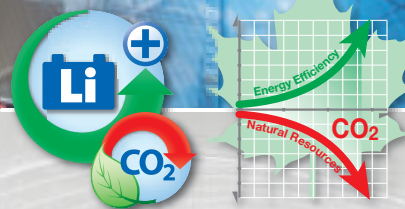


BENNING

Excellent Technology, Efficiency and Quality



德国北宁公司

The Company ...

面向世界的品质与服务 Quality and service for the world market



北宁德国工厂厂址一
BENNING Germany factory I

综合管理系统
Integrated Management System

安全源自经验 效益源自创新

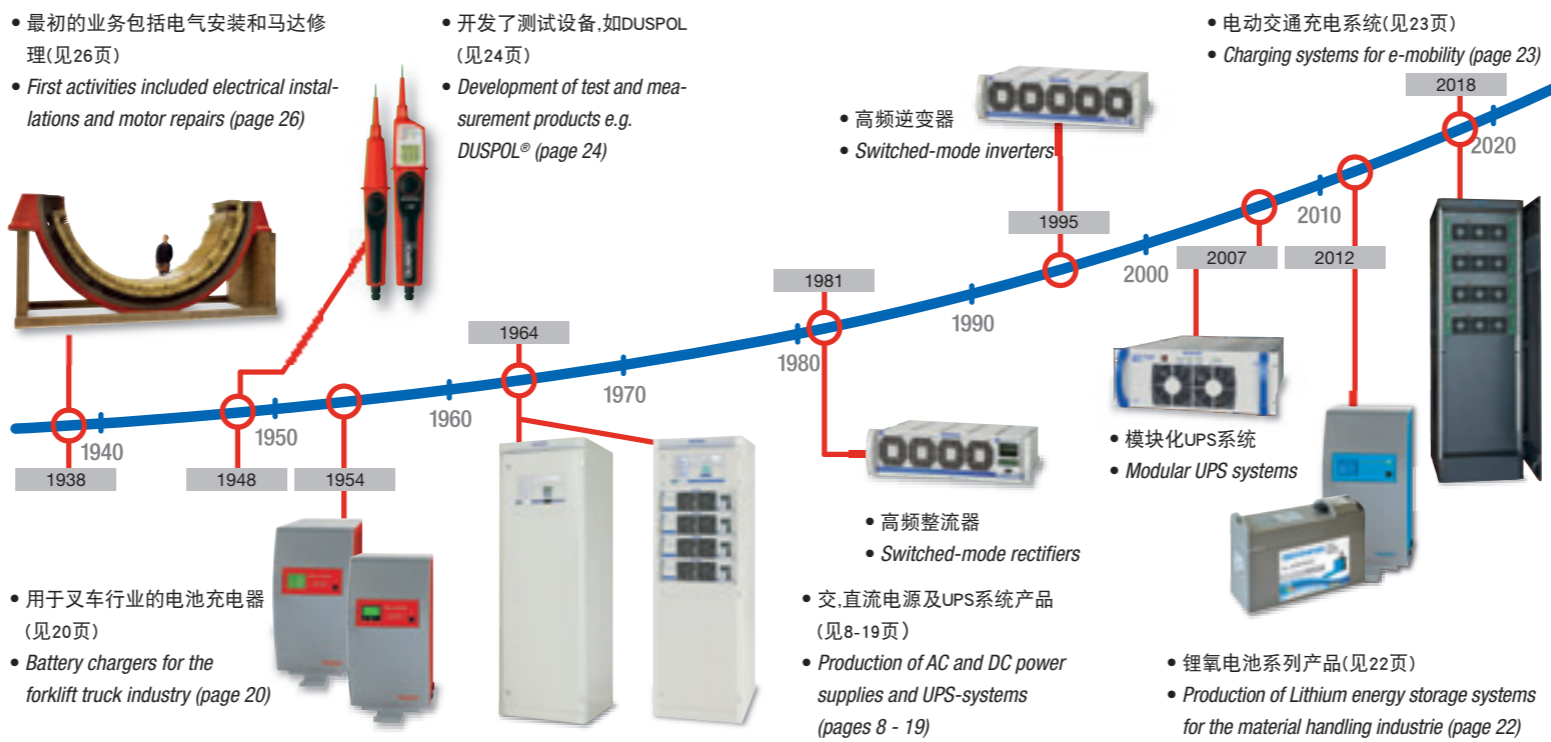
半个多世纪以来 北宁一直致力于改进产品的安全和效能, 为客户提供智能化的电源转换和存储方案是公司的宗旨. 北宁公司作为行业的知名企业, 旗下的高性能电源产品已经广泛的应用于通信, 工业, 医疗及信息技术产业.

北宁产品系列

北宁的产品系列囊括了测试和测量产品, 整流器系统, 逆变器系统, DC-DC 转换系统, UPS 系统, OEM 电源系统, 电池充电系统以及高达 120吨的电气设备维修能力.

