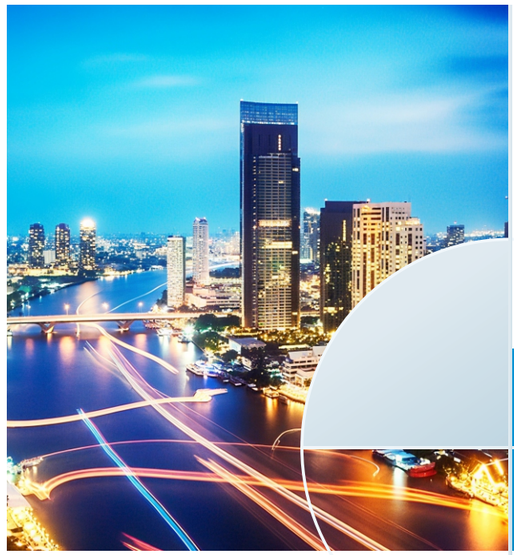
2025-11



SELECTION GUIDE

PROTECTION RELAY

微机保护装置 选型手册

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珠海欧力配网自动化股份有限公司
OLE POWER DISTRIBUTION AUTOMATION CO., LTD.

企业文化
CORPORATE CULTURE

FOUR PRINCIPLES 四我准则

01 BELIEVE 我们要相信

02 PERSEVERE 我们要坚持

03 LEARN 我们要学习

04 DO THE RIGHT THINGS & DO THINGS RIGHT 我们要做正确的事情和正确的做事

PHILOSOPHY 理念意识

- Customer Satisfaction——Our Honor
  客户满意——是我们的荣誉
- Service First —— Our Commitment
  服务至上——是我们的承诺
- Innovative Efficiency —— Our Goal
  创新效率——是我们的目标
- Harmony and Coordination——Our Safeguard
  和睦协调——是我们的保障
- Enhanced Communication——Our Guarantee
  加强沟通——是我们的保证
- Talent Development——Our Hope
  人才培育——是我们的希望

OUR BUSINESS PHILOSOPHY 我们的经营理念

Integrity, Win-win, Inovation, Development
诚信、共赢、创新、发展

OUR BUSINESS STRATEGY 我们的经营战略

Building Leadship, Cultivating Teams, Scaling Opearations, Creating Brands
建班子、带团队、上规模、创品牌

OUR CORE VALUES 我们的核心价值观

People-Oriented, Add Value for Clients, Empowering Employees, Contributing to Society
以人为本、为客户增值、为员工增值、为社会增值

OUR BRAND STRATEGY 我们的品牌战略

Delivering the Most Professional and Caring Services to Building a Renowned and Prestigious Brand
用最专业、最贴心的服务打造最享有美誉度和知名度品牌

OLE POWER 欧力配网

Ole Power Distribution Automation Co., Ltd. (Stock Code: 831246), founded in 2005 with registered capital of RMB 42.162 million, is headquartered in Zhuhai. As a National SRUI “Little Giant” Enterprise, NEEQ-listed, National High-Tech & AAA Enterprise, Guangdong Provincial Specialized, Refined, Unique & Innovative (SRUI) SME and a "Certified Technology Center", OLE POWER spans 13,027㎡ with >80% production facilities.

With 100+ employees (35%+ R&D team), we drive innovation in global smart grids and new energy, holding 10+ invention patents (published & granted), 50+ utility patents, and 40+ software copyrights.

Our dual-strategy "Smart Grid + New Energy" develops Cloud-Pipe-Edge-Terminal products by integrating AI/electronics with power systems. Key R&D focuses: • AI+ Control Terminals, AI+ Self-Check Systems, AI+ Remote O&M, IoT+5G digital twins for smart substations.

Long-term supplier to State Grid & CSG, we support national smart grids, Asian Games, 14th National Games, and clients like CNBM, CR Cement, aluminum/steel industries. Primary & secondary automation products and smart O&M systems cover China and export to Vietnam, Pakistan, Malaysia, Indonesia, expanding globally via Belt and Road.

Subsidiary: Zhuhai Huazhi New Energy Technology Co., Ltd. specializes in microgrids, ESS, PV systems, monitoring/control, and PV turnkey equipment, etc .

珠海欧力配网自动化股份有限公司（简称“欧力配网”，股票代码:831246）坐落于珠海高新技术开发区，成立于2005年1月，注册资金：4216.2万元，是专精特新“小巨人”企业、“新三板挂牌企业”、“国家高新技术企业”、“广东省专精特新中小企业”、“珠海市民营科技型企业”、“AAA级信用企业”及获得“技术中心”资质企业。

欧力配网目前在职员工近100人，研发团队占比35%以上，公司园区总面积13027平方米，其中生产建筑面积10525平方米。

欧力配网致力于全球智能电网、新能源领域产品的科技创新，始终坚持自主知识产权产品研发，已经获得10余项发明公开专利及发明授权专利，50多项实用新型专利、40项软件著作权。

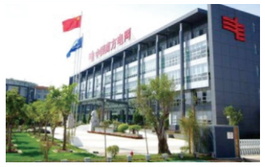
公司采取“智能电网+新能源”双轮驱动战略，确立“云、管、边、端”系列产品研发，利用电子技术、计算机技术、人工智能技术等前沿技术与电力运维系统相结合，推出一二次高度融合系列产品，确立“AI+控制终端”、“AI+自检系统”、“AI+远程运维系统”为公司长期研究方向，利用物联网+5G通讯方式逐步实现智能电房的孪生系统；

公司一直以来是国家电网、南方电网的长期合作供应商，积极参与国家智能电网、亚运会、十四运等大型项目的建设；公司与中国建材、华润水泥、华银铝业、梧州钢铁等行业客户保持长期合作，一二次自动化产品及智能运维系统已布及全国，并出口至越南、巴基斯坦、马来西亚、印度尼西亚等国，随着国家一带一路的不断扩展，公司产品也将迈向全球，努力成为全球能源设备及系统的优质服务商。

公司旗下设有全资子公司--珠海华智新能源科技有限公司，注册资金5000万元，主营微电网及储能系统、光伏发电系统、光伏监测设备、光伏控制设备及光伏成套设备等系列产品。

APPLICATION 产品应用领域


State Grid 国家电网


CSG 南方电网


Constructions 城市建设


Renewable Energy光伏发电

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CSP SERIES PROTECTION RELAY SELECTION GUIDE
CSP 系列微机保护装置选型指南

OPERATING CONDITIONS 工作环境条件

Ambient Temperature: -20℃ ~ +65℃
Relative Humidity: 5%-95%
Atmospheric Pressure: 86-106Kpa

环境温度：-20℃ ~ +65℃
相对湿度：5%-95%
大气压力：86-106Kpa

ELECTROMAGNETIC INTERFERENCE IMMUNITY AND RELEVANT STANDARD
抗电磁干扰性能与相关标准

- Capable of withstanding damped oscillatory wave immunity tests at frequencies of 1MHz and 100kHz, with common-mode voltage amplitude of 2500V and differential-mode voltage amplitude of 1000V;
- Capable of withstanding electrostatic discharge tests per IEC 61000-4-2 Level IV, with test voltage of 6kV;
- Capable of withstanding radiated electromagnetic field immunity tests per IEC 61000-4-3 Level IV, with interference field strength of 10V/m;
- Capable of withstanding fast transient burst immunity tests per IEC 61000-4-4 Level IV.

- 能承受频率为1MHz及100KHz，电压幅值共模2500V，差模1000V的衰减震荡波脉冲干扰试验
- 能承受IEC61000-4-2标准Ⅳ级、试验电压6kV的静电放电试验
- 能承受IEC61000-4-3标准Ⅳ级、干扰场强10V/m的辐射电磁场干扰试验
- 能承受IEC61000-4-4标准Ⅳ级的快速瞬变干扰试验

CSP200-A SERIES PROTECTION RELAYS
CSP200-A 系列 微机保护装置



Horizontal Type 横版



Vertical Type 竖版

CSP200-A SERIES PROTECTION RELAY MODEL DEFINITION
CSP200-A 系列微机保护装置型号定义

CSP□ □ - A □ □
① ② ③ ④

① Represents the corresponding product design serial number

200: Overseas version, self-powered protection device, mainly used for gas-insulated switchgears (GIS) or solid-insulated switchgears (SIS), etc.

② Represents the corresponding product category

T: Transformer protection device. **S:** Line protection device.

③ Represents power supply and control circuit voltage ratings

A: 24VDC (CSP200)
B: 48VDC (CSP200)
C: AC/DC24~70V
D: AC/DC70~240V

④ Represents Installation Method

H: Horizontal Type
S : Vertical Type

① 代表相应的产品设计序列号

200: 海外版本、自供电保护装置，主要用于充气柜或固体绝缘柜等；

② 代表相应的产品类型

S: 线路保护装置
T: 变压器保护装置

③代表电源及操控回路电压等级

A: 24VDC (CSP200)
B: 48VDC (CSP200)
C: AC/DC24~70V
D: AC/DC70~240V

④ 代表产品安装方式

H: 横板
S: 竖版

PRODUCT OVERVIEW 产品简介

The CSP200-A series Microprocessor-Based Protection Relays extensively incorporate existing global technologies and expertise while introducing technical innovations. This product series covers protection and control systems for transmission/distribution lines and primary equipment at voltage levels up to 35kV, providing comprehensive solutions for substation automation across various voltage grades.

Comprising highly integrated microcontrollers with on-chip bus architecture, precision current/voltage transformers, high-insulation output relays, and reliable switching power modules, the CSP200-A series offers high integration, complete protection configurations, exceptional anti-interference capability, low power consumption, and robustness in harsh environments. The aesthetically designed compact housing allows direct installation in ring main unit switchgear or circuit breaker cabinets, as well as centralized panel mounting.

