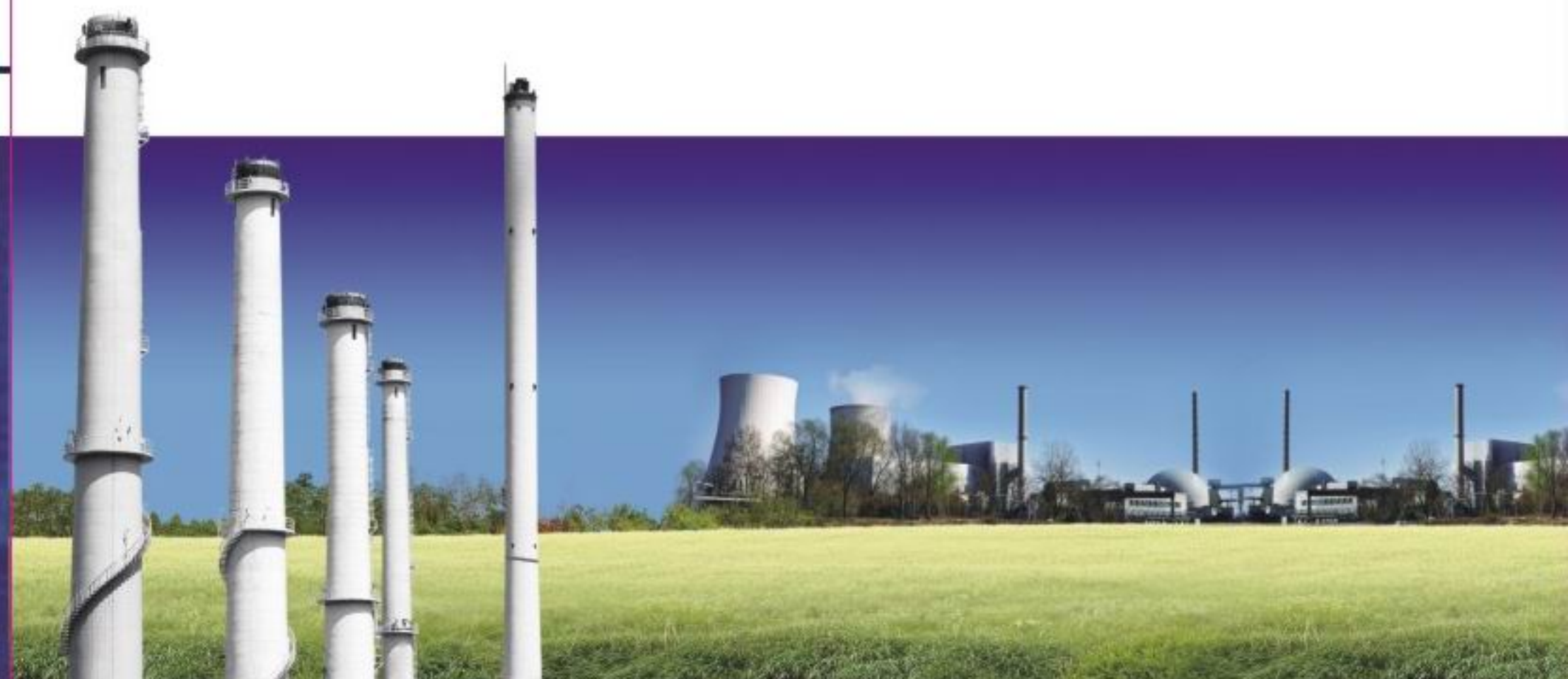


LDC



Qingdao LDC Technology Corp.,

青岛艾迪森科技股份有限公司

地址：青岛莱西市姜山镇北环路以北青岛精密机械
制造小企业产业园内

电话：0532-87882666 87883999 87980999

传真：0532-87885388

网址：www.ldc.com.cn

邮箱：ldcups@163.com

ldcups@ldc.com.cn

service@ldc.com.cn

complaint@ldc.com.cn

24 小时服务热线：13906398067 13906392953

工业级智能应急电源系统

Industrial-grade Intelligent EPS System

— **DEP系列(10KVA~2.5MVA)** —



艾迪森科技股份

股票代码：

★★ 公司简介 ★★

青岛艾迪森科技股份有限公司前身青岛艾迪森科技有限公司，创建于1998年，总部设在美丽的青岛，是一家专注于解决电网供电质量以及工业电源技术问题的高新技术企业。

青岛艾迪森科技股份有限公司全资控股青岛艾迪森软件有限公司及青岛艾迪森能源科技有限公司。

公司市场主要涉及火力发电、石油化工、煤化工等传统能源行业、以及核电、光伏发电、电动汽车电子等新能源行业。

艾迪森科技公司现有员工160余人，其中具有高级职称的10名，中级以上职称的20名；技术与研发人员50人，占总人数的31%；具有大学本科以上学历的占60%以上。所有工程师和现场技术服务人员均接受过严格的专业技术培训，掌握UPS行业最先进的技术及最丰富的工作经验。

2007年公司生产研发基地从市北区迁入青岛市城阳区惜福镇傅家埠工业园，并建立了研发中心和流水线作业，开始进入规模化发展阶段。

为支撑公司新的经营战略，2012年公司又斥资在姜山新城建立了新的工业园，为企业的二次腾飞打下了丰厚的物质基础。



★★ COMPANY INTRODUCTION ★★

Qingdao LDC Technology Corp., formerly known as Qingdao LDC Technology Co., Ltd. the headquarters is in Qindao and was established in 1998. LDC is a high-tech enterprise, focusing provides high quality solution of the power supply and industrial power supply.

Qingdao LDC Technology Corp., wholly owned Qingdao LDC Software Co., Ltd. and Qingdao Energy Technology Co., Ltd.

The company markets mainly related to power generation, petrochemicals, coal chemicals and other traditional energy industries, as well as nuclear power, photovoltaic power generation, electric vehicles, electronics and other new energy industries.

Qingdao LDC Technology Corp. currently employs more than 160 people, 10 of them have senior titles, more than 20 have Intermediate titles; technology and R & D staff of 50 people, 31% of the total number; a university degree or above accounted for more than 60%. All engineers and field service technicians have received rigorous professional and technical training, to master the most advanced technology and most extensive work experiences in the UPS industry.

In 2007 the company R & D base moved into Fujiabu Industrial Park, Xifutown, Chengyang from Shibei district. The establishment of a research and development center and pipeline operations and began to enter the large-scale development phase.

To support the company's new business strategy, the company has invested in the establishment of a new Jiangshan Industrial Park in 2012, which laid a rich material base for the second take-off of enterprises.



DEP智慧型应急电源系统

系统由以下部分组成：

1、电源设备生命周期管理系统

将UPS及电池系统中的影响性能及可靠性的关键器件的关键参数全部采集到数据库中，随时更新、计算，然后与系统中预设关键器件的寿命曲线进行比对，实时预测关键器件的寿命，实时预警。使设备的可靠性完全在您的掌控中！

2、DEP系列工业级模块化智慧型EPS

真正的工业级设计，全系列模块化组合、可形成N+1冗余、智能化的自主决策、自主故障处理。

3、IBP工业级模块化智慧型电池系统（详细资料见另外的手册）

电化学技术与电力电子技术的完美结合。

真正的工业级设计，全系列模块化组合、可形成N+1冗余；串联电池组中的电池电压、内阻被修复达到完全一致；突破了因电池串联带来不一致问题的技术瓶颈，电池组寿命达到10年以上。

4、可选配双STS切换

实现切换时间 $\leq 0.4\text{ms}$ ，满足工业市场严酷的供电质量要求。

通过设备+互联网

- ➔ 实现电源产品全面智能升级
- ➔ 自动预测关键器件寿命
- ➔ 所有电源设备实现“0”停机

DEP Intelligent Emergency Power System

The System Consists of the Following:

1. Power Equipment Life Cycle Management Systems:

Life cycle management systems will help to collect all parameters of the UPS key components & Batteries. These parameters are formed into a database and stored up to date for the calculation. By comparing the collected parameters and default parameters to calculate the life cycle curve for evaluation of the components, also it will help for real time forecasting, real time warning. You can have complete control over the UPS .

2. DEP series Industrial Grade Modular Intelligent UPS:

It is truly industrial-grade product, the combination of modular, N +1 redundant power systems, intelligent autonomous decision-making system, autonomous fault processing system.

3. IBP series Industrial Grade Modular Intelligent Battery System:

The perfect combination of electrochemical technology and power electronics technology.

It is truly industrial-grade product, the combination of modular, N +1 redundant power system; The voltage and resistance of series of each cell in the battery pack automatically repaired by management system, so that each cell in the battery pack within the parameters automatically adjust for consistent; Breakthrough the technical bottleneck brings from battery connected in series caused inconformity, the battery pack life expectancy up to 10 years.

3. Optional dual STS switch

Realize switching time $\leq 0.4\text{ms}$, to meet harsh power supply quality requirements in industrial market.

艾迪森LDC 智慧型不间断电源系统

真正实现100%不间断供电

LDC intelligent uninterruptible power supply system is truly realize 100% uninterrupted power supply.