国际化机构

北宁已经建立了全球化的充电机及相关电源设备的服务机构, 业务涵盖了生产, 销售, 售后服务, 北宁公司确保以专业的实力为客户提供高质的技术与服务.



Sustainability, safety and efficiency through innovations

For more than half a century BENNING products have improved the safe and efficient utilisation of energy resources. Smart solutions for the conversion of energy in multi-purpose or storable energy defines the company.

BENNING is known worldwide as a "high-quality provider" for reliable and efficient power supplies for the Telecommunications, Industrial, Medical and IT industries.

The Product Range

The product range includes test and measurement products, rectifier and inverter systems, DC-DC converters, UPS-systems, OEM power supplies, chargers for traction batteries and the repair of electrical machines up to 120 t.

World Wide Competence

BENNING has established a world wide presence to assemble, sell and service battery chargers and power systems. BENNING ensures technical competence, quality support and service to all customers.

为未来而设计的产品
Designing products for tomorrow



3D CAD产品开发
3D CAD product development



印刷电路板SMD技术
Printed circuit board insertion SMD technology

研发部门使用BENNING自己的EMC测试设备
R & D uses our own EMC test facilities

创新，德国制造

我们为世界各地的客户提供专业电源解决方案，研发高效能、高费效比和安全的产品的能力不断壮大。

北宁在开发和生产质量上绝不妥协，包括：

- 在软件开发管理上与客户密切合作
- 高水平的垂直整合，结合高效的质量管理系统 (ISO9001)
- 环保和资源节约型综合环境管理系统 (ISO14001)

Innovations "Made in Germany"

Our global market presence requires power solutions for a variety of customer requirements. The development of efficient, cost effective, and fail-safe products requires the continuous expansion of our R & D resources.

BENNING does not compromise on development and manufacturing quality, including:

- *Software and hardware development, managed in close cooperation with customers*
- *The high level vertical integration combined with efficient quality management systems (ISO 9001)*
- *An environmentally friendly and resource-conserving production with integrated environmental management system (ISO 14001)*



环保粉末喷涂
Environmentally friendly Powder-Coating Equipment

全自动数控冲孔机
Fully automatic CNC punching machines

计算机控制的测试系统

Computer-controlled test systems ...



逆变器模块组装和测试设备
Inverter module assembly and test facility

在线电路测试
In-Circuit-Test

成套设备测试区
Test area for complete systems

始于开始的质量保证

高效率的生产方式和计算机控制的测试系统是实现节约化生产的重要环节。

电路板采用在线设备进行测试，适配器会对电路板进行在线扫描并将扫描的结果与默认值进行对比，在几秒钟内就能得出任何的故障信息，例如插接错误，原件故障，短路或电气数值变化等等。

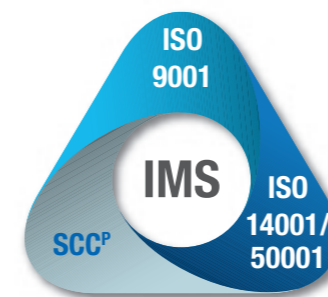
现代化计算机控制的检测设备实现了电源测试的最优化，任何的故障信息都会以条形码的方式记录下来。

... for assured quality from the beginning

Efficient production methods and computer-controlled test systems are part of cost-effective manufacturing.

The populated PCB's are checked using in-circuit testers. Adapters scan the PCB's, compare the result with default values, and detect within seconds any incorrect insertions, failures, short circuits or variations of electrical values.

Modern computer controlled test equipment enables optimized testing of power supplies. Any errors are recorded on a barcode in an error protocol.



批量生产
Serial Production

综合管理系统

清晰的流程描述利于提高透明度和明确责任。因此，在综合管理系统 (IMS) 中，记录组织、架构和流程，这样能在所有领域（即：设计、开发、生产、装配、销售和客户服务）中保持质量一致（ISO 9001: 2008、ISO 14001: 2005、ISO 50001、SSCP、KTA 1401）。

这是企业理念的明确标志，注重质量和有效利用我们的自然资源。

Integrated Management System

Clear process descriptions support transparency and clarify responsibilities. For this reason, the organisation, structure and processes are documented in an IMS (Integrated Management System). This means consistent quality in all areas, i.e. design, development, production, assembly, sales and client service (ISO 9001:2008, ISO 14001:2005, ISO 50001, SSCP, KTA 1401). This is a clear sign of a corporate philosophy that focuses on quality and the efficient use of our natural resources.

