

LDC



工业级智能不间断电源系统

Industrial-grade Intelligent UPS System

— NMP系列(5KVA~200KVA) —

Qingdao LDC Technology Corp.,

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★★ 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.



NMP智慧型不间断电源系统

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、NMP系列工业级模块化智慧型UPS

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系列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。

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**

NMP Intelligent Uninterruptible 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. NMP 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.

艾迪森LDC 智能型不间断电源系统

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

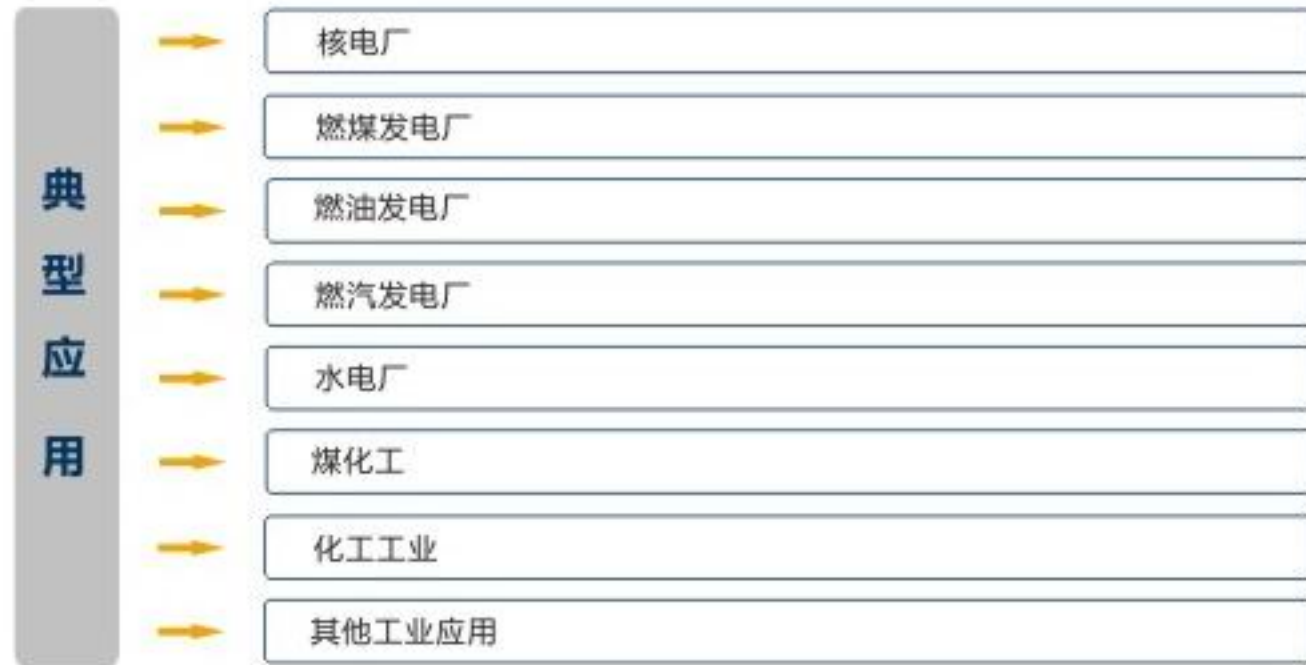
The fourth part: Circuit breakers, contactors, inductors, transformers

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;

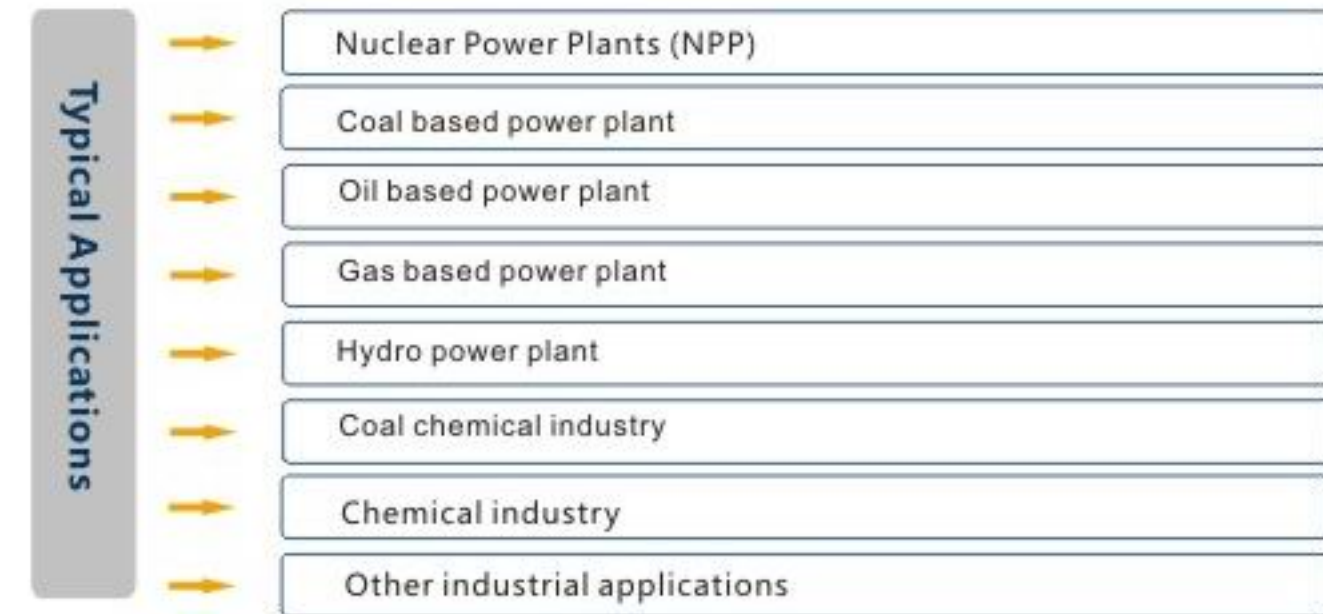
The key parameter detection power of the device itself

- 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;

NMP系列工业级模块化智慧型UPS，针对工业系统电网特点，专为大型发电厂设计，主要应用于分布式供电的生产线现场以及集中式供电的DCS控制系统、通讯系统、监控系统、网络管理中心等需要提供高可靠的不间断供电的重要设备及场合。



NMP series of industrial modularization intelligent UPS, according to the characteristics of the power network of power plant, designed for large industrial systems, mainly used in distributed power production line and centralized power supply DCS control system, communication system, monitoring system, network management center is needed to provide high reliable uninterrupted power supply for the important equipment and occasion.



UPS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，实现了无限合并冗余运行；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。

该系列产品仅为三进单出机型。

单机系统容量最大可到200KVA

单整流模块容量：10KVA、15KVA、20KVA、30KVA、40KVA、50KVA、60KVA、80KVA、100KVA。

单逆变模块容量：10KVA、15KVA、20KVA、30KVA、40KVA、50KVA。

各种不同容量UPS的模块配置如下：

UPS容量	整流模块	逆变模块
10K~50KVA	1*10K~50K	1*10K~50K
60KVA	1*60K	2*30KVA
80KVA	1*80K	2*40KVA
100KVA	1*100K	2*50KVA
120KVA	2*60K	3*40KVA
150KVA	3*50K	3*50KVA
200KVA	2*100K	4*50KVA
250KVA	3*100K	5*50KVA
300KVA	3*100K	6*50KVA
...

UPS 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.

The series is only three phase output models.

The biggest single system capacity is up to 200KVA

Single rectifier module capacity : 10KVA、15KVA、20KVA、30KVA、40KVA、50KVA、60KVA、80KVA、100KVA.

single inverter module capacity : 10KVA、15KVA、20KVA、30KVA、40KVA、50KVA.

Module configuration of various capacity UPS as follows:

UPS Capacity	Rectifier Module	Inverter Module
10K~50KVA	1*10K~50K	1*10K~50K
60KVA	1*60K	2*30KVA
80KVA	1*80K	2*40KVA
100KVA	1*100K	2*50KVA
120KVA	2*60K	3*40KVA
150KVA	3*50K	3*50KVA
200KVA	2*100K	4*50KVA
250KVA	3*100K	5*50KVA
300KVA	3*100K	6*50KVA
...

UPS功率模块描述

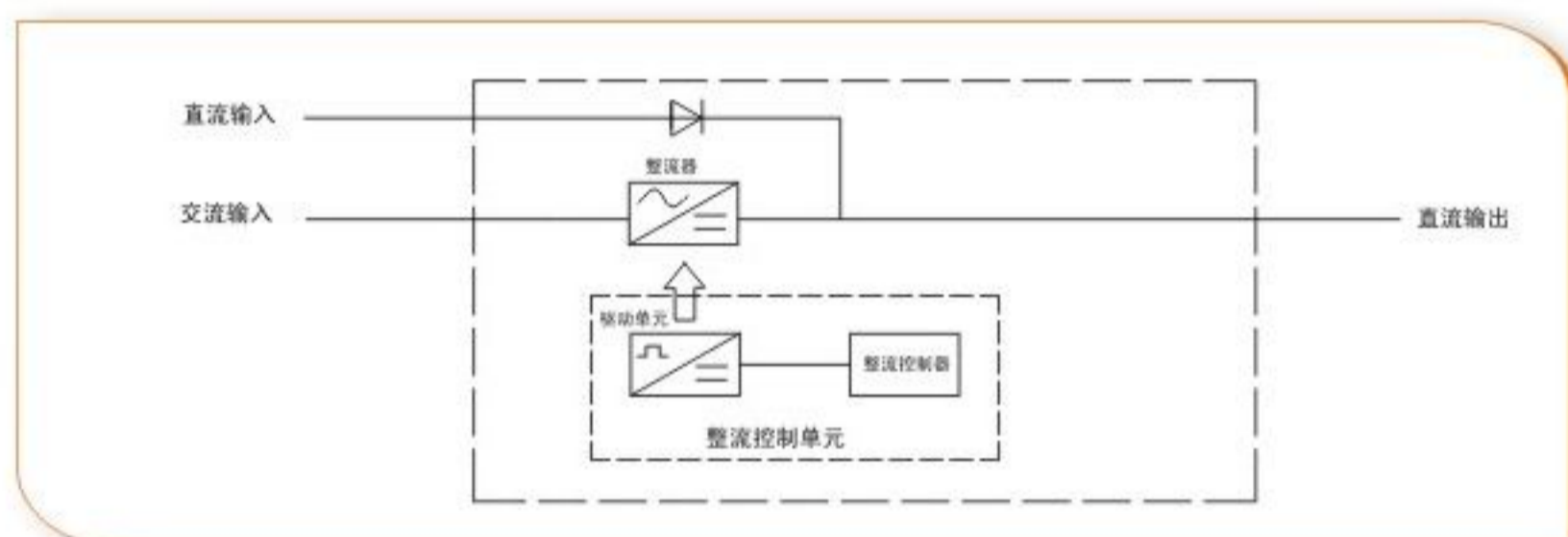
功率模块分为两种:整流模块、逆变模块

NMP系列整流模块

NMP系列整流模块仅为三进单出,容量为:10KVA、15KVA、20KVA、30KVA、40KVA、50KVA、60KVA、80KVA、100KVA。
模块包括:整流单元、控制单元。