电源设备生命周期管理系统简介

随着工业系统设备智能化程度的不断提高，对现有电源设备的管理与维护，要求设备管理人员、检修人员的能力越来越高；现有设备管理与检修方式已经跟不上设备管理的要求，给个人及企业造成重大损失。

为此，各个企业将设备外包给专业公司来检修或者管理，这种将我们公司设备的可靠性建立在其他公司之上的模式，其风险非常巨大；实践证明也出现了非常多的问题，费用也比较高。同样也造成了个人及企业造成重大损失。

鉴于以上情况，我们公司在召集专家及用户充分论证的基础上，推出了这款产品，期望能够给您带来意想不到的收获。

管理对象

- 1、发电行业交流电源设备，包括：不间断电源(UPS)、旁路隔离稳压柜、配电柜。
- 2、发电行业直流电源设备，包括：直流屏、充电器。
- 3、发电行业蓄电池系统，包括：蓄电池。
- 4、石油化工行业交流电源设备，包括：不间断电源(UPS)、旁路隔离稳压柜、配电柜。
- 5、石油化工行业应急电源设备，包括：EPS、配电柜、蓄电池。
- 6、石油化工行业蓄电池系统，包括：蓄电池。

工作原理

将设备中的影响性能及可靠性的关键器件的关键参数全部采集到数据库中，随时更新、计算，然后与系统中预设的关键器件的关键参数的标准值、临界值进行比对，实时监控关键参数的状态，实时预警。使设备的可靠性完全在您的掌控中！

实现的功能

- 1、一键状态预测
无需任何操作，只需一键，便可预警设备中的关键器件的关键参数的状态；
- 2、一键寿命预测
无需任何操作，只需一键，便可预知电源设备及电源设备中的关键器件的寿命；
- 3、一键开\关机
无需任何操作，只需一键，即可按事先设定好的开关机顺序以及关键技术参数，实现成功开关机；在开关机的过程中，系统自主检测关键技术参数，不会因设备中的参数不正确，导致开机失败，甚至造成设备事故。

Power Equipment Lifecycle Management System Introduction

With the industrial system equipment intelligent continuous improvement, Management and maintenance of existing power supplies, Requirements for facilities managers,

Increasing the ability of maintenance personnel; Existing equipment management and maintenance mode has been behind the device management requirements, caused Significant losses to individuals and businesses.

So each device companies will be outsourced to a professional company to overhaul or manage, the reliability of our equipment is built on company's top model, the risk is enormous. Practice has proved that there have many problems, the costs are relatively high. That caused significant loss of individuals and businesses.

Our company convening experts and users on the basis of sufficient proof, launched this product and expect to be able to bring unexpected gains.

managed objects

- 1、The power generation industry AC power supply, including ups, Regulators bypass isolation cabinet, Distribution Cabinet;
- 2、DC power generation industry equipment, including DC panel, Charger;
- 3、Power generation battery system, including Battery;
- 4、AC power supply petrochemical industry, including ups, Regulators bypass isolation cabinet, Distribution Cabinet;
- 5、Petrochemical industry, emergency power equipment, including eps, Distribution Cabinet, Battery;
- 6、Petrochemical industry battery system, including Battery.

working principle

The key parameters impact device performance and reliability of the key components all collected into a database, Update and calculate at all times. Then the standard values and critical values of key parameters in the system are compared, Real-time monitoring of critical parameters of the state, real-time warning. So that the reliability of the device is completely under your control !

Functions implemented

- 1.A key state prediction
Key parameters without any operation, only one key, it can alert the device key components of the state
- 2.A key life prediction
No action, only one key, you can predict life of power equipment and power supplies key components
- 3.A key to open \ Shutdown
No action, just a button, you can press the pre-configured switch sequence and key technical parameters to achieve a Power switch; During the switch, the system independent detection key technical parameters, not because of the device parameters is not correct, to cause power failures and even cause equipment accident.

电源设备中的关键部件

- 第一类部件：控制板、散热风机
- 第二类部件：可控硅SCR、IGBT
- 第三类部件：薄膜或电解电容
- 第四类部件：断路器、接触器、电感、变压器

电源设备中的关键部件的关键参数检测

第一类部件：控制板、散热风机

- 1、控制板：
 - 预警参数：各线路板的控制电源电压值、控制板的输入\输出参数值、CR\IGBT触发信号、程序复位信号；
 - 判断故障的参数：超限报警信号、通讯异常信号；
 - 预测寿命的参数：故障次数；
- 2、散热风机：
 - 预警参数：线圈温度、风速；
 - 判断故障的参数：定子电流；
 - 预测寿命的参数：工作时间；

第二类部件：可控硅SCR、IGBT

- 1、可控硅SCR：
 - 预警参数：温度、稳态电压、电流、导通内阻；
 - 判断故障的参数：不导通时的内阻；
 - 预测寿命的参数：根据SCR寿命曲线；
- 2、IGBT：
 - 预警参数：温度、CE稳态电压，CE电流；
 - 判断故障的参数：驱动芯片输出Uce故障信号；
 - 预测寿命的参数：根据IGBT寿命曲线；

第三类部件：薄膜或电解电容

- 直流母线及交流输出的薄膜或电解电容：
- 预警参数：工作稳态电压；
 - 判断故障的参数：温度；
 - 预测寿命的参数：温度、工作时间；

第四类部件：断路器、接触器、电感、变压器

- 1、断路器：
 - 预警参数：主触点接触电阻，线圈温度；
 - 判断故障的参数：辅助触点状态，线圈工作电流；
 - 预测寿命的参数：主触点动作次数；
- 2、接触器：
 - 预警参数：主触点接触电阻，线圈温度；
 - 判断故障的参数：辅助触点状态，线圈工作电流；
 - 预测寿命的参数：主触点动作次数；
- 3、电感、变压器：
 - 预警参数：温度，电流；
 - 判断故障的参数：温度、绝缘电阻；
 - 预测寿命的参数：工作时间；

电源设备本身的关键参数检测

- 预警参数：机内温度、输入电压\电流、直流电压\电流、输出电压\电流、对地绝缘；
- 判断故障的参数：关键部件故障、机内温度、对地绝缘；
- 预测寿命的参数：关键部件寿命加权平均；

Power supplies key components

- The first part: Dashboard, cooling fan
- The second part: SCR, IGBT
- The third part: Film or electrolytic capacitors
- The fourth part: Circuit breakers, contactors, inductors, transformers

The key parameter detection power supplies key components

The first part: Panels, cooling fan

1. Dashboard:
 - Warning Parameters: Control supply voltage values of the circuit board, the control board input \ output parameter values, CR \ IGBT trigger signal, program reset signal;
 - Determine the parameters of failure: Limit alarm signal; Communication error signal
 - Life prediction parameters: Number of Failures;
2. Cooling fan:
 - Warning Parameters: Coil temperature, wind speed;
 - Determine the parameters of failure: stator current;
 - Life prediction parameters: operating hours;

The second part: SCR, IGBT

1. SCR
 - Warning Parameters: Temperature, steady-state voltage, current, on-resistance;
 - Determine the parameters of failure: not conducting resistance;
 - Life prediction parameters: According to SCR life curve;
2. IGBT
 - Warning Parameters: Temperature, CE steady-state voltage, CE current;
 - Determine the parameters of failure: Uce fault signal output driver chip;
 - Life prediction parameters: According IGBT life curve;

The third part: Film or electrolytic capacitors

- Film or electrolytic capacitors for DC link and AC output
- Warning Parameters: Working steady state voltage
 - Determine the parameters of failure: Temperature
 - Life prediction parameters: Temperature, working time

The fourth part: Circuit breakers, contactors, inductors, transformers

1. Circuit breakers
 - Warning Parameters: Main contact resistance, coil temperature;
 - Determine the parameters of failure: Auxiliary contact state, the coil current work;
 - Life prediction parameters: Main contact number of operations;
2. Contactors
 - Warning Parameters: Main contact resistance, coil temperature;
 - Determine the parameters of failure: Auxiliary contact state, the coil current work;
 - Life prediction parameters: Main contact number of operations;
3. Inductors, transformers
 - Warning Parameters: Temperature, electric current;
 - Determine the parameters of failure: Temperature, insulation resistance;
 - Life prediction parameters: operating hours;

The key parameter detection power of the device itself

- Warning Parameters: Internal temperature, input voltage \ current, DC voltage \ current, output voltage \ current, the insulation;
- Determine the parameters of failure: The key component failure, the internal temperature of the insulation;
- Life prediction parameters: The weighted average life of key components;

DEP系列工业级模块化智慧型EPS，针对工业系统电网特点，专为大型工业系统而设计，主要应用于应急照明、事故照明、事故机泵、工业传动和消防系统（消防电梯、卷帘门、风机、水泵、喷淋泵、供水泵）等需要提供高可靠的不间断应急供电的重要设备及场合。

典型应用：

- 1、核电厂
- 2、石油&天然气（陆上，海上平台，管道，精炼，浮式生产储油）
- 3、石化（陆上，海上平台，管道，精炼，浮式生产储油）
- 4、煤化工
- 5、化工工业
- 6、其它工业应用

EPS描述

此系列产品是按工业级标准设计的工业级产品；采用“即插即用”的模块化设计；基于LDC自主知识产权的逆变器磁并联专利技术，实现了无限台并联冗余运行；选择配置电源设备生命周期管理系统，可实现对设备的故障检测、故障自动维护以及寿命预测。

该系列产品分为三进单出和三进三出两款机型。

单机系统容量最大可到2.5MVA

单相EPS功率模块容量：10K、20K、30K、40K、60K、80K、100K、125K、200K、250KVA。

三相EPS功率模块容量：10K、15K、20K、30K、40K、60K、80K、100K、125K、200K、250KVA。

各种不同容量EPS的模块配置如下：

- ※ 10K ~ 250KVA EPS：1*10K ~ 250KVA EPS 模块
- ※ 300K ~ 400KVA EPS：2*200KVA EPS模块
- ※ 500KVA EPS：2*250KVA EPS模块
- ※ 600KVA EPS：3*200KVA EPS模块
- ※ 800KVA EPS：4*200KVA EPS模块
- ※ 1000KVA EPS：4*250KVA EPS模块

DEP industrial-grade modular smart EPS series, specific to industrial power grid systems, specially designed for large-scale industrial systems, mainly used in emergency lighting, emergency accident lighting, industrial pump drive and fire control system (fire elevator, shutter, fans, pumps, spray pumps, pump) and so on, used in occasions and important equipment need to provide highly reliable uninterrupted emergency power supply.