量身定制，满足严苛要求 Tailor-made for the highest requirements



水力发电设备的内部电源
Internal power supply of a hydrofacility

电信集线器模块化电源系统
Modular power supply system for a telecommunications hub



传统电站的125 V/DC电源系统，包括 1750 A整流器和60 kVA 逆变器块系统、模块化TEBECHOP DC/DC转换器和相应的配电电缆

125 V/DC power supply system for a conventional power station, consisting of 1750 A rectifier and 60 kVA inverter block systems, modular TEBECHOP DC/DC converters and the corresponding distribution cables

安全靠经验， 经济靠创新

定制西服非常合身！这同样适用于可靠电源系统的开发。定制解决方案密切根据客户需求制定，从而实现增值。

项目开始时的整体概述保证了新系统将完全符合客户的需求。例如，电力设施的系统必须满足最高的安全要求，同时具有成本效益，并在适当情况下灵活扩展。

用于能源、铁路和工业领域的定制电池备用直流和交流电源装置在大型设备生产设施中生产。

Safety through experience – economy through innovation

Tailor-made suits fit perfectly! The same applies to the development of reliable power supply systems. Tailor-made solutions are developed closely in line with the client's needs and thus achieve added value.

A holistic overview at the beginning of the project guarantees that the new system will perfectly match the client's needs. For example, systems in power facilities must meet the highest safety requirements while at the same time being cost-effective and, where appropriate, flexible and expandable. Across the world, only a handful of companies have the know-how required to develop and manufacture these systems.

Bespoke battery-backed DC and AC power supplies, used in the energy, railway and industrial sectors, are produced in the large scale equipment production facility.

最大危险区域的地震安全认证

用于地震区的整流器和逆变器系统的设计必须满足特殊要求。北宁的这些系统采用特殊柜体，并经过测试和认证。

Certification for earthquake safety in the maximum danger zone

Rectifier and inverter systems used in earthquake areas have to be designed to fulfil special requirements. BENNING supplies these systems in special cabinets which are tested and type approved for this application.



抗震设计系统UC-HE H 2200 x W 800 x D 800 mm
System with seismic design UC-HE H 2200 x W 800 x D 800 mm

模块化工业电源解决方案 Modular Industrial Power Solutions



19英寸 ADC插入式整流器
110V-10A输出
19" ADC Plug-in Rectifier, Output 110V - 10A

模块化插入式整流器
110V-80A输出
Modular Plug-in Rectifier, Output 110V - 80A

模块化整流系统
220V-220A输出
Modular Rectifier System, Output 220V - 220A

高效率 and 可靠性

几十年来，北宁一直为关键业务设施提供高质量模块化的交流和直流电源系统，模块化电源拥有良好的可扩展性和低成本冗余方案。

热插拔电源模块并联运行的模块化系统设计提供了高可用性，可升级、易于安装和维护，该模块是专为满足工业环境的要求，如石化行业、配电和发电行业及自动化控制行业。工业自动化控制行业的配电和发电。

工业级模块化电源系统的优点：

- 体积小、重量轻的高功率密度
- 可靠的热插拔设计
- 非常短的MTTR(平均修复时间)
- 容量可以以比较细的等级调节
- 优异的能量效率
- 远程监控和预防性维护

Efficient and reliable

For many decades BENNING has been supplying high quantities of modular AC and DC power systems for business critical installations. Modular power supplies allow capacity adjustments in small steps (scalability) and cost effective redundant solutions.

The modular system design with parallel operating hot-plug power modules (plug and play) provides high availability, can be upgraded and is easy to install and to maintain. The modules are especially designed to meet the specifications required in the industrial sectors, such as the petrochemical industry, the power distribution and power generation industry and the automation control industry.

Advantages of the Industrial Modular Power Systems:

- High power density with low volume and weight
- Reliable hot-plug design
- Very short MTTR (Meantime to Repair)
- Capacity adjustments in small steps
- Excellent energy efficiency
- Remote monitoring and preventive maintenance



整流-逆变-直流变换系统
交流输出 220V-4.5kVA
直流输出 220V-50A 和26V-250A

Rectifier-Inverter-DC Converter system
AC-Output 230V - 4.5 kVA,
DC Output 220V - 50A and 26V - 250A



19英寸 插入式整流器
220V-55A输出
19" Plug-in Rectifier, Output 220V - 55A



模块化插入式逆变器及其旁路，输出 230V-4.5kVA
Modular Plug-in Inverter with By-pass, Output 230V - 4.5 kVA

关键负载的高性能电源

High performance for critical loads



UPS-工业级 ENERTRONIC , 3x400V-120KVA
UPS-Industrial Version ENERTRONIC, 3 x 400 V - 120 kVA



逆变器 INVERTRONIC 3x400V -40kVA
Inverter INVERTRONIC, 3 x 400 V - 40 kVA



相控整流器 THYROTRONIC 220V-80A
Rectifier THYROTRONIC, 220 V - 80 A



IGBT整流器 TRANSOTRONIC 220V-500A
IGBT-Rectifier TRANSOTRONIC, 220 V - 500 A



安全稳定的电源

在电力部门，许多重要负载如电子控制设备，通信设备等，必须由电池后备电源供电以防止供电故障。

通讯系统，雷达系统，机场照明系统以及铁路信号系统需要一种能够在市电停电的情况下也能够为负载提供安全可靠能量的不间断电源系统。

北宁公司的电池后备电源能够全天候的满足安全的需要。

Power supplies for your safety

In the power station sector many important loads such as electronic controls, communications equipment etc. have to be protected against mains failure by battery backed power supplies.