模块典型单线图

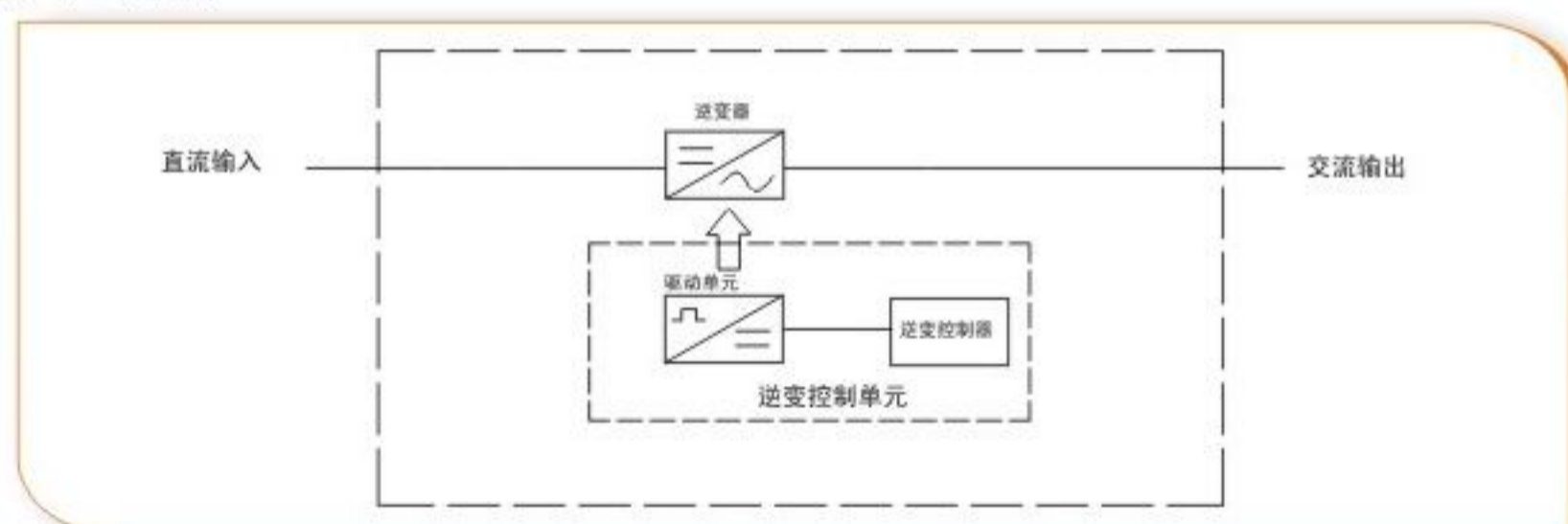


NMP系列逆变模块

NMP系列逆变模块仅为三进单出,容量为:10KVA、15KVA、20KVA、30KVA、40KVA、50KVA。
模块包括:逆变器、控制单元。



模块典型单线图



UPS Module Functional Description

There are two types consist of power module: rectifier module, inverter module

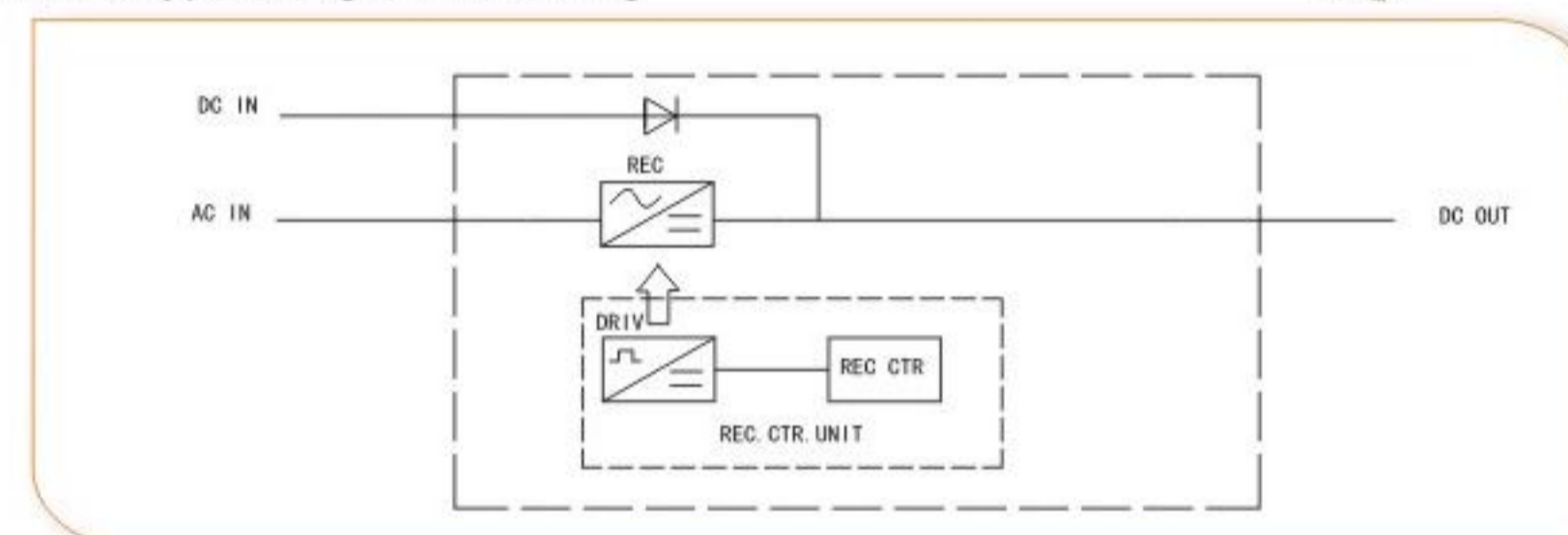
NMP series rectifier module

NMP Series rectifier module only Three-input single-output , capacity:10KVA、15KVA、20KVA、30KVA、40KVA、50KVA、60KVA、80KVA、100KVA,

Modules include: rectifier, the control unit



Module Typical single-line drawing



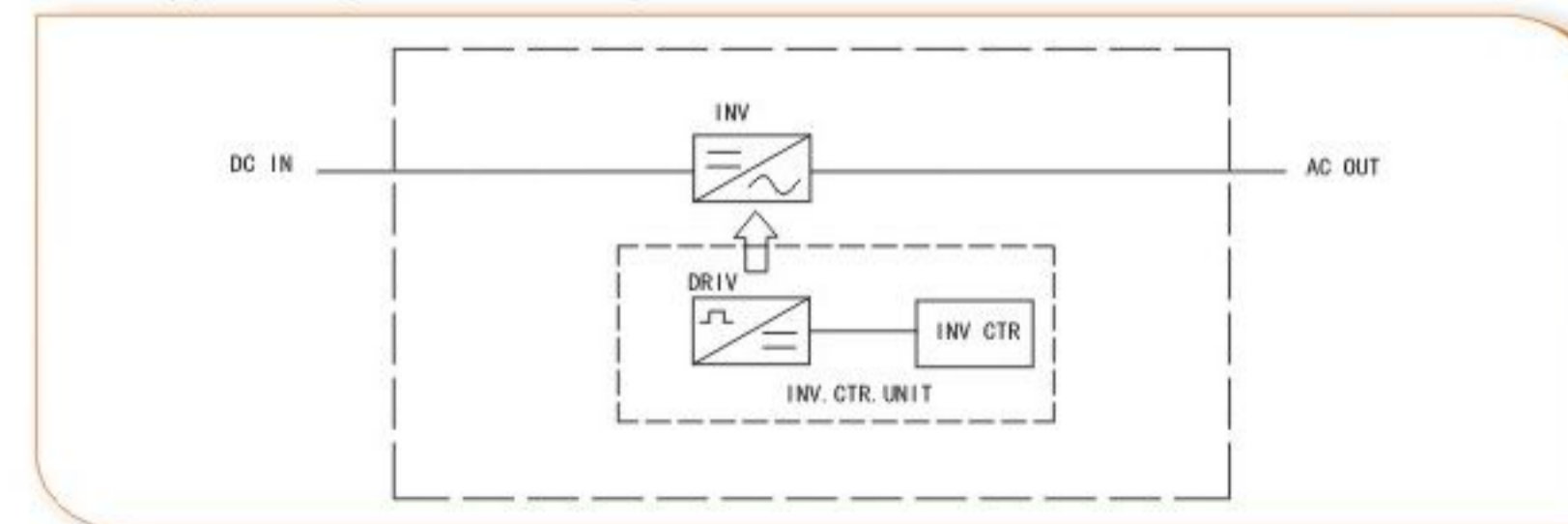
NMP series inverter module

NMP Series inverter module only Three-input single-output , capacity:10KVA、15KVA、20KVA、30KVA、40KVA、50KVA,

Modules include: inverter, the control unit

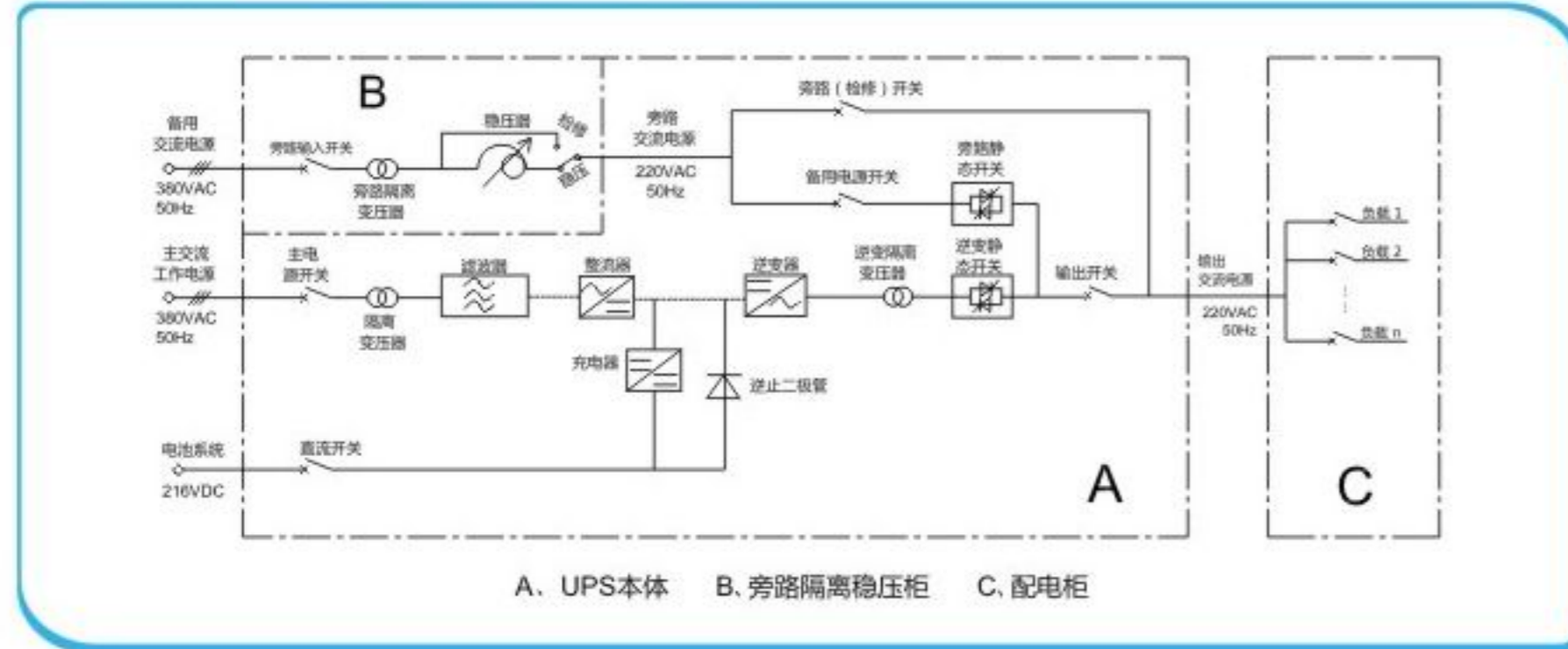


Module Typical single-line drawing



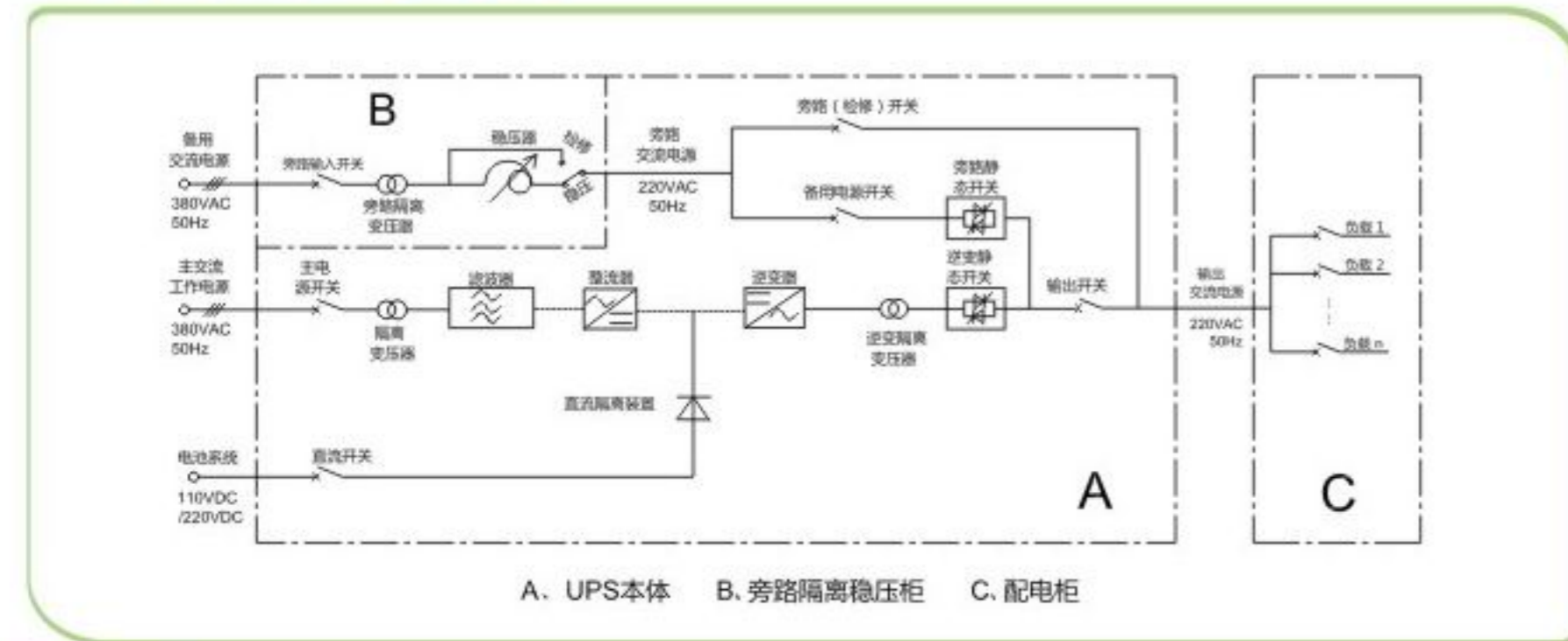
原理框图

NMP系统原理框图(接电池组,带充电功能)



A. UPS本体 B. 旁路隔离稳压柜 C. 配电柜

NMP系统原理框图(接直流屏)



A. UPS本体 B. 旁路隔离稳压柜 C. 配电柜

系统组成

1. UPS柜

包括: 输入隔离变压器、输出隔离变压器、整流器、逆变器、充电器(可选)、静态旁路开关、手动维修开关、直流隔离二极管、控制单元、液晶显示单元、通讯接口等

2. 旁路隔离稳压柜

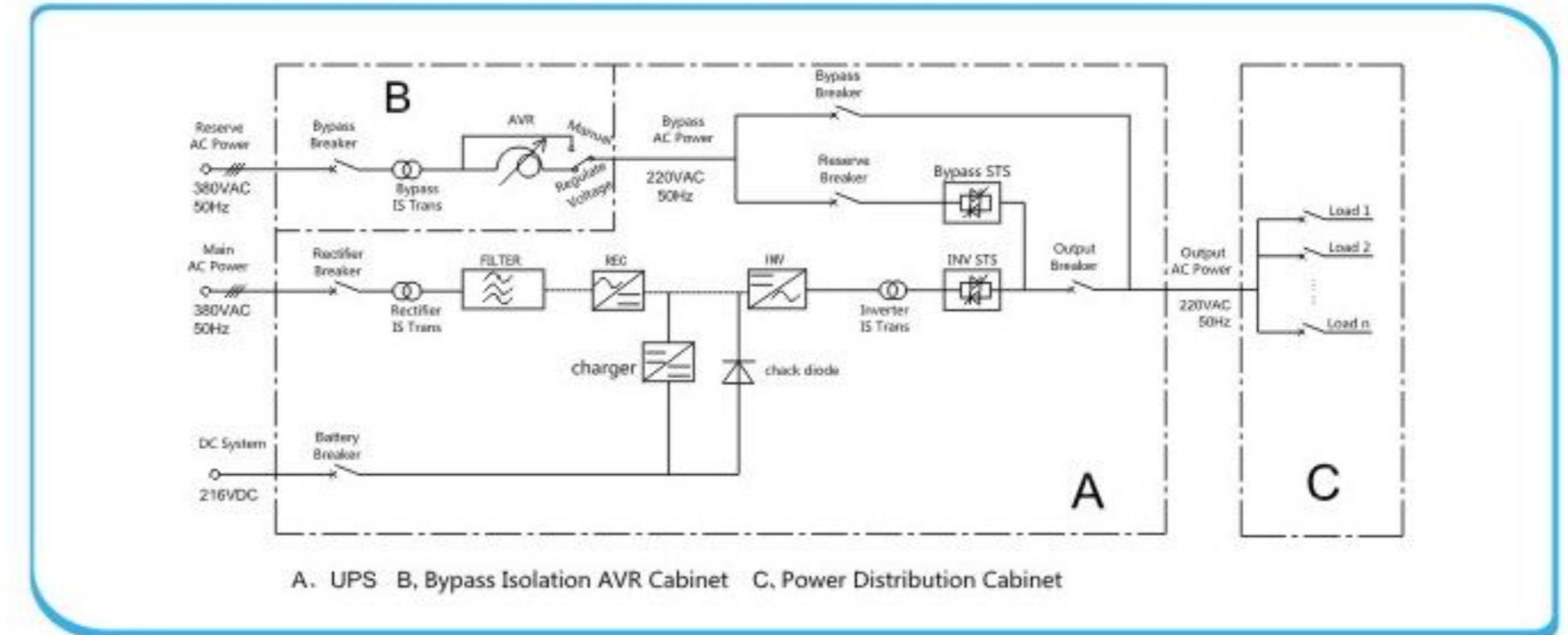
包括: 隔离变压器、补偿变压器、电子式调压器、控制单元、液晶显示单元、通讯接口等

3. 配电柜

包括: 进口品牌断路器、控制单元、液晶显示单元、通讯接口等

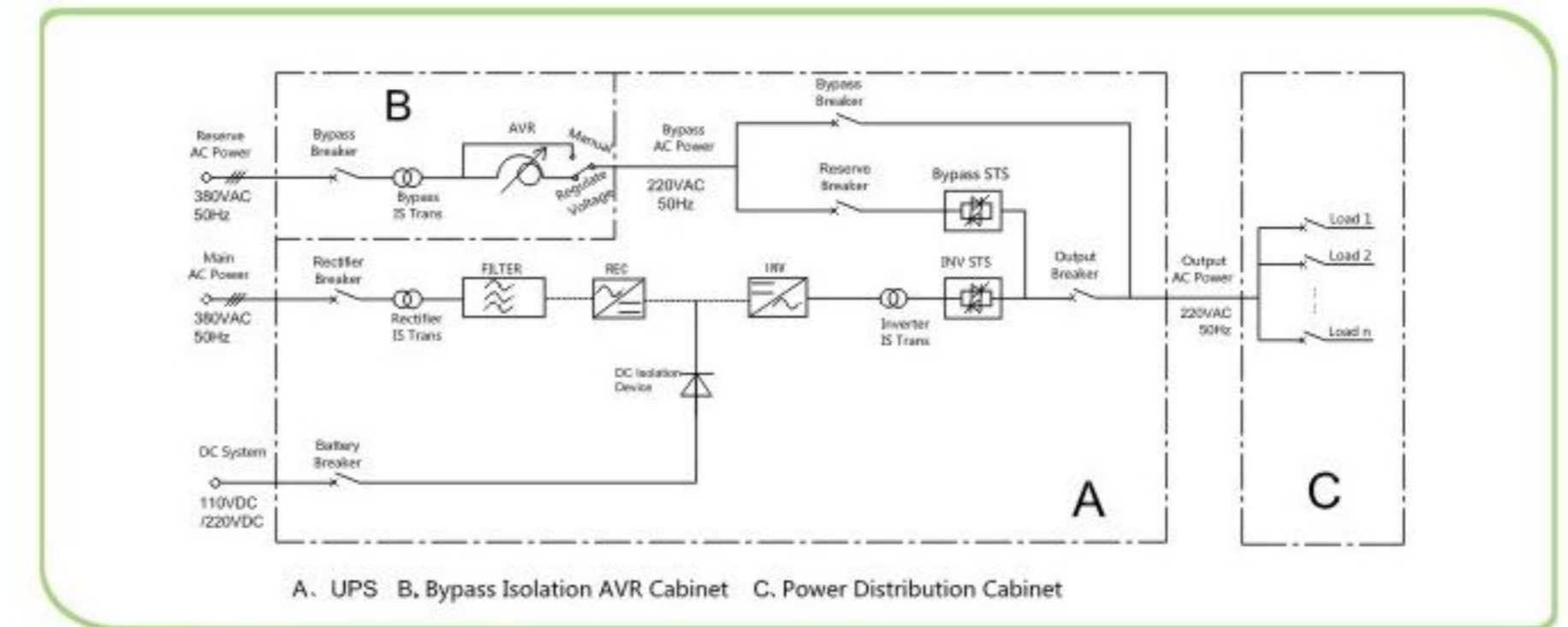
Single Line Diagram

NMP System Principle Diagram (battery, charging function)



A. UPS B. Bypass Isolation AVR Cabinet C. Power Distribution Cabinet

NMP System Principle Diagram (connect to DC panel)



A. UPS B. Bypass Isolation AVR Cabinet C. Power Distribution Cabinet

System Components

1. UPS Cabinet

Including: Input Isolation Transformer, Output Isolation Transformer, Rectifier, Inverter, Charger(Optional), Static Bypass Switch and Manual Maintenance Switch, DC Isolation diode, Control Unit, LCD Unit, Communication Interface etc.

2. Bypass Cabinet

Including: Isolation Transformer, Compensation Transformer, Electronic Regulator, Control Unit, LCD Unit and Communication Interface etc.

3. Power Distribution Cabinet

Including: Imported Brands Circuit Breakers, Control Unit, LCD Unit, Communication Interface etc.

系统布置图 UPS Arrangement Diagram



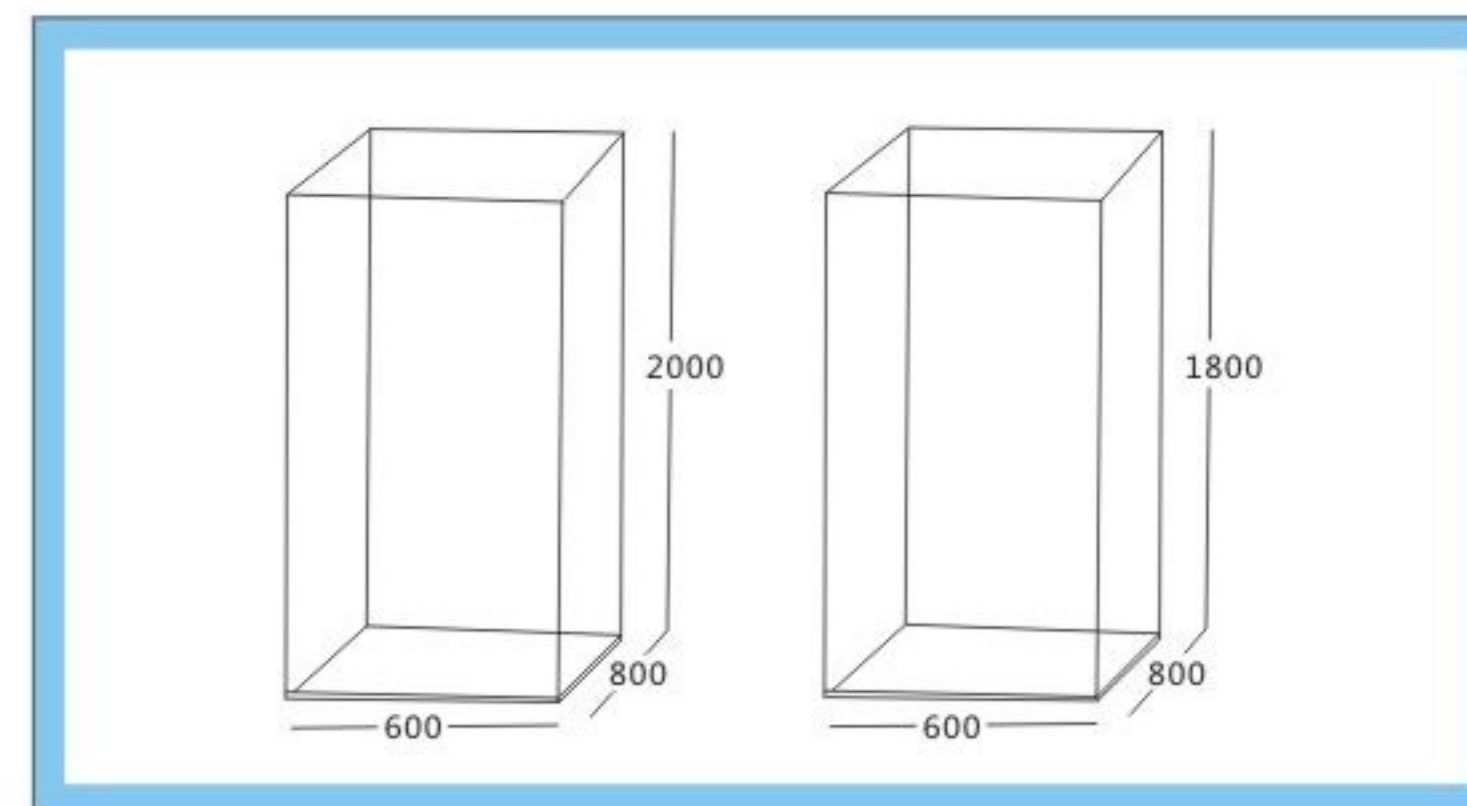
电源解决方案的特色

1. 无与伦比的靓丽组合：
N+1冗余的UPS主机、使用IGBT电子式隔离稳压柜、使用液晶显示的智能化配电柜。
2. 赏心悦目的一体化外观设计：
UPS柜、旁路、配电全部采用统一的结构设计、统一的外观色调、统一的塑料面板、统一的液晶显示面板。
3. 智能化人机界面系统：
UPS、旁路、配电通过主控制器将输出接口统一成一个人机界面系统，包括：RS485、干接点、有源接点。

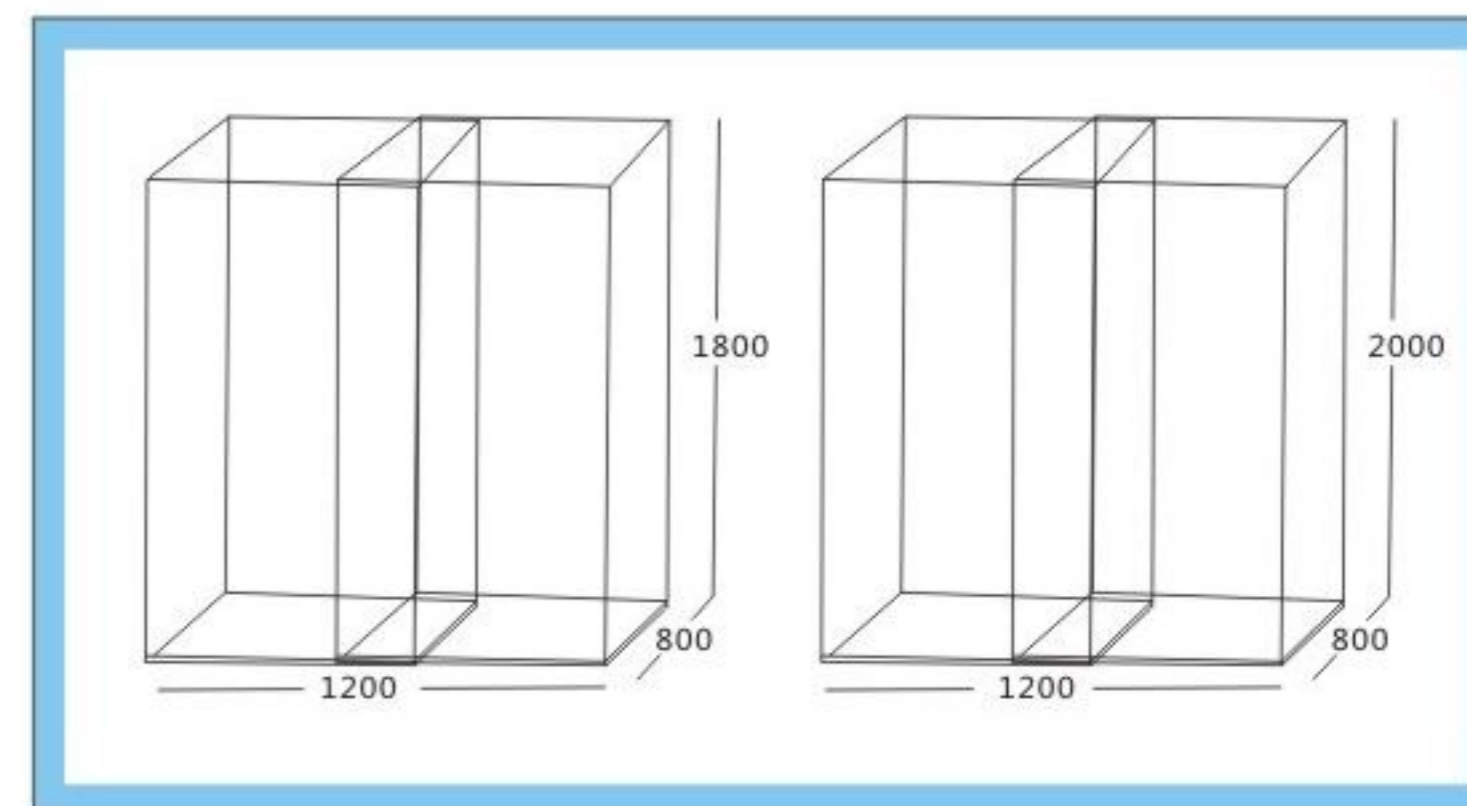
Complete Solutions Features

1. Incomparable and Excellent Combination:
N + 1 redundant UPS Host, IGBT Electronic Isolation Regulator Cabinet, LCD Intelligent Power Distribution Cabinet.
2. Pleasing Integrated Outline Design:
UPS host, bypass cabinet, power distribution cabinet all adopt the unified structure design, unified appearance of color, unified plastic panel, unified LCD panel.
3. Intelligent Centralized External Output Interface:
UPS host, bypass cabinet, power distribution cabinet through main controller unified external output interface, including: one RS484, dry contacts, source contacts.

柜体大小 体积 (mm) Demension



NMP005-NMP050



NMP060-NMP080

UPS系统特点

● 全内置设计

输入、输出隔离变压器、直流隔离二极管、手动、自动旁路全部设计在UPS机内,无须外加货另外配置。

● 全冗余设计

整流器、逆变器、静态旁路等主要部件,以及其控制电源、主控板之微处理、散热风机全部采用双套冗余运行,任何单点故障不会影响整机运行。

● 全中文化显示 (可多语言显示)

大屏幕LCD液晶显示、UPS监控软件全部中文化显示,操作简单明了。使管理人员操作无语言障碍,一学就会。

● 全模块化设计

“即插即用”模块化设计,维护维修容易,快速、可大幅度的缩短保养时间。

● 全数字化加硬件兼容控制

使用32位DSP及IGBT等控制及开关组件:有效增加系统稳定度及提高效率。

● 人性化的操作设计

无程序式的操控限制,操作简单,不同于其他品牌的UPS有严格的操作程序限制。

● 超宽输入电压

在满载的情况下,输入电压非常宽-25%~+35%,因此,在大多数UPS要靠电池放电才能保证输出电压稳定的情况下,它们还能够按正常的方式运行。

● 智能监控及散热风扇转速控制

任何风扇的故障都可以在UPS面板或干接点接口监控到,风扇转速能依负载状况自动调整,延长风扇的寿命,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。



UPS System Features

● All Inside Design

Input and output isolation transformers, direct current isolation diode, manual and automatic bypass all designed inside UPS, and no other add or other configuration is needed.

● All Redundancy

Rectifier, inverter, static bypass as main parts, and control power supply, microprocessor of main control board and cooling fan are designed in full set redundancy, any single point failure will not influence the overall unit running.

● Chinese Display (Multi-language is available)

Big screen LCD display, all Chinese & other language display of UPS supervising software is simple and clear operation, which help the operator working without language problem & easy to learn.

● All Modular Design

Plug and play modular design, easy and fast maintainance. So the plug and play design can reduce the maintenance time greatly.

● All Digitalization and Hardware Compatible Control

32 bit DSP and IGBT control and switch assembly: which can improve system stabilization and improve efficiency.

● Humanized Operation Design

Without procedural operation and control limit, simple operation, different from other brands UPS with strict operation procedure control.

● Super Wide Range of Input Voltage

Upon on full load, input voltage is very wide, from -25% to +35%. So, when most UPS need battery discharge which can assure the voltage stabilization, they still operate normally.

● Quick Switching of Static Switch

Switching without disturbance, 32 bit DSP digitalization control technology and current detecting ways, which reduce the switching time to zero.

NMP系列电力专用UPS技术参数

NMP series of electric power UPS technical parameters

型号 (容量KVA) Model (Capacity KVA)	NMP (5 10 15 20 30 40 50)	NMP (60 80 100 120)
UPS类型 UPS Type	双隔离、双变换在线式 Double Isolation and Switching Online	
效率 Efficiency	>93%	
UPS环境温度 UPS Environment Temperature	-10~40°C	
UPS储存温度 Storage Temperature	-20~+70°C	
相对湿度 Humidity	<95% (非凝露 Non-condensing)	
高度 Altitude	<1500m (海平面上 Above sea level)	
高度>1500m时功率降低 Decay of Power when>1500	7%/km	
通风方式 Ventilation Type	1+1冗余风机, 强制风冷, 上下送风 1+1 redundancy fan, forced air cooling, under-floor air-distribution	
噪音 Noise	<60dBA	
输入输出电缆连接 Input Output Cable Connection	底部或顶部 Bottom or Top	
通讯接口 Communication Interface	RS232(1个)/RS485(1个)/干接点 Dry Contact(1组), SNMP可选Optional	
规范 Standard	CE、EN50091-1,2	符合 Conform
	FCC CLASS A	符合 Conform
保护电路 Protection of Electric Circuit	短路保护 Short Circuit Protection	整流器/备用电源/旁路开关 Rectifier/Reserve Power/Bypass Switch
	雷击保护 Lightning Stroke Protection	MOV
	EMC滤波 EMC Filtering	输入&输出 Input & Output
	隔离 Isolation	输入/输出全隔离 Input/Output

整流器 Rectifier

桥式整流器 Bridge Rectifier	三相6脉冲整流 3 phase 6 pulse rectifier	三相12脉冲整流 3 phase 12 pulse rectifier
额定输入电压(VAC) Input voltage rated (VAC)	380V-25%+30%, 三相三线或三相四线 3&3W or 3&4W	
输入频率 Input Frequency	50/60Hz±10%	
输入功率因数 Input Power Factor	>0.75	>0.85
DC输出电压 DC Output Voltage	110V/220V	
DC输出电压精度(负载0~100%变化) DC Output Voltage Accuracy (Load 0~100%)	±1%	
效率 Efficiency	>0.85	>0.9

逆变器 Inverter

类型 Type	DSP控制的IGBT桥式逆变器 IGBT DSP Bridge Type Inverter	
直流输入范围 DC Input Range	110V/220VDC±25%	220VDC±25%
额定输出电压 Input voltage rated	110V/220V/230VAC, 2P2W或(or) 120V/240VAC, 2P2W	
输出功率因数 Output Power Factor	0.8	
输出频率 Output Frequency	50/60Hz±0.1%	
输出电压稳定性 Output Voltage Stability	静态 Static State	±1%
	动态(0~100%~0) Dynamic	±5%
	输出电压恢复时间 Output Voltage Recovery Time	阶梯负载后, 10毫秒内恢复至±2% After ladder loading, recovery to +/-2% within 10ms
过载能力 Overload Capacity	125%为10min, 150%为1min	
短路保护 Short circuit protection	100ms 短路保护, 限流于3倍额定电流 Shortcircuit protection, current limiting 3times rated current 100ms	
输出波形 Output Waveform	正弦波 Sine Wave	
输出波形失真 Output Waveform Distortion	线性负载 Linear Load	<2%
	非线性负载(峰值因数3:1) Nonlinear Load (Peak Factor 3:1)	<5%
输出电流峰值因数 Output current peak factor	3:1	
效率 Efficiency	>93.5%	
直流冷启动 DC Cold Boot	可以 Yes	

旁路 Bypass

自动静态开关 Automatic Static Switch	晶闸管SCR Silicon controlled rectifier SCR	
额定电压 Rated Voltage	110V/220V/230V±20%(可设定Settable)或120V/240V±20%(可设定Settable)	
额定频率 Rated Frequency	50/60Hz±5%(可设定Settable)	
静态旁路转换时间 Static Bypass Transfer Time	<0.4ms	
旁路运行的条件 Conditions	测试逆变器, 逆变器故障, 逆变器输入电压异常, 逆变器输出电压异常 Test Inverter, inverter fault, inverter input voltage excess, inverter output voltage excess	
过载能力 Overload Capacity	100%~110%	长期运行 Long-term running
	>110%~125%	10min
	>125%~150%	1min
	>150%	100mS

其他参数 Other parameters

型号 (容量KVA) Model (Capacity KVA)	NMP (5 10 15 20 30 40 50)	NMP (60 80 100 120)
防护等级 Protection Degree	IP20, IP21, IP30, IP32, IP40, IP42可选, 其他可定制 Optional, other could be custom.	
柜体尺寸 (mm) Dimension (m)	W	600
	D	800
	H	1800(IP20、IP30、IP40)
	H	1800(IP21、IP32、IP42)
重量 (kg) Weight	700~1000	1100~2000

UPS系统设计特色

- 真正的工业级标准
- 多机无限并联冗余系统
- 单相输出UPS容量，可高达200KVA
- 全系列三进单出设计（三相输入，单相输出）
- 可同时接受多路不同相位、不同频率的交、直流电源输入

UPS系统并联方案

并联冗余系统采用三组交流静态开关设计，彻底解决了系统中单点故障问题以及联锁失效问题。并联冗余系统可以多机无限并联，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UPS可实现直接并联；
- 不同容量UPS可实现直接并联；
- 同容量不同品牌UPS可实现直接并联；
- 不同容量不同品牌UPS可实现直接并联；

并联系统选件

- 维修旁路柜
- SCT同步控制器
允许非并联的两台或多台UPS在供电失效情况下仍然同步。SCT能使LDC UPS一个独立的即使不同容量的UPS同步。
- PSPD-电源系统并接装置
通过一个电源系统并接装置可将两台UPS构成并联，Slave UPS始终同Master UPS系统保持同步。如果其中一台UPS出现故障，PSPD通过额外的旁路系统自动连接另一台UPS。即使是不同品牌的UPS也可以实现。
- 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。

UPS System Design Features

- According to industry standard design and manufacturing
- With TISO (three phase input and single phase output)
- Multiple infinite parallel redundant system
- Can also accept multiple different phases, different frequencies of AC and DC power input
- Single-phase output UPS capacity, up to 200KVA

UPS System Parallel Operation Solutions

Parallel redundant system uses the three phase current static switch design, completely solves the single point breakdown problem in the system, and interlocking failure problem. 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.

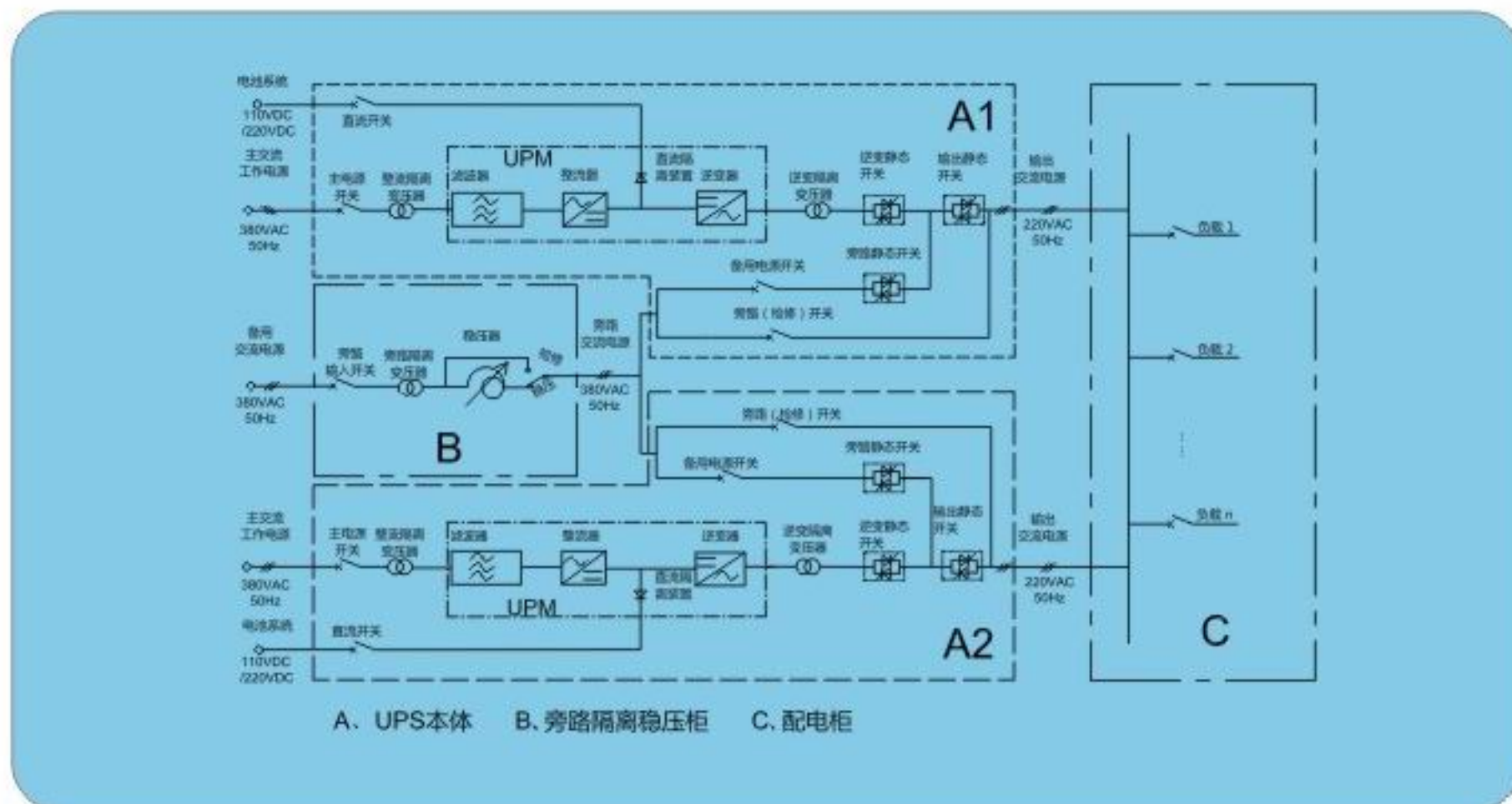
It Could Realize Below Parallel Operation Solutions

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

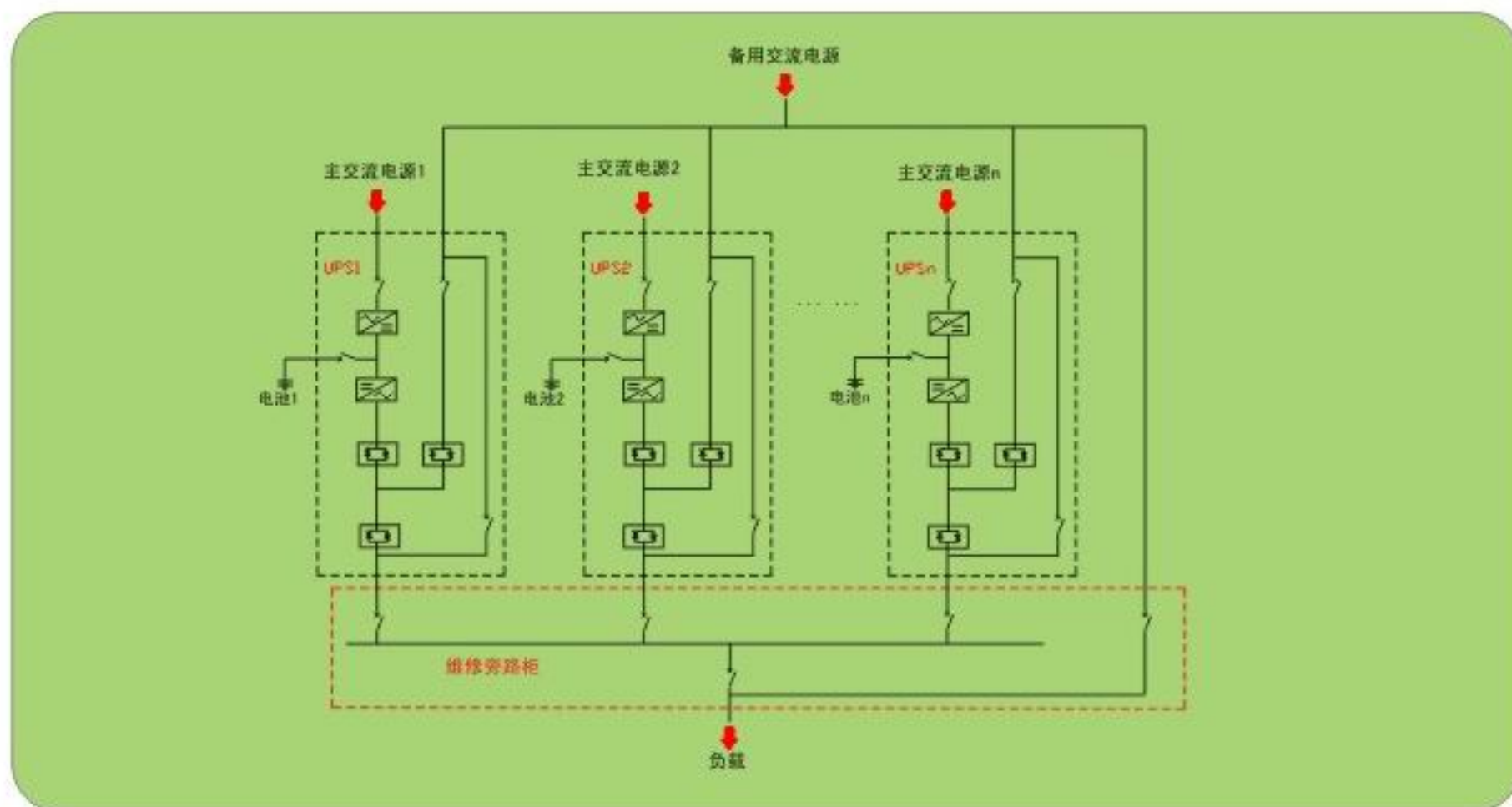
Parallel Operation System Options

- Bypass Cabinet For Maintenance
- SCT Synchronize Controller
Allow non-parallel two sets or multi-sets UPS still running synchronously on power supply ineffective. SCT could make a independent but different capacity UPS running synchronous.
- PSPD-Power System Parallel Device
The output of two set of ups could be paralleled by use a PSPD, Slave UPS with Master UPS always keep the output phase synchronization. If one UPS fails, the PSPD through additional bypass system automatically connected to another UPS and realized uninterrupted power supply. Even different brands of UPS can also be achieved as described above.
- 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.

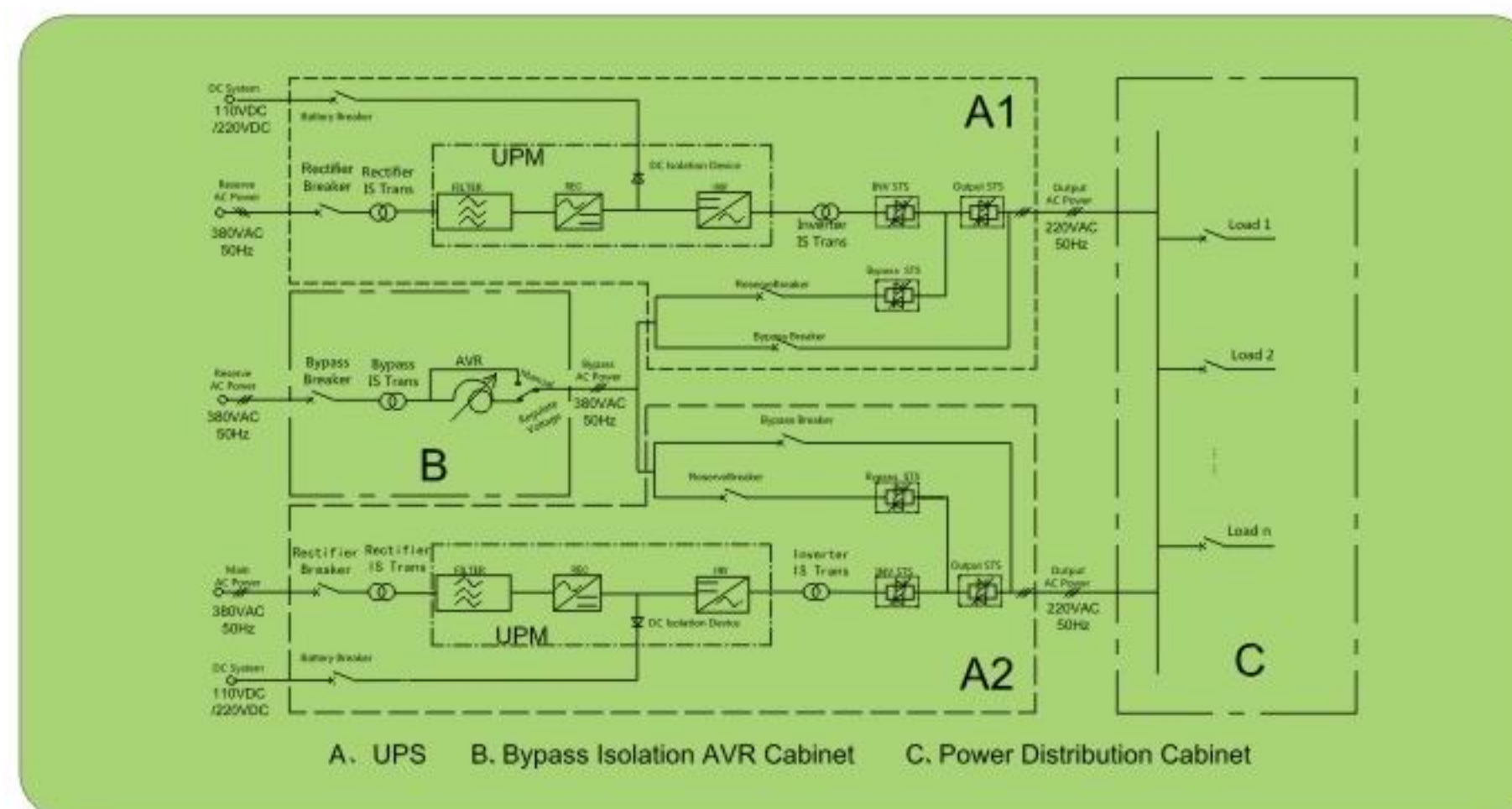
1. 并联UPS标准配置单线图



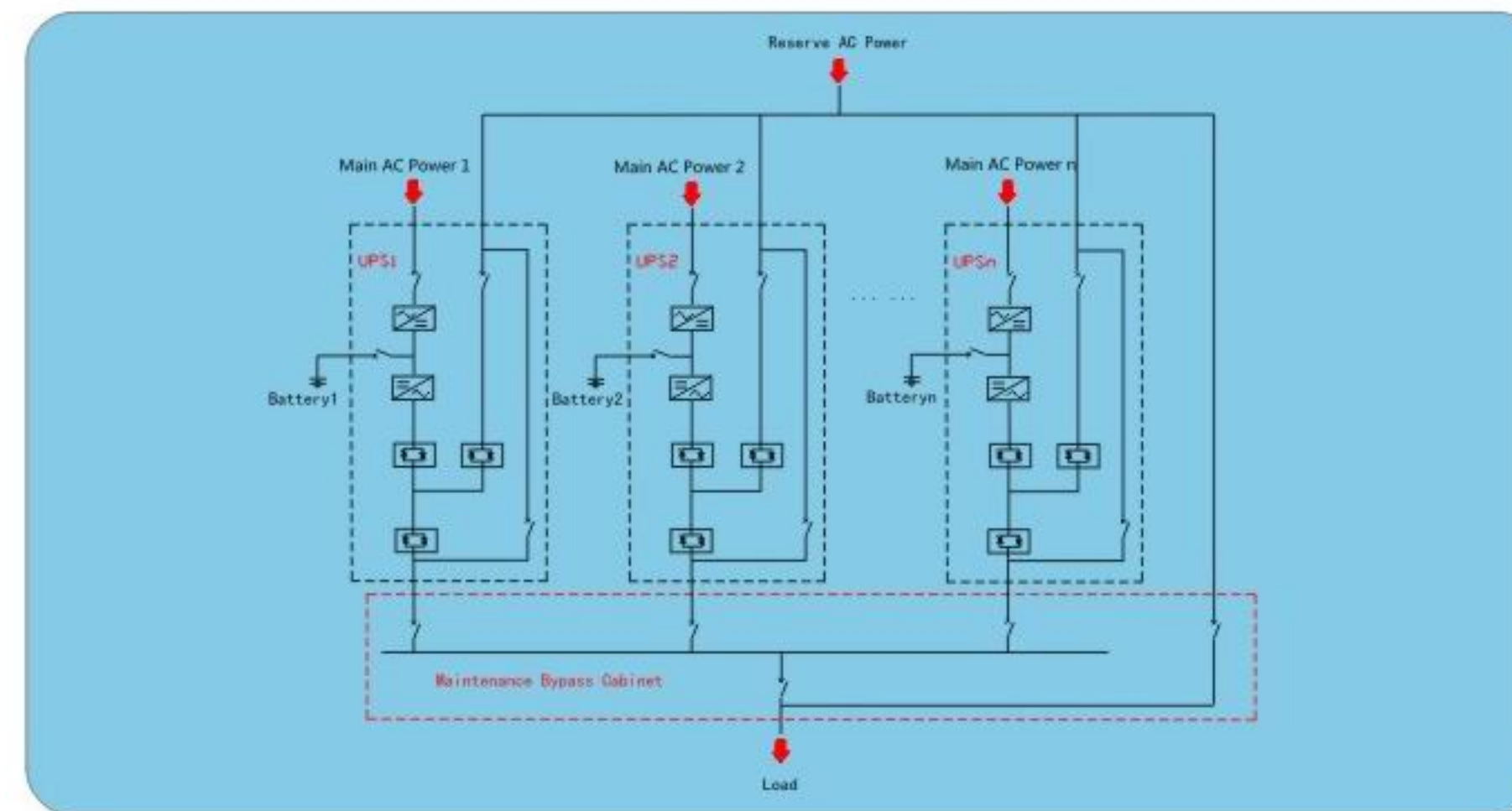
2. 多台UPS并机各配置独立的电池组



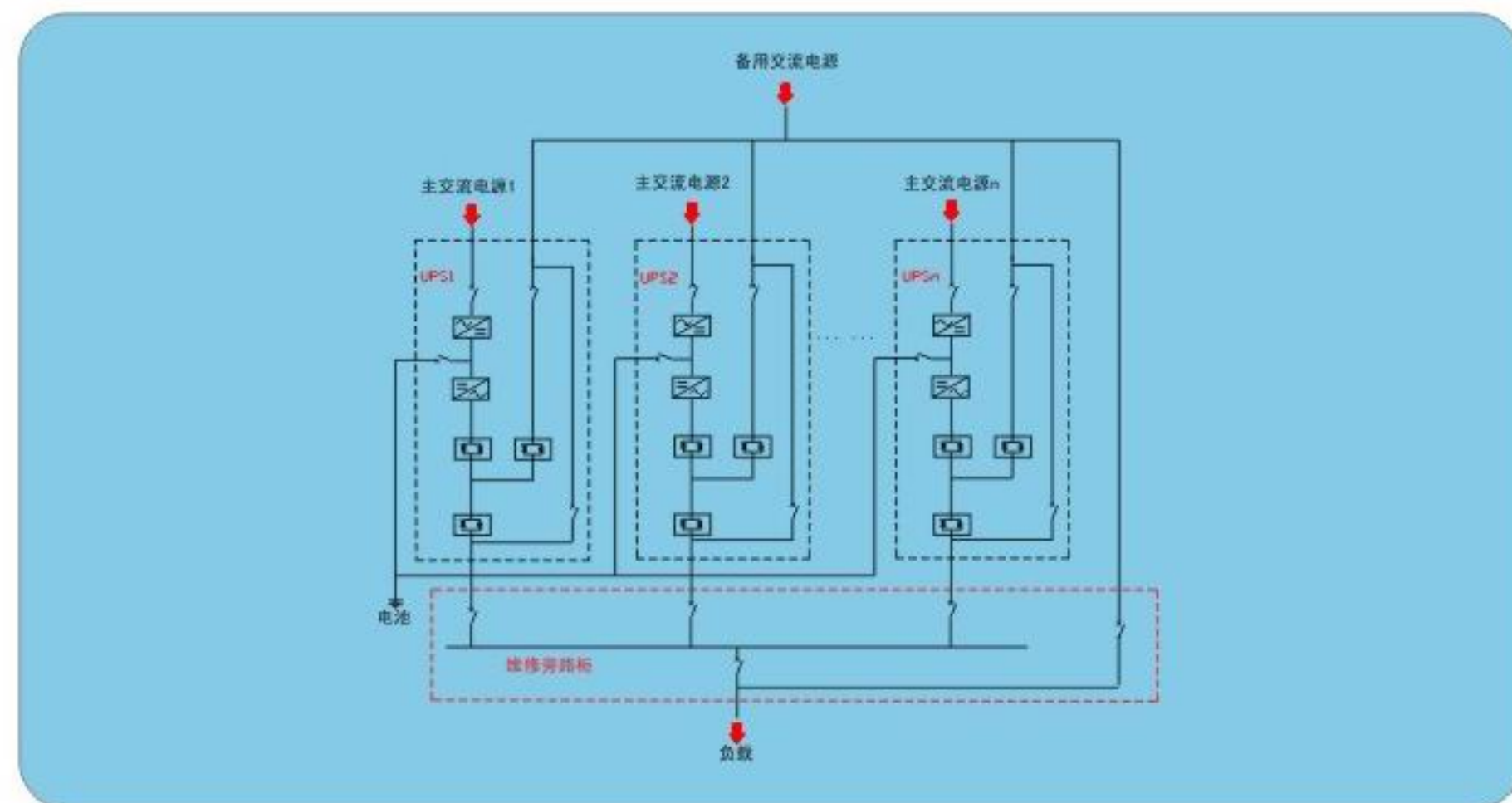
1. Parallel UPS standard configuration single line diagram



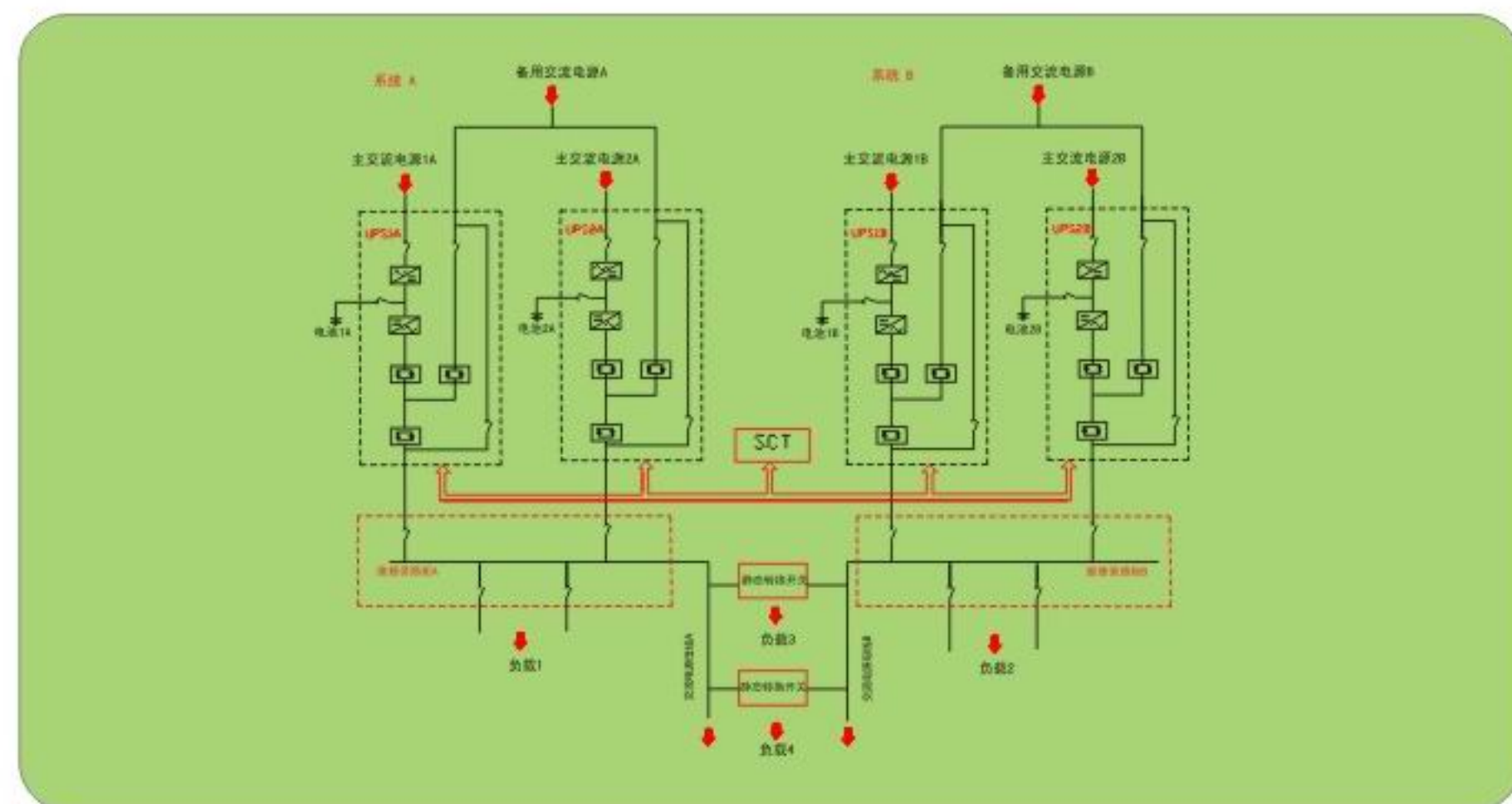
2. Multiple Set of UPS Parallel Respectively Configuration Dependent Battery



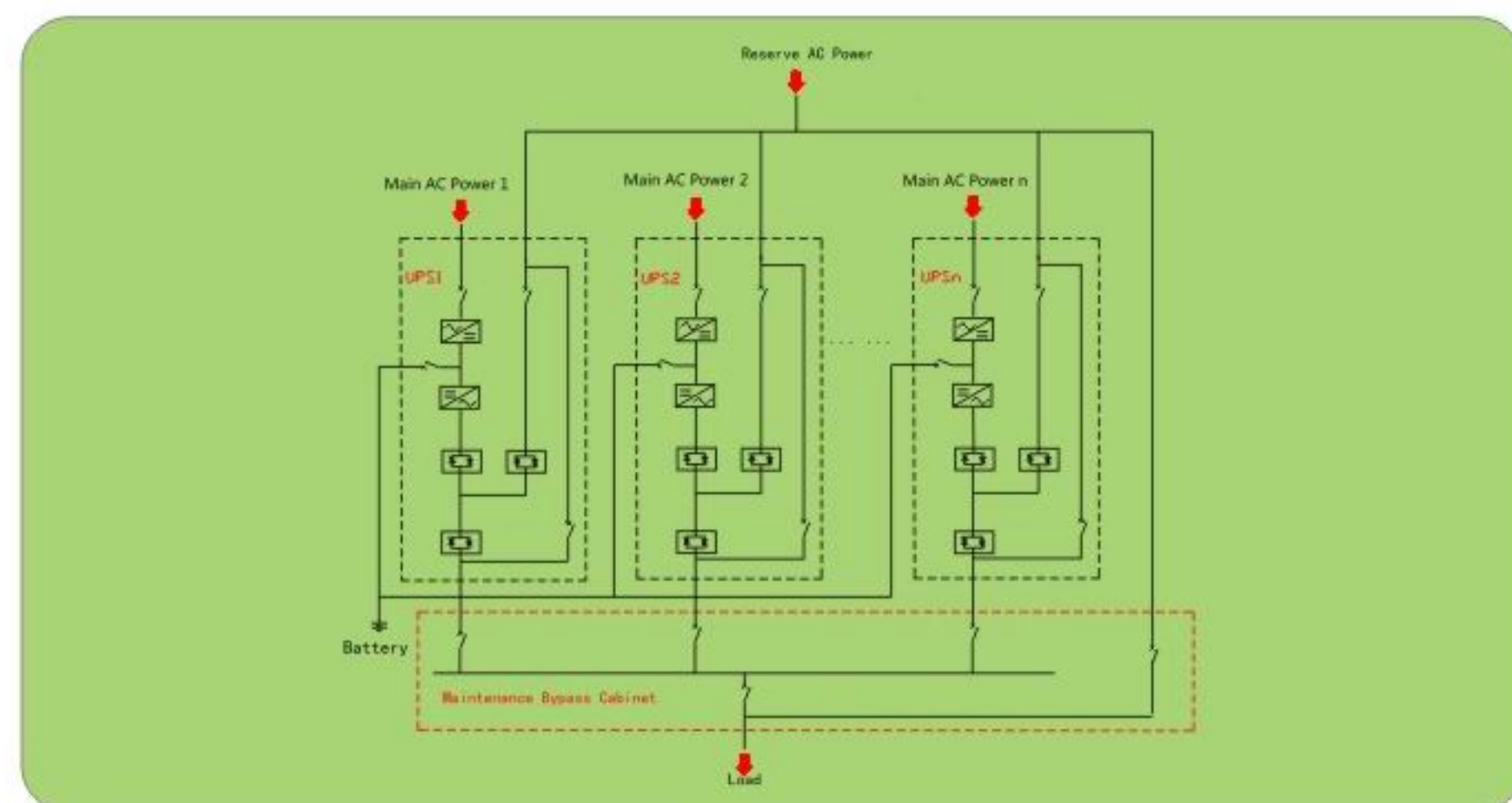
3、多台UPS并机配置共用电池组



4、动态双总线配置



3、Multiple Set of UPS Parallel Configuration Share Of Battery



4、Dynamic Double Bus Configuration

