



智能供配电

Intelligent Power Supply And Distribution

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This book is printed in a environmental protection way.

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The printing paper is with FSCTM certificate.

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The printing ink is plant oil-based one for environmental protection.

公司简介

Company Profile

安徽博微智能电气有限公司是国家级高新技术企业，专业从事智能供配电、智能医疗管理终端、汽车电子等产品及系统的研发、生产、销售的科技型企业。

公司拥有超百人科研团队，专利和软著共计超130项，拥有省级企业技术中心、工业设计中心。先后获得省级专精特新冠军企业、“创新创业奖创新主体奖”、高成长“瞪羚”企业、企业“江淮硅谷”创新团队、数据中心产品创新奖等荣誉称号，连续多年荣获省工业设计中心，合肥高新区瞪羚培育企业称号。

博微智能合肥工厂拥有UL&CSA认可的测试实验室，产品符合UL、TUV、VDE、SEM1、泰尔节能等多项国际国内权威认证。产品广泛应用于医院、医疗装备、半导体、机器人、新能源汽车、公共安全、轨道交通、自动化等领域。

Anhui Ecriepower Co., Ltd. is a national high-tech enterprise, specialising in the research and development, production and sales of intelligent power supply and distribution, intelligent medical management terminal, automotive electronics and other products and systems.

The company has a research team of more than 100 people, with more than 130 patents and soft writings, a provincial enterprise technology centre and an industrial design centre. The company has won the titles of provincial speciality, speciality and new champion enterprise, 'Innovation and Entrepreneurship Award', high-growth 'gazelle' enterprise, 'JAC Silicon Valley' innovation team, data centre product innovation award, etc. The company has been awarded the 'JAC Silicon Valley Innovation Award' in 2020 and the 'JAC Silicon Valley Innovation Award' in 2020. Innovation Award, provincial industrial design centre and gazelle cultivation enterprise of Hefei Hi-tech Zone for consecutive years.

The Hefei factory of Ecriepower has UL & CSA approved testing labs, and its products comply with many international and domestic authoritative certificates, such as UL, TUV, VDE, SEM1, and Terra Energy, etc. The products are widely used in hospitals, medical equipments, and other medical facilities. The products are widely used in hospitals, medical equipment, semiconductors, robots, new energy vehicles, public safety, rail transport, automation and other fields.



全球业务
Global Business



四大技术平台

Four Technology Platforms

医疗系统领域 *Medical System Field*

在全球高端医疗设备领域，我们提供安全可靠的医疗系统电源等产品，为您的健康服务。
In the global high-end medical equipment field, we provide safe and reliable medical system power supply and other products to serve your health.