CSP200-A系列微机保护装置广泛引用了国内外现有的技术和经验，并在技术上改革创新，使产品（系列）涵盖了35KV及以下电压等级的输配电线路及主设备的保护控制系统，为各个电压等级的变电站自动化提供了完整的解决方案。

CSP200-A系列微机保护装置由高集成度、总线不出芯片单片机、高精度电流电压互感器、高绝缘强度出口继电器、高可靠开关电源模块等部件组成。具有集成度高、保护配置齐全、抗干扰能力强、功耗小、抗恶劣环境等特点。产品外观经过精心设计，小巧精致，能够直接安装在环网开关柜及各种断路器柜上，也可集中组屏安装。

TECHNICAL SPECIFICATIONS 技术指标

PARAMETER 参数	SPECIFICATION 指标	
Operating Conditions 工作条件	Ambient Temperature: -20℃ ~ +60℃	环境温度：-20℃ ~ +60℃
	Relative Humidity: 5%~95%	相对湿度：5%~95%
Operating Power Supply 工作电源	AC/DC (70~240) V±15% (to be specified when ordering 订货时注明)	
	DC 24 / 48V±15% (to be specified when ordering 订货时注明)	
AC Current 交流电流	5A or 1A (to be specified when ordering)	额定 5A或1A（订货时注明）
AC Voltage 交流电压	Rated 100V (line voltage)	额定 100V（线电压）
Rated Frequency 额定频率	50Hz / 60Hz	
Measurement Accuracy 测量精度	Current < ±0.5%	电流 < ±0.5%
	Voltage < ±0.5%	电压 < ±0.5%
Precision Range 精确测量范围	Phase Current 0.1In~20In	相电流 0.1In~20In
	Zero-Sequence Current 0.1A~10A	零序电流 0.1A~10A
	Voltage10V~250V	电压 10V~250V
Protection Setting Error 保护定值误差	≤3%	
Time Setting Error (at 1.5× setting value) 时间定值误差(在1.5倍定值下)	< 40ms±15ms (Instantaneous Element 无延时段)	
	< 2%±35ms (Time-delayed Element 延时段)	
Digital Input 开入回路	DC24V 5mA	
Output Contact 开出接点	Continuously withstands AC220V, 5A (resistive load) 可持续接通 AC220V，5A电流（纯阻性负载）	
Product Panel Dimensions 产品面板尺寸	150.4mm×105mm	
Product Cutout Dimensions 开口尺寸	140mm×82mm	
Communication Protocol 通信协议	ModBus IEC101	

PRODUCT SELECTION 产品选型

Setting the Microprocessor-Based Protection Relay to Type S or Type T Operating Instructions:
设置微机保护装置为S型或T型操作说明:

CSP200-AH Function Overview CSP200-AH 功能介绍	
Type S (Line Protection) S型线路	Three-stage overcurrent protection、inverse-time overcurrent protection、overload protection、three-stage zero-sequence overcurrent protection、inverse-time zero-sequence overcurrent protection、undervoltage protection、overvoltage protection、zero-sequence voltage protection、inrush restraint、post-acceleration protection、auto-reclosing protection、300 fault/event logs、LCD display in Chinese/English、RS485 communication interface 三段过流保护、反时限过流保护、过负荷保护、零序三段过流保护、反时限零序过流保护、失压保护、过电压保护、零序电压保护、涌流闭锁、后加速保护、重合闸保护、300条故障事故记录、液晶中文/英文显示、RS485通信接口
Type T (Transformer Protection) T型变压器	Tree-stage overcurrent protection、inverse-time overcurrent protection、overload protection、three-stage zero-sequence overcurrent protection、inverse-time zero-sequence overcurrent protection、undervoltage protection、overvoltage protection、zero-sequence voltage protection、inrush restraint、body protection、door-open protection、300 fault/event logs、LCD display in Chinese/English、RS485 communication interface 三段过流保护、反时限过流保护、过负荷保护、零序三段过流保护、反时限零序过流保护、失压保护、过电压保护、零序电压保护、涌流闭锁、本体保护、开门保护、300条故障事故记录、液晶中文/英文显示、RS485通信接口

CSP200-AH Series Products include two models: Type S (Line Protection) and Type T (Transformer Protection).
CSP200-AH 系列产品包含线路保护S型、变压器保护T型两个型号



In cycle display mode, press the "Enter" key to enter the main menu:

在循环显示模式下按“Enter”键进入主菜单:



Use the "v" key or ">" key to select "Parameter". Press the "Enter" key to access(enter the correct password—default password is 0000), then press "Enter" to display:

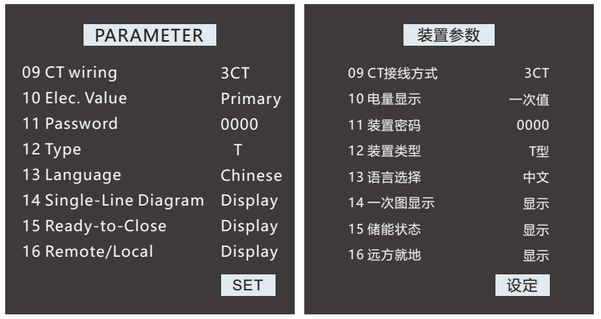
通过“v”键或“>”选择“系统参数”按“Enter”键进入，输入正确密码后（出厂密码 0000）按“Enter”键显示:



Use the "v" key to select "01 Parameter Set", then press the "Enter" key to proceed.

Next, use the "v" key to select "12 Type" and press the "Enter" key to configure the setting.

通过“v”键选择 “01装置参数设置” 按“Enter”键进入, 通过“v”键选择“12装置类型”后按“Enter”键进行设定:







Use the “Enter” key to select ‘save and return’

To cancel and exit without saving: Press the "Esc" key to select 'Return Without Saving'

通过按“Enter”键选择‘保存返回’

如需取消保存可按“Esc”键选择‘直接返回’



Use the “V” key to select Type-S or Type T.Press the “Enter” key to save, then press “Esc” key to return.The interface will prompt as:

通过“v”选择S型或T型,按“Enter”键保存，然后按“Esc”键返回，会提示如下界面:

CSP200-B SERIES PROTECTION RELAYS
CSP200-B 系列 微机保护装置



CSP200-B SERIES PROTECTION RELAY MODEL DEFINITION
CSP200-B 系列微机保护装置型号定义

CSP□ □ - B □
① ② ③

① Represents the corresponding product design serial number

200: Overseas version, self-powered protection device, mainly used for gas-insulated switchgears (GIS) or solid-insulated switchgears (SIS), etc.

② Represents the corresponding product category

B: Line protection with automatic transfer scheme (ATS) functionality.

C: Capacitor protection device.

M: Motor protection device.

T: Transformer protection device.

S: Line protection device.

P: PT protection device.

Bh: Automatic transfer scheme (ATS) device.

③Represents power supply and control circuit voltage ratings

A: 24VDC (CSP200)

B: 48VDC (CSP200)

C: AC/DC24~70V

D: AC/DC70~240V

① 代表相应的产品设计序列号

200: 海外版本、自供电保护装置，主要用于充气柜或固体绝缘柜等

②代表相应的产品类型

B: 线路备自投保护装置，带备自投功能的线路保护装置

C: 电容器保护装置
M: 电动机保护装置
T: 变压器保护装置
S: 线路保护装置
P: PT保护装置
Bh: 备自投装置

③代表电源及操控回路电压等级

A: 24VDC (CSP200)

B: 48VDC (CSP200)

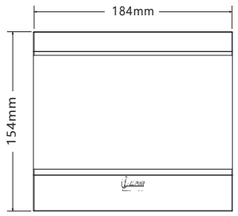
C: AC/DC24~70V

D: AC/DC70~240V

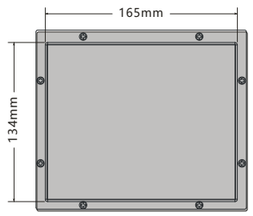
APPLICATION 应用场所

Primarily used in withdrawable switchgear and ring main units. 主要用于中置柜和环网柜上

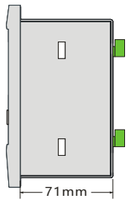
PRODUCT DIMENSIONS AND CUTOUT DIMENSIONS 产品尺寸及开孔尺寸



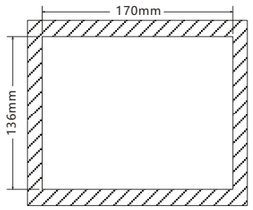
Front View 正视图



Rear View 背视图



Side View 侧视图



Cutout Dimensions 开孔尺寸图

Note: This diagram is for illustration purposes only. The actual installation shall be subject to the final confirmed installation design. Product dimensions are in millimeters. The panel cutout dimensions are Width 170mm × Height 136mm.

注：此图仅供参考，具体安装以确认方案为准；产品尺寸单位为毫米，产品开孔尺寸为宽170 高136

CSP200-B INTEGRATED MICROPROCESSOR PROTECTION RELAY CSP200-B 微机综合保护装置

Function Configuration（Covers all functions for both line protection and transformer protection）
功能配置（涵盖了线路保护和变压器保护所有功能）

Three-stage overcurrent protection and post-acceleration function/overload protection/undervoltage protection/overvoltage protection/Zero-sequence current protection/Zero-sequence current protection/body protection/ PT wire-break alarm/20 fault or event logs/LCD display in Chinese or English/RS485 communication interface

三段过流保护及后加速功能/过负荷保护/失压保护/过电压保护/零序电流保护/三相一次重合闸/本体保护/ PT断线告警/20条故障事故记录/液晶中文显示/RS485通信接口

FEATURES 特点

- Equipped with control circuit functionality. The anti-pumping function is a patented innovation by our company, which eliminates conflicts between device-level and circuit breaker-level anti-pumping systems. Both can operate simultaneously for dual protection.
- The anti-pumping circuit supports both AC and DC applications, addressing the limitation of conventional anti-pumping circuits that only work in DC systems. It operates across a wide voltage range (24V-70V or 70V-270V), matching the device power supply requirements. No special designation is needed during ordering.
- Trip-on-fault lockout feature blocks closing commands when a fault is detected, preventing accidental closure onto faulty circuits and enhancing distribution safety.
- Loss-of-voltage trip lockout prevents unintended closure of switchgear under de-energized conditions, avoiding potential accidents.
- The CSP200BH ring main unit (RMU) automatic transfer scheme (ATS) innovation: instead of conventional PT-based voltage sampling, it uses voltage signals from capacitive sensors (e.g., from energization indicators), simplifying ATS implementation in RMUs, significantly reducing cost and complexity, and easing field installation.
- Pioneered line protection devices with integrated ATS functionality (CSP200B series), which combine complete line protection and automatic transfer capabilities. This streamlined approach simplifies wiring, enhances reliability, reduces panel cost, and offers unmatched advantages over other manufacturers.
- The PT auto-transfer unit revolutionizes traditional methods by integrating PT switching logic internally. It eliminates external auxiliary relays for PT disconnection and removes the need for monitoring PT isolation knife switches or truck positions, making PT auto-transfer safer and more convenient.

