景 APPLICATION

增压泵 Booster Pumps

潜水泵 Immersible Pumps

排污泵 Sewage Pumps

冷凝泵 Condensation Pumps

循环泵 Circulating Pumps

自吸泵 Self-priming Pumps

# 压缩机驱动控制器 COMPRESSOR DRIVERS CONTROLLER



## 技术特点 TECHNICAL SPECIFICATION

- > 采用180度正弦波、无位置传感器、FOC直流压缩机驱动技术  
成熟的全闭环高压差启动，自适应转矩补偿、谐波补偿、载频抖动
- > SVPWM过调制、死区补偿、拍频抑制技术
- > 完善的单相交错PFC方案、三相无电解方案、分立器件方案
- > 具有三相电源相序、排气和冷凝温度检测、高低压压力开关、直角阀、冷凝风机控制等功能，有双平台调频、回油、停机压力平衡等应用控制策略
- > DC12V-48V电压输入、AC220V/380V/480V电压输入，系列产品功率范围:100W-30KW。产品符合CE、UL、CCC、TUV、ETL认证要求
- > 丰富的接口:PWM, FREQ, TTL, RS485, MODBUS, CAN, 可根据客户定制通信协议
- > 完善的保护机制:交直流过欠压、软硬件过电流、缺相、失步、过热、通讯故障等
- > Sinewave 180°, sensorless(without position sensor), field-oriented control(FOC), proven closed-loop big voltage difference start, adaptive torque compensation, harmonic compensation, carried frequency vibration
- > SVPWM overmodulation, dead time compensation, AC voltage beat phenomenon suppression
- > Perfect PFC Plan, apply to three-phase no electrolytic capacitor solution and discrete device schemes
- > Detect function of phase sequence of three-phase power supply exhaust and condensation temperatures detection, control function of high/low pressure switches, right-angle valves and condensing fans, special control strategies for applications with dual platform; frequency modulation, oil return, and shutdown pressure balance
- > Input working voltage: DC12V-48V/AC220V/AC380V/AC480V  
Working power range: 100W-30KW  
Certification: CE, UL, CCC, TUV, ETL and other standard
- > Multiple interface: PWM/FREQ/TTL/RS485/MODBUS/CAN, protocol can be customized
- > Perfect protection: AC/DC overvoltage and undervoltage protection, SW and HW over current protection, loss phase protection, out of step protection, overheating protection, communication failure, etc



SPB1-D26080CA1-单相风冷驱动器 - 8KW  
1-Phase Air Cooled Driver - 8KW



SPB1-D26080BA1-单相冷媒驱动器 - 8KW  
1-Phase Refrigerant Cooled Driver - 8KW



SPB1-D38120AA1-三相无电解驱动器 - 12KW  
3-Phase No Electrolytic Driver - 12KW

## 应用场景 APPLICATION



空调主控驱动系统 Air Conditioning Driver System

冰箱压缩机 Refrigerator Compressor

热泵系统 Heat Pump System

冷藏冷冻系统 Refrigeration System

车载制冷 Vehicle Refrigeration System

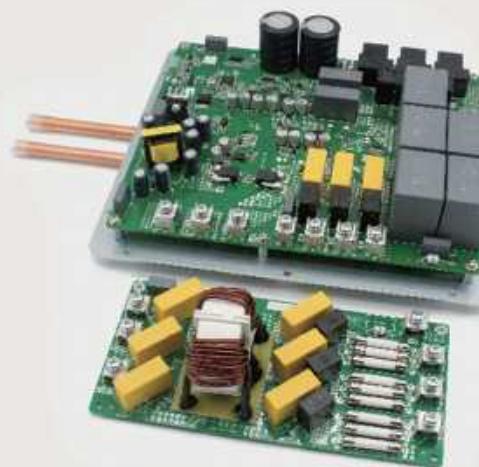


主控驱动一体空调控制器 - 1.5kw  
Integrated Air Conditioner Controller - 1.5KW



SSPM系列驱动器 - 25KW  
SSPM Series Driver - 25KW

SPB1-D38150BA1-三相无电解冷媒驱动器 - 15KW  
3-Phase No Electrolytic Capacitor Refrigerant  
Driver - 15KW