Typical Applications:

- 1、 Nuclear Power Plants (NPP)
- 2、 Oil & Gas (onshore, offshore, pipelines, refining, FPSO)
- 3、 Petrochemical (onshore, offshore, pipelines, refining, FPSO)
- 4、 Coal chemical industry
- 5、 Chemical industry
- 6、 Other industrial applications

EPS Description

This series of products are designed according to industry standard industrial product; the "plug and modular design for the inverter"; magnetic parallel LDC patented technology and independent intellectual property rights based on the infinite, parallel redundant operation; the selection and configuration of power equipment life cycle management system, can realize the fault detection of the equipment, automatic fault maintenance and life prediction.

This series of products are divided into two models, three phase input and three phase output.

The biggest single system capacity is up to 2.5MVA

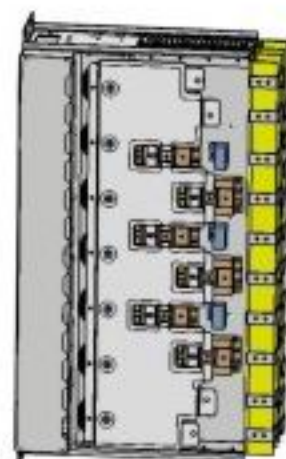
Single phase EPS power module capacity：10K、20K、30K、40K、60K、80K、100K、125K、200K、250KVA.

Three-phase EPS power module capacity：10K、15K、20K、30K、40K、60K、80K、100K、125K、200K、250KVA.

Module configuration of various capacity EPS as follows:

- ※ 10K ~ 250KVA EPS：1*10K ~ 250KVA EPS module
- ※ 300K ~ 400KVA EPS：2*200KVA EPS module
- ※ 500KVA EPS：2*250KVA EPS module
- ※ 600KVA EPS：3*200KVA EPS module
- ※ 800KVA EPS：4*200KVA EPS module
- ※ 1000KVA EPS：4*250KVA EPS module

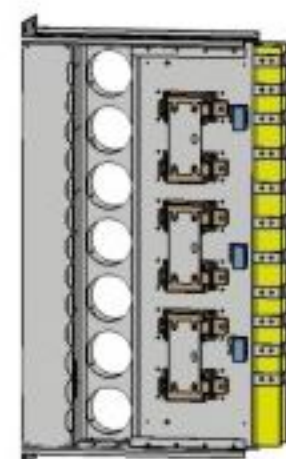
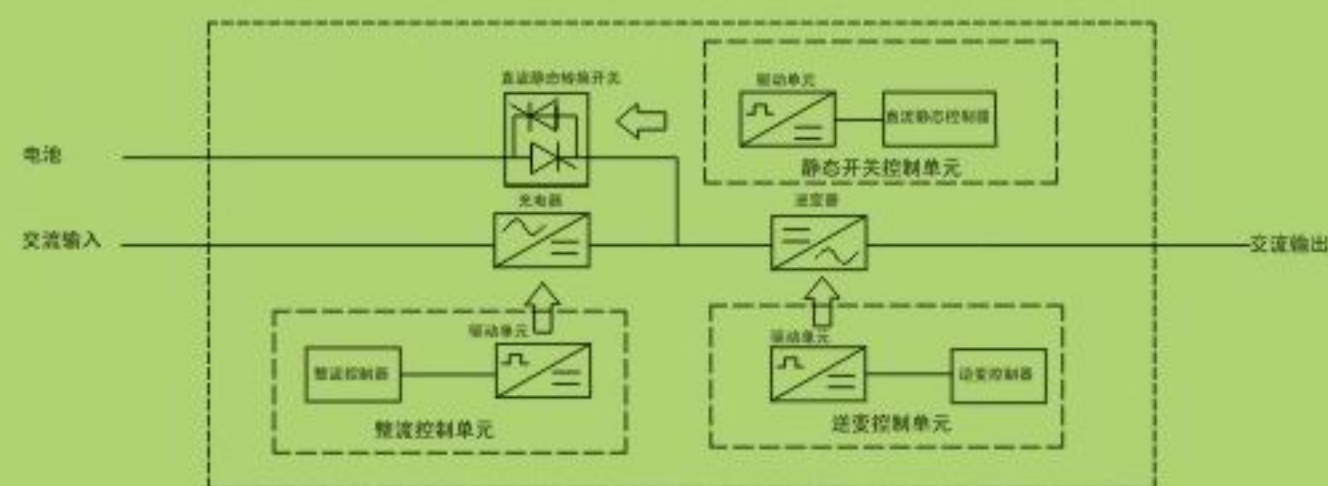
EPS模块描述



DEP系列EPS功率模块

DEP系列EPS功率模块可为三进单出，也可为三进三出，容量为：10KVA、20KVA、30KVA、40KVA、60KVA、100KVA、125KVA、200KVA、250KVA。
 模块包括：整流器、逆变器、直流静态开关、控制单元。