A continous uninterrupted power supply to radio and radar systems, runway lightning and illumination as well as other safety devices in airports is of importance for air traffic safety. Railway track signalling equipment and monitoring devices must have a constant power supply even in the event of a mains failure.

Battery backed power supplies made by BENNING guarantee safety and security around the clock.

北宁能够为各行业提供宽范围的、强大稳定的DC及AC电源解决方案，如传统发电厂，核电站，公用事业，核电站，石油和天然气工业，石油化工，机场以及其他工业领域。

- UPS系统 1-1000KVA
- 静态逆变器 0.5-240KVA
- 电站整流器
输出电压 26V/输出电流100-3000A
输出电压 220V/输出电流100-1200A
- DC-DC变换器
输入 110/220VDC, 输出26V,48V,60VDC



DC-DC变换器,220V/ 24V-130A
DC-DC Converter, 220 V / 24 V - 130 A

BENNING offers a wide range of robust DC and AC power solutions for conventional power plants, nuclear power plants, utilities, for the oil and gas industry, the petrochemical industry, airports and other industrial applications.

- **UPS-Systems, 1 – 1000 kVA**
- **Static Inverters, 0.5 – 240 kVA**
- **Power Station Rectifiers,**
Output voltage 26 V / Output current 100 A – 3000 A
Output voltage 220 V / Output current 100 A – 1200 A
- **DC-DC Converters,**
Input: 110/220 V DC, Output: 26 V, 48 V, 60 V DC

可靠的UPS系统

UPS-Systems with the highest reliability



ENERTRONIC modular SE 20KVA功率模块
输出100kVA(n+1)

ENERTRONIC modular SE with 20 kVA power modules
Output power 100 kVA (n+1)



ENERTRONIC modular SE 40kVA功率模块和配电柜,
输出功率160KVA

ENERTRONIC modular SE with 40 kVA power modules and
distribution cabinet, Output power 160 kVA (n+1)



UPS ENERTRONIC L 系统
输出 3x400v -200kVA
UPS-System ENERTRONIC L, Output 3 x 400 V - 200 kVA

高可靠性与低成本相结合

可靠的电源系统要求即使在电网出现短时停电或波动的情况下仍然能够提供可靠的电源。

大容量的UPS系统需要拥有高性能和低成本，北宁生产的 ENERTRONIC modular SE 和 ENERTRONIC L系类产品 完全能够满足此要求。

ENERTRONIC modular SE 模块式 UPS

模块式的结构和并联冗余是 ENERTRONIC modular SE 模块系列的一个重要特点，根据不同的容量以及电池后备时间的要求，可以考虑每个模块配一组电池或多个模块共用一组电池。

Maximum reliability coupled with low cost of ownership

A trouble-free power supply is required wherever electrical energy must be available at all times and protection has to be provided against a temporary mains failure or mains disturbance.

High Power UPS-Systems should have maximum reliability but a low cost of ownership. The UPS range ENERTRONIC modular SE and ENERTRONIC L from BENNING comply with these stringent demands.

UPS ENERTRONIC modular SE

Modular construction and module redundancy are important features of the ENERTRONIC modular SE series. Depending on the required power and the battery autonomy time, these systems can be individually adapted to the load.

模块化UPS ENERTRONIC modular SE 优点

- n+1冗余确保高可用性
- 可靠的热插拔设计
- 非常短的MTTR(平均修复时间)
- 以较小的等级调整容量
- 即使在部分负载下仍然有很高的效率
- 远程监控和预防性维护

Advantages of the UPS ENERTRONIC modular SE

- n+1 redundancy ensures high availability
- Reliable hot-plug design
- Very short MTTR (Mean time to Repair)
- Capacity adjustments in small steps
- Excellent energy efficiency even with partial load
- Remote monitoring and preventive maintenance

UPS ENERTRONIC L

该UPS系列的功率模块采用 IGBT 半导体技术，实现了高输入功率因数(>0.99)，低谐波(<5%)和高效率。

UPS ENERTRONIC L

The powerbloc of the UPS range ENERTRONIC L utilises IGBT semi-conductors. This technology results in a very high power-factor (≥ 0.99), low harmonics ($\leq 5\%$) and excellent efficiency.

