









## 上海电气输配电集团有限公司 Shanghai Electric Power Transmission and Distribution Group Co., Ltd.

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# 集团简介 **GROUP PROFILE**



# 历史沿革

**HISTORY** 

# 〉上海电气输配电集团有限公司

SHANGHAI ELECTRIC POWER TRANSMISSION AND DISTRIBUTION GROUP CO., LTD.

上海电气输配电集团有限公司(以下简称"集团"), 是上 Shanghai Electric Power Transmission and Distribution Group Co., Ltd. 海电气集团旗下重要产业板块。专业从事输配电产品和控制 设备的研发、设计、制造、销售、电力工程总承包业务,以 sales of power transmission and distribution products and control 及输配电领域的技术服务和咨询等。

2011年由上海电气与国网上海市电力公司(股比50:50)合 资成立输配电集团有限公司,整个集团规模得到进一步扩 大,经营范围不断拓宽,实现了输配电产业链。主要产品涵 盖高压化、智能化、电力电子化及工程服务"3+1"产业体 用于电力、水利、轨交、邮电、通讯、轻纺、石化、冶矿、 建筑等不同领域。

目前,集团年销售规模已超过百亿,有18家下属企业。近年 来,集团大力开拓市场,形成了"稳住沪内、突破周边、辐 with 18 affiliated enterprises. In recent years, the Group has vigorously 射全国"的网点布局,并积极开发工业客户,拉动业内配 套。在响应国家"一带一路"战略方面,集团以所拥有的工 and actively developed industrial customers to promote the supporting 程成套资质不断拓展海外EPC市场,为客户提供包括投融资 在内的输配电总承包解决方案。

(hereinafter referred to as "the Group") is an important industrial sector of Shanghai Electric Group, specializing in the R&D, design, manufacturing, equipment, general contracting business of power engineering, as well as technical services and consulting in the field of power transmission and

In 2011, Shanghai Electric and State Grid Shanghai Municipal Electric Power Company (shareholding ratio: 50:50) jointly established the Power Transmission and Distribution Group Co., Ltd., furthering expanding the scale of the whole group, continuously widening the business scope, and attaining the transmission and distribution industry chain. The main 系,有变压器、电缆、开关柜、元器件、电力电子、二次设 products cover "3+1" industrial system of high voltage, intelligence, power electronics and engineering services, including transformer, cable, switch 备等多个产品系列,覆盖了500kV及以下各电压等级,广泛 cabinet, components, power electronics, secondary equipment and other product series, covering voltage levels of 500 kV and below, widely used in a variety of fields like power, water conservancy, rail transit, post and telecommunications, communications, light textile, petrochemical, metallur-

> At present, the annual sales of the Group has exceeded RMB 10 billion, developed the market, formed a network layout of "stabilizing Shanghai, breaking through the surrounding areas and radiating the whole country", industry. In response to the "One Belt, One Road" strategy, the Group has expanded its overseas EPC market with its complete set of qualifications, and provided EPC solutions for power transmission and distribution, including investment and financing.

集团始终致力于打造"国际领先、国内一流"的输配电装备 行业领军者,成为具备集成能力和综合解决方案的供应商, 竭诚为广大国内外用户提供优质的产品和高效的服务。

集团产业链齐全、产品门类丰富,形成了高压化、智能化、电 力电子化及现代化服务的产业结构体系。聚焦智能电网新技 术、新产品,推进新能源接入、柔性输电;发展在线监测、分 布式能源及储能技术; 开发智能变电站, 充分发挥自身优势、 抢占市场先机; 在智能电网系统集成、工程总包、设备成套、 检修等一体化服务上搭建整体解决方案服务平台。

The Group has always been committed to building an "international leading and domestic first-class" enterprise in the power transmission and distribution equipment industry, becoming a supplier with integrated capabilities and comprehensive solutions, and providing high-quality products and efficient services to a wide range of users at home and

The Group has a complete industrial chain and extensive product categories, forming an industrial structure system of high-voltage, intelligent, power electronic and modern services. It's dedicated to developing new technologies and products of smart grid, and promoting new energy access and flexible transmission; developing online monitoring, distributed energy and energy storage technologies; developing smart substations, giving full play to its advantages and seizing market opportunities; building an integrated solution service platform based on comprehensive services such as smart grid system integration, EPC, complete-set

#### 2011年

上海电气输配电集团 上海电气输配电集团有限公司

#### 2008年

上海电气输配电集团

#### 2004年

上海电气输配电股份有限公司

上海电器股份有限公司(1993年上市)

#### 1987年

上海电器(集团)公司

上海电器工业公司

上海电力设备制造公司

### 起步

1907年,上海继电器厂 1912年,上海电器成套厂 1914年,上海人民电器厂 1921年,上海变压器厂

"电气梦"、"三步走"战略为统领 坚持"跨越式高质量发展"的理念 Following the "electric dream" and the "three-step" development strategy Adhering to the "leapfrog high-quality development" concept 致力打造国际领先、国内一流的输配电装备行业高 新技术标杆企业与坚强智能电网整体解决方案服务 平台,努力成为中国输配电装备行业的领军者。 The Group strives to build an international leading an domestic first-class high-tech benchmarking enterprise in the power transmission and distribution equipment indus try and a powerful smart grid solution service platform, ultimately becoming a leader in the power transm and distribution equipment industry in China.