- 带有操控回路功能，其中防跳功能是公司发明专利，装置防跳与断路器防跳不再有冲突，可同时使用，双重保障！
- 防跳回路交直流通用，填补了常规防跳电路只能用于直流回路的缺陷，并且可以跟装置电源一样适用于24V-70V或70V-270V的宽电源，订货时无须特别注明。
- 具有故障跳闸闭锁合闸回路功能，避免断路器被误合在故障上，提高了配电的安全性。
- 具有失压跳闸闭锁合闸回路功能，在失压情况下避免不能合闸的开关设备被误合造成不可预估的事故。
- 系列产品中的环网柜备自投CSP200BH，打破了一次电压必须从PT采样的常规办法，产品通过带电显示传感器取电压，使环网柜非常容易实现备自投功能，而且大大地降低成本和制作工艺，并方便了现场安装。
- 率先推出由两进线保护装置带备自投功能实现各种情况的备自投，线路备自投保护装置CSP200B具备线路保护所有功能并有备自投切换功能，接线简单，高度可靠和节约配电柜成本，这是其他厂家不可比拟的。
- PT自动切换装置改变了传统做法，把PT从小母线上切除和接通全部做到产品内部，外部无须增加中间继电器进行切除PT，也不要再判断PT的隔离刀状态或手车位置，使PT自动切换更加安全、便捷。

FUNCTION CONFIGURATION 功能配置

Type S (Line Protection, Measurement and Control Device) S型 (线路保护测控装置)	Tree-stage overcurrent protection/post-acceleration protection/inverse-time overcurrent protection (Normal, Very, Extreme) /overload protection/Definite-Time Zero-Sequence Current Protection (Stage I, Stage II)/Inverse-Time Zero-Sequence Current Protection (Normal, Very, Extreme) /undervoltage protection/overvoltage protection/Under-Frequency Protection/zero-sequence voltage protection/Zero-sequence current protection/PT wire-break alarm/Trip-on-Fault Close Lockout/Loss-of-Voltage Trip Close Lockout/Trip Circuit Wire Break Alarm/Anti-Pumping Function/Breaker Failure Protection/Fault Event Recording and Query/Telemetry Measurements: P, Q, cosφ, Ia, Ib, Ic, f, etc. /Remote Open/Close Control for Circuit Breaker /RS485 Communication/Large LCD Display in Chinese or English 三段过流保护/后加速保护/反时限过流保护（一般、非常、极端）/过负荷保护/定时限零序电流保护（Ⅰ段,Ⅱ段)/反时限零序电流保护（一般、非常、极端）/失压保护/过电压保护/低周保护/零序电压保护/三相一次重合闸/PT断线告警/故障跳闸闭锁合闸回路功能/失压跳闸闭锁合闸回路功能/跳闸回路断线告警/防跳功能/断路器失灵/故障事件记录和查询/P、Q、COSφ、Cla、Clb、Clc、f等遥测量/开关分合闸遥控/RS485通讯/大屏幕液晶、中文显示
Type B (Line ATS Protection, Measurement and Control Device) B型 (线路备自投保护测控装置)	Tree-stage overcurrent protection/post-acceleration protection/inverse-time overcurrent protection (Normal, Very, Extreme) /overload protection/Definite-Time Zero-Sequence Current Protection (Stage I, Stage II)/Inverse-Time Zero-Sequence Current Protection (Normal, Very, Extreme) /undervoltage protection/overvoltage protection/Under-Frequency Protection/zero-sequence voltage protection/PT wire-break alarm/Trip-on-Fault Close Lockout/Loss-of-Voltage Trip Close Lockout/Trip Circuit Wire Break Alarm/Anti-Pumping Function/Automatic Transfer Scheme (ATS) Function/Breaker Failure Protection/Fault Event Recording and Query/Telemetry Measurements: P, Q, cosφ, Ia, Ib, Ic, f, etc. /Remote Open/Close Control for Circuit Breaker /RS485 Communication/Large LCD Display in Chinese or English 三段过流保护/后加速保护/反时限过流保护（一般、非常、极端）/过负荷保护/定时限零序电流保护（Ⅰ段,Ⅱ段)/反时限零序电流保护（一般、非常、极端）/失压保护/过电压保护/低周保护/零序电压保护/PT断线告警/故障跳闸闭锁合闸回路功能/失压跳闸闭锁合闸回路功能/跳闸回路断线告警/防跳功能/备自投功能/断路器失灵/故障事件记录和查询/P、Q、COSφ、Cla、Clb、Clc、f等遥测量/开关分合闸遥控/RS485通讯/大屏幕液晶、中文显示
Type T (Transformer Protection, Measurement and Control Device) T型 (变压器保护测控装置)	Tree-stage overcurrent protection/post-acceleration protection/inverse-time overcurrent protection (Normal, Very, Extreme) /overload protection/Definite-Time Zero-Sequence Current Protection (Stage I, Stage II)/Inverse-Time Zero-Sequence Current Protection (Normal, Very, Extreme) /undervoltage protection/overvoltage protection/ Under-Frequency Protection/zero-sequence voltage protection/PT wire-break alarm/Trip-on-Fault Close Lockout/Loss-of-Voltage Trip Close Lockout/Trip Circuit Wire Break Alarm/Anti-Pumping Function/Transformer Body Protection/Breaker Failure Protection/Fault Event Recording and Query/Telemetry Measurements: P, Q, cosφ, Ia, Ib, Ic, f, etc. /Remote Open/Close Control for Circuit Breaker /RS485 Communication/Large LCD Display in Chinese or English 三段过流保护/后加速保护/反时限过流保护（一般、非常、极端）/过负荷保护/定时限零序电流保护(Ⅰ段,Ⅱ段)/反时限零序电流保护（一般、非常、极端）/失压保护/过电压保护/ 低周保护/零序电压保护/PT断线告警/故障跳闸闭锁合闸回路功能/失压跳闸闭锁合闸回路功能/跳闸回路断线告警/防跳功能/变压器本体保护/断路器失灵/故障事件记录和查询/P、Q、COSφ、Cla、Clb、Clc、f等遥测量/开关分合闸遥控/RS485通讯/大屏幕液晶、中文显示
Type C (Capacitor Bank Protection, Measurement and Control Device) C型 (电容器保护测控装置)	Tree-stage overcurrent protection/post-acceleration protection/inverse-time overcurrent protection (Normal, Very, Extreme) /overload protection/Definite-Time Zero-Sequence Current Protection (Stage I, Stage II)/Inverse-Time Zero-Sequence Current Protection (Normal, Very, Extreme) /undervoltage protection/overvoltage protection/ Under-Frequency Protection/zero-sequence voltage protection/PT wire-break alarm/Trip-on-Fault Close Lockout/Loss-of-Voltage Trip Close Lockout/Trip Circuit Wire Break Alarm/Anti-Pumping Function/Capacitor Bank Auto-Switching Function/Breaker Failure Protection/Fault Event Recording and Query/Telemetry Measurements: P, Q, cosφ, Ia, Ib, Ic, f, etc. /Remote Open/Close Control for Circuit Breaker /RS485 Communication/Large LCD Display in Chinese or English 三段过流保护/后加速保护/反时限过流保护（一般、非常、极端）/过负荷保护/定时限零序电流保护(Ⅰ段,Ⅱ段)/反时限零序电流保护（一般、非常、极端）/失压保护/过电压保护/ 低周保护/零序电压保护/PT断线告警/故障跳闸闭锁合闸回路功能/失压跳闸闭锁合闸回路功能/跳闸回路断线告警/防跳功能/电容器自动投切功能/断路器失灵/故障事件记录和查询/P、Q、COSφ、Cla、Clb、Clc、f等遥测量/开关分合闸遥控/RS485通讯/大屏幕液晶、中文显示

CSP200-C SERIES INTEGRATED PROTECTION RELAY MEASUREMENT & CONTROL DEVICES
CSP200-C 系列 综合微机保护测控装置



CSP200-C SERIES PROTECTION RELAY MODEL DEFINITION
CSP200-C 系列微机保护装置型号定义

CSP□ □ - C □
① ② ③

① Represents the corresponding product design serial number

200: Overseas version, self-powered protection device, mainly used for gas-insulated switchgears (GIS) or solid-insulated switchgears (SIS), etc.

②Represents the corresponding product category

B: Line protection with automatic transfer scheme (ATS) functionality.

C: Capacitor protection device.

M: Motor protection device.

T: Transformer protection device.

S: Line protection device.

P: PT protection device.

Bh: Automatic transfer scheme (ATS) device.

③Represents power supply and control circuit voltage ratings

A: 24VDC (CSP200)

B: 48VDC (CSP200)

C: AC/DC24~70V

D: AC/DC70~240V

①代表相应的产品设计序列号

200: 海外版本、自供电保护装置，主要用于充气柜或固体绝缘柜等

②代表相应的产品类型

B: 线路备自投保护装置，带备自投功能的线路保护装置

C: 电容器保护装置
T: 变压器保护装置
S: 线路保护装置
P: PT保护装置
Bh: 备自投装置

③代表电源及操控回路电压等级

A: 24VDC (CSP200)

B: 48VDC (CSP200)

C: AC/DC24~70V

D: AC/DC70~240V

PRODUCT OVERVIEW 概述

CSP200-C Series Microprocessor-Based Protection Relay extensively incorporates existing global technologies and expertise while introducing technical innovations. This product series covers protection and control systems for transmission/distribution lines and primary equipment at voltage levels up to 35kV, providing comprehensive solutions for substation automation across various voltage grades.

Comprising highly integrated microcontrollers with on-chip bus architecture, precision current/voltage transformers, high-insulation output intermediate relays, and reliable switching power modules, the CSP200-C series offers high integration, complete protection configurations, exceptional anti-interference capability, low power consumption, and robustness in harsh environments.The product features 19 digital inputs, fully meeting the signal acquisition requirements of automation systems. It incorporates a complete control circuit with enhanced functions such as anti-pumping protection, fault-initiated close lockout, and loss-of-voltage close lockout. All these functions are enabled/disabled via the device's internal control system. The anti-pumping function operates without conflict with circuit breaker anti-pumping systems, providing unparalleled user convenience—a pioneering innovation among global peer products.With powerful functionality, the device designs 15 analog input channels and 10 output contacts, strictly separating protection outputs from remote control outputs. The housing is meticulously designed for compactness and elegance, allowing direct installation in ring main unit switchgear or circuit breaker cabinets, as well as centralized panel mounting.