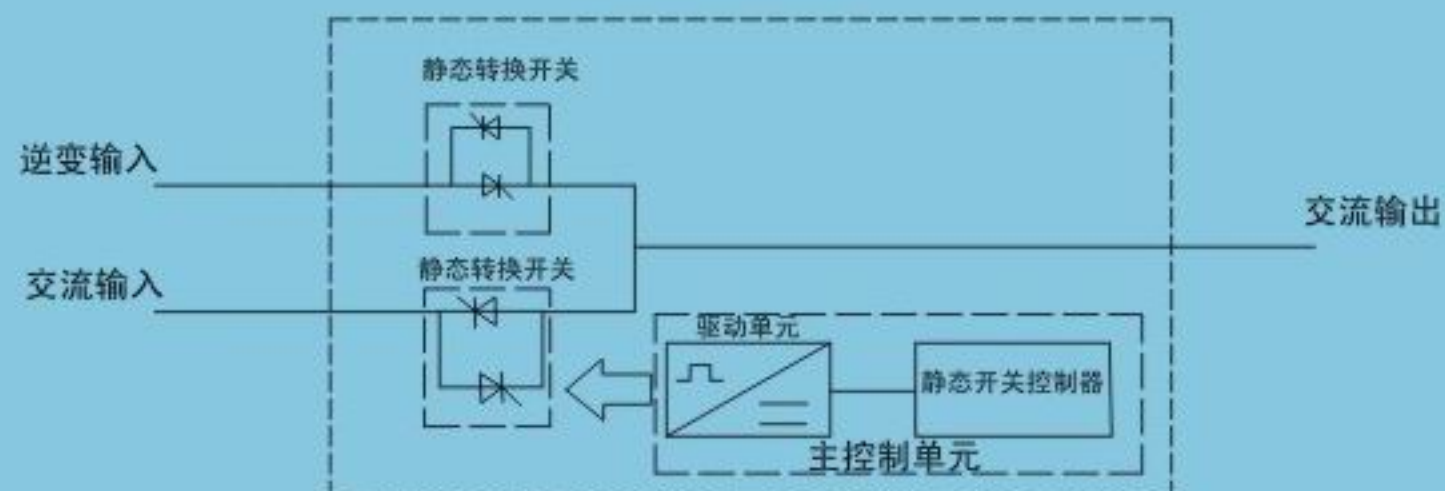
模块典型单线图



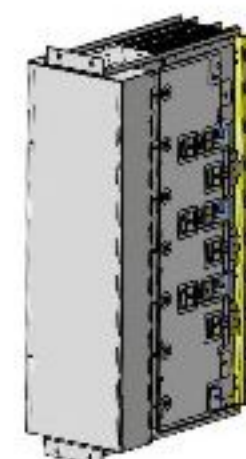
DEP系列EPS静态模块

DEP系列静态开关模块只有一种规格，容量为：10KVA、20KVA、30KVA、40KVA、60KVA、100KVA、125KVA、200KVA、250KVA。

模块典型单线图



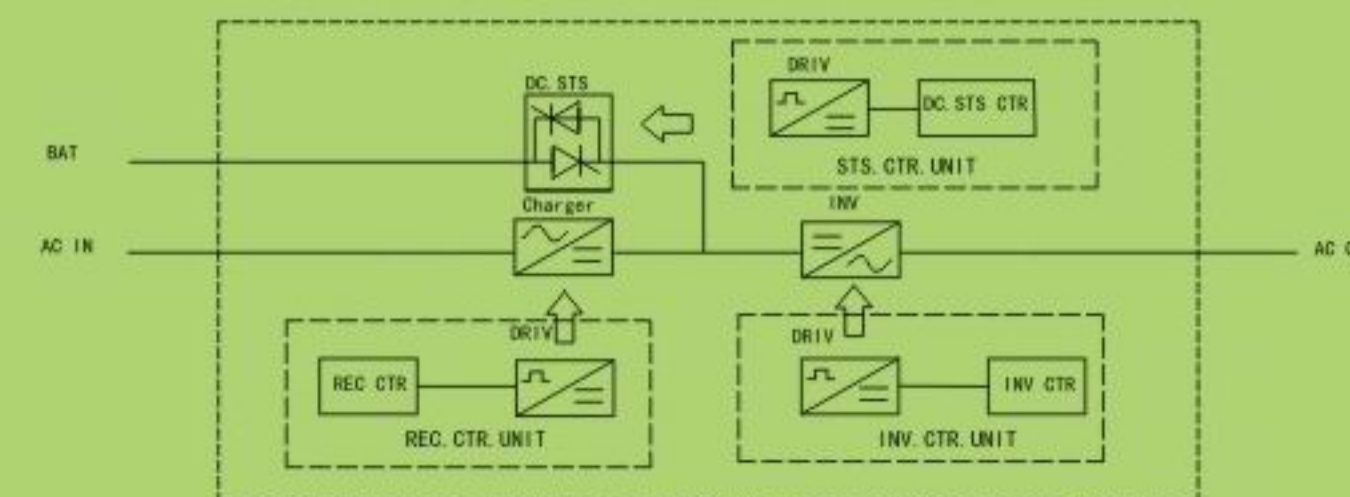
EPS Module Description



DEP series EPS power module

DEP series EPS power model can be three phase input and single phase output, also can be three phase input and three phase output, the capacity is: 10KVA、20KVA、30KVA、40KVA、60KVA、100KVA、125KVA、200KVA、250KVA。
 Modules include: rectifier, inverter, DC static switch, the control unit

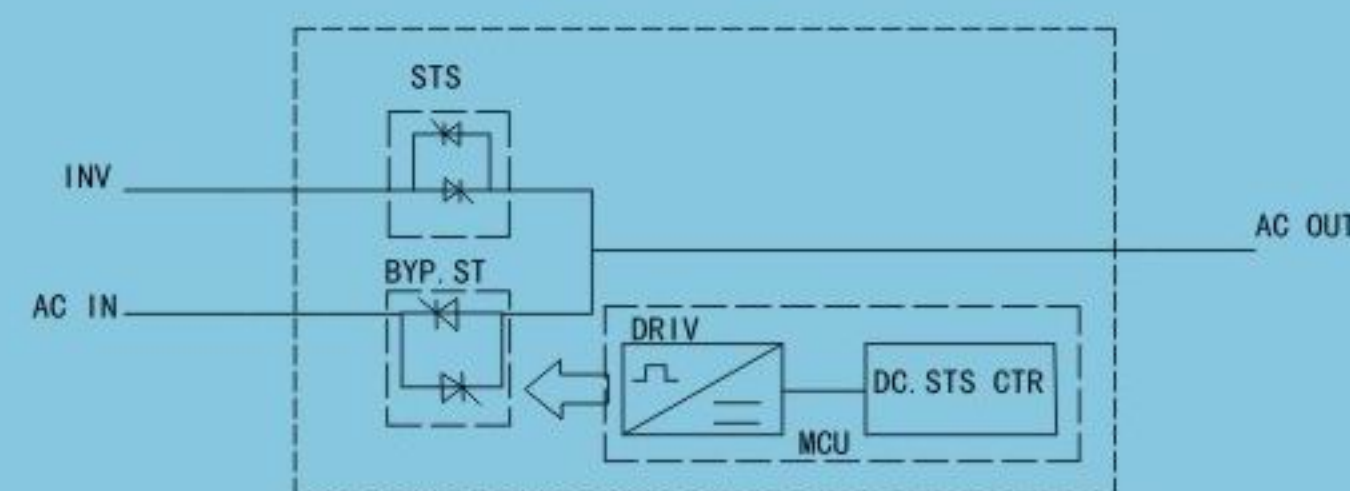
Module Typical single-line drawing



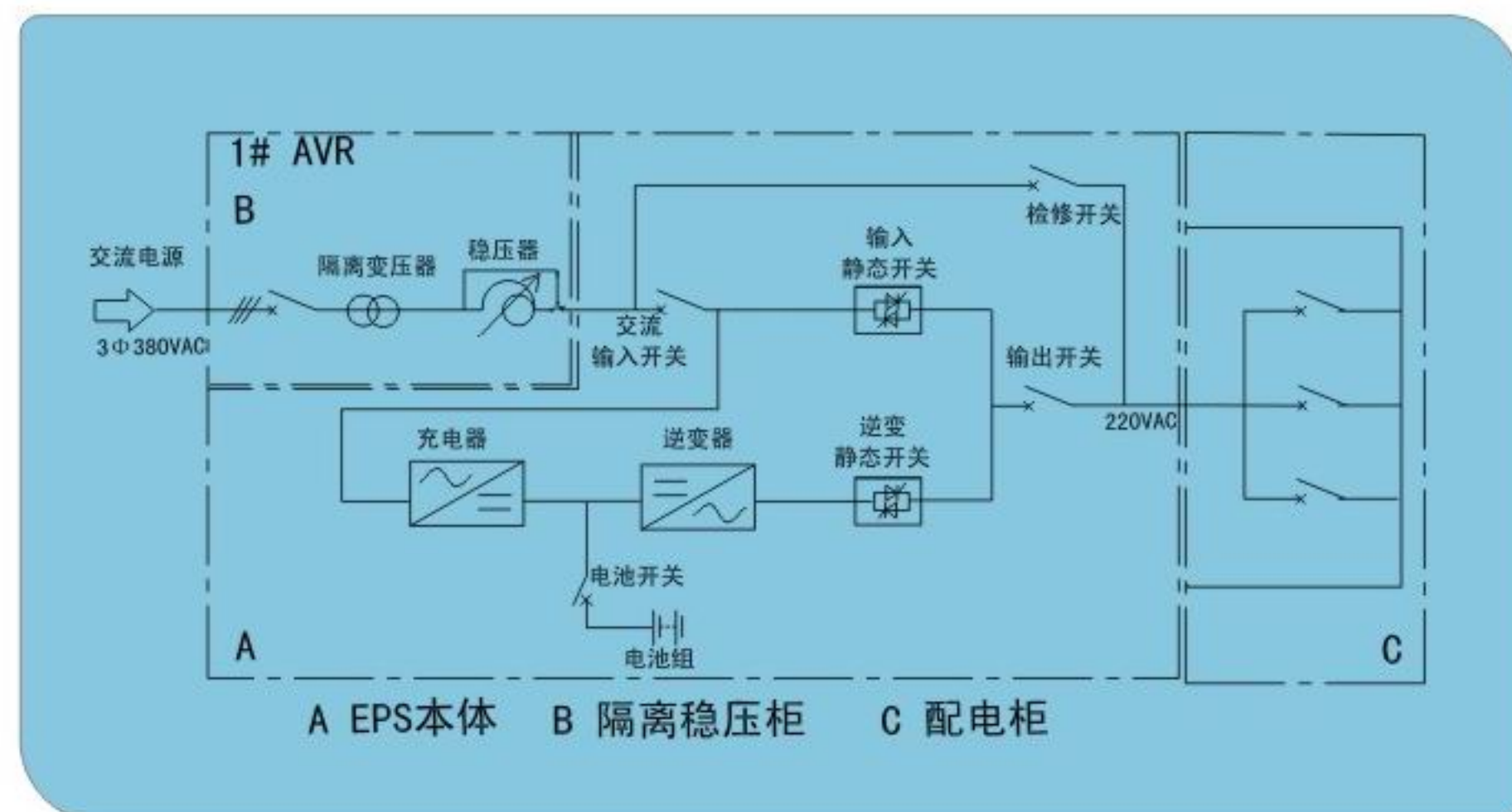
DEP series EPS of static switch module

DEP series of static switch module is only one kind of specification, the capacity is: 10KVA、20KVA、30KVA、40KVA、60KVA、100KVA、125KVA、200KVA、250KVA。