通讯电源解决方案 Telecom power solutions



直流电源系统 48VDC-5500A 264kW
DC Power System, 48 V DC - 5500 A, 264 kW



FIT-FORM-FUNCTION
不需要任何辅助工具就可以快捷方便地进行更换

FIT-FORM-FUNCTION
Quick and easy replacement without changing the system infrastructure

直流电源系统 48VDC-2500A
交流电源系统 400VAC-60KVA
DC Power System, 48 V DC - 2500 A
AC Power System, 400 V AC - 60 kVA

灵活,高效,可靠

现代电信系统的无故障运行需要的是,可靠和随时可以投入运行电源装置

北宁与世界各地的客户紧密合作,为固定和无线网络的运营商提交交流和直流电源解决方案,通信电源以高频开关模块电源为结构框架,采用并联运行方式,系统的输出电流可高达几千安培。先进的电路设计和拓扑结构技术使电源的效率更高,结构更紧凑。

FIT-FORM-FUNCTION 降低能源成本

如今,北宁提供FIT-FORM-FUNCTION改造服务,通过使用新的TEBECHOP SE模块来替代更换老式的插拔式整流模块(北宁制造),新的模块和老模块尺寸完全相同,可直接插入到老的机架实现替换,更换过程不会对电源造成任何影响。

Flexible, efficient and reliable

Trouble-free operation of modern telecom systems requires the use of power supply units which are reliable and ready to be brought into operation at any time.

Working with customers world wide, BENNING supplies AC and DC power solutions to fixed and wireless network operators. The basis for the construction of the Telecom power supplies are switched mode power modules with plug-in technology. Using parallel connections, systems can be configured with ratings up to several thousand amps.

Advanced design and state-of the art circuit topology are the basic features of these compact yet highly efficient power systems.

FIT-FORM-FUNCTION reduces energy costs

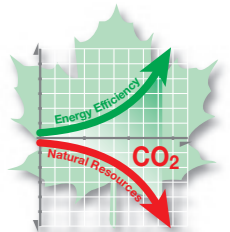
Now, BENNING offers the FIT-FORM-FUNCTION modernization of existing DC power supply systems (made by BENNING) by replacing older plug-in rectifier modules with modern TEBECHOP SE devices. Modernization made easy by plug & play installation without any downtime.



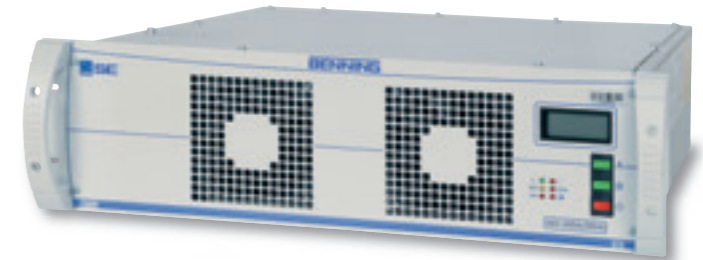
SLIMLINE PSU 4kW 直流电源系统 48VDC-83A 4kW
SLIMLINE PSU 4 kW, DC Power System, 48 V DC - 83 A, 4 kW



SLIMLINE 直流电源系统 48VDC-459A 22kW
SLIMLINE, DC Power System, 48 V DC - 459 A, 22 kW



SLIMLINE PSU 10kW 直流电源系统 48VDC-209A 10kW
SLIMLINE PSU 10 kW, DC Power System, 48 V DC - 209 A, 10 kW



TEBECHOP 13500 SE 直流电源系统 48VDC- 250A
TEBECHOP 13500 SE, DC Power System, 48 V DC - 250 A

OEM电源
OEM-power supplies



多路输出电源
Power Supplies
with multiple Outputs

高可靠性的定制电源设计

北宁在开发高质量的OEM开关电源有超过30年的经验。为医疗设备制造中的领军企业提供符合高标准要求的OEM电源。

- 产品系列
- 交直流电源, • 单路和多路输出
 - 直流变换器, • 功率范围250W-5000W

北宁电源设计满足德国标准和国际标准, 包括安全标准:
: EN 60950, UL / CUL 1950, IEC 60601-1 EMC标准:
EN55022-B

**Tailor-made power supplies
designed for peak reliability**

BENNING has more than 30 years of experience in developing high quality switched mode OEM-power supplies. Leading manufacturers of medical equipment, where power supplies must be of the highest standard, are customers of BENNING.