CSP200-C系列微机保护装置广泛吸取国内外现有技术和经验，并在技术上改革创新。其产品(系列)涵盖了35kV及以下电压等级的输配电线路及主设备的保护控制系统，为各个电压等级的变电站自动化提供了完整的解决方案。

CSP200-C系列微机保护装置由高集成度、总线不出芯片单片机、高精度电流电压互感器、高绝缘强度出口中间继电器、高可靠开关电源模块等部件组成。具有集成度高、保护配置齐全、抗干扰能力强、功耗小、抗恶劣环境等特点。产品设计了19路开入量，完全满足对自动化系统采集信号的需求，并设计了完整的控制回路，增加防跳功能、故障闭锁合闸回路功能、失压闭锁合闸回路功能等，该功能全部由装置内部控制来控制投退，防跳功能与断路器的防跳功能没有任何冲突，用户在使用中更加方便，实属国内外同类产品首创；功能强大，产品设计15路模拟量采样，10路出口，把保护出口和遥控出口严格分开；产品外观经过精心设计，小巧精致，能够直接安装在环网开关柜及各种断路器柜上，也可集中组屏安装。

FEATURES 特点

- Inherits all CSP200-B series functions, adds integrated measurement, and is China's most compact protection device.
- Covers line/transformer/ATS/capacitor protection, all software-configurable.
- Pioneers two-device ATS solutions for simplified wiring, high reliability, and reduced cost.
- Measures P, Q, cosφ, I, f with Class 0.5 accuracy.
- Voltage sampling system: Supports up to 8 independent channels

  Current sampling: Provides 7 independent channels + 2 DC voltage channels (Meets diverse protection and automation requirements)

  Communication interfaces: 4 x 10/100M Ethernet ports, 4 x RS485 interface, 2 x RS232 interfaces, 1 x Dedicated Debug port (Fully addresses industrial automation needs)

- Core hardware configuration of the CSP200 device: Equipped with 16-bit high-precision AD chips, Integrated precision current/voltage sensors, Adopts intermediate relays (constructed with high-insulation materials and featuring extended mechanical lifespan)
- Includes 19 digital inputs and 10 output contacts for comprehensive monitoring/control.
- 具备CSP200-B系列所有功能，另外带测量功能，是国内体积最小的、带测控一体化的微机保护装置。
- CSP200-C综合测控保护装置，涵盖了线路保护、变压器保护、备自投保护和电容器保护,可以通过软件任意选择。
- 推出由两进线保护装置带备自投功能实现各种情况的备自投，线路备自投保护装置具备线路保护所有功能并有备自投切换功能，接线简单，高度可靠和节约配电柜成本，这是其他厂家不可比拟的。
- 配有P、Q、COSφ、CIa、CIb、CIc、f等测量功能，测量精度达到0.5级。
- 电压采样满配置高达8个独立采样通道，电流采样满配置高达7个独立采样通道，2路直流量电压采集，满足不同的保护装置应用和自动化控制。通讯方面有4个10M/100M以太网口、4路RS485接口，2路RS232接口，1路专用Debug调试接口，完全满足用户自动化控制各种的需求
- Ad芯片是采用16位高精度，配合高精度电流和电压传感器，中间继电器采用高绝缘强度材料、机械寿命长等特点的组合
- 配有19个开入量,可采集更多的遥信；10个开出量,满足大多数情况的出口要求。

SPECIFICATION 性能指标

OPERATING CONDITIONS 工作环境		
Max Temperature	最高温度	60℃
Min Temperature	最低温度	-20℃
Relative Humidity	相对湿度	5% ~ 95%
Atmospheric Pressure	大气压力	86 ~ 106Kpa
Altitude	海拔高度	≤2000m

INSULATION RESISTANCE, DIELECTRIC STRENGTH AND IMPULSE VOLTAGE 绝缘电阻、介质强度和冲击电压		
Insulation Resistance	绝缘电阻	≥50MΩ
Dielectric Strength	介质强度	2kV，50Hz，1min
Impulse Voltage	冲击电压	5kV，(1.2/50)μs

REFERENCE STANDARD 引用标准	
Complies with DL/T478-2001 4.13.1 符合DL/T478-2001 4.13.1规定	General Technical Conditions for Static Relay Protection and Security Automatic Equipment - Vibration 静态继电保护及安全自动装置通用技术条件 振动
Complies with DL/T478-2001 4.13.2 符合DL/T478-2001 4.13.2规定	General Technical Conditions for Static Relay Protection and Security Automatic Equipment - Shock 静态继电保护及安全自动装置通用技术条件 冲击
Complies with DL/T478-2001 4.13.3 符合DL/T478-2001 4.13.3规定	General Technical Conditions for Static Relay Protection and Security Automatic Equipment - Bump 静态继电保护及安全自动装置通用技术条件 碰撞

FUNCTION CONFIGURATION 功能配置

NOTE: THE CSP200-C SERIES INCLUDES TWO MODELS: CSP200A-C AND CSP200M-C. THE CSP200A-C INTEGRATES FUNCTIONS OF TYPE S (LINE), TYPE B (ATS), TYPE T (TRANSFORMER), AND TYPE C (CAPACITOR) WITH THE FOLLOWING CONFIGURATION:
说明: CSP200-C 包括 CSP200A-C和CSP200M-C 两种,其中 CSP200A-C 综合了S型、B型、T型、C型，功能配置如下：

Type S (Line Protection, Measurement and Control Device)	Tree-stage overcurrent protection/post-acceleration protection/inverse-time overcurrent protection（Normal, Very, Extreme）/overload protection/Definite-Time Zero-Sequence Current Protection (Stage I, Stage II)/Inverse-Time Zero-Sequence Current Protection（Normal, Very, Extreme）/undervoltage protection/overvoltage protection/Under-Frequency Protection/zero-sequence voltage protection/Zero-sequence current protection/PT wire-break alarm/Trip-on-Fault Close Lockout/Loss-of-Voltage Trip Close Lockout/Trip Circuit Wire Break Alarm/Anti-Pumping Function/Breaker Failure Protection/Fault Event Recording and Query/Telemetry Measurements: P, Q, cosφ, Ia, Ib, Ic, f, etc. /Remote Open/Close Control for Circuit Breaker /RS485 Communication/Large LCD Display in Chinese or English
S型 (线路保护测控装置)	三段过流保护/后加速保护/反时限过流保护（一般、非常、极端）/过负荷保护/定时限零序电流保护(Ⅰ段,Ⅱ段)/反时限零序电流保护（一般、非常、极端）/失压保护/过电压保护/低周保护/零序电压保护/三相一次重合闸/PT断线告警/故障跳闸闭锁合闸回路功能/失压跳闸闭锁合闸回路功能/跳闸回路断线告警/防跳功能/断路器失灵/故障事件记录和查询/P、Q、COSφ、CIa、CIb、CIc、f等遥测量/开关分合闸遥控/RS485通讯/大屏幕液晶、中文显示

Type B (Line ATS Protection, Measurement and Control Device)	Tree-stage overcurrent protection/post-acceleration protection/inverse-time overcurrent protection (Normal, Very, Extreme) /overload protection/Definite-Time Zero-Sequence Current Protection (Stage I, Stage II)/Inverse-Time Zero-Sequence Current Protection (Normal, Very, Extreme) /undervoltage protection/overvoltage protection/Under-Frequency Protection/zero-sequence voltage protection/PT wire-break alarm/Trip-on-Fault Close Lockout/Loss-of-Voltage Trip Close Lockout/Trip Circuit Wire Break Alarm/Anti-Pumping Function/Automatic Transfer Scheme (ATS) Function/Breaker Failure Protection/Fault Event Recording and Query/Telemetry Measurements: P, Q, cosφ, Ia, Ib, Ic, f, etc. /Remote Open/Close Control for Circuit Breaker /RS485 Communication/Large LCD Display in Chinese or English
B型 (线路备自投保护测控装置)	三段过流保护/后加速保护/反时限过流保护（一般、非常、极端）/过负荷保护/定时限零序电流保护（Ⅰ段,Ⅱ段)/反时限零序电流保护（一般、非常、极端）/失压保护/过电压保护/低周保护/零序电压保护/PT断线告警/故障跳闸闭锁合闸回路功能/失压跳闸闭锁合闸回路功能/跳闸回路断线告警/防跳功能/备自投功能/断路器失灵/故障事件记录和查询/P、Q、COSφ、CIa、CIb、CIc、f等遥测量/开关分合闸遥控/RS485通讯/大屏幕液晶、中文显示
Type T (Transformer Protection, Measurement and Control Device)	Tree-stage overcurrent protection/post-acceleration protection/inverse-time overcurrent protection (Normal, Very, Extreme) /overload protection/Definite-Time Zero-Sequence Current Protection (Stage I, Stage II)/Inverse-Time Zero-Sequence Current Protection (Normal, Very, Extreme) /undervoltage protection/overvoltage protection/ Under-Frequency Protection/zero-sequence voltage protection/PT wire-break alarm/Trip-on-Fault Close Lockout/Loss-of-Voltage Trip Close Lockout/Trip Circuit Wire Break Alarm/Anti-Pumping Function/Transformer Body Protection/Breaker Failure Protection/Fault Event Recording and Query/Telemetry Measurements: P, Q, cosφ, Ia, Ib, Ic, f, etc. /Remote Open/Close Control for Circuit Breaker /RS485 Communication/Large LCD Display in Chinese or English
T型 (变压器保护测控装置)	三段过流保护/后加速保护/反时限过流保护（一般、非常、极端）/过负荷保护/定时限零序电流保护（Ⅰ段,Ⅱ段)/反时限零序电流保护（一般、非常、极端）/失压保护/过电压保护/ 低周保护/零序电压保护/PT断线告警/故障跳闸闭锁合闸回路功能/失压跳闸闭锁合闸回路功能/跳闸回路断线告警/防跳功能/变压器本体保护/断路器失灵/故障事件记录和查询/P、Q、COSφ、CIa、CIb、CIc、f等遥测量/开关分合闸遥控/RS485通讯/大屏幕液晶、中文显示