基于各种现场总线技术、移动通信网络技术、电力自动化控制技术和智能化管理技术,有利

于能源管理,实现遥测、遥信、遥控、遥调、故障定位和报警、配电管理,为用户实现配电智

能化提供全方位、高性价比的智能管理手段和综合解决方案。

# 输配电网

## TRANSMISSION AND **DISTRIBUTION NETWORK**













变电站 Substation

分布式能源系统 Micro-grid Distributed Energy System



变压器

Energy Storage



电缆

Smart Switch Component









能量管理设备



智能开关元件



Smart Power Terminal

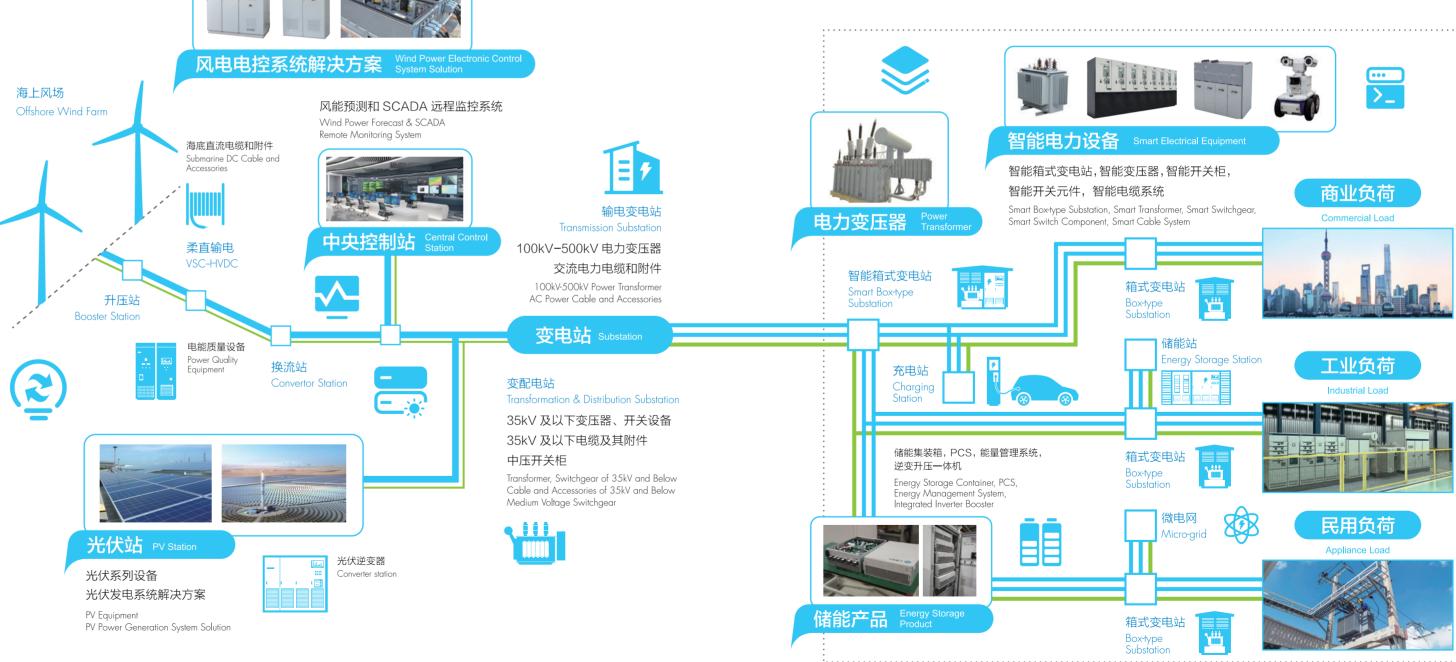


能量路由器

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# 智能电网综合解决方案 SMART GRID SOLUTION

Based on various fieldbus, mobile communication network, electric power automation control and intelligent management technologies, the platform can help with energy management and realize remote measuring, remote signaling, remote control, remote regulating, fault locating and alarm, and power distribution management, providing comprehensive, cost-effective intelligent management tools and integrated solutions for users.



#### 风电变桨系统

#### Wind Power Variable Pitch System

- 可靠性高,维护成本低
- 环境适应能力强
- 具备高低穿功能,集成化、通用化、智能化
- 驱动系统结构简单
- High reliability, low maintenance cost
- High environmental adaptability
- HVRT and LVRT functions, integrated, universal, intelligent
- Simply structured drive system



#### 风电电控系统一体化解决方案

#### Integrated Solution of Wind Power Electronic Control System

- 包括风电变流器、主控系统、变桨系统的控制功能整合, 使风机运行更加协调。
- 更好的实时性, 更高的可靠性、以及更方便的可维护性。
- 更完善的录波机制,记录电控系统各部件的实时状态以供 故障预警与分析。
- 快捷、贴心的一站式售后服务。
- 通过国网电科院 LVRT 张北认证。
- 并通过国网电科院模型一致性认证。
- It integrates the control functions of wind power converter, master control system and variable pitch system, ensuring more coordinated running of the fans.
- It boasts better real-time performance, higher reliability and easier maintenance.
- It has an enhanced recording mechanism that can record the real-time states of the electronic control system's various parts for early fault alert and analysis.
- Quick and well-considered one-stop after-sales service.
- It has obtained the LVRT Zhangbei Certification from the State Grid Electric Power Research Institute.
- It has also obtained the Model Consistency Certification from the State Grid Electric Power Research Institute.

#### 风电主控系统

#### Wind Power Master Control System

- 一体化控制解决方案
- 先进的 SCADA 系统
- 优化的功率控制
- 海上冗余控制技术
- 传动链载荷优化
- 完善的故障诊断
- 可编程独立安全控制器
- Integrated control solution
- Advanced SCADA system
- Optimized power control
- Offshore redundancy control technology
- Driving chain load optimization
- Comprehensive fault diagnosis
- Programmable independent safety controller





#### 风电变流器

- High efficiency and reliability

## 风电变流器

风电变桨系统

WIND POWER ELECTRONIC CONTROL SYSTEM SOLUTION

风电电控系统解决方案

风电主控系统

#### 市场维护

#### 解决方案

更好的实时性,可靠性,便于维护

更完善的录波机制,记录电控系统各部

# 风电设备及系统 解决方案



## WIND POWER EQUIPMENT AND SYSTEM SOLUTION

变流系统的风电电控系列产品。其中主控系统机型涵盖 2.0-6.25MW,变桨

control system, variable pitch system and conversion system. In particular, the types of



#### Wind Power Converter

- 高效率高可靠性
- 优化的柜体结构
- Optimized cabinet structure
- 灵活的对外接口 • 领先的控制技术
- Flexible external interface Advanced control technology
- 严格的标准化设计
- Stringent standardized design

## 智能电力设备及 系统解决方案



# SMART POWER EQUIPMENT AND SYSTEM SOLUTIONS

集团在当下电力物联网和透明电网的大背景下,基于已有的技术和产业情况,结合数智输配电技术,大力推进测量数字化、控制网络化、状态可视化、功能一体化、信息互动化的智能化电力设备的研发与制造。

Against the current backdrop of the Internet of Things in Power Systems and transparent grid, and based on the existing technology and industrial situation, the Group vigorously promotes the R&D and manufacturing of intelligent power equipment featuring measurement digitalization, control networking, state visualization, functional integration and information interaction by combining digital and intelligent power transmission and distribution technologies.

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## 智能变压器

Smart Transformer

o Full state-awareness
智能开关元件
o Fault self-diagnosis

Smart Switch Component Automated operation and maintenance

• 状态全感知

• 故障自诊断

自动运维



#### 首形 カスヤ Smart Switch

Smart Switchgear

#### 智能电缆系统 Smart Cable System



#### 智能巡检设备

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Smart Tour-inspection Equipment

- 巡检机器人、无人机
- 故障处理服务器系统
- Tour-inspection robot, UAV
- Fault handling server system



#### 智能终端

Smart Terminal

- 集采集、分析、传输为一体的 物联网智能终端产品
- IoT smart terminal products integrating acquisition, analysis and transmission



081

#### SEAGREE—EPCS(储能变流器)

SEAGREE-EPCS (Energy Storage Converter)

- 模块化设计、灵活布置、冗余设计、维护方便;
- 支持快速并离网切换功能:
- PCS 集成部分 EMS 系统功能,节约用户侧储能投资成本;
- 完善的系统保护功能,安全可靠。
- Modular design, flexible layout, redundancy design, easiness to maintain.
- Support quick switching between grid-connection and off-grid.
- PCS integrates part of the functions of EMS to save user-side energy storage investment cost.
- Safe and reliable with enhanced system protection feature.



#### 一体化集装箱

#### Integrated Container

- 一体化设计,即插即用,运输便捷;
- 防护等级高,适合多种严酷环境;
- 配备自动消防系统,安全可靠;
- PCS 模块化设计,提高系统使用率。
- Integrated design, plug and play, easy to transport.
- High level of protection, suitable for various harsh environments.
- Safe and reliable with an automatic fire suppression system.
- PCS modular design for improved system utilization.



#### 移动式储能车

#### Mobile Energy Storage Vehicle

- 电压电流追踪,实现不间断电力供应切换;
- 小型化设计、灵活布置:
- 具备并离网切换功能支持多机并联和热插拔, 方便扩容。
- Voltage and current tracking, realizing uninterrupted switching of power supply.
- Compact design, flexible layout.
- O Capability to switch between grid-connection and off-grid, supporting multi-generator parallel connection and hot-plug, easy to expand capacity.

#### 逆变升压一体机

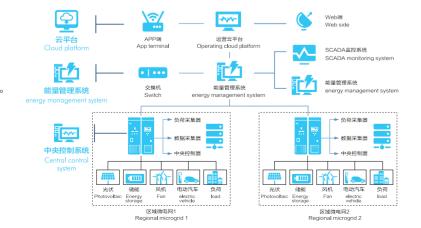
#### Integrated Inverter Booster

- 高度集成化设计,包含逆变与升压单元;
- 并网和离网两种状态下全功率输出;
- 全方位监控采集。
- Highly integrated design, including inverter and booster units.
- Full-power output under both grid-connected and off-grid states.
- All-round monitoring and acquisition.

#### 综合监控管理系统

#### Comprehensive Monitoring Management System

- 本地控制器,如储能集装箱本地 EMS 控制器、充电站监控系统等;
- 能量管理层,实现优化调度,保证安全、经济、可靠运行;
- 云平台,实现移动端和 WEB 端的实时状态显示、数据查询、和运行维护。
- Local controllers, e.g. local EMS controller of energy storage container, charging station monitoring system, etc.
- The energy management level realizes optimized dispatching to ensure safe, economical and reliable operation.
- The cloud platform realizes real-time status display, data inquiry and operation maintenance at the mobile and WEB terminals.



# 利用电价峰谷差,增加经济效益 减少容量电费,增加经济效益

储能系统解决方案

**ENERGY STORAGE** 

**SYSTEM SOLUTIONS** 

#### 调峰调频

快速响应调频调压指令

Quickly respond to frequency and

## **ENERGY STORAGE PRODUCT** AND SYSTEM SOLUTIONS

储能产品及系统解决方案

集团在储能领域拥有系列化产品及解决方案:PCS,集装箱,EMS,逆变升 压一体机,移动式储能,综合监控系统。满足工商业用户新能源并网、辅助 调频,电力保障等多种需求。

cial users for new energy grid-connection, auxiliary frequen-



## 微电网项目

削峰埴谷

#### <sup>′</sup>新能源并网

)减少瞬时功率变化,减少电网冲击 )跟踪计划调度,提高并网可控性 )提高发电预测精度,提升并网友好性



## 电能质量解决方案及轨道 交通能量回馈系统解决方案

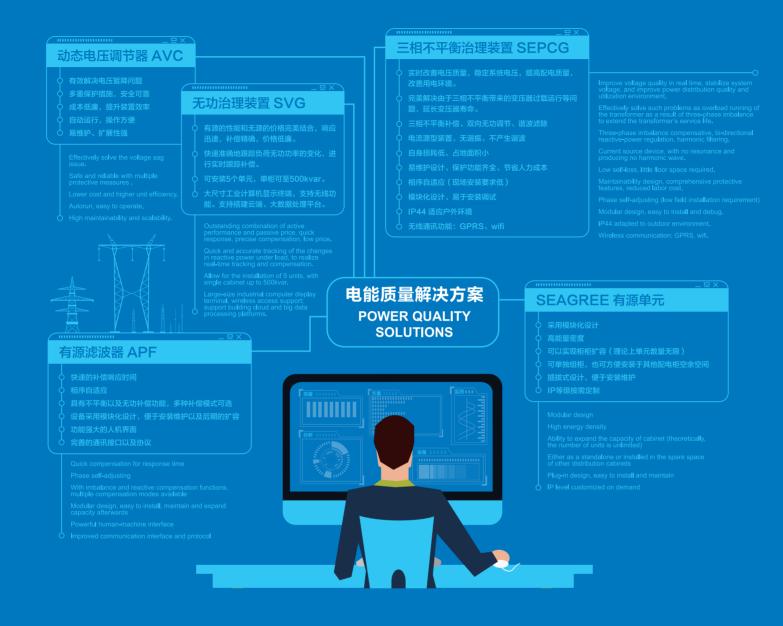
## POWER QUALITY SOLUTIONS AND RAIL TRANSIT ENERGY **FEEDBACK SYSTEM SOLUTIONS**

集团在电能质量领域的产品研发不断取得突破性的进展,提供从电 流治理到电压治理、从低压到中压、从输电端到配电端再到用户侧的全 方面治理设备以及系统化解决方案。自主研发了 AFP、SVG、AVC、在线 式UPS、电能质量综合治理等产品,多次解决各个行业的电能质量问题。

我们还提供轨道交通能量回馈系统,自主研发了包括制动电阻型、逆变回馈 型、超级电容储能型、混合型等多种类型的能量回馈装置以及解决方案,为 我国轨道交通行业节能减排做出了巨大贡献。

The Group has made breakthroughs continuously in product R&D in the field of power quality, providing comprehensive governance equipment and systematic solutions ranging from current governance to voltage governance, from low voltage to medium voltage, from transmission end to distribution end and then to user side. It has independently developed AFP, SVG, AVC, online UPS, comprehensive power quality governance and other products, and repeatedly solved the power quality problems faced by a wide range of industries.

In addition, the Group also provides rail transit energy feedback systems, and has independently developed various types of energy feedback devices and solutions. including brake resistor type, inverter feedback type, super capacitor energy storage type, hybrid type, etc., playing a big role in the energy conservation and emission reduction of China's rail transit industry.



#### 轨道交通能量回馈系统解决方案 RAIL TRANSIT ENERGY FEEDBACK SYSTEM SOLUTIONS

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#### 自动电压控制器

#### Automatic Voltage Controller

- 0~100% 电压跌落完美补偿
- 响应速度快,运行效率高
- 过电压调节能力强
- 模块化设计,结构紧凑,占地面积小
- 强大的云平台,免维护、免值守
- 冗余设计, 高可靠性

- Perfect compensation for voltage sags of 0-100%
- Quick response, high operating efficiency
- Strong overvoltage regulating ability
- Modular design, compact structure, little floor space required
- Powerful cloud platform, maintenance-free, unattended
- Redundancy design, high reliability

#### 电能质量综合治理

#### Comprehensive Power Quality Governance

- 一机多能, 解决多种电能质量问题
- 模块化设计, 灵活配置
- 全面保护功能,提升稳定性
- 基于工业安卓系统,良好的人机交互体验
- 卓越的补偿功能
- 系统稳定, 快速响应
- 寿命长, 免维护, 免值守



- Multiple functions integrated in one machine, able to solve multiple power quality issues
- Modular design, flexible configuration
- Comprehensive protective function, improved stability
- Based on the industrial Android system, creating good man-machine interaction experience
- Outstanding compensation function
- System stability, quick response
- Long service life, maintenance-free, unattended

#### 轨道交通能量回馈装置

#### Rail Transit Energy Feedback Device

#### 超级电容储能型

- 整机响应时间快
- 输出电流波形质量高
- 扩容简单方便

#### 逆变回馈型

- 具备可控整流功能
- 具备无功补偿功能
- 逆变回馈型单元技术成熟
- 系统效率高,装置可靠性高
- 控制精度高, 抗干扰能力强
- 调试、维修、维护方便

#### Super Capacitor Energy Storage Type

- Quick response time
- High-quality output current waveform
- Simple and easy to expand capacity

#### Inverter Feedback Type

- Controlled rectification function
- Reactive compensation function
- Mature technology of inverter feedback type units
- High system efficiency and device reliability
- High control precision, strong anti-interference capability
- Easy to debug, repair and maintain



# 产品 **PRODUCTS**

## 〉输配电设备 POWER TRANSMISSION AND DISTRIBUTION EQUIPMENT

## 电力变压器 **Power Transformer**

以"提高产品可靠性,提高设备智能化、 提高有效材料利用率、降低损耗"为宗旨



500kV 自耦单相绕组无励磁 调压电力变压器

500kV self-coupling single-phase winding voltage regulating power transformer without excitation

Aiming to "improve product reliability, equipment intelligence and effective material utilization, and reduce loss"

集团通过引进技术与自主研发相结合,制造具有世界先进水平的 500kV 及以下电力变 压器。并积极响应国家战略,大力推广节能、降耗、适用的配网新产品、新设备,以"提 高产品可靠性,提高设备智能化、提高有效材料利用率、降低损耗"为宗旨,不断创 新产品类别,努力提升产品能级,为我国电力发展贡献力量。

SS11-240000/220 变压器具有结构合理、绝缘性能优越、抗短路能力强、损耗低、 温升低、局放小、噪音小等特点,已通过了国家变压器质量监督检验中心的所有试验, 是我国首台过短路试验的 220kV 电压等级 240000kVA 容量的变压器。主要性能指标 达到同类产品国际先进水平。SS11-240000/220 变压器具有结构合理、绝缘性能优 越、抗短路能力强、损耗低、温升低、局放小、噪音小等特点,已通过了国家变压器 质量监督检验中心的所有试验,是我国首台通过短路试验的 220kV 电压等级 240000kVA 容量的变压器。主要性能指标达到同类产品国际先进水平。

10kV 配电变压器通过电能(北京)认证中心节能产品认证,达到一级能效标准。







## 智能箱式变电站 **Smart Box-type Substation**

技术先进、智能化程度高、扩展性好、升级灵活。

箱式变电站广泛应用于至 40.5kV 电压等级变电站、开闭所。新型智能箱式变电站具 有技术先进、智能化程度高、扩展性好、升级灵活的特点,拓展了箱变的智能化概念 和功能,具有数据传输、故障诊断和自愈的功能,技术水平高于国内同类产品,在电 力市场应用中凸显优势。

Technologically advanced, highly intelligent, highly scalable, flexibly upgradable

The box-type substation is widely used in substations and switching stations at a voltage level of up to 40.5kV. The new smart box-type substation is technologically advanced, highly intelligent, highly scalable, and flexibly upgradable, expands the intelligent concept and functionality of box-type substations, and boasts such functions as data transmission, fault diagnosis and self-healing. Technically, it is superior to similar products in China, a distinct advantage in the electricity markets.



直流牵引箱式变电站 DC Traction Box-type Substation

Integrating imported technology and in-house R&D, the Group has manufactured world-class power transformers of 500kV and below; in response to national strategies, vigorously promoted energy-saving, consumption-reducing and applicable new products and new equipment for the distribution network; and, with a view to "improving product reliability, equipment intelligence and effective material utilization, and reducing loss", constantly innovated product categories, striving to improve the energy level of products and contribute to the development of China's electric power.

The SS11-240000/220 transformer features, among others, a reasonable structure, superior insulation performance, strong anti-short circuit ability, low loss, low temperature rise, small partial discharge, and low noise. It has passed all of the tests required by the National Transformer Quality Supervision and Inspection Center, and is the first 220kV transformer with a 240000kva capacity that has passed the short-circuit test in China, with its main performance indexes reaching the international advanced level

The 10kV distribution transformer has passed the energy-conservation product certification of the Electric Energy (Beijing) Certification Center, reaching the first level energy efficiency standard.

## 高低压电缆、风能电缆、PP 绝缘电缆、 直流电缆、电缆附件

# HV/LV Cables, Wind Power Cables, PP Insulated Cables, DC Cables, Cable Accessories

所有网络传输用通信电缆、船用网线、现场总线、轨道交通用线、 柔性电缆、光缆、电地暖系统。

All communication cables for network transmission, marine network cables, fieldbus, cables for rail transit, flexible cables, optical cables, and electric floor heating systems.

集团以先进的制造技术、精良的工艺装备、严格的管理模式制造至 500kV 交联电缆、海底电缆、柔性直流输电电缆及电缆附件; 所有网络传输用通信电缆、船用网线、现场总线、轨道交通用线、柔性电缆、光缆、电地暖系统。

柔性直流输电电缆具备由国家电线电缆监督检测中心出具的型式试验报告,产品已成功应用于亚洲首个柔性直流输电示范工程——上海南汇柔性直流输电项目中。集团成功研制的交联聚乙烯绝缘光纤复合电缆(OPLC),取得了国家电网入网证书。全系列网络传输用通信电缆具有UL、3P、ETL、TUV等多家权威认证机构的全方位证书,船用线缆系列则是全中国拥有船级社认证证书最齐全的厂家。

The Group manufactures 500kV cross-linked cables, submarine cables, flexible DC transmission cables and cable accessories on the strength of advanced technology, excellent equipment and a strict management model, covering all communication cables for network transmission, marine network cables, fieldbus, cables for rail transit, flexible cables, optical cables and electric floor heating systems.

With the type test report issued by the National Wire and Cable Supervision and Testing Center, the flexible DC transmission cable has been successfully applied in Shanghai Nanhui Flexible DC Transmission Project, Asia's first flexible DC transmission demonstration project. The Group has successfully developed the cross-linked polyethylene insulated optical fiber composite cable (OPLC) and obtained the national grid access certificate. The full series of communication cables for network transmission has various certificates issued by UL, 3P, ETL, TUV and other authoritative certification institutions. In terms of the marine cable series, the Group is the manufacturer with the most complete certificates of classification society in China.



35kV 交联聚乙烯电力电缆 35kV XLPE Cable



10kV 架空线 10kV Overhead Line



10kV 柔性电力电缆 10kV Flexible Cable



35kV 海底电缆 35kV Submarine Cable







## 金属封闭开关设备 Metal-enclosed Switchgears

集团生产多系列金属封闭开关设备及预装式变电站(高/低压箱变、户外开关站),广泛应用于电力系统,以及其它工业领域。KYN28 A 智能型铠装移开式交流金属封闭开关设备具有断路器状态自检测功能、故障报警及自闭锁等智能化功能;可对设备运行状态和参数进行远程测控和智能化管理;实现对主母排、动静触头和柜体内运行温度的在线监测。SE-house 智能型预装式变电站,体现了"紧凑型+预装式+数字化"变电站建设的技术路线和方案,产品高度集成化和模块化,广泛应用于能源密集型行业领域,可耐受极端温度以及灰尘、污垢、湿气、雾气等恶劣环境影响,可以比建造传统的变电站节约 20%~30%的预期成本。

The Group produces multiple collections of metal-enclosed switchgear and prefabricated substations (HV/LV box transformer and outdoor switch station), which are widely used in electric power systems and other industrial fields. The KYN28 A smart armored movable AC metal-enclosed switchgear boasts such intelligent functions as circuit breaker status self-detection function, fault alarm and self-closing lock. It can remotely measure, control and intelligently manage the equipment's operating status and parameters, and realize on-line monitoring of the main bus bar, dynamic and static contacts and the operating temperature in the cabinet. The SE-house smart prefabricated substation enshrines the technical route and scheme of "compact + prefabricated + digitalized" substation construction. The product is highly integrated and modularized, widely used in energy-intensive sectors. It can withstand extreme temperatures and harsh environmental impacts such as dust, dirt, moisture and fog, and save 20% - 30% of the expected cost compared to the construction of a traditional substation.

## 开关元器件 Switch Components



作为开关元器件领域的先导者,集团积淀了百年以上开关元器件制造经验,新型智能产品具有完善的在线状态监测、诊断功能、可靠的智能保护管理系统,快速精确的智能决策系统,坚强的自诊,自愈,自恢复系统、通讯数据记录功能,可用于智能控制系统。实现遥控、遥测、各类保护功能和系统能量、运行、寿命管理。

As a leader in the switch components market, the Group has over a hundred years of history in switch component manufacturing. The new smart products have perfect on-line condition monitoring and diagnosis functions, reliable intelligent protection management system, fast and precise intelligent decision-making system, strong self-diagnosis, self-healing, self-recovery system and communication data recording function, which can be used in intelligent control systems. And the products have realized remote control, remote metering, various protective functions and system energy, operation and life management.

产品



## 智能电网配电管理系统 Smart Grid Power Distribution Management System

DMP-5500 是建立在 IEC61850 标准规范上开发的新一代智能变电站系统,能够实现变电站内智能设备间信息共享和互操作,实现了变电站运行操作自动化管理,以全站信息数字化、通讯平台网络化、信息共享标准化为基本要求,自动完成信息采集、数据测量、顺序控制、快速保护、精确计量、自动检测等基本功能,并可根据电网运行需求,支持实时自动控制、智能调节、分析决策、协同互动等高级功能。

A new generation of smart substation system based on the IEC61850 standard, the DMP-5500 can realize information sharing and interoperation between the smart equipment rooms within a substation, enable automated management of the substation's running and operating, automatically perform such basic functions as information acquisition, data measurement, sequential control, fast protection, accurate measurement and automatic detection, etc. with station-wide information digitalization, communication platform networking and standardized information sharing as the basic requirements, and support such advanced functions as real-time automatic control, intelligent regulation, analysis and decision-making and collaborative interaction, etc. according to the grid's operating needs.







## DMP-2217 罩式馈线终端 DMP-2217 Hood-type Feeder Terminal

适用于配电网中的柱上负荷开关(或断路器)的配网 自动化终端产品,是各类柱上开关自动化的配套机型。

Automatic terminal products applicable to post-mounted load switches (or circuit breakers) in power distribution grids, they are an automated supporting product for various post-mounted switches.



## DMP-2216 配网馈线终端 DMP-2216 Distribution Network Feeder Terminal

柱上开关的配网自动化终端产品,适应于弹簧操作机 构、电磁机构、永磁机构等各种类型柱上开关,实现 配电自动化管理。

Automatic terminal products for post-mounted switches in power distribution grids, they are applicable to various types of post-mounted switches such as spring operating mechanisms, electromagnetic mechanisms and permanent magnetic mechanisms, and realize automated management of power distribution.



## DMP-2218 配网站所终端 DMP-2218 Distribution Network Station Terminal

主要安装在配电网开关站、配电室、环网单元、箱式变电站等处,实现配电监控功能。

They are mainly installed at such locations as power distribution grid's switching station, power distribution room, ring network unit, box-type substation, etc., realizing the power distribution monitoring function.





输配电技术中心于 2006 年成立, 先后承担多个国家 863 项目和科技支撑项目, 并于 2008 年被评为国家级企业技术中心, 技术中心现有 5MW 全功率电机试验平台,电压跌落模拟试验平台及电磁兼容试验平台,为企业发展和产品设计提供了强有 力的技术支撑;装备了如兆瓦级风力发电全功率试验平台、低电压穿越试验平台、RTDS实时动态数字仿真系统等国内一流 的试验检测设施,通过与清华大学、上海交大、中科院等知名学府及科研院所的产学研合作,并积极开展对引进技术的消化 吸收,形成了自主核心技术竞争优势余项。

Established in 2006, the Power Transmission and Distribution Technology Center has undertaken a number of national 863 projects and scientific and technological support projects, and was honored as the National Enterprise Technology Center in 2008. Today, the Center has a 5MW full-power motor test platform, a voltage drop simulation and test platform, and an electromagnetic compatibility test platform, providing strong technical support for the enterprise's development and product design. It is equipped with a megawatt wind power full-power test platform, a LVRT test platform, a RTDS real-time dynamic digital simulation system and other domestic first-class test and detection facilities. Through industry-university-research cooperation with Tsinghua University, Shanghai liaotong University, Chinese Academy of Sciences and other well-known universities and research institutes, and actively engaging in the assimilation and absorption of imported technology, it has built competitive advantages with independent core technologies.



承担国家项目 Undertake national projects

已授权发明专利 Licensed patents for invention

软件著作权 Software copyrights

授权实用新型专利

Licensed patents for utility models

The Center has 83 R&D professionals, among whom 4 have a

doctor's degree, 64 have a master's degree, 15 have a bache-

研发团队力量 R&D Team













科技力量 TECHNOLOGICAL STRENGTH









350kV 工频试验变压器 350kV Power Frequency Testing Transformer

220kV/60MVA (1500MVA) 冲击试验变压器组 220kV/60MVA (1500MVA) Impact Testing Transformer Bank

220kV 户外开关站 220kV Outdoor Switching Station

电磁兼容 3m 法半电波暗室 EMC 3m Semi Anechoic Chamber

## >技术检测 TECHNICAL TESTING

上海电气输配电试验中心有限公司是国内最早的大容量检测实验室之一,是具有独立 法人资格的第三方检测机构,获中国合格评定认可委员会(CNAS)认可和中国国家 认证认可监督管理委员会的检验检测机构(CMA)认定资质。

现试验中心获CMA和CNAS授权认可的检测产品范围涉及36大类,检测能力达国内先进水平检测能力达国内先进水平,客户群体已覆盖国内大部分地区,并与施耐德、ABB、西门子等国内外知名企业建立了良好的业务关系。具有按GB、IEC、DL、JB等标准对额定电压≤145kV、额定短路开断电流≤40kA(50kA)的开关设备和控制设备进行全面型式试验的能力,是中国大容量试验联盟(CHPTL)成员。

试验中心是与国网签约的合作实验室、中石化指定的开关类产品质量检测实验室,是中国大容量试验联盟(CHPTL)成员实验室,是国家能源行业短路试验技术标准化技术委员会委员、中国电工技术学会大容量试验技术专业委员会委员、中国电器协会会员、全国输配电技术协作网(EPTC)会员、智能输配电产业联盟副理事长单位、上海市电力行业协会会员、上海市高新技术企业、上海市政府确定的五家生产服务型试点企业之一,品牌和声誉已进入国内同行前列。



One of the earliest high-capacity testing laboratories in China, Shanghai Electric Power Transmission & Distribution Testing Centre Co., Ltd. ("SETC") is a third-party testing laboratory as an independent legal entity accredited by China National Accreditation Service for Conformity Assessment ("CNAS") and China Inspection Body and Laboratory Mandatory Approval (CMA).

The scope of testing of SETC has been authorized and accredited by CMA and CNAS, covering 36 categories, with leading testing capability in China and a customer base covering most parts of China. It has established good business relationships with international and domestic famous enterprises like Schneider, ABB and Siemens. With the capability to perform comprehensive type tests on switchgears and control gears with rated voltage  $\leq 145 \text{kV}$  and rated short circuit breaking current  $\leq 40 \text{kA}$  (50kA) in accordance with the GB, IEC, DL, JB standards, etc., it is a member of CHPTL.

The Testing Center is a contractual laboratory of the State Grid, the designated quality testing laboratory of SINOPEC for switch products, member of China High Power Testing Laboratory Liaison (CHPTL), member of Energy Industry Short-Circuit Experimentation Technical Standard Technical Commission under the National Energy Administration, member of the High Power Testing Technical Professional Commission under China Electrotechnical Society, member of China Electrical Equipment Industry Association, member of Electric Power Technology Collaboration (EPTC), Vice Chairman of Intelligent Power Transmission & Distribution Industry Alliance, member of Shanghai Electric Power Industry Association, Shanghai Municipal Hi-Tech Enterprise, and one of the five pilot production service enterprises designated by Shanghai Municipal Government, with its brand and reputation ranking in the top among its peers in China

工程业绩 PROJECT TRACK RECORD

# 工程业绩 PROJECT TRACK RECORD

作为集团发展战略之一,输配电工程业务肩负大力拓展海外市场,以工程成套业务带动制造业共同发展的历史使命。多年来,承接了海内外多项大型输配电工程总承包、设备总成套的优质项目。集团从 1992 年开始正式进入国际工程总承包市场,迄今为止,输配电 EPC 工程和设备成套项目的国际业务遍及非洲、东南亚、中亚、中东、东欧、加勒比等地区,在全球二十多个国家拥有良好的运行业绩,得到了业主及合作伙伴的一致好评,并在非洲输配电工程领域占据了重要地位。目前,集团正在执行巴基斯坦、马来西亚、吉布提、埃塞俄比亚、科威特、苏丹、古巴、马尔代夫、刚果(金)等地的 EPC 输配电工程和新能源项目。

As one of the Group's development strategies, the power transmission and distribution engineering business is tasked with the historical mission to vigorously expand the overseas market and drive the common development of the manufacturing industry with the complete-set engineering business. Over the years, it has undertaken a number of large-scale power transmission and distribution projects and high-quality projects with complete-set equipment at home and abroad. The Group officially entered the international engineering general contracting market in 1992, and today its international business of power transmission and distribution EPC projects and complete-set equipment projects has presence in Africa, Southeast Asia, the Middle East, Eastern Europe, and the Caribbean, among others, attaining good operational performance in over 20 countries around the world, winning critical acclaim from owners and partners, and occupying an important position in the power transmission and distribution engineering field in Africa. Currently, the Group is implementing EPC power transmission and distribution projects and new energy projects in Pakistan, Malaysia, Djibouti, Ethiopia, Kuwait, Sudan, Cuba, Maldives, and Congo, etc.



古巴光伏 Solar Project in Cuba

集团采用国际先进的管理方式进行工程项目管理,获得了商务部颁发的对外工程承包经营证书,住房和城乡建设部颁发的电力工程总承包资质,机电安装和送配电专业承包资质和安全生产许可证;通过了ISO9001:2008(质量)、ISO14001:2004(环境)和OHSAS18001:1999职业健康安全认证。并在市场拓展、工程管理、风险控制等方面积累

了丰富的经验。

Implementing international advanced management models for project management, the Group has obtained the business certificate for foreign engineering contracting issued by the Ministry of Commerce, the power engineering general contracting qualification granted by the Ministry of Housing and Urban-Rural Development, the professional contracting qualification for mechanical and electrical installation and power transmission and distribution, and the safety production license; it has passed the ISO9001:2008 (quality), ISO14001:2004 (environment) and OHSAS18001:1999 occupational health and safety certification, and accumulated extensive experience in market development, project management, and risk control, etc.

吉布提古拜特变电站 Djibouti Goubet Substation

工程业绩 PROJECT TRACK RECORD

# >重点工程业绩 MAJOR PROJECTS

- 1. 苏丹 9 座 220kV 变电站工程总承包项目
- 2. 埃塞俄比亚 Gibe III Addis Ababa 输变电项目: LOT 1 变电站
- 3. 马来西亚砂捞越州 500kV 输电线路 Package B 工程
- 4. 科威特 4913 号 132 kV GIS 变电站项目
- 5. 巴基斯坦 TP1000 卡拉奇城市电网改造项目
- 6 古巴马里埃尔特区 61MWn 光伏 FPC 项目
- 7. 南昌海立大规格压缩机智能制造基地供配电项目
- 8. 新疆芯谷云创"长三角人工智能云计算中心(准东)基地"项目配套供电工程
- 9. 上海电气汕头智慧能源基地供配电项目
- 10. 普枫(新加坡)集团公司分布式光伏发电 FPC 项目
- 11. 新疆芯谷云创长三角(准东)大数据云智能计算中心项目
- 12. 上海浦东博宇 110 干伏输变电工程
- 13. 恒大地产集团长期战略合作变配电工程项目
- 14. 浦东"连民村智慧能源第一村"示范项目
- 15. 贵州关岭县卓阳岗乌 200MW 农业光伏电站项目















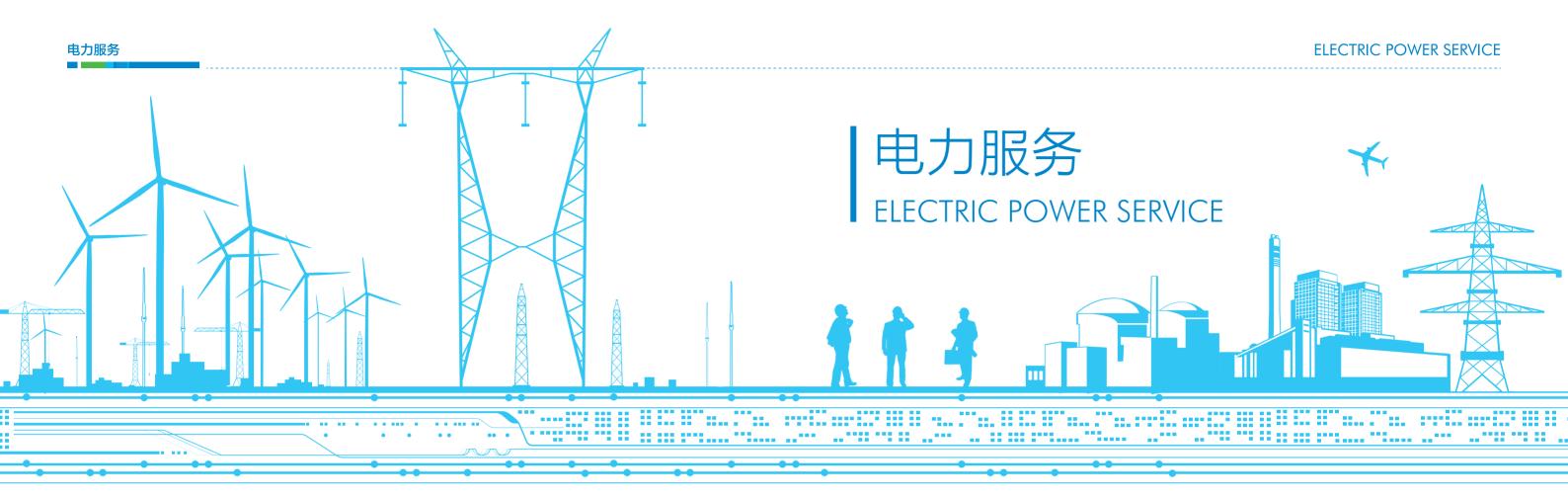








- 1. Sudan EPC Project of 9 Substations of 220kV
- 2. Ethiopia Gibe III Addis Ababa Power Transmission and Transformation Project: LOT1 Substation
- 3. Malaysia Sarawak Energy 500kV Backbone Transmission Line Project Package B
- 4. Kuwait No.4913, 132kv GIS Substation Project
- 5. Pakistan TP1000 Karachi Urban Power Grid Reconstruction Project
- 6. 61MWp Solar EPC Project in Mariel Zone, Cuba
- 7. Power Supply and Distribution Project of Nanchang Haili Large Scale Compressor Intelligent Manufacturing Base
- 8. Supporting Power Supply Project of "Yangtze River Delta Artificial Intelligence Cloud Computing Center (Zhundong)
  Base" Project of Xinjiang Xingu Yunchuang
- 9. Shanghai Electric Shantou Smart Energy Base Power Supply and Distribution Project
- 10. Distributed Photovoltaic Power Generation EPC Project of Pufeng (Singapore) Group Co., Ltd.
- 11. Xinjiang Xingu Yunchuang Yangtze River Delta (Zhundong) Big Data Cloud Intelligent Computing Center Project
- 12. Shanghai Pudong Boyu 110kV Transmission and Transformation Project
- 13. Long Term Strategic Cooperative Project of Power Transformation and Distribution of Evergrande Real Estate Group
- 14. Demonstration Project of "Lianmin Village First Smart Energy Village" in Pudong
- 15. Zhuoyang Gangwu 200MW Agricultural Photovoltaic Power Station Project in Guanling County, Guizhou



## > 电力设备社会化检修服务

SOCIALIZED MAINTENANCE SERVICE FOR POWER EQUIPMENT



作为电力公司战略合作伙伴,公司以现代化、专业化、服务 化为宗旨,充分利用装备制造资源,积极拓展电气设备制造 及供应服务内涵,为电力公司提供优质的电网设备检修服务。

As a strategic partner of electric power companies, with modernization, professionalization and servitization as the aim, the Group makes full use of its equipment manufacturing resources and proactively explores the deeper meaning of electrical equipment manufacturing and supply so as to provide the electric power companies with quality maintenance services for grid equipment.

## > 应急抢修服务体系

EMERGENCY REPAIR SERVICE SYSTEM



从"迎峰度夏"到"抗冰防寒",为电力安全运行提供应急抢修保障,不断完善应急服务体系,提高应急抢修能力和服务水平。

From "gearing up for the power consumption peak in summer" to "protecting against the cold and ice in winter", the emergency service system provides emergency repair services to guarantee the safe operation of the power system by continuously improving the service system, emergency repair capability, and service level.

电力服务 **ELECTRIC POWER SERVICE** 

## >研修服务 TRAINING SERVICE

公司竭诚提供电网建设规划咨询、项目解决方案咨询、技术及 管理培训等多层次、系统化、全面性服务培训, 全力为海内外 电力行业用户打造设备采购指导、专业技术培训、维护管理培训、 售后服务一站式服务模式。

The Group is dedicated to providing multi-tier, systematic and comprehensive service training, including consulting on grid construction planning and project solutions, and technical and management training, and creating for users in the electric power industry at home and abroad a one-stop service model integrating equipment purchasing guide, expertise training, maintenance and management training, and after-sales service.







# >招投标代理服务 BIDDING AGENCY SERVICE

恪守行业准则、严控服务品质,不断致力于以专业专注的优质 服务、规范严谨的职业操守,向社会各界展示着业界领先的招 投标代理综合实力, 为电力系统等广大客户提供最为优质的工 程咨询服务。

By strictly observing the industry standards and controlling the service quality, the Group is constantly committed to demonstrating to all walks of life its industry-leading comprehensive strength as a bidding agent and providing the best engineering consulting services for customers such as the electric power systems with professional, targeted high-quality services as well as standardized, rigorous professional ethics.



#### **GROUP AFFILIATES**



分 类 Classification	企业名称 Enterprise Name	产品范围 Product Range
变压器类 Transformers	<b>吴江变压器有限公司</b> Wujiang Transformer Co.,Ltd 电话 TEL: 0512-63422090	500kV及以下干式、油浸式电力变压器、成套开关柜等。 Dry-type, oil-immersed power transformers and complete-set switch cabinets of 500kV and below, etc.
	上海电气集团(张家港)变压器有限公司 SEC Zhangjiagang Transformers Co., Ltd 电话 TEL: 0512-58165258 58165222	500kV级及以下电力变压器、330kV级及以下整流变压器、220kV级及以下电炉变压器、10kV配电变压器、35kV级及以下干式变压器、非晶合金变压器、其他特种变压器及电抗器等各类变压器类产品;35kV级及以下预装式变电站、充电桩式变电站、高低压开关柜、计量柜、电缆分支箱、JP柜等各类成套产品;各类变电工程总承包、现场安装、智能运维、综合服务等。  Various types of transformers, such as power transformers of 500kV and below, rectifier transformers of 330kV and below, furnace transformers of 220kV and below, 10kV distribution transformers, dry-type transformers of 35kV and below, amorphous alloy transformers and other special transformers and reactors; various complete-set products, such as prefabricated substations of 35kV and below, charging pile substations, high and low voltage switch cabinets, metering cabinets, cable branch boxes and JP cabinets; general contracting of various power transformation projects, on-site installation, intelligent operation and maintenance, comprehensive services, etc.
开关柜类 Switch Cabi- nets	<b>上海南华兰陵电气有限公司</b> Shanghai Nanhua-lanling Electrical Co., Ltd 电话 TEL: 021-54982088	生产和销售40.5kV及以下高、低压成套开关设备、智能化高低压电气成套设备、新能源成套系统和城市轨道交通用智能化(牵引、动力)箱式变电站、以及承接输配电工程施工总承包业务等。  Production and sales of high and low voltage complete-set switchgears of 40.5kV and below, intelligent high and low voltage complete-set electrical equipment, complete-set systems of new energy and intelligent (traction) box-type substations for urban rail transit; general contracting of the construction of power transmission and distribution projects, etc.
	<b>上海大华电器设备有限公司</b> Shanghai Dahua Electric Equipment Co.,Ltd 电话 TEL: 021-691328 <i>77</i>	
	<b>上海纳杰电气成套有限公司</b> Shanghai Najie Complete Sets of Electric Co.,Ltd 电话 TEL: 021-54982864	















分 类	人山夕玩	文ロ英国
万 矣 Classification	企业名称 Enterprise Name	产品范围 Product Range
电缆类 Cables	张家港特恩驰电缆有限公司 Zhangjiagang Twentsche Cable CO.,Ltd 电话 TEL:0512-55398258	<ol> <li>六/六A类线缆:包含非屏蔽、屏蔽六类及六A类,主要应用于数据中心及楼字建筑综合布线;</li> <li>超五类线缆(非屏蔽超五类,屏蔽超五类),主要用于计算机与交换机的数据连接;</li> <li>大对数线缆(非屏蔽和屏蔽三类、五类、超五类大对数),主要用于综合大楼垂直布线;</li> <li>七、七A类缆,主要用于5G以太网技术;</li> <li>八类缆,用于数据中心;</li> <li>跳线、工业用网线、船用电缆等其他各类数据线缆;</li> <li>地热电缆,用于室内、工业供暖等。</li> <li>CAT6/6A Cable: including unshielded &amp; shielded CAT6 and CAT6A cables, mainly used in the generic cabling of data centers and buildings;</li> <li>CAT5E Cable: including unshielded &amp; shielded CAT5E cables, mainly used for data connection between computer and switch;</li> <li>Multi-pairs Cable: including unshielded &amp; shielded CAT3, CAT5 and CAT5E multi-pairs cables, mainly used in the vertical cabling of buildings;</li> <li>CAT 7/7A Cable: mainly used for 5G Ethernet;</li> <li>CAT8 Cable: mainly used in data centers;</li> <li>Jumpers, industrial network cables, marine