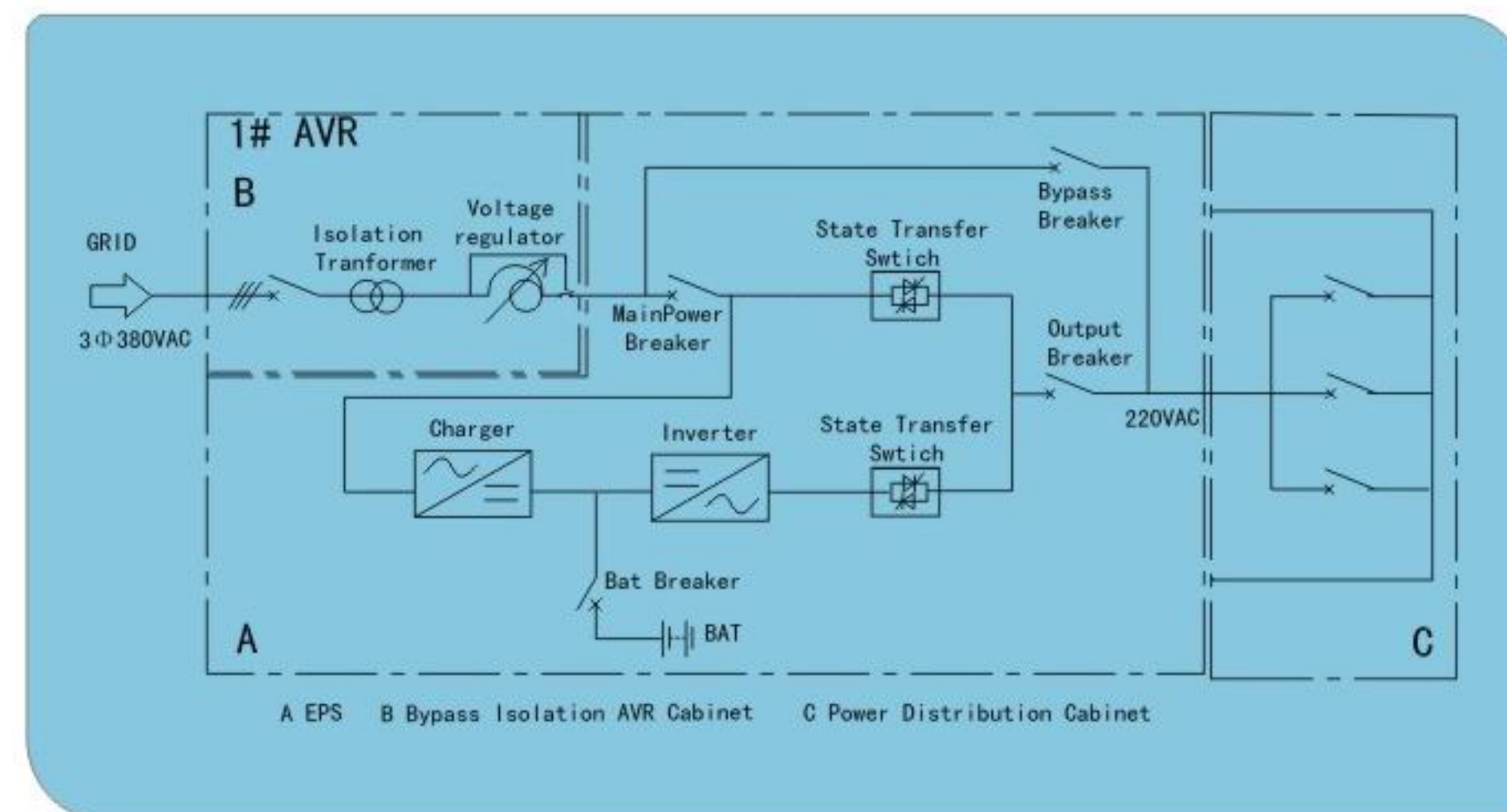
Module Typical single-line drawing



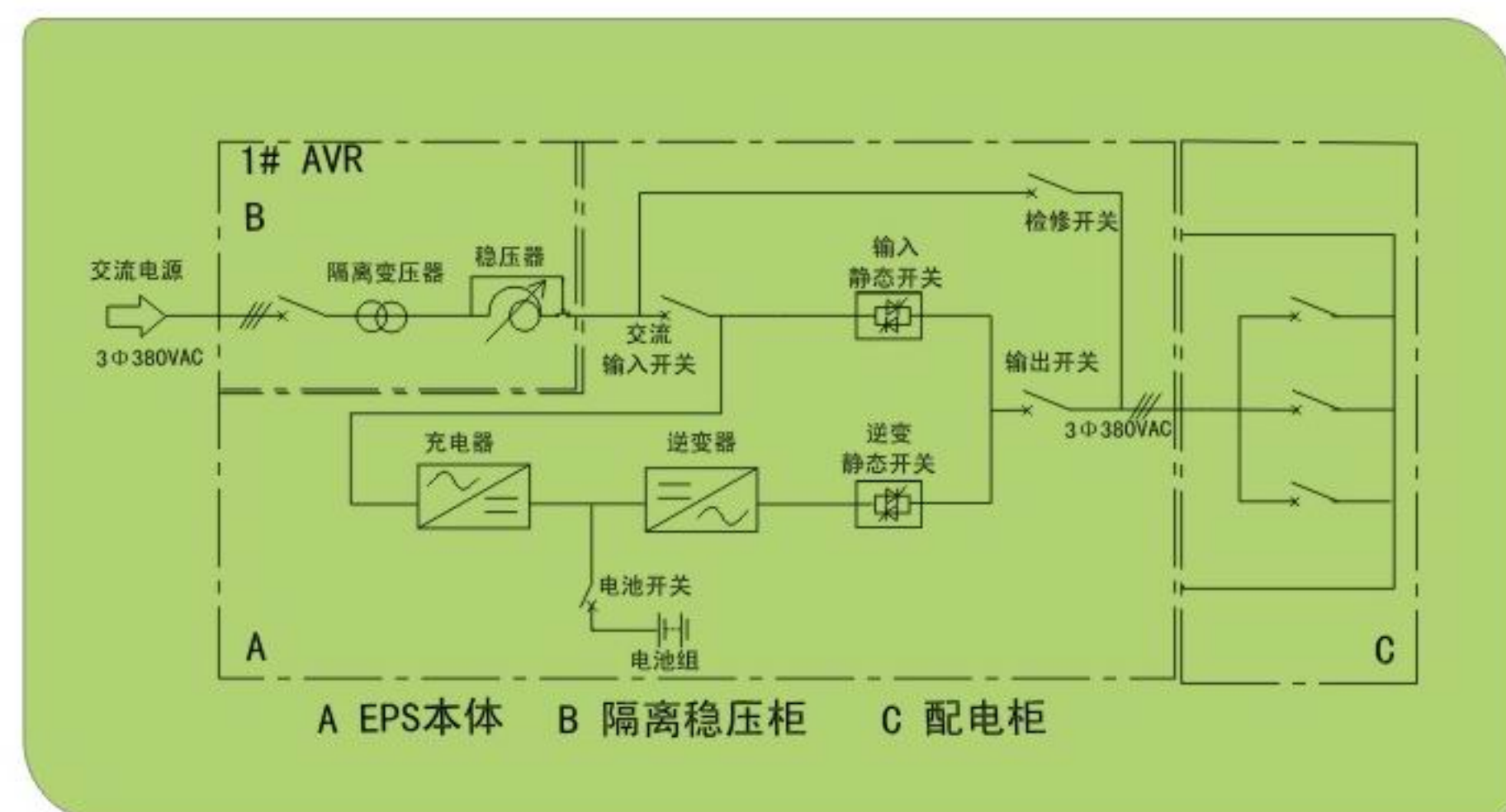
工业专用三进单出系统原理框图



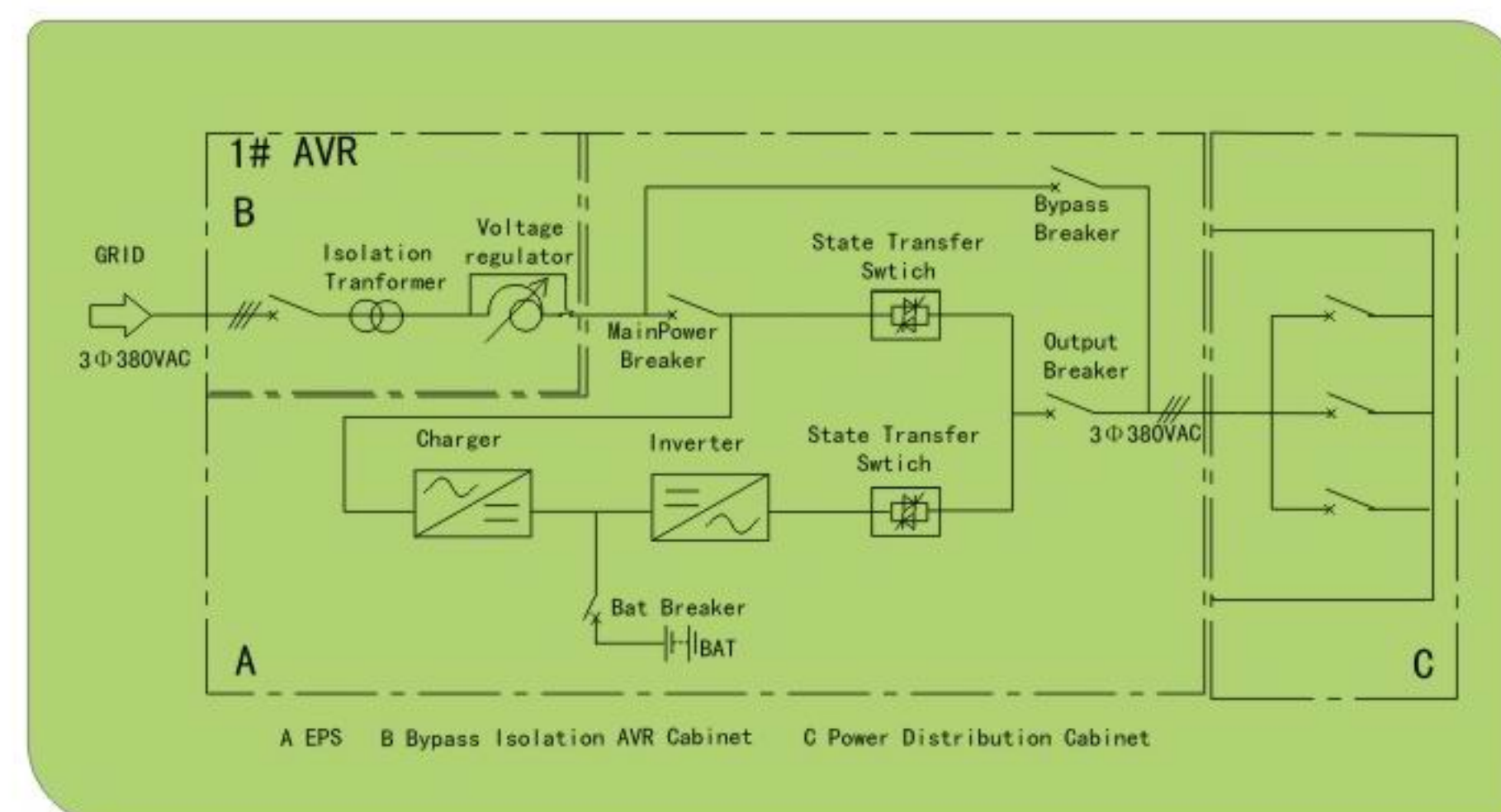
Three-phase Input and Single-phase Output System Single Line Diagram For Industry