Type C (Capacitor protection, Measurement and Control Device)	Tree-stage overcurrent protection/post-acceleration protection/inverse-time overcurrent protection (Normal, Very, Extreme) /overload protection/Definite-Time Zero-Sequence Current Protection (Stage I, Stage II)/Inverse-Time Zero-Sequence Current Protection (Normal, Very, Extreme) /undervoltage protection/overvoltage protection/ Under-Frequency Protection/zero-sequence voltage protection/PT wire-break alarm/Trip-on-Fault Close Lockout/Loss-of-Voltage Trip Close Lockout/Trip Circuit Wire Break Alarm/Anti-Pumping Function/Capacitor Bank Auto-Switching Function/Breaker Failure Protection/Fault Event Recording and Query/Telemetry Measurements: P, Q, cosφ, Ia, Ib, Ic, f, etc. /Remote Open/Close Control for Circuit Breaker /RS485 Communication/Large LCD Display in Chinese or English
C型 (电容器保护测控装置)	三段过流保护/后加速保护/反时限过流保护（一般、非常、极端）/过负荷保护/定时限零序电流保护（Ⅰ段,Ⅱ段)/反时限零序电流保护（一般、非常、极端）/失压保护/过电压保护/ 低周保护/零序电压保护/PT断线告警/故障跳闸闭锁合闸回路功能/失压跳闸闭锁合闸回路功能/跳闸回路断线告警/防跳功能/电容器自动投切功能/断路器失灵/故障事件记录和查询/P、Q、COSφ、CIa、CIb、CIc、f等遥测量/开关分合闸遥控/RS485通讯/大屏幕液晶、中文显示

NOTE: THE CSP200M-B MOTOR PROTECTION AND CONTROL DEVICE OFFERS THE FOLLOWING FUNCTIONAL CONFIGURATION:

说明: CSP200M-B 电动机保护测控装置功能配置如下:

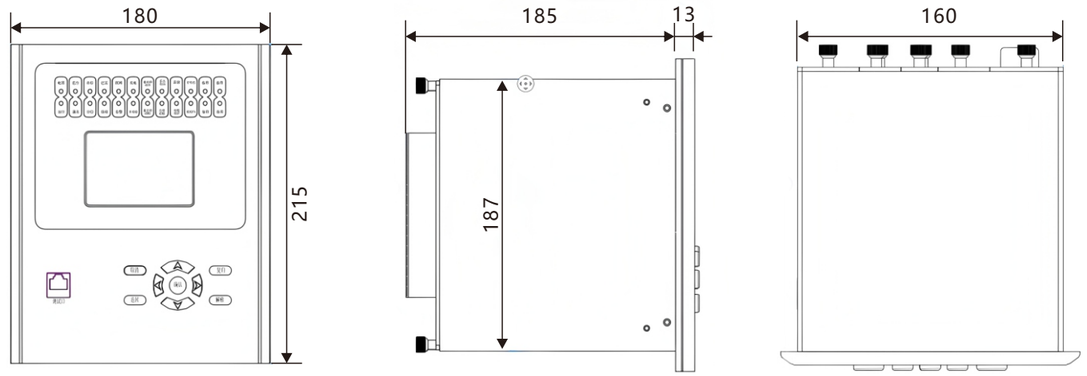
Current Instantaneous Trip Protection (During Start-up) /Current Instantaneous Trip Protection (After Start-up) /Overcurrent Protection (During Start-up)/Overcurrent Protection (After Start-up)/Overheat Protection/Locked-Rotor Protection/Definite-Time Negative-Sequence Overcurrent Protection/nverse-Time Negative-Sequence Overcurrent Protection/Definite-Time Zero-Sequence Current Protection/Long Start-Time Protection/undervoltage protection/overvoltage protection/Under-Frequency Protection/zero-sequence voltage protection/overload protection/PT wire-break alarm/CTWire-Break Alarm/Interlocked Tripping/Interlocked Closing/Breaker Failure Protection/Frequent Starting Protection/Trip-on-Fault Close Lockout/Loss-of-Voltage Trip Close Lockout/Trip Circuit Wire Break Alarm/Anti-Pumping Function/Fault Event Recording and Query/Remote Open/Close Control for Circuit Breaker /Telemetry Measurements: P, Q, cosφ, Ia, Ib, Ic, f, etc. / RS485 Communication/Large LCD Display in Chinese or English

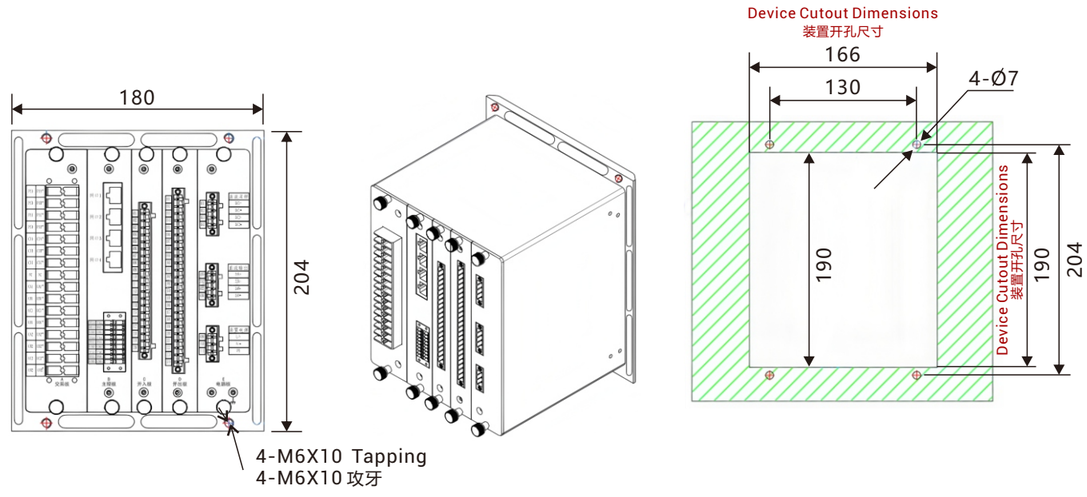
电流速断保护(启动时间内)/电流速断保护(启动时间后)/过电流保护(启动时间内)/过电流保护(启动时间后)/过热保护/堵转保护/负序定时限过流保护/负序反时限过流保护/定时限零序电流保护/启动时间过长保护/失压保护/过电压保护/低周保护/零序电压保护/过负荷保护/PT断线告警/CT断线告警/联锁跳闸/联锁合闸/断路器失灵/频繁启动保护/故障跳闸闭锁合闸回路功能/失压跳闸闭锁合闸回路功能/跳闸回路断线告警/防跳功能/故障事件记录和查询/开关分合闸遥控/P、Q、COSφ、CIa、CIb、CIc、f等遥测量/ RS485通讯/大屏幕液晶、中文显示

性能指标 SPECIFICATION

TECHNICAL PARAMTER 技术参数	
Operating Power Supply 工作电源	AC/DC(70~240)V±20% DC24/48V±20% (to be specified when ordering 订货时注明)
Control Power Supply 操作电源	AC/DC(70~240)V±20% DC(20~70)V±20% (to be specified when ordering 订货时注明)
AC Current 交流电流	Rated 5A or1A (to be specified when ordering) 额定5A或1A（订货时注明）
AC Voltage 交流电压	100V（line voltage 线电压）
Rated Frequency 额定频率	50Hz / 60Hz
Measurement Accuracy 测量精度	Current: <±0.5% 电流: <±0.5% Voltage: <±0.5% 电压: <±0.5%
Precision Range 精确测量范围	Phase Current: 0.1In ~ 20In 相电流：0.1In ~ 20In Zero-Sequence Current: 0.1A ~ 10A 零序电流: 0.1A ~ 10A Voltage: 10V ~ 250V 电压: 10V ~ 250V
Time Setting Error (at 1.5× setting value) 时间定值误差 (在1.5倍定值下)	<40ms±15ms（Instantaneous Element 无延时段） <2%+35ms（Instantaneous Element 无延时段）
Digital Input 开入回路	DC 24V, 5mA(sourced internally by the device) 直流24V，5mA(装置内部提供)
Output Contact 开出接点	Capable of continuously switching DC 220V, 5A (resistive load) 可持续接通DC220V，5A电流(纯阻性负载)

PRODUCT DIMENSIONS AND CUTOUT DIMENSIONS 产品尺寸及开孔尺寸





（UNIT单位：mm）

Note: This diagram is for illustration purposes only. The actual installation shall be subject to the final confirmed installation
注：此图仅供参考，具体安装以确认方案为准；产品尺寸单位为毫米

CSP200 SERIES SELF-POWERED PROTECTION RELAYS
CSP200 自供电微机保护装置系列



DIP Switch Type　拨码式

PRODUCT OVERVIEW　概述

Due to harsh environmental conditions such as extreme cold and heat in outdoor switching stations, the operating power supply of switchgear is prone to damage. This can cause microprocessor-based protection devices and circuit breakers to malfunction, leading to up-level tripping during faults, which severely impacts normal power operations. In such scenarios, self-powered protection devices can be optionally equipped for the switchgear. These devices require no external power supply and can provide tripping voltage to the circuit breakers, significantly enhancing the reliability of the switchgear.

The primary recommendation for LCD-based self-powered protection is due to the difficulty in reading fault information from DIP switch-based self-powered protection. To address this issue, Ole has newly launched self-powered protection devices with Bluetooth functionality. On-site debugging personnel can obtain the mobile app by contacting our company via information on the device or our website. The app occupies minimal phone storage and is easy to install. After installation, it can communicate with the self-powered protection device via Bluetooth, offering simple operation for accessing internal device information and modifying setting parameters.