- Production range
- AC-DC Power Supplies • Single- and Multiple Outputs
 - DC Converters • Power Range 250 W – 5000 W

*BENNING power supplies are designed to meet national and international standards including:
Safety: EN 60950, UL/CUL 1950, IEC 60601-1
EMC: EN 55022-B*

牵引充电机 Traction chargers



BELATRON 高效率铅酸电池及锂离子电池充电机
BELATRON high-efficiency charging systems for lead acid- and lithium-ion batteries

电池管理系统 BATCOM digital+
Battery controller BATCOM digital+

关键电池数据可视化
Visualisation of key battery data

工业级解决方案 BELATRON UC
Industrial Solution BELATRON UC

高能源效率和低二氧化碳排放量

BELATRON 高效充电系统

过去的三十年里，BELATRON代表了先进的铅酸电池充电技术和未来发展导向。

与传统的充电机相比，BELATRON 高效率充电机将 充电过程的能耗降低，从而有效的减少了运行成本和二氧化碳排放。

LIONIC 电力系统具有更加经济和环保特性，系统整合了了BELATRON Li+高效率充电机和锂离子电池。

High energy efficiency and reduced CO₂ emissions

BELATRON high-efficiency charging systems

For more than three decades the name BELATRON has stood for advanced and future oriented charging technology for lead-acid traction batteries.

Compared with conventional chargers BELATRON high-efficiency charging systems reduce the amount of electrical energy consumed during the charging process. This leads to reduced operational costs and lower CO₂ emissions.

More economic and environmental advantages are possible using LIONIC® energy systems. These systems consist of BELATRON Li+ high-efficiency chargers and lithium-ion batteries (see page 22).

出色的充电站技术

强大的工业级设备

通过BELATRON UC系列产品，北宁公司提供专为满足工业应用需求而定制的高效充电系统。

在坚固外壳的设计中，特别注意灵活性、恶劣环境中的使用和最小的空间要求。BELATRON高效电源模块的集成确保了该系列产品的高效性和多种功能。

BATCOM digital+ 电池控制器

BATCOM digital+ 控制器捕获并存储重要的操作数据和牵引电池的状态，并通过大型LED显示屏和集成LCD显示屏指示这些数据。通过Bluetooth® 系统进行数据传输，可确

保始终与BELATRON充电系统、PC或移动设备进行安全通信。

Cutting-edge technology for your charging station

Robust industrial versions

With the series BELATRON UC, BENNING offers high-efficiency charging systems specifically tailored to the requirements of industrial applications.

In the design of the robust casing, particular attention has been paid to flexibility, use in harsh environments and minimal space requirements.

The integration of the BELATRON high efficiency power modules ensures that this series is highly efficient and is capable of a wide range of functions.

BATCOM digital+ Battery Controller

The BATCOM digital+ captures and stores important operating data and the condition of the traction battery and indicates these via the large LED display and the integrated LCD display. Data transmission via Bluetooth® guarantees secure communication with BELATRON charging systems, a PC or mobile devices at all times.

锂氧电池能源系统 Lithium-ion energy systems



各种容量的LIONIC® 电池系统
LIONIC® energy systems with different capacities



未来新能源

北宁公司的LIONIC®能源系统基于磷酸铁锂技术，并已在材料处理行业的各个部分使用数年。

这些能源系统节能高达30%，带来了经济和生态效益。

相比铅酸电池 LIONIC® 系统的优点:

- 低运营成本
- 3倍以上的可循环充电次数 (>3000次)
- 更好的充放电性能
- 更快速的充电能力
- 机会充电(利用分散时间充电)不影响电池寿命
- 无排放和免维护

New energy for the future

BENNING LIONIC® energy systems based on lithium iron phosphate technology have been used in various parts of the materials handling industry for several years.

With energy savings of up to 30%, these energy systems bring economic as well as ecological benefits.

Advantages of LIONIC® energy systems compared to lead acid batteries:

- Lower operating costs
- 3 times more charge cycles (> 3000 cycles)
- Better charge/discharge performance
- Fast charging capability
- Opportunity charging does not affect battery life
- Emission and maintenance free

面向未来移动的电动汽车充电系统 EV-charging systems for tomorrow's mobility



BELATRON Li+
BELATRON Li+

BELATRON模块化 19" 模块 (87.5 kW)
BELATRON modular 19" module (87.5 kW)

BELATRON模块化系统 (350 kW)
BELATRON modular system (350 kW)

直流快速充电模块可配置用于 轿车、卡车和公共汽车

缺失电动汽车的未来能源概念简直匪夷所思。移动和能源基础设施的提供商在全国性充电基础设施的发展和提供上面临着巨大的挑战。

借助BELATRON模块化系列，北宁公司为电动汽车充电站的设备供应商和运营商提供高性能充电模块和系统，这些模块和系统完全符合快速充电的要求。

这些系统具有高操作安全性和可靠性、高能源效率和充裕可用的“用户空间”。

模块组件的概念基础是大力缩短安装和组装时间，在后期操作中更易、更高效的维护。有些额定功率为87.5 kW (在 875 V 电压条件下) 的模块，通过并联连接，在 950 VDC最大输出电压时，系统输出功率可达几百千瓦。

DC-rapid charging modules configurable for cars, trucks and buses

A future energy concept is inconceivable without electromobility. The providers of mobility and energy infrastructures are facing enormous challenges with regard to the development and provision of nationwide charging infrastructures.