工业专用三进三出系统原理框图



Three-phase Input and Three-Phase Output System Single Line Diagram For Industry



DEP系列EPS技术特点



- 充电器采用SCR整流设计,转换器和逆变器采用IGBT逆变
- 32位DSP全数字控制技术
- 可通过软件程式进行参数控制与设定
- ABM快速充电设计,可通过面板设定
- 多台无限并联冗余系统
- 极高的整机效率
- 国际标准通讯协议
- 低于7%的输入电流畸变

DEP系列EPS性能特点



DEP10-80KVA



DEP100-160KVA

- **全模块化设计**
“即插即用”模块化设计,逆变器隔离二极管集成在一个标准模块上,可方便进行拔插,可大幅度缩短保养时间逆变器
- **全冗余设计**
多个“即插即用”功率模块并联运行,行成N+1冗余;控制电源、主控板之微处理器,散热风机全部采用双套冗余设计,任何单点故障不会影响整机运行;输出电压的控制采用1+1冗余的闭环控制,保证即使有一路反馈失灵,也不会产生高压输出,烧毁负载。
- **多种语言液晶显示(中文,英文,俄文,西班牙文)**
大屏幕LCD液晶显示、EPS监控软件,采用多种语言显示,操作简单明了。操作无语言障碍,一学就会。
- **全数字化控制**
使用DSP及IGBT等控制开关组件:有效增加系统稳定度及提高机器效率。
- **智能并联热备份**
无须并机板,只需一根通讯线,多台主机即可并联冗余运行;多台并联主机之间通讯线环形设计,形成闭环,即使有一根断开,也不影响多机并联运行。
- **人性化的操控设计**
无程序式的操作限制,操作简单,不同于其他品牌的EPS有严格的操作程序限制。
- **独特的电压调节方式**
在三个独立的单相逆变器组成三相逆变系统每相电压独立调节可允许100%三相负载不平衡。
- **散热风扇智能检测和控制转速**
任何风扇的故障都可以在EPS面板或通过RS232接口监控到,风扇转速能依负载状况自动调整。延长风扇的使用寿命,减少噪声。
- **静态开关切换时间极短,为无扰动切换。**
采用32位DSP数字控制技术,及电流型检测方式,将切换时间将为0.4ms。
- **资料记录能力**
每一个不正常状况发生的资料及时间都会储存在EPS里,因此用户能够清楚了解EPS发生的任何状况,即使在没有电源的情况下。储存在EPS里的资料也不会被清除。
- **远程诊断与测试**
通过Internet可远程对EPS进行诊断与测试,保证您的系统时刻处于最可靠运行。
- **智能通讯接口**
一个RS232,四个RS485,两个RJ45以及标准通讯协议,组成智能监控系统。同时接驳SNMP装置,实现远程网路管理。20多对无源干接点,可任意选择使用。

DEP Series EPS Technology Features



- Charger use SCR rectification design, IGBT design in inverter and converter.
- 32 bit DSP all digitalization control technology
- Remote parameter control and setting through software procedure
- ABM speedy charging design, could be setted through panel
- More than one infinite parallel redundance system
- High overall efficiency
- International standard communication protocol
- Less than 7% input current distortion

DEP Series EPS Performance Features



DEP200-300KVA



DEP350-450KVA

- **All Modular Design**
Plug and play modular design, which includes charger unit, Inverter unit and isolation diode integrated in a single module. So the plug and play design can reduce the maintenance time greatly.
- **All Redundancy**
Multiple plug and play power modules running in parallel, which form N+1 redundancy, control source, microprocessor of main control panel and cooling fan all takes double sets redundancy design, so any single point fault cannot influence the running of overall unit. Control of output voltage is takes the closed cycle of 1+1 redundancy, which can make sure that once one way feedback does not work, which will not bring high pressure output to burn out loads.
- **Multi Language LCD Display (Chinese, English, Russian, Spanish)**
Large-screen LCD display, EPS monitoring software with multilingual display, operation is simple and clear, which is help the operator working without language problem & easy to learn.
- **All Digitilization Control**
Using DSP and IGBT control switch assembly: which can improve system stabilization and machine efficiency.
- **Intelligent Parallel Warm Backup**
Without paralleling machine panel, only a communication wire is needed, multi-host machine communication wire cycle design, form closed cycle, once a wire break, which will not influence the multi-machines running paralleled.
- **Humanized Operation and Control Design**
Without procedural operation and control limit, simple operation, different from other brands EPS with strict operation procedure control.
- **A Unique Voltage Regulation**
Three independent single-phase inverter composed of three-phase inverter system, each phase voltage is regulated independently, can access 100% three-phase unbalanced load.
- **Intelligent detection and control the speed of cooling fan.**
Any faults of fan can be supervised on EPS panel or through RS232 interface, the speed of the fan could adjust automatically according to the load, prolong the lifespan of fan, reduce the noise.
- **Quick Switching of Static Switch without Disturbance**
32 bit DSP digital control technology, and current detecting way which reduce the switching time to 0.4ms.
- **History Record**
All the related materials and time of every fault will be recorded in EPS, so the user could know everything about the EPS, even when without power, all the materials recorded in UPS could not be cleared.
- **Remote Check and Test**
Through internate, we can check and test EPS remotely which assure your system running reliably every time.
- **Intelligent Communication Interface**
One RS232 cluster communication port, four RS485 cluster communication ports, two Rj45 cluster communication port and the standard communication interface form intelligent supervising system. And connect SNMP equipment. More than20 couples passive dry contacts, which can be chosen at your will.

DEP系列工业级EPS(DC216V/DC360V)

型号		DEP系列
输入	市电电压	AC187~242V/AC310~450V
	市电频率	50Hz±10%
	输入电流	最大输入电流为额定输入电流的1.2倍
	双路互投	可选装
	静态开关	可选装
充电器	桥式整流器	三相6脉冲可控整流
	电路结构及控制策略	直流输出电压闭环控制(PID),整流器输出电流,电池充电电流截止负反馈调节。
	额定输入电压(VAC)	380V/400V/415V-25%+25%,三相三线或三相四线
	输入频率	50/60Hz±10%
	充电电压	浮充电压41.0V,均充电压42.6V
电池	充电电流	根据电池容量可设定
		免维护密封电池
正常状态输出	输出电压	360V
	备用时间	30分钟(可按用户要求配置)
	输出频率	与市电一致
应急状态输出	效率	≥99%
	输出电压	单相220V±1%,三相380V±1%
	输出频率	50/60Hz±0.1Hz
	额定输出功率因数	0.8
	100%负载稳压率	(±1%)
	电压总谐波失真(额定负载)	<3%
	动态电压瞬变及恢复时间	0~5ms,动态电压瞬变≤±30%;5~20ms,动态电压瞬变降至≤±14%;20~100ms,动态电压瞬变降至≤±5%;(GB7260.3—5.3.1的一类动态性能为20~100ms,动态电压瞬变降至≤±10%GB7260.3—6.3.7)
	效率	95%(额定负载时)
	输出分路数	4路(可按用户要求扩充)
	输出分路特性	接触型,非接触型,消防联动型
过载特性	120%时输出正常;150%时≥30秒	
转换时间	由电网供电转为应急状态供电为0毫秒 由应急状态供电转为电网供电为0毫秒	
显示	LED+LCD	
运行环境温度	-25℃~+55℃	
相对湿度	0~90%	
海拔高度	≤2500米;2500~5000米时应选配系统通风装置或降额使用	
适应负载	各种照明负载或其它容性、感性电机负载	
噪音	电网有电时静音无噪音,应急供电时噪音小于60dB	
尺寸/重量	见尺寸/重量一览表	
门打开方式	主机柜:前门;电池柜:前后门	

尺寸/重量一览表

序号	型号	输出功率	主机尺寸(mm) 深*宽*高	电池柜数量 (每面深*宽*高=800*600*1800mm)	主机重量 (kg)	电池总重量 (kg)	防护等级
1	DEP10	10KW	800*600*1800	1	700	150	IP20,IP21, IP30,IP32, IP40,IP42 可选, 其他可订制
2	DEP15	15KW	800*600*1800	1	720	180	
3	DEP20	20KW	800*600*1800	1	750	240	
4	DEP30	30KW	800*600*1800	1	800	390	
5	DEP40	40KW	800*600*1800	1	830	390	
6	DEP50	50KW	800*600*1800	2	860	600	
7	DEP60	60KW	800*600*1800	2	900	660	
8	DEP80	80KW	800*600*1800	2	950	1080	
9	DEP100	100KW	800*1200*1800	2	1000	1320	
10	DEP120	120kW	800*1200*1800	2	1100	2100	
11	DEP160	160KW	800*1200*1800	2	1180	2340	
12	DEP200	200kW	800*1800*1800	3	1250	2440	
13	DEP250	250KW	800*1800*1800	4	1300	4200	
14	DEP300	300kW	800*2400*1800	6	1360	6300	
16	DEP350	350KW	800*2400*1800	6	1400	6300	
17	DEP400	400KW	800*2400*1800	6	1460	6300	
19	DEP450	450KW	800*2400*1800	6	1500	7020	
20	DEP500	500kW	800*2400*1800	8	1650	8400	
21	DEP600	600KW	800*3000*1800	8	1800	9360	
22	DEP800	800kW	800*3000*1800	10	1900	11700	
23	DEP1000	1000KW	800*3600*1800	14	2000	16380	

DEP Series Industrial EPS(DC216V/DC360V)

Type		DEP Series
Input	Mains voltage	AC187~242V/AC310~450V
	Main frequency	50Hz±10%
	Input current	The maximum input current is 1.2 times of the rated input current
	Double lines mutual	Optional install
	Static switch	Optional install
Recharger	Bridge rectifier	Three-phase 6-pulse controlled rectifier
	Circuit configuration and	DC output voltage closed-loop control (PID), Rectifier output current, Battery charge current cutoff negative feedback
	(VAC) Rated input voltage	380V/400V/415V-25%+25%, Three-phase three-wire or three-phase four-wire
	Input frequency	50/60Hz±10%
	Charging voltage	Float voltage 41.0V, charging pressure 42.6V
Battery	Charging current	Setting according to the battery capacity
		Maintenance-free sealed battery
Normal state output	Battery voltage	360V
	Standby time	30 minutes (Configured according to users' requirements)
	Output voltage	Consistent with the mains
Emergency state output	Output frequency	Consistent with the mains
	Efficiency	≥99%
	Output voltage	Single phase 220V±1%, three phase 380V±1%
	Output frequency	50/60Hz±0.1Hz
	Rated output power factor	0.8
	100% load regulation	(±1%)
	Voltage total harmonic	<3%
	Dynamic voltage transients and recovery time	0~5ms, Dynamic voltage transients ≤±30%; 5~20ms, Dynamic voltage transients down to ≤±14%; 20~100ms, Dynamic voltage transients down to ≤±5%; (GB7260.3—5.3.1A class of dynamic performance is 20~100ms, Dynamic voltage transients down to ≤±10% GB7260.3—6.3.7)
	Efficiency	95% (Rated load)
	Quantity of output branch	Extension according to the users' request
Output branch characteristics	Persistent, non-persistent, fire linkage type	
Overload characteristics	Normal output when 120%, when 150% ≥30 seconds	
Transfer time	Transfer from the mains supply into a state of emergency power supply is 0 milliseconds Transfer from the state of emergency power supply into the mains supply is 0 milliseconds	
Display	LED+LCD	
Operating environment temperature	-25℃~+55℃	
Relative humidity	0~90%	
Altitude	≤2500m; 2500~5000 meters should be equipped with Ventilation system or derating use	
Adapt load	Varieties of lighting load or other capacitive, inductive motor load	
Noise	60dB Silent electric power grid noise, emergency power supply noise < 60dB	
Size/weight	Refer to size/weight list	
Way of opening the door	Main cabinet: the front door; battery cabinet: front and back doors	

Size/Weight List

No.	Type	Output power	UPS cabinet size (mm) depth*width*height	battery cabinet quantity (every depth*width*height=800*600*1800mm)	UPS weight (kg)	battery total weight (kg)	防护等级
1	DEP10	10KW	800*600*1800	Battery included in the cabinet	700	150	IP20,IP21, IP30,IP32, IP40,IP42 optional, others can be ordered
2	DEP15	15KW	800*600*1800	Battery included in the cabinet	720	180	
3	DEP20	20KW	800*600*1800	Battery included in the cabinet	750	240	
4	DEP30	30KW	800*600*1800	1	800	390	
5	DEP40	40KW	800*600*1800	1	830	390	
6	DEP50	50KW	800*600*1800	2	860	600	
7	DEP60	60KW	800*600*1800	2	900	660	
8	DEP80	80KW	800*600*1800	2	950	1080	
9	DEP100	100KW	800*1200*1800	2	1000	1320	
10	DEP120	120kW	800*1200*1800	2	1100	2100	
11	DEP160	160KW	800*1200*1800	2	1180	2340	
12	DEP200	200KW	800*1800*1800	3	1250	2440	
13	DEP250	250KW	800*1800*1800	4	1300	4200	
14	DEP300	300KW	800*2400*1800	6	1360	6300	
16	DEP350	350KW	800*2400*1800	6	1400	6300	
17	DEP400	400KW	800*2400*1800	6	1460	6300	
19	DEP450	450KW	800*2400*1800	6	1500	7020	
20	DEP500	500KW	800*2400*1800	8	1650	8400	
21	DEP600	600KW	800*3000*1800	8	1800	9360	
22	DEP800	800KW	800*3000*1800	10	1900	11700	
23	DEP1000	1000KW	800*3600*1800	14	2000	16380	

DEP系列EPS系统设计特色

- 真正的工业级标准
- 多台无限并联冗余系统
- 单相输出EPS容量，可高达360KVA，三相输出的EPS容量，可达2.5MVA
- 全系列单进单出、三进单出、三进三出(可选择)
- 可同时接受多路不同相位、不同频率的交、直流电源输入

DEP系列EPS系统并联方案

并联冗余系统可以多台无限并联，无须并机柜，每台只需一根通讯线，多台主机即可实现并联冗余系统；多台并联冗余系统的通讯线连接成环形，同时通过主机输出连线进行载波通讯，即使一根或两根通讯线意外断开，也不影响多机并联运行。

可实现以下并联方案

- 同容量EPS可实现直接并联；
- 不同容量EPS可实现直接并联；
- 同容量不同品牌EPS可实现直接并联；
- 不同容量不同品牌EPS可实现直接并联；

并联系统选件

- 维修旁路柜
 - STS-静态切换开关
- 使用STS可以使两路电源无扰动切换;在两路电源相位同步的情况下,可实现0ms切换时间。

DEP Series EPS System Design Features

- The real industry standard
- Multiple infinite parallel redundant system
- Single-phase output EPS capacity, up to 360KVA, three-phase output of EPS capacity, up to 2.5MVA
- Single in single out the full range, three single, three into three(optional)
- Can also accept multiple different phases, different frequencies of AC and DC power input

DEP Series EPS System Parallel Operation Solutions

Parallel redundant systems can be infinite parallel more than one without cabinets, each just need one communication line, many cabinets can achieve parallel redundant system, multiple parallel redundant system communication lines connected in a ring, meanwhile have the carrier communication through the output connection, even one communication line or two broke down, will not affect the multi-machine parallel operation.

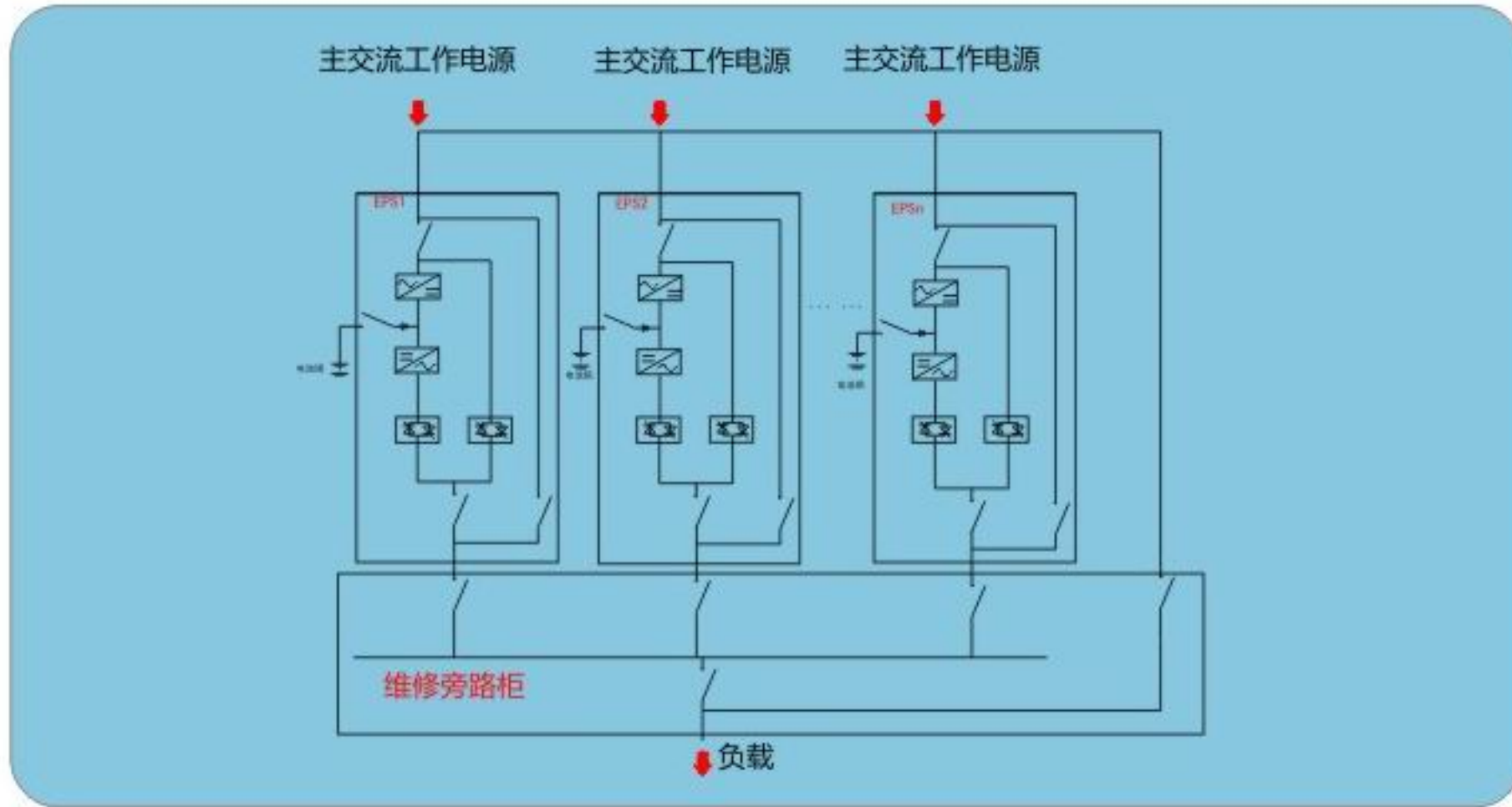
It Could Realize Below Parallel Operation Solutions