由于户外开闭所的严寒酷暑等环境恶劣，开关柜的操作电源容易损坏，造成微机保护装置和开关不能正常工作而引起故障时越级跳闸，严重影响了电力正常运行，这种情况开关柜可选配自供电保护装置。自供电保护装置无需外接电源，并且可以给开关提供跳闸电压，大大提高了开关柜的可靠性。

国内主推液晶自供电保护主要是因为拨码自供电保护读取故障信息很不方便，为了解决这一问题，我公司新推出了带蓝牙功能的自供电保护装置，现场调试人员可以通过装置上的信息或公司网站和我公司取得联系获取手机APP软件，软件占手机资源很小，安装方便，安装后就可以通过蓝牙和自供电保护装置通信，操作十分简单，可以轻松获得装置内部信息和更改定值参数。

OPERATING CONDITIONS　工作环境

- Ambient Temperature: -10℃ ~ +70℃
- Relative Humidity: 5% ~ 95%
- Atmospheric Pressure: 86 ~ 106Kpa

- 环境温度: -25℃ ~ +65℃
- 相对湿度: 5% ~ 95%
- 大气压力: 86 ~ 106Kpa

APPLICATION　应用场所

Primarily used in outdoor switching stations, and can be integrated with DTU (Distribution Terminal Unit) for coordinated operation.
主要应用于户外开闭所，可与DTU配合使用

FUNCTION CONFIGURATION　功能配置

1. Instantaneous Protection
2. Tree-stage overcurrent protection
3. inverse-time overcurrent protection
4. overload protection
5. Zero-Sequence Overcurrent Protection
6. inverse-time zero-sequence overcurrent protection
7. body protection
8. Added Bluetooth Communication
9. Auxiliary Power Supply Enabled – When an external power source is available, communication via the RS485 interface is supported.

1. 速断保护
2. 三段过流保护
3. 反时限过流保护
4. 过负荷保护
5. 零序过流保护
6. 反时限零序过流保护
7. 本体保护
8. 加带蓝牙通讯
9. 带辅助电源,有外接电源时，可通过RS485接口进行通信

MODEL DEFINITION　型号说明

CSP - 200 - □

- A：DIP Switch Type 24V　拨码式24V
- B：DIP Switch Type 48V　拨码式48V

Design Series Number　设计序列号

Protection Relay Model　微机保护装置型号

FUNCTION FEATURES 功能特点

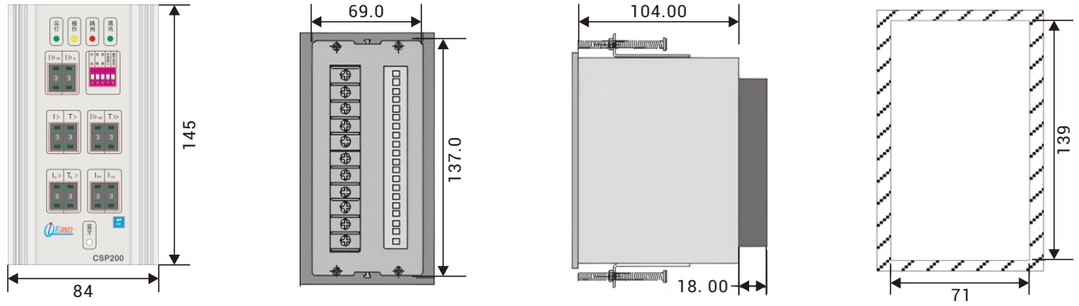
CSP200 Microprocessor-Based Self-Powered Protection Device utilizes a highly integrated microprocessor with on-chip bus architecture to process signals from current transformers and control outputs through digital logic operations. The device features a compact structure, sealed enclosure, and maintenance-free design with exceptional anti-interference capability. Its hardware design and component selection strictly account for harsh operating environments ranging from -10°C to +70°C, making it ideally suited for outdoor ring main unit (RMU) switchgear systems with challenging operating conditions and limited installation space.

- CT-powered operation (eliminates DC panel/UPS needs)
- Auto-switching to CT self-power during external power loss (pioneering technology)
- Cold-start response: 55ms±15ms (breaks technical barrier)
- Highly integrated MCU with on-chip bus (superior anti-interference)
- Compact, low-power, shock-resistant, fully distributed installation (no external filters)
- Self-test with secure output lockout (prevents maloperation)
- Professional clock chip with backup battery (accurate timing after power loss)
- 100-event fault record capacity
- Modular software with redundancy (field-proven reliability)
- Optically isolated RS485 (open protocol for automation)
- Built-in high-capacity battery (setting adjustment & SOE review without external power)

CSP200微机自供电保护装置采用高集成度、总线不出芯片的微处理器处理来自电流互感器的信号，通过数字逻辑运算控制装置的输出。装置结构紧凑，密封机箱，免维护设计，抗干扰性能好，在产品方案设计和元器件选型上就严格考虑零下-10℃和零上70℃的严酷恶劣环境，非常适合于运行环境较为恶劣、安装位置有限的户外环网柜系统。

- 可以选择由CT供电，免除因安装直流屏或UPS而带来的额外负担；
- 外部电源与CT供电自动切换，在外部电源失电情况下自动转为由CT自供电，国际首创；
- 装置冷启动反应速度已做到了55ms±15ms，攻克了自供电微机保护装置冷启动反应速度慢的技术难关；
- 采用国际新型高集成度单片机开发平台，总线不出芯片，抗干扰性能好；
- 体积小，功耗低，抗震性好，可实现全分散安装，不需要任何外部抗干扰器件；
- 装置具备完善的自检功能，当发现装置工作不正常时可靠闭锁保护出口，保证装置不会误动；
- 采用专业时钟芯片，由单独的晶振支持，带有备用电池，时钟即使在装置掉电后也能正确走时，大容量的存储器使装置能准确记录一百个各种故障信息；
- 软件采用模块化设计，具有多种冗余措施，并经过了长时间的现场运行考验，程序稳定可靠；
- 具有高速光电隔离RS485通讯接口，通讯稳定可靠，并向用户提供开放的通讯协议，方便实现综合自动化；
- 本装置内部有高容量免维护电池,可在没有任何外部电源的情况下设置定值和查看SOE事件记录。

PRODUCT DIMENSIONS AND CUTOUT DIMENSIONS 产品尺寸及开孔尺寸



FRONT VIEW 产品正视图　REAR VIEW 产品背视图　SIDE VIEW 产品侧视图　CUTOUT DIMENSIONS 产品开孔尺寸

Note: This diagram is for illustration purposes only. The actual installation shall be subject to the final confirmed installation
注：此图仅供参考，具体安装以确认方案为准；产品尺寸单位为毫米，产品开孔尺寸为宽170 高136

SPECIFICATION 性能指标

TECHNICAL PARAMTER 技术参数	
Power Supply 电源	Rated Pressure at 20℃: 0.02MPa 20℃时额定压力为0.02MPa
Allowable Deviation 允许偏差	±20%, ripple coefficient ≤5% ±20%，纹波系数不大于5%
AC Current 交流电流	AC5A
Rated Frequency 额定频率	50Hz / 60Hz
Power Consumption 功率消耗	DC Circuit: <8W 直流回路: <8W
	AC Circuit: <0.5VA/phase (In=1A)<1VA/phase(In=5A) 交流回路: <0.5VA/相(In=1A)； <1VA/相(In=5A)
	AC Voltage Circuit: <0.5VA/Phase(at rated voltage) 交流电压回路: <0.5VA/相(在额定电压下)
Precision Range 精确测量范围	Phase Current: 0.1In ~ 20In 相电流: 0.1In ~ 20In
	Zero-Sequence Current: 0.1A ~ 10A 零序电流: 0.1A ~ 10A
Measurement Accuracy 测量精度	Current< ±3% set value 电流<±3%整定值
Time Setting Error 时间定值误差	at 1.5× setting value <40ms±10ms(Instantaneous Element) <±2%+35ms(Instantaneous Element) 在1.5倍定值下 <40ms±10ms(无延时段) <±2%+35ms(无延时段)
Digital Input 开入回路	DC 24V, 5mA (sourced internally by the device) 直流24V， 5mA(装置内部提供)
Output Contact 开出接点	Continuous Switching Capacity: DC 220V, 5A (Resistive Load) 可持续接通DC24/48V，10A电流(纯阻性负载)

OPERATING CONDITIONS 工作环境					
Max Temperature 最高温度	65℃	Relative Humidity 相对湿度	5% ~ 95%	Altitude 海拔高度	≤2000m
Min Temperature 最低温度	-25℃	Atmospheric Pressure 大气压力	86 ~ 106Kpa		

INSULATION RESISTANCE, DIELECTRIC STRENGTH AND IMPULSE VOLTAGE 绝缘电阻、介质强度和冲击电压	
Insulation Resistance 绝缘电阻	≥50MΩ
Dielectric Strength 介质强度	2kV，50Hz，1min
Impulse Voltage 冲击电压	5kV，(1.2/50)μs

REFERENCE STANDARD 引用标准	
Complies with DL/T478-2001 4.13.1 符合DL/T478-2001 4.13.1规定	General Technical Conditions for Static Relay Protection and Security Automatic Equipment - Vibration 静态继电保护及安全自动装置通用技术条件 振动
Complies with DL/T478-2001 4.13.2 符合DL/T478-2001 4.13.2规定	General Technical Conditions for Static Relay Protection and Security Automatic Equipment - Shock 静态继电保护及安全自动装置通用技术条件 冲击
Complies with DL/T478-2001 4.13.3 符合DL/T478-2001 4.13.3规定	General Technical Conditions for Static Relay Protection and Security Automatic Equipment - Bump 静态继电保护及安全自动装置通用技术条件 碰撞

CSP3000 SUBSTATION AUTOMATION BACKGROUND MONITORING SYSTEM
CSP3000 变电站自动化后台监控系统

PRODUCT OVERVIEW 概述

CSP3000 Power Monitoring System is an open, networked, modular, and configurable hierarchical distributed substation integrated automation system. It integrates protection, monitoring, control, and communication functions by applying power automation technology, computer technology, and information transmission technology. The system meets the requirements of both attended and unattended substations, offering advanced technology, comprehensive functionality, high reliability, and ease of operation and maintenance.

CSP3000电力监控系统是应用电力自动化技术、计算机技术和信息传输技术，集保护、监测、控制、通信等多种功能于一体的开放式、网络化、单元化、组态化的分层分布式变电站综合自动化系统,既可满足有人值班变电站的要求,也可完全满足无人值班变电站的要求,是一套技术先进、功能完备、可靠性高、使用维护方便的电力综合自动化系统。

APPLICATION 应用场所

Widely applicable to real-time monitoring in power plant automation, substation automation, distribution network automation, and new energy automation.