# 风机驱动 FAN MOTOR DRIVER



## 技术特点 TECHNICAL SPECIFICATION

- > 采用180度正弦波、无位置传感器、FOC控制方案
- > 兼容各种风机负载、具有低噪音、低振动、高效率等优点
- > 成熟的闭环顺逆风启动、自动风量标定、谐波补偿、载频抖动、SVPWM过调制、死区补偿、拍频抑制技术
- > 完善的PFC软硬件方案、三相无电解方案、低噪音单电阻方案
- > 恒转速、恒转矩、恒功率、恒风量等多种控制模式，电流、电压、温度限功率等多种策略
- > DC12V-540V电压输入、AC110V/220V/380V/480V电压输入，系列产品功率范围10W-10KW，产品符合CE、UL、CCC、TUV、ETL认证要求
- > 丰富的接口：0-10V、PWM、FREQ、TTL、RS485、MODBUS、CAN，可根据客户定制通信协议
- > 完善的保护机制：交直流过欠压、软硬件过电流、缺相、失步、过热通讯故障等
- > Sinewave 180°, sensorless(without Position sensor), field-oriented control(FOC)
- > Be compatible with various loads, low noise, low vibration and high efficiency
- > Full fledged close-loop upwind and tailwind start, automatic calibration of air volume, harmonic compensation, carried frequency vibration, SVPWM overmodulation, dead time compensation, AC voltage beat phenomenon suppression
- > Perfect PFC soft hardware plan, apply to three-phase no electrolytic capacitor solution, low noise single resistor solution
- > Constant speed, constant torque, constant power, constant air vlooume and more control models, including current, voltage power strategy
- > Input working voltage: DC12V-540V/AC110V/AC220V/AC380V/AC480V  
Working power range: 10W-10KW  
Certification:CE, UL, CCC, TUV, ETL etc
- > Multiple interface: 0-10V/PWM/FREQ/TTL/RS485/MODBUS/CAN, protocol can be customized
- > Perfect protection: AC/DC overvoltage and undervoltage protection, SW and HW overcurrent protection, loss phase protection, out of step protection, overheating protection, communication failure etc



三相无电解工业大风机驱动器 - 4.5KW  
3-Phase No Electrolytic Capacitor  
Industrial Fan Driver - 4.5KW



空调风机直流驱动器 - 150W  
Air Conditioner  
DC Fan Driver - 150W



外置三速风机驱动器 - 200W  
External Three-Speed Fan  
Motor Driver - 200W



## 应用场景 APPLICATION



轴流风机 Axial Ventilation

离心风机 Centrifugal Ventilation

特种风机 Special Ventilation

工作环境 Working Condition

家用 Household

工业 Industrial

商用 Commercial



单相风机驱动器 - 500W

1-PHASE FAN DRIVER - 500W



低压风机驱动器 - 200W

LOW-VOLTAGE FAN DRIVER - 200W



三相风机驱动器 - 1.5KW

3-PHASE FAN DRIVER - 1.5KW



风机直流驱动器 - 1350W

DC FAN DRIVER - 1350W

# 变频油烟机控制器 INVERTER RANGE HOOD CONTROLLER



## 技术特点 TECHNICAL SPECIFICATION

- > 集成LED调光照明、直流无刷电机驱动、进风口翻板（推杆电机）控制技术
- > 支持LED、TFT、LCD多种显示方式
- > 灵敏可靠的触摸控制、手势控制，可无极调光、智能烟感自动控制等
- > 驱动效率高、待机功耗低、运行平稳噪音低
- > 可实现吸油烟机运行的无极调速、自动调整和自动增压、能够实现大风量、高风压
- > 支持恒转速、恒转矩控制方式、支持先进具有自主知识产权的可编程风量控制算法
- > 支持OTA升级技术、语音控制、烟灶联动、热熔洗等功能，各模块功能可靠集成度高，可自定义配置
- > 系列产品功率范围：200W-500W。产品符合CE、UL、CCC认证要求



变频油烟机控制&驱动 - 300W  
Inverter Range Hood Control & Driver-300W



变频油烟机驱动 - 500W  
Inverter Range Hood Driver-500W

- > Integrated led accommodate light, BLDC driver, air inlet reverse technology(push rod motor)
- > Multiple display modes: LED, LCD, TFT
- > Sensitive and reliable touch control, gesture control, stepless dimming, intelligent automatic smoke detector control etc
- > High driving efficiency, low standby power consumption, smooth operation and low noise
- > The range hood function with stepless speed regulation, automatic adjustment and pressurization, large air volume and high air pressure process are achievable
- > Supporting constant speed, constant torque control model, supporting advanced programmable air volume control algorithm with independent intellectual property rights
- > Supporting OTA advanced technology, ASR control, integrated stove and hood, fuser, each module function is reliable and highly integrated configures, also can be customized
- > Power range 200W-500W; certification: CE, UL, CCC, etc

## 应用场景 APPLICATION

家用或类似用途的变频油烟机  
Applicable for household inverter range hoods or similar purposes.

# 智能家居 SMART HOME

## 技术特点 TECHNICAL SPECIFICATION

- 丰富的显示方式：LED、LCD、TFT高清显示
- 智能感知：适配六轴加速度传感器、红外感应模块、压力传感器等各种感知模块、自学习识别应用
- 智慧家居：采用物联网、智能语音、图像识别、无线连接等技术、搭建智慧家居场景
- 安全保障：障碍识别、倾倒检测、压力调节、入侵检测、温度火焰报警功能
- 无线控制：2.4G双向无线收发控制，配置语音模组实现语音控制
- 领先的控制算法：控制精度高、工作场景识别、多模式自适应
- 产品模块化，方案稳定可靠，能够提供丰富接口，支持客户编程和个性化设置、可扩展性强
- 升级功能：参数可以通过多功能口更新，并支持OTA升级技术
- 产品符合CE、UL、CCC认证要求
- Multiple display modes like LED, TFT and LCD
- Intelligent perception: six-axis acceleration sensor, infrared sensor module, pressure sensor and self-learning identification applications
- Smart home: IoT, intelligent voice, image recognition, and wireless connection technology used to build smart home scene
- Safety guarantee: obstacle recognition, dumping detection, pressure regulation, intrusion detection, temperature/flame alarm functions
- Wireless control: 2.4G two-way wireless transceiver control, configure the voice module to achieve voice control
- Advanced control algorithm: high control precision, work scene recognition, multi-mode self-adaptation
- Product modularity, reliable and stable solutions, multiple interfaces, personalized prgram and setting, strong scalability
- Functions update: parameters can be updated through the multi-functional port and OTA update available
- Certification: CE, UL, CCC

## 应用场景 APPLICATION

智能升降桌 Intelligent Lifting Desks

办公系统 Office Systems

智能睡眠系统 Intelligent Sleep Systems

按摩椅 Massage Chairs



按摩椅控制器  
Massage Chair Controller



智能升降控制器  
Intelligent Lifting Desk Control

# 家用电器 HOME APPLIANCE

## 技术特点 TECHNICAL SPECIFICATION

- > 电压范围: AC85V~260V; 交流输入: 50/60Hz; 产品符合CCC要求
- > 工作环境: -15°C-60°C, 湿度10%-80%
- > 丰富的显示方式: LED、LCD、TFT等多种高清显示
- > 灵活的人机交互: 轻触开关、触摸按键、滑条、旋钮、挥手感应
- > 领先的控制算法: 控制精度高、工作场景识别、多模式自适应
- > 智慧的互联功能: WiFi、蓝牙、语音控制、无线遥控、联动APP支持OTA升级技术
- > 产品模块化, 方案稳定可靠, 能够提供丰富接口, 支持客户编程和个性化设置, 可扩展性强
- > 产品符合CE、UL、CCC认证要求

## TECHNICAL SPECIFICATION

- > Voltage: 85-260VAC, 50/60Hz, meet CCC standards
- > Working temperature: -15°C-60°C, humidity: 10%-80%
- > Multiple display modes:  
LED, TFT and LCD and other high definition display
- > Flexible human-computer interactions:  
touch switches and buttons, sliders, knobs, and wave induction
- > Advanced control algorithm:  
high control precision, work scene recognition, multi-mode self-adaptation
- > Smart interconnection functions:  
WiFi, Bluetooth, voice control, wireless remote control, linkage app supports OTA upgrade technology
- > Product modularity, reliable and stable solutions,multiple interfaces, personalized program and setting, strong scalability
- > Certification: CE, UL, CCC



## 应用场景 APPLICATION

蒸烤箱控制器	Steam Oven Controller
水处理控制器	Water Treatment Controller
空气净化器控制器	Air Purifiers Controller
榨油机控制器	Oil Press Controller
料理机控制器	Food Processors Controller
洗碗机控制器	Dish Washers Controller
浴室暖通控制器	Bathroom Lightings Controller
烘干机控制器	Dryer Controller



## 应用场景 APPLICATION

水处理控制器  
Water Treatment Controller



热泵控制器  
Heat Pump Controller



蒸烤箱控制器  
Steam Oven Controller



榨油机控制器  
Oil Press Controller



浴室暖通控制器  
Bathroom HVAC Controller



智能水杯控制器  
Intelligent Vacuum Cup Controller





**洲钜科技**  
**企业特色** »  
**COMPANY  
FEATURE**

为客户提供优质PCBA，做到至诚服务

Supply High-quality PCBA with Honest Service

ODM模式 + OEM模式 + 协同开发模式

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Professional Motor Driver Supplier

& High-level R&D Team

& Independent Modernization Workshop