- Same capacity EPS can connect parallel directly;
- Different capacity EPS can connect parallel directly;
- Same capacity, different brand EPS can connect parallel directly;
- Different capacity, different brand EPS can connect parallel directly;

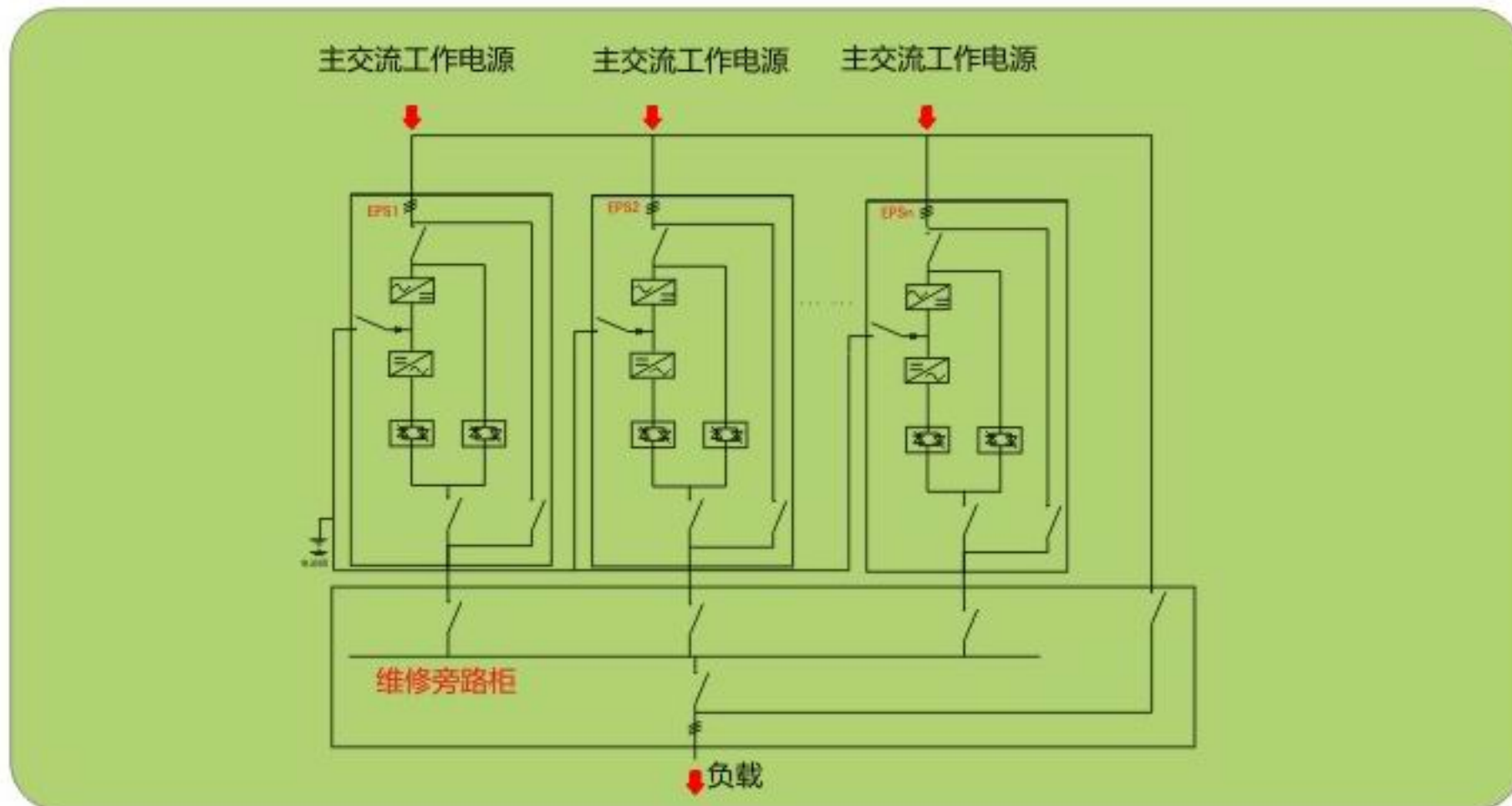
Parallel Operation System Options

- Bypass Cabinet For Maintenance
 - Static Transfer Switch
- Using STS can be achieved between the two-way power switch without disturbance; 0ms switching time can be realized in the phase synchronization of two ways power case.

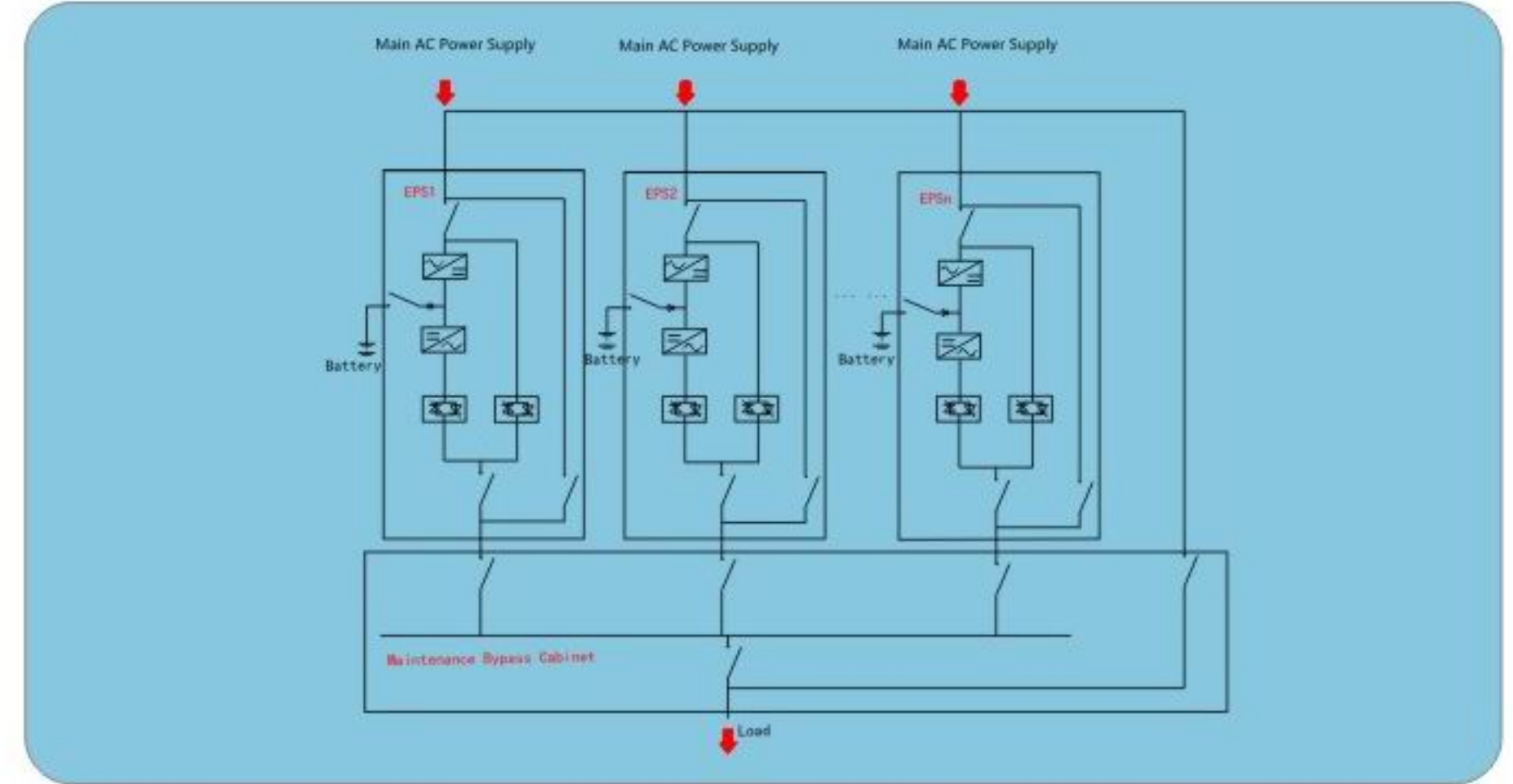
1. 多台DEP系列工业级EPS并机各配置独立的电池组



2. 多台DEP系列工业级EPS并机配置共用电池组



1. Multiple DEP series Industrial EPS Parallel Respective Configuration Dependent Battery



2. Multiple DEP Series Industrial EPS Parallel Configuration Share Of Battery