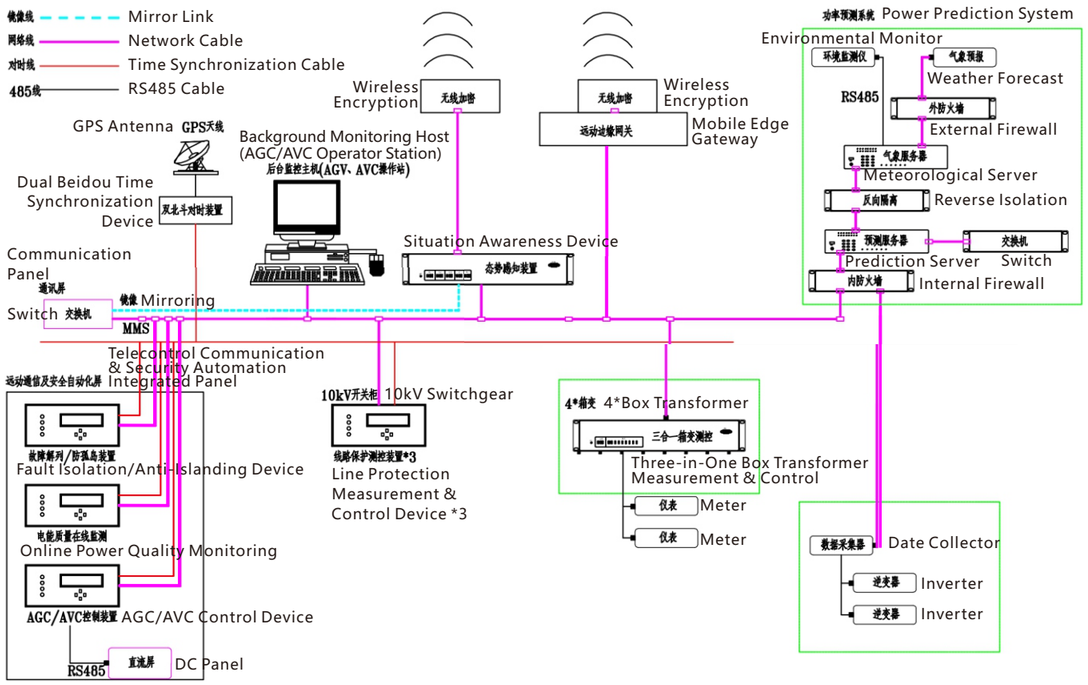
广泛适用于发电厂自动化，变电站自动化，配网自动化，新能源自动化在实时监控

OPERATING ENVIRONMENTS 运行环境

CPU: Intel® Core™ i5 Processor
Frequency: 2.9GHz
RAM: 8G
Storage: 500G
Network Card: 1G
Printer: Hp1108
Alarm Buzzer (Required only for audible alerts)
Os: Kylin Security Operating System
Auxiliary Software: mysql

CPU: Intel(R)Core(TM)i5处理器
主频: 2.9GHz
内存: 8G
内存硬盘: 500G
网卡: 1G
打印机: Hp1108
报警音响 （声音告警才须安装）
操作系统: 银河麒麟安全操作系统
相关辅助软件: mysql

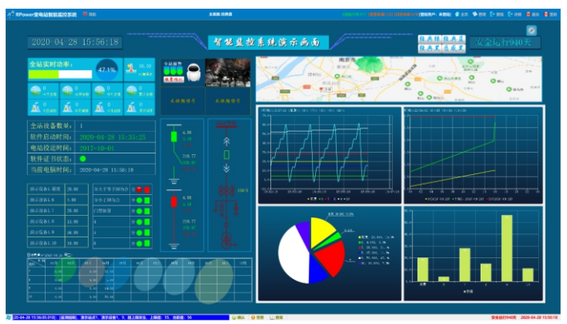
CSP3000 SYSTEM ARCHITECTURE AND NETWORKING TOPOLOGY　CSP3000系统结构组网方式



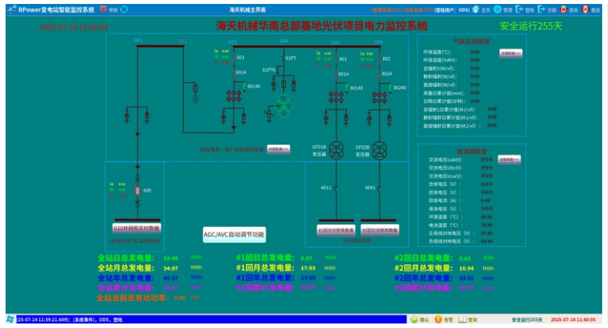
FEATURES　特点

- Advanced Configuration Graphic System
  Drawing experience comparable to Microsoft Visio, with a rich library of dedicated power system component graphics for faster and more elegant configuration development.

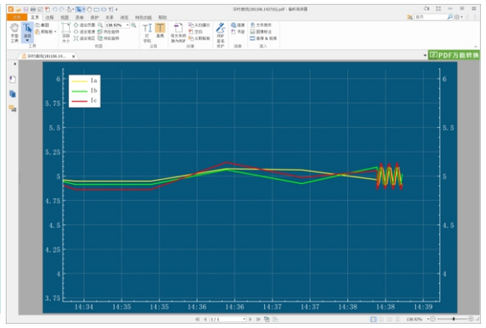
  强大的组态图形系统,绘图舒适度堪比Microsoft Visio,并且拥有丰富的电力系统专用元件图形库，使得组态开发更为快速，组态图开更加优美。



- Multi-Screen Monitoring Support Meets the requirements of large-scale power monitoring projects.
  支持多屏监控，满足大型电力监控项目的需求



Screen 1



Screen 2

- Simplified Report Generation Streamlined from complex professional tasks to three simple steps, democratizing power monitoring systems.
  把由专业人士完成的报报表生成复杂工作优化成只需要三步轻松生成报表,为电力监控系统的普及化奠定基础。

- Universal Communication Protocol Support
  Abstracts complex protocols with native support for major manufacturers' devices, easily extended to standard Modbus and IEC 101/103/104 terminals.
  封装复杂的通信协议，转为对各大厂家设备的支持，并且可方便扩充支持标准Modbus,IEC101/103/104的终端设备。

ENGINEERING CASES 工程案例



Shougang Group
北京首钢集团



Zhenli Road Stormwater Pump Station Project
天津市真理道雨水泵站工程



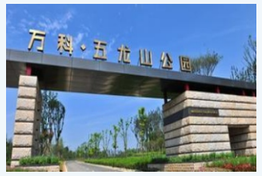
Shenyang Coal Industry (Group)
沈阳煤业（集团）有限责任公司



Zhuhai Chimelong
珠海长隆



Xinjiang Da'erxian Oilfield
新疆大二线油田公司



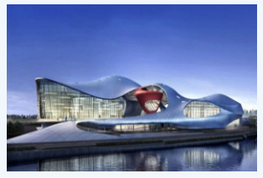
Vanke Xindu Property Wulongshan Park
成都万科新都置业-五龙山公园



University
昆明理工大学



Museum
淮北市博物馆



Asian Game Venues
广州亚运会



Universiade
深圳大运会



Wangjiadun Central Business District
武汉王家墩中央商务区



Zhonghai Jincheng International
中海锦城国际



Bayuquan Yingkou Port
鲅鱼圈营口港



Jianxing Real Estate
苏州建兴置业有限公司



Hong Kong MTR
香港地铁



Centrury City
昆明世纪城



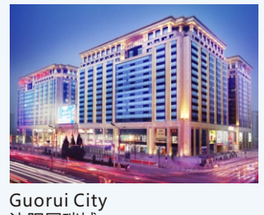
Sansheng Metroplis City
三盛 都会城



Changshui International Airport
昆明长水机场



Science City
广州科学城



Guorui City
沈阳国瑞城

主要业绩 MAJOR PROJECTS

Southwest Region 西南地区

009 Command Building	009指挥楼
Chengdu Daqi Juye Investment	成都大旗聚业投资
Chengdu Foxconn	成都富士康
Chengdu Military Region 22nd Regiment	成都军区第二十二团
Vanke Xindu Property - Wulongshan Park	成都万科新都置业-五龙山公园
Yuanrui International Furniture Expo Center	成都元瑞国际家具博览中心
Dazhou Qinghuayuan	达州清华园
Deyang Broadcasting Center	德阳市广电中心
Guangan Kairui Pharmaceutical Planting	广安凯瑞药业种植有限公司
Huaying Coal Mine	华蓥煤矿
Jincheng International	锦城国际
Kunming Changshui International Airport	昆明长水机场
Kunming University of Science and Technology	昆明理工大学
Kunming Steel Plant	昆明钢铁厂
Kunming Century City	昆明世纪城
Ludao International	鹭岛国际
Nanbu County Jinxing Real Estate	南部县锦兴置业有限公司
Panzhihua Haoyu Industry & Trade	攀枝花市浩宇工贸有限公司
Panzhihua Steel Plant	樊枝花钢铁厂
Sansheng Metropolis City	三盛.都会城
Tianxia Haoting	天下豪庭
Wanyuan Miaopo Changhe Coal Mine	万源市庙坡乡长河煤矿
Wenchuan Logistics	文传物流
Tibet Nongyuan	西藏农苑
Xishuangbanna Zhengyuan Real Estate	西双版纳正元房地产有限公司
Ya'an Coal Industry Co., Ltd.	雅安市煤业有限责任公司
Yuanda Linyu City	远大林语城
Yuechi Engineering Company	岳池工程公司
Yunnan Dahongshan Iron Mine	云南大红山铁矿
Yunnan Fumin Longyuan Industry	云南富民龙源实业有限公司
Yunnan Honghe Cigarette Factory	云南红河卷烟厂
Yunnan Real Estate Development and Management Company	云南省房地产开发经营公司
Yunnan Tiancheng Property	云南天城物业有限公司
Zhongke Tianxia Yijia	中科天下一家
Chongqing Dazu District Tianzheng Water City	重庆大足区天正.水城

Central Region 华中地区

Changjiang Securities Optical Valley Tower
Dali Coal Mine
Donghai Minth Group
Dongxing Power Supply
Gestamp Automobile
Hubei Fuxiang Paper Industry
Changsha Qingyuan Project
Lvye Technology
Tianlong Huanghe
Wuhan Wangjiadun Central Business District
Wuhan Yingfu Real Estate
Xianning Tianyi Hydropower Installation Company
Yanda Electronics/Jiayuan Huadu
Yichang Baitai Industry
Yuxing Rhinestone
China Railway Bridge Bureau Real Estate

长江证券光谷大厦	天龙黄鹤
大利煤矿	武汉王家墩中央商务区
东海敏实	武汉赢富地产
东兴供电	咸宁添翼水电安装公司
海斯坦普	燕达电子、佳源花都
湖北福祥纸业	宜昌百泰实业
湖南长沙青园项目	宇星水钻
绿野科技	中铁大桥局地产

South Region 华南地区

Foshan Building Materials City	佛山建材城
Guangdong Bureau of Geology	广东省地质局
GD University of Foreign Studies	广东省外语学院
Guangdong Petrochemical Zhanjiang Branch	广东石化湛江分公司
Guangdong Tuoliang Software Science Park	广东拓量软件科学园
Guangxi Wuzhou Yongda Steel Plant	广西梧州永达钢厂
Guangzhou Baiyun National Tax Bureau	广州白云国家税务局
Guangzhou State-Owned Asset Investment Company	广州国有资产投资公司
Guangzhou Hesheng Junjing Real Estate	广州合生骏景房地产有限公司
Guangzhou Aluminum Plant	广州铝材厂
Guangzhou Nansha Central Hospital	广州南沙中心医院
Guangzhou Light Industry Senior Technical School	广州市轻工高级技工学校
Guangzhou Tobacco Trading Company	广州市烟草贸易公司
Guangzhou Municipal Group Co., Ltd.	广州市政集团有限公司
Guangzhou Sports Academy Basketball Gymnasium	广州体育学陆军篮球馆
Guangzhou Yingtai	广州盈泰
Guangzhou YuEDian Tower	广州粤电大厦
Guilin Medical University	桂林医学陆军
Hainan Tobacco Company South China Express Line	海南烟草公司华南快速线
Zhuhai Branch of Jilin University	吉林大学珠海分校
Luofu Nanshan	罗浮.南山
Nanning Jianning Water Investment Group(Mingyue Lake)	南宁建宁水务投资集团有限责任公司明月湖
Shenzhen Longyueju Phase IV Project	深圳龙悦居四期工程
Shenzhen Seg Plaza	深圳赛格广场
Yangjiang Nansha Stainless Steel Products	阳江市南沙不锈钢制品公司
Zengcheng Municipal Administration Bureau	增城市政管理局
Guangdong Provincial Committee of the CPC Teaching Building Complex	中共广东省委教学楼综合楼
Zhuhai Chimelong Ocean Kingdom	珠海长隆海洋王国

North Region 华北地区

Wannian Huacheng Real Estate
Manchu Autonomous County Line Apparatus Factory
Yuncheng Qinghua Cement Plant
Shougang MA Metal Forming
Zhenli Road Stormwater Pump Station
Tiemei Group Tiemei Daqiang Mine
北京万年花城房地产
本溪满族自治县线路器厂
山西运城清华水泥厂
首钢MA金属成型项目
天津市真理道雨水泵站工程
铁煤集团铁煤大强矿工程

Northeast Region 东北地区

Badelife Chemical Coatings Plant
Bayuquan Yingkou Port Substation No. 6
Dongfeng County Daxing Town
Fushun Jinyuan Technology Electric
Liaoyuan Dongfeng Daxing Cement Plant
Substation Project of Stomatology Hospital Affiliated to China Medical University
巴德富化工涂料厂
鲅鱼圈营口港6号变电所
东丰县大兴镇
抚顺金源科技电气有限公司
辽源东丰大兴水泥厂
中国医科大学附属口腔医院变电所工程

Northwest Region 西北地区

Qinghai Yushu Commercial Building	
Qinghu, Wanquan Yijing Affordable Housing	
Urumqi Southern Suburb Water Purification Plant	
Xinjiang 500 Water Station	
Xinjiang Da'erxian	
Xinjiang Hualong Oilfield	
Xinjiang Karamay Oilfield	
Xinjiang Tacheng Water Supply Plant	
China Railway First Survey and Design Institute Group	
Taxian Pamir Mining	
青海玉树商业大楼	新疆华隆油田
青湖，万泉頤景保障性住房	新疆克拉玛依油田
乌鲁木齐南效净水厂	新疆塔城市供水厂
新疆500水站	中铁第一勘察设计院集团有限公司
新疆大二线	塔县帕米尔矿业

East Region 华东地区

Bozhou Vocational College	安徽亳州职业学院
Huaibei Huasong Apartments	安徽淮北华松公寓
Huaibei Silang Packaging	安徽淮北思朗包装有限公司
Zhengmin Vehicle Industry	安徽正民车业有限公司
Fujian Baixin Real Estate	福建百信房地产有限公司
Huaibei City Museum	淮北市博物馆
Huaibei Ziguang Tower	淮北紫光大厦
Sanjiang Real Estate	三江房地产
Shanghai Huiteng Real Estate	上海辉腾房地产
Suzhou Jianxing Real Estate	苏州建兴置业有限公司
Performance Arts Center	苏州演艺中心
Baixiang Oasis Residential Area	芜湖市白象绿洲小区
Yexiang Steel	烨祥钢铁股份有限公司
Zhangjiagang Bus Station	张家港汽车站
Guangsha Real Estate	浙江广厦房地产开发有限公司
Zibo Chongzheng Cement	淄博崇正水泥有限公司

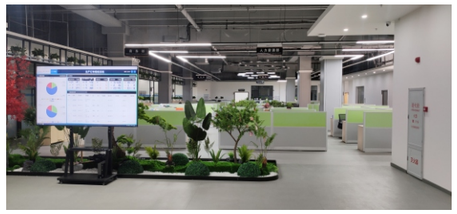
About Ole Power 走进欧力配网



OLE INDUSTRIAL PARK　欧力配网产业园



EXHIBITION HALL　展厅一角



OFFICE ENVIRONMENT　办公环境



RECEPTION　欧力配网前台



CONFERENCE ROOM　会议室



CORPORATE CULTURE WALL & HONORS & AWARDS DISPLAY
企业文化墙与荣誉墙



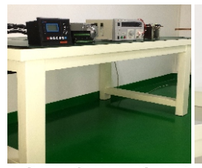
PRIMARY EQUIPMENT WORKSHOP
一次设备车间



PRIMARY EQUIPMENT WORKSHOP　一次设备车间



PRIMARY EQUIPMENT WORKSHOP　一次设备车间



INSULATION WITHSTAND VOLTAGE TEST CHAMBER
绝缘耐压检测室



LIGHTNING SURGE TEST CHAMBER
雷击浪涌检测室



DTU PRODUCTION WORKSHOP　DTU生产



COMPLETE SET WORKSHOP　成套车间

SMART HIGH-TEMPERATURE BURN-IN CHAMBER
智能型高温老化室



Automatic Welding Robotic Arm　自动焊接机械臂



QUALITY INSPECTION CENTER　质检中心

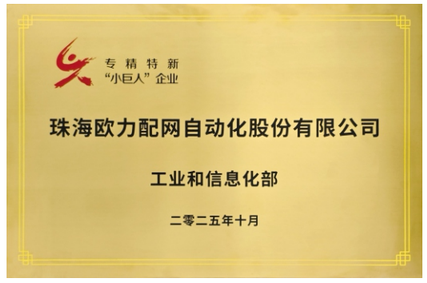


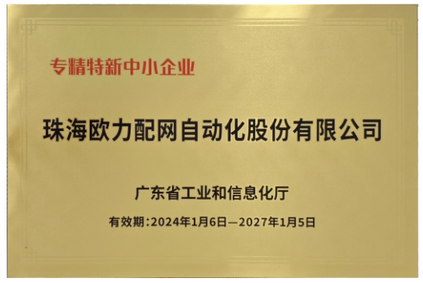
VACUUM CHAMBER CORE LEAK DETECTION SYSTEM
真空箱核检漏系统

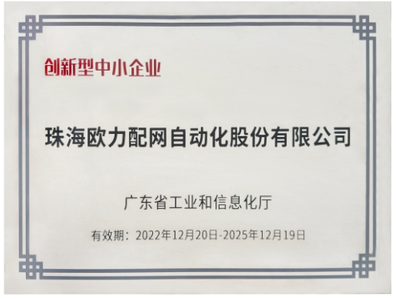
Certifications and Honors 资质荣誉























TEL: +86 0756 - 3628829

24 HOURS AFTER-SALES SERVICE
24小时售后服务

我公司严格按照质量管理体系要求，确保产品出厂合格率为100%，用户满意达98%以上。

我公司售后可提供的服务项目：产品指导安装；产品维修；备品备件供应；设备改造；技术咨询；培训讲座；投诉处理等。

Our company strictly adheres to the Quality Management System requirements, ensuring a 100% pass rate for products upon factory shipment and achieving over 98% customer satisfaction.

After-sales services provided by our company include: Product installation guidance; product maintenance; supply of spare parts; equipment modification; technical consultation; training seminars; complaint handling, etc.

始于客户需求 终于客户满意 | **FROM** YOUR NEEDS **TO** YOUR SATISFACTION

我公司郑重承诺：

1：产品验收合格后对产品实行“三包”，产品质保期内对因产品质量问题而造成产品不能使用的，我公司负责免费维修或更换。

2: 为保障用户利益，产品质保期后，公司对产品实行终身服务承诺，长期实施技术指导和提供产品配件（过保修期后的酌情收取材料费）。

3: 为用户对产品的操作使 用和维护保养免费进行培训、指导。向用户提供产品使用、维修保养说明和操作规程。

4: 公司设立24小时服务处理电话支持，旨在为用户解决实际的安装和使用方面的问题。

5: 定期对用户产品进行跟踪服务，对每台产品建立档案，及时了解产品使用情况。

6: 下列情况不属于我公司“三包”范围：
(1)没有按照“安装使用说明书”要求而造成的损坏；
(2)因维护、移动（搬运）或保管不当造成的损坏；
(3)因其他不可抗因素造成的设备损坏。

You have our word that:

1. **“Three-Guarantee” policy** is implemented after product acceptance. During the warranty period, if the product becomes unusable due to quality issues, our company provides free repair or replacement.

2. To protect customers' interests, lifetime service is committed beyond the warranty period, including long-term technical guidance and provision of product components (material fees may be charged after warranty expiration as appropriate).

3. Free training and guidance are provided for product operation and maintenance. User manuals, maintenance instructions, and operating procedures are supplied to users.

4. 24hours support to resolve issues encountered during installation and operation.

5. Regular follow-up services are conducted for all products, with individual files maintained for each unit to promptly understand product usage status.

6. The following cases are **excluded from the "Three-Guarantee" coverage**:
(1) Damage caused by failure to follow the "Installation and User Manual";
(2) Damage resulting from improper maintenance, movement (handling), or storage;
(3) Damage caused by other force majeure factors.