移动超声电源
应用范围：超声系统
Mobile Ultrasonic Power Supply
Application: Ultrasonic System



80kVA隔离变压器
应用范围：医疗系统
80kVA Isolation Transformer
Application: Medical System



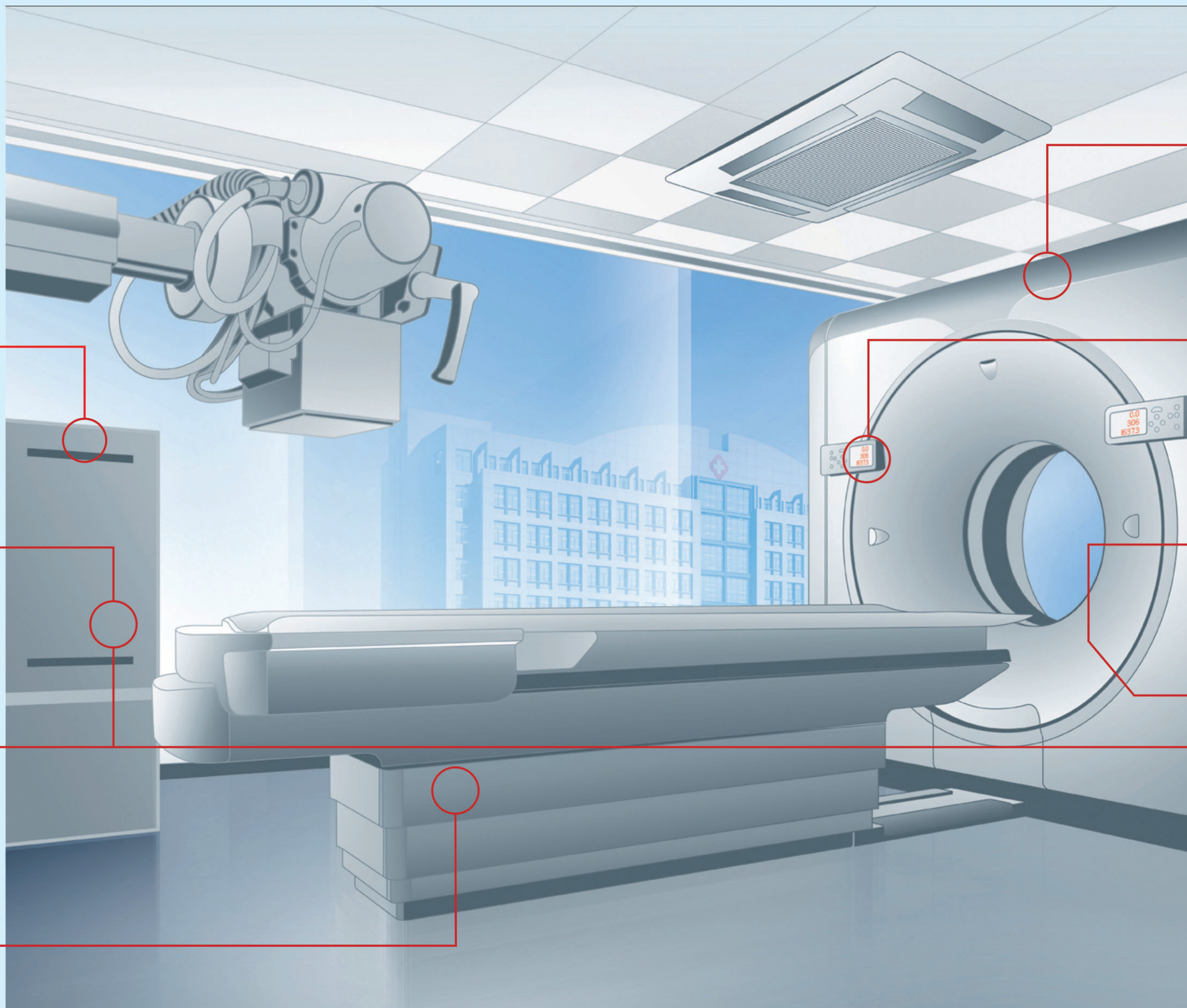
医疗电源柜(PDU)
应用范围：医疗设备
Medical Power Distribution Unit (PDU)
Application: Medical Facilities



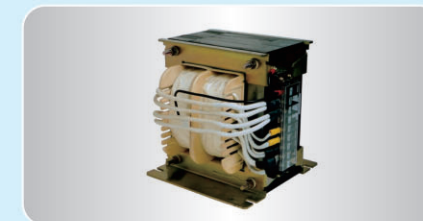
开关电源
应用范围：高频电源系统
Switch Mode Power Supply
Application: High Frequency Power Supply System



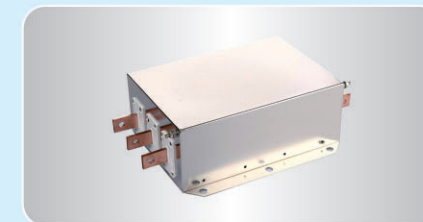
便携式隔离电源
应用范围：医用系统
Portable Insulation Power Supply
Application: Medical System



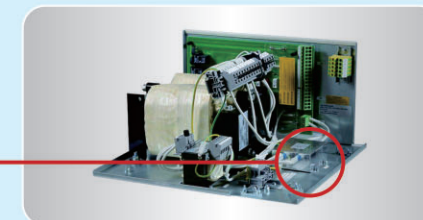
移动CT电源
应用范围：CT系统
Mobile CT Power Supply
Application: CT System



医疗电源变压器
应用范围：医疗电源驱动
Medical Power Transformer
Application: Medical Power Driver



医疗设备专用滤波器
应用范围：医疗影像系统
Medical Grade Filter
Application: Medical equipment System



PDU组件
应用范围：医疗控制电源
Medical Power Distribution Unit
Application: Medical Control Power



UPS
应用范围：医疗系统级UPS
Medical Grade UPS
Application: Medical Equipment

移动医疗系统 *Mobile medical system*



移动超声电源 *Mobile Ultrasonic Power Supply*

为移动超声设备提供电源，不影响移动超声设备触摸屏的灵敏度、对图像没有干扰，保证设备正常使用不会发生其他安全隐患。
To provide power for mobile ultrasound equipment, no effect the sensitivity of the mobile ultrasound equipment touch screen, no interference to the image, to ensure that the normal use of equipment will not have other security risks.