With the BELATRON modular series, BENNING provides equipment suppliers and operators of EV charging stations with high-performance charging modules and systems which are tailored exactly to the requirements of rapid charging.

The systems combine high operational safety and reliability, high energy efficiency and optimally usable "user space". The concept of modular components is the basis for offering significantly reduced installation and assembly times as well as easier and more efficient maintenance during later operation. There are modules available with a rated power of 87.5 kW (@ 875 V). Through parallel connection, system outputs of several hundred kW at a max. output voltage of 950 VDC can be implemented.

测试测量和安全仪器

Test, measurement and safety instruments

安全,可靠和强大

safe, reliable and powerful



具有记录功能和蓝牙功能的北宁CM 12数字钳形电流表
BENNING CM 12 Digital Current-Clamp-Meter with logging function and Bluetooth



DUTEST® pro
连续性和线路测试仪
DUTEST® pro
Continuity and line tester



具有记录功能和蓝牙功能的数字万用表北宁MM 12
Digital Multimeter BENNING MM 12 with logging function and Bluetooth

DUSPOL® digital
DUSPOL® digital
IEC/EN 61243-3
DIN VDE 0682-401

绝缘电阻测量仪
BENNING IT 101
Insulation and Resistance Tester



北宁 PV 2、PV安装测试仪和I-V曲线跟踪器
BENNING PV 2, PV Installation Tester and I-V Curve Tracer



IT 130 安装测试仪
BENNING IT 130 Installation Tester



安全测试仪 ST 755 / ST 760
Safety Tester BENNING ST 755 / ST 760

为所有客户提供稳定,安全可靠 的解决方案

通过坚持高水准工艺和不断的创新发展,北宁公司在业内赢得了行业领导者的良好声誉.

电压,连续性和相序测试器

北宁DUSPOL® and DUTEST®系列产品适用于测量电源电压,电压,相序,极性,连续性和半导体测试等.

数字万用表和数字钳形表

产品设计的初衷是要为了解决所有测量应用和要求.配备了传统的平均值和真有效值测量方式并符合CAT IV过电压类别.

安全设备

根据DIN VDE 0100 标准和DIN IEC 60364国际标准,安装测试仪BENNING IT 101 / IT 115 / IT 130用于对电气设备进行安全测试.

根据DIN VDE 0701-0702标准,北宁安装测试仪可以在短时间内轻松、安全地测试电气设备.型号BENNING ST 755 / ST 760还可以根据DIN EN 62353标准对电气医疗设备进行测试,并对移动式剩余电流保护装置 (PRCD) 和移动电源分配进行全面测试.弧焊设备可以使用 BENNING ST 760 型号进行测试,符合DIN EN 60974-4 标准.测试仪需要接地的230 V电源.

BENNING PV 2是光伏安装测试仪(符合 DIN EN 62446 标准)和PV I-V曲线跟踪器(符合 DIN EN 61829 标准).

Robust, safe and reliable solutions for all users

BENNING has earned its reputation as a market leader through innovative developments and a consistently high level of workmanship. Each product design meets the demands of professional users.

Voltage-, Continuity and Phase Sequence Tester

The DUSPOL® and DUTEST® ranges are designed for voltage-, phase-, polarity-, phase sequence-, continuity- and semiconductor testing.

Digital-Multimeter and Digital Clamp Meter

The range offers an ideal solution for all requirements and applications. The instruments are produced with conventional, average- and true RMS measurement capability with the highest over-voltage category CAT IV.

Safety Instruments

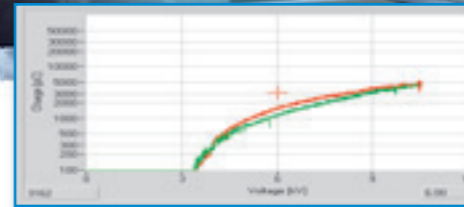
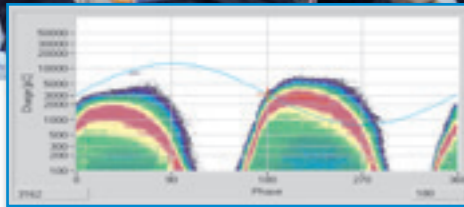
The installation testers BENNING IT 101 / IT 115 / IT 130 are used for safety testing of electrical installations in accordance with the standard DIN VDE 0100 and the International standard DIN IEC 60364.

The BENNING appliance testers are made to test electrical equipment easily, safely and in the shortest time in accordance with DIN VDE 0701-0702. The models BENNING ST 755 / ST 760 also enable the testing of electrical medical devices according to DIN EN 62353 and the complete testing of PRCDs and mobile power distribution. Arc welding equipment can be tested with the BENNING ST 760 in compliance with the standard of DIN EN 60974-4. The tester requires a grounded 230 V power source.