简介 *Product Description*

创新科技，打破传统应用场景。先进电池技术，持久续航保障。充电便捷，双电池续航。
Innovation technology, break the traditional application scenario. Advanced Battery Technology, long-lasting guarantee. Easy to charge, double battery life.

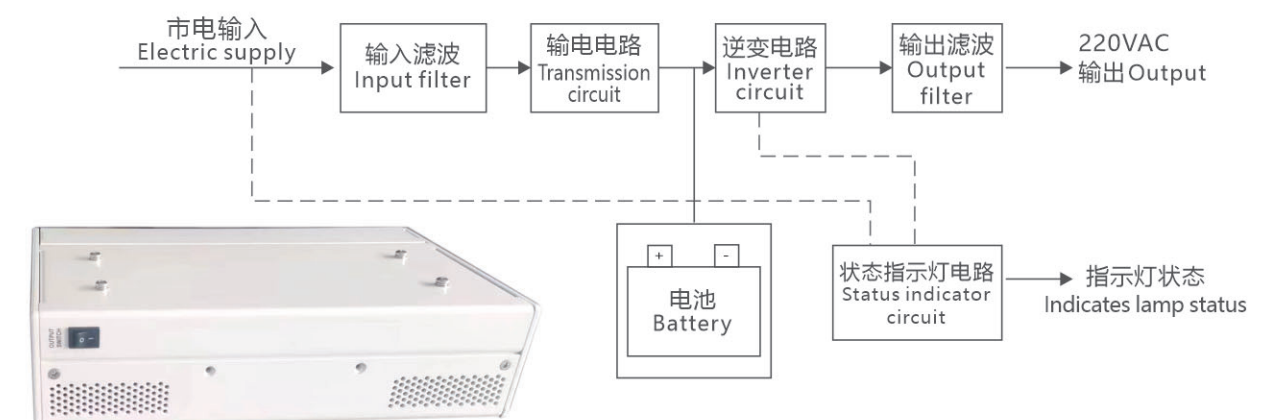
Innovation technology, break the traditional application scenario. Advanced Battery Technology, long-lasting guarantee. Easy to charge, double battery life.

参数 *Parameters*

输出最大功率	Output Maximum Power	300W
额定负载功率	Rated Load Power	80W
负载最大功率	Maximum Load Power	175W
额定输出电压	Rated Output Voltage	220VAC
额定输出频率	Rated Output Frequency	50±0.1Hz
输出波形	Output Waveform	纯正弦波 Pure sine wave
过载能力	Overload Capacity	输出最大功率的105%~115%，可持续180秒 105% ~ 115% of the maximum power output, lasting 180 seconds
保护	Protection	过温保护、短路保护、过载保护 Overtemperature protection, short circuit protection, overload protection
保护模式	Protection Mode	关闭输出电压，重启后恢复 Turn off output voltage and resume after restart
输入电压范围	Input Voltage Range	80 ~ 264VAC
输入频率范围	Input Frequency Range	47 ~ 63Hz
浪涌电流	Surge Current	≤70A (输入Input 230VAC)
充电输出电压	Charging Output Voltage	14.4V±3%
额定充电电流	Rated Charging Current	10A

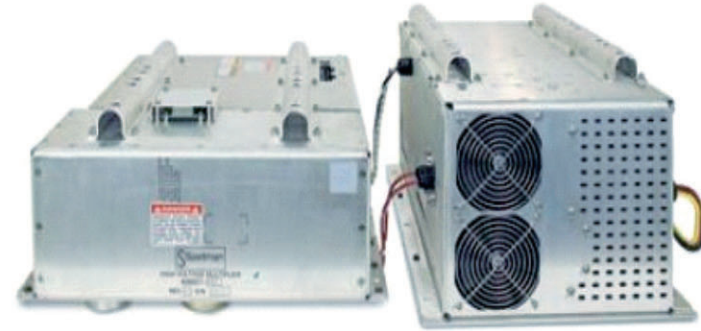


系统流程图 *System Flowchart*



移动CT电源 *Mobile CT Power Supply*

作为移动 CT 的主电源和转向助力电源，为移动 CT 的曝光和移动助力。
As the main power supply and steering power supply of mobile CT, for mobile CT exposure and mobile power.



概述 *Product Description*

负载：该系统分为高压和低压两个部分，高压部分负载为高压发生器，低压部分负载为直流电机。

充电模式：单相充电。

电池：该系统采用高能量密度高放电倍率的磷酸铁锂电池。

Load: the system is divided into high-voltage and low-voltage two parts, high-voltage part of the load for the high-voltage generator, low-voltage part of the load for the DC motor.

Charging mode: single-phase charging.

Battery: this system uses the high energy density high discharge rate lithium iron phosphate battery.

参数 *Parameters*

充电功率 <i>Charging Power</i>	220V/10A
充电时间 <i>Charging Time</i>	≤2h
充电通讯方式 <i>Charging Communication Mode</i>	CAN 通讯 <i>Communication</i>
系统对外通讯方式 <i>System External Communication Mode</i>	RS422 通讯 <i>Communication</i>
系统对外通讯格式 <i>System External Communication Format</i>	TBD 通讯 <i>Communication</i>
系统对外通讯内容 <i>System External Communication Content</i>	剩余电量、电池温度、电池电压、单体电压、总压，充放电循环次数、电压过低、电池健康、充电电流、充电电压、充电启停 Residual power, battery temperature, battery voltage, monomer voltage, total voltage, charging and discharging cycle times, low voltage, battery health, charging current, charging voltage, charging start and stop
相对湿度 <i>Relative Humidity</i>	30-85% (无凝露 <i>No condensation</i>)
气压 <i>Barometric Pressure</i>	700-1060hPa
工作温度 <i>Working Temperature</i>	5°C ~ 40°C
存储温度 <i>Storage Temperature</i>	- 10°C ~ 60°C
污损度 <i>Contamination</i>	2 (电源连接部 <i>Power Supply Connecting Part</i>)
系统总重量 <i>Total System Weight</i>	150kg



医疗影像PDU *Medical Image System PDU*

用于医疗 CT/MR/DSA/DR/DXR/ 核医学的配套电源分配单元，其可靠的工作输出保护功能，让其在众多 PDU 中脱颖而出。

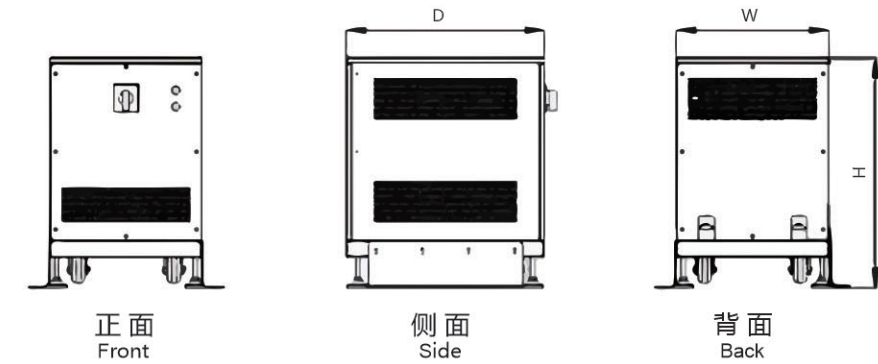
Medical PDU (Power Distribution Unit) is designed for medical CT/MR/DSA/DR/DXR/nuclear medicine applications. Its reliable output protection features distinguish it from other PDUs.

参数 *Parameters*

额定 <i>Rated Power</i>	三相10VA~150kVA	Three-phase 10VA~150kVA
频率 <i>Frequency</i>	50Hz/60Hz±3Hz	50Hz/60Hz±3Hz
符合标准 <i>Compliance Standards</i>	IEC60601-1 第二版&第三版	IEC60601-1 Second Edition & Third Edition
绝缘等级 <i>Insulation Grade</i>	H	H
冷却方式 <i>Cooling Method</i>	自然冷却(可强制风冷)	Natural cooling (with optional forced air cooling)
结构方式 <i>Structural Design</i>	标准化设计(可定制)	Standardized design (with customization options)

特点 *Features*

- 兼容多国电压，输入电压范围：200/208/380/400/415/440/480VAC
- 间歇性工作设计，让产品可以满足医疗设备的间歇性工作的峰值功率，又不过剩设计
- 个性化，智能化的定制服务、可提供门禁管理、远程控制、远程显示、故障告警、智能判断、故障查询、漏电保护、浪涌抑制、温湿度自动控制等全方位的选择。
- Compatible with multiple country voltages, with input voltage range of 200/208/380/400/415/440/480VAC.
- Intermittent operation design to meet peak power demands of medical equipment without unnecessary surplus.
- Customized, intelligent services including access control management, remote control, remote display, fault alarms, intelligent diagnostics, fault queries, leakage protection, surge suppression, and automatic temperature and humidity control.



功率 <i>Power (等效功率)</i>	适用范围 <i>Application Range</i>	输入电压 <i>Input Voltage</i>	输出电压 <i>Output Voltage</i>	变压器类型 <i>Type of Transformer</i>	负载调整率 <i>Load Adjustment Rate</i>	效率 <i>Efficiency</i>	损耗 <i>Loss</i>	冲击电流 <i>Transient Current</i>	噪声 <i>Noise</i>	保护类型 <i>Protection Type</i>	外形尺寸 <i>Dimensions (深*宽*高)</i>	固定方式 <i>Mounting Method</i>
35kVA	25kVA~35kVA	200/208/240/380/400/415/440/460/480/500 Volts, Delta	#1: 3-Phase, 480/400/380/208 VAC #2: 1-Phase, 230 VAC L-N #3: 1-Phase, 120VAC L-N	隔离变压器 <i>Isolating Transformer</i>	≤3.2%	≥97%	铁损Iron Loss: 400W (空载No-load) 铜损Copper Loss: 520W (负载Load)	1800A TYP	<50dB	塑壳断路器 (主回路) 微型断路器/保险丝 (支路)	750*600*850	钣金支撑/脚踏支撑 <i>Sheet Metal Bracket/ Foot Pad Support</i>
25kVA	20kVA~25kVA	200/208/240/380/400/415/440/460/480/500 Volts, Delta	#1: 3-Phase, 480/400/380/208 VAC #2: 1-Phase, 230 VAC L-N #3: 1-Phase, 120VAC L-N		≤2%	≥96.5%	铁损Iron Loss: 400W (空载No-load) 铜损Copper Loss: 441W (负载Load)	1300A TYP	<50dB	Molded Case Circuit Breaker (Main Circuit) Miniature circuit breakers/ fuse (Bypass)	650*550*800	
20kVA	11kVA~20kVA	200/208/240/380/400/415/440/460/480/500 Volts, Delta	#1: 3-Phase, 480/400/380/208 VAC #2: 1-Phase, 230 VAC L-N #3: 1-Phase, 120VAC L-N		≤2%	≥96%	铁损Iron Loss: 330W (空载No-load) 铜损Copper Loss: 400W (负载Load)	1100A TYP	<50dB	微型断路器/保险丝	650*550*800	
11kVA	≤11kVA	200/208/240/380/400/415/440/460/480/500 Volts, Delta	#1: 3-Phase, 480/400/380/208 VAC #2: 1-Phase, 230 VAC L-N #3: 1-Phase, 120VAC L-N		≤2%	≥95%	铁损Iron Loss: 220W (空载No-load) 铜损Copper Loss: 285W (负载Load)	600A TYP	<50dB	微型断路器/保险丝	500*400*750	钣金支撑/脚踏支撑 (可选) <i>Sheet Metal Bracket/ Foot Pad Support (Optional)</i>

变压器 TRANSFORMER

R型变压器

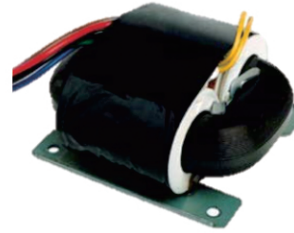
R-core Transformer

功率范围 Power range

单项变压器 Single Phase: 3-6,000VA
三项变压器 Three Phase: 10-10,000VA

优势 Strength

体积小、工艺美观、低漏磁、励磁电流小、高效率、低温升、低损耗、均衡性高、无噪音。
Small size, beautiful workmanship, low magnetic leakage, low excitation current, high efficiency, low temperature rise, low loss, high equilibrium, and no noise.



EI 变压器

EI Transformer

功率范围 Power range

1-1,000KVA

优势 Strength

性价比高、整体结构为方形、结构紧凑、外形美观，功率范围广、用途广泛。
Cost-effective, the overall structure of the square, compact, beautiful appearance, wide range of power, wide range of uses.



环形变压器

Toroidal Transformer

功率范围 Power range

单项变压器 Single Phase : 10-6,000VA

优势 Strength

高效、低损耗、尺寸小、重量轻、低漏磁、无噪音易于安装。
High efficiency, low loss, small size, light weight, low magnetic leakage, no noise, easy to install.



高频电感 High Frequency Inductors

效率最高、速度最快，且低耗环保的电磁感应元件。
The most efficient and fastest electromagnetic induction element with low consumption and environmental protection.

特征 Features

- 可按照客户要求定制。
Customizable based on client needs.
- 产品设计和制造工艺成熟，可简化设备的结构，提高设备的可靠性和稳定性。
The product design and manufacturing process is mature, which can simplify the structure of the equipment and improve the reliability and stability of the equipment.
- 有滤波，振荡，延迟，陷波等作用。
Filtering, oscillating, delaying, trapping, etc.
- 主要用于医疗梯度电源，射频电源等产品中。
Mainly used in medical gradient power supply, RF power supply and other products.



高频变压器



梯度电源



高频电感

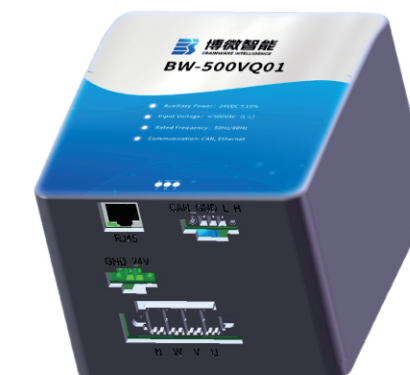


射频电源

500VAC 电压采集模块 500VAC Voltage Acquisition Module

参数 Parameters

型号 Model Number	BW500VQ01
辅助电流 Auxiliary Current	24VDC±10%
输入电压 Input Voltage	≤500VAC (L-L)
事故记录 Accident Record	过压、欠压、不平衡、缺相、错相 Overvoltage, undervoltage, unbalance, phase loss, phase reversal
通讯方式 Communication Method	CAN通讯、以太网配套Web显示 CAN Communication, Ethernet with Web Display
适用海拔 Applicable Altitude	≤5000m



医用便携式隔离电源 *Medical Portable Isolation Power Supply*

产品介绍 Product Description

产品可应用于医疗推车、移动医疗车、精密光学设备、胶片打印设备。可实现全球宽电源输入，电压自适应。具有多路输出插座，安装插座保护盖，可最大降低触电率。

This series of products is designed for medical equipment, providing medical isolation protection from the main power supply, limiting leakage current, and offering compact dimensions for the safety of patients and operators. The series features a modular and intelligent design suitable for terminal applications.

The transformer is designed for continuous operation and is equipped with a self-recovering temperature switch to prevent damage caused by temperature rise issues.

产品特点 Product Features

宽范围输入电压: (100VAC/110VAC/120VAC/220VAC/230VAC/240VAC±10%) 可以满足大部分地区使用条件。

自动选择功能: 该产品可以根据输入电压，自动选择相应的输出电压。

输出插座保护功能: 输出插座上安装插座保护盖，最大降低触电概率。

Wide Input Voltage Range: (100VAC/110VAC/120VAC/220VAC/230VAC/240VAC ±10%) to accommodate most regional power conditions.

Automatic Selection Function: The product automatically selects the corresponding output voltage based on the input voltage.

Output Socket Protection Function: Socket protection covers are installed on the output sockets to significantly reduce the risk of electric shock.

产品应用 Product Applications

- 医疗推车、医疗激光、成像
Medical carts, Medical lasers, Imaging equipment
- IT管理和网络服务器
IT management and network servers
- 数据处理设备
Data processing equipment
- 移动医疗车
Mobile medical carts
- 医疗机器人
Medical Robot

主要参数 Main Parameters

型号 Model	Powermed-350VA	Powermed-750VA
功率 Power	350VA	750VA
输入输出电压 Input/Output Voltage	100VAC/110VAC/120VAC/220VAC/230VAC/240VAC	
工作频率 Frequency	50Hz/60Hz	
尺寸重量 Size/Weight	310*180*130; ≤12KG	310*180*130; ≤14KG
型号 Model	Powermed-1000VA	Powermed-1500VA
功率 Power	1000VA	1500VA
输入输出电压 Input/Output Voltage	100VAC/110VAC/120VAC/220VAC/230VAC/240VAC	
工作频率 Frequency	50Hz/60Hz	
尺寸重量 Size/Weight	350*220*130; ≤18KG	350*220*130; ≤20KG



医疗储能电源 *Energy storage power supply*

解决宠物医院、车载方舱医院、战地野外医院等医疗设备的供电问题
Supplying power for veterinary hospitals, mobile field hospitals, and battlefield medical facilities.

特点 Features

- 单相220VAC/50A输入，三相380VAC输出
Single-phase 220VAC/50A input, three-phase 380VAC output
- 模块化设计，充电逆变一体
Modular design, integrating charging and inversion
- 兼容多种充电方式（单相、三相）
Compatible with multiple charging methods (single-phase, three-phase)
- 功率密度高、谐波小、对电网污染小
High power density, low harmonic distortion, minimal grid pollution

电池模式 Battery Mode

无市电情况下，内部自带电池可供短时间扫描工作；

In the absence of grid power, the internal built-in battery can support short-term scanning operations.

充电模式 Charging Mode

单相市电充电，可供多次扫描工作，持续为CT设备提供电源保障。

Single-phase grid charging, providing multiple scanning operations, and continuous power supply protection for CT equipment.

参数 Parameters

型号		BWP-INV403A01
输入 Input	额定电压 Rated Voltage	220VAC±10%
	额定频率 Rated Frequency	50Hz/60Hz±5%
	输入电流 Input Current	≤16A @220VAC
	功率因数 Power Factor	≥0.9 (满功率 Full power)
充电输出 Charging output	额定电压 Rated Voltage	580V
	额定电流 Rated Current	5A
	额定功率 Rated Power	2.9KW
	工作方式 Operate Mode	恒流恒压浮充 Constant flow, constant pressure, floating charge
电池组性能 Battery Pack Performance	适用电池电压 Suitable Battery Voltage	400V-590V
	人机控制界面 Human-machine Control Interface	触摸屏 Touch screen
	远程控制接口 Remote Control Interface	RS232
	标称电压 Nominal Voltage	504V
逆变电源输出 Inverter power supply output	电压输出范围 Voltage Output Range	400V-600V
	电池种类 Battery Types	免维护型铅酸蓄电池 Maintenance-free Lead acid battery
	电池容量 Battery Capacity	20AH
	输出相制 Output Phase Control	3φ + PE
	输出电压 Output Voltage	L-L: 380VAC±10%
	最大输出功率 Maximum Output	40KVA (不超过45秒 not more than 45 seconds)
	最大电流和功率占空比 Maximum Current and Power Duty Cycle	≤2.5%
	常规输出功率 Conventional Output Power	2KVA
	常规电流和功率占空比 Conventional Current and Power Duty Cycle	97.50%
	频率范围 Frequency Range	50Hz ±1Hz
工作环境 Working Environment	电压THD Voltage THD	≤5% (空载 No-load)
	保护功能 Protection Function	短路保护, 过载保护, 过压保护, 欠压保护, 过温保护等 Short-circuit protection, overload protection, overvoltage protection, undervoltage protection, overtemperature protection, etc
	逆变效率 Inversion Efficiency	≥90% (最大载 Maximum load)
	通讯方式 Communication Mode	RS232
	耐压绝缘 Pressure Resistant Line	AC1500V, 20mA, 1min
	绝缘阻抗 Insulation Impedance	DC500V, >10MΩ
	人机界面 Human-computer Interface	触摸屏 Touch screen
	防护等级 Protection Level	IP20
	噪声(1米) Noise(1m)	<70dB
	冷却方式 Cooling Mode	强迫风冷 Forced Wind Cooling
工作温度 Working Temperature	-10℃ - +45℃	
工作湿度 Working Humidity	0-95% (无凝露 No condensation)	
震动 Vibration	<0.5g	
海拔高度 Altitude	<2000米 (m)	
其他要求 Other Requirements	无腐蚀性气体 No corrosive gas	
重量(kg) (预估) Weight(kg)(Estimates)	≤450	
尺寸(宽*深*高) Dimensions(w*D*H)	1000mm*700mm*800mm	



医疗高频PDU *High Frequency PDU*

高频 PDU 电源以高频 AC/DC DC/DC 为核心，既能实现输入输出之间的电气隔离，又能自动稳压，维持输出稳定。
The high frequency PDU takes the high frequency AC/DC DC/DC as the core, which can not only realize the electrical isolation between the input and output, but also can stabilize the voltage automatically and maintain the output stability.



特点

- 高频PDU电源以高频AC/DC DC/DC为核心，既能实现输入输出之间的电气隔离，又能自动稳压，维持输出稳定。可以减少总的输出功率，有利于减小工频变压器体积和重量，从而减小整个系统的体积和重量。
The high frequency PDU takes the high frequency AC/DC DC/DC as the core, which can not only realize the electrical isolation between the input and output, but also can stabilize the voltage automatically and maintain the output stability. The total output power can be reduced, and the volume and weight of the power frequency transformer can be reduced, thus the volume and weight of the whole system can be reduced.
- 实时电压和电流采集、传输、显示 Real-time voltage and current acquisition, transmission, display
- 监测远程控制和通信 Monitor remote control and communication
- 故障预警 Fault warning
- 人机交互 Human-computer interaction
- 自动故障记录 Automatic failure recording



高精度装配能力 *High Level Assembling(HLA)*



经验丰富的结构和工艺技术团队
Experienced construction and process team

Team



超过5年工龄的熟练工人
Skilled worker with more than 5 years of service

Workers



个性化定制优质方案
Personalised optimized programmes

Customized solution

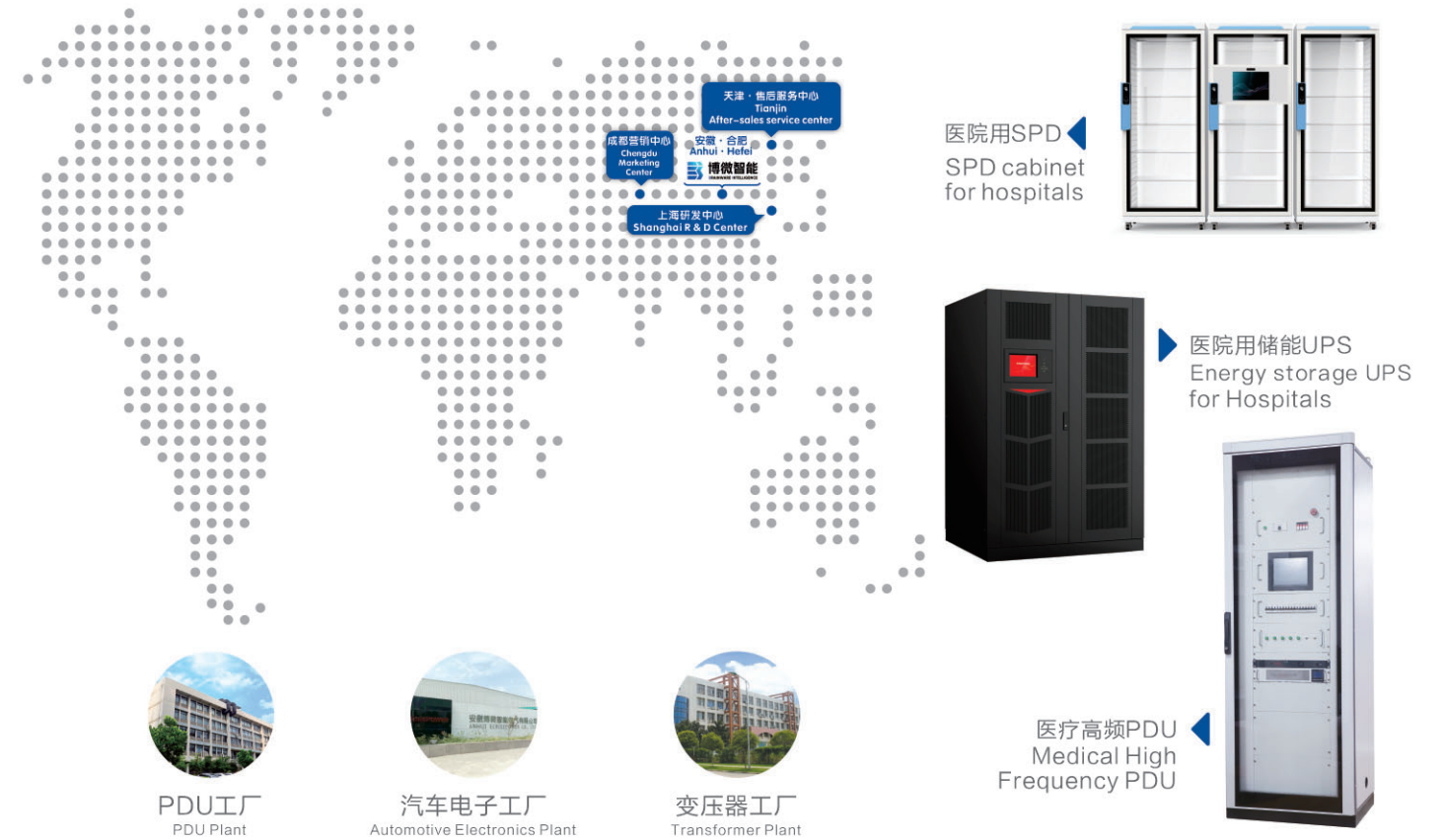
精益生产的管理模式
Management mode of lean production

Lean production



全球研发生产基地

Global R & D and production base



全球每四台医疗影像供配电产品

One out of every four medical imaging power supply and distribution products in the world

一台来自
comes from

博微智能
BRAINWARE INTELLIGENCE