The BENNING PV 2 is a Photo Voltaic installation tester (in accordance with DIN EN 62446) and PV I-V curve tracer (in accordance with DIN EN 61829).

电机维修 Electrical Machines

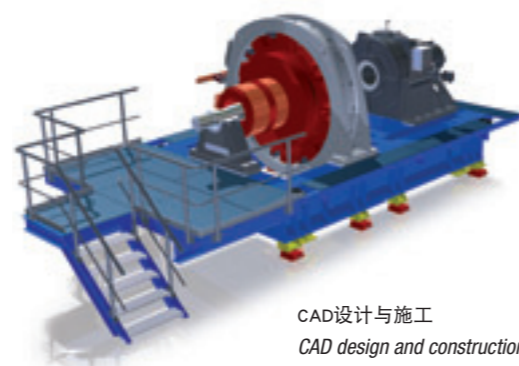
传统工艺和最新技术的结合 Traditional craftsmanship and the latest technology



局部放电试验报告
PD-test-report

维护，翻新，现场服务， 诊断分析

超过70年的设备维修服务已经成为了代表公司业务的一个重要组成部分。今天公司提供了更广泛的高质量服务业务，现在除了标准的马达电机的维修服务，公司的其他业务已经遍布德国以及其他国家。



CAD设计与施工
CAD design and construction

生产和服务包括:

- 设备故障分析
- 设备保养
- 现场服务
- 提供电机设计方案

• 生产:

- 高低压电动机和发电机
- 备品备件以及其他元件

设备诊断团队都配备有专门的测量仪器，从而能从图像，机械，电气等各方面进行分析，例如：
• 图像（内视镜，热成像）
• 机械（平衡，振动，频率）
• 电气（介损，局部放电， Baker测试， Pi测试）

Maintenance, reproduction, on-site-service and diagnostics

For more than 7 decades machine repairs have represented an essential part of the companies' activities. Today the company offers a large range of high quality service activities and some manufacturing of electrical motors in addition to the standard repair service. Customers are located in Germany and abroad.

The service and production portfolio includes:

- Diagnostics
- Maintenance
- On site service
- Design of rotating electrical machines

• Production of:

- High and low voltage motors and generators
- Spare parts and other components



The diagnostic team works with state of the art test- and measurement equipment for the analysis of visual, mechanical and electrical tests, for example:

- Visual (endoscopies, thermographic survey)
- Mechanical (balance control, vibration and frequency analysis)
- Electrical (tan-delta, partial discharge, Baker-Test and Pi-test)

可靠的服务
Reliable service ...

来支持高质量的系统
... to support high quality systems



详细的项目计划来支撑快速的现场部署
Detailed project planning for fast implementation on site

控制室来实现系统监视和指挥协调服务活动
Modern control room for system monitoring and coordination of service activities



北宁在德国的服务网点
BENNING service branches in Germany

通过主动360度服务，保障长期的高可靠性

相信您选择了北宁，就是选择了一家技术先进的高质量AC和DC供应商。BENNING可以提供可靠、全球化的技术服务，为您的需求提供可靠的支持。您可以获得高质量的支持、备件服务和专业级的知识，以及其他您想了解的产品信息。

和BENNING签订服务合同您可以获得高标准的服务、快捷的备件供应。通过这项服务BENNING可以主动向您提供服务，保证设备最优的可靠性，帮助您面对今天的挑战和未来的机遇。

- 通过以下方式减少停机时间和风险：
 - 定期基本维护
 - 主动检查（也可通过远程访问）
 - 预防和采取主动措施和服务
 - 快速响应
- 通过减少运营成本方式如下：
 - 性能和生命周期管理
 - 改造措施
- 通过以下确保可用性：
 - 灵活可扩展的服务水平
 - 针对您的业务和运营、量身定制的个人维护和服务

Maintaining long-term reliability by pro-active 360° services

By placing your trust in a BENNING system you have decided on a high-quality product in the production of AC and DC power supplies.

BENNING offers a reliable, globally orientated service structure that provides the reliable support for your requirements. You have access to high-quality support, spare parts and expert knowledge – wherever and whenever you require them.

With a BENNING service contract you can rely on a high standard of service with reliable delivery dates and rapid delivery of spare parts. With its pro-active services BENNING can help you secure the high availability of your current supply – helping you meet the challenges of today and the opportunities of tomorrow:

- **Minimizing downtimes and risks through:**
 - Fundamental maintenance on a regular basis
 - Pro-active checks (also via remote access)
 - Preventive and pro-active measures and services
 - Quick response in case of service required
- **Reducing operating costs through:**
 - Performance and life cycle management
 - Retrofitting measures
- **Ensuring required availabilities through:**
 - Flexible and expandable service levels
 - Individual maintenance and service concepts tailored to your business and operational processes

BENNING - 北宁全球

BENNING - worldwide



生产厂 Production facilities

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ISO
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14001

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SCC[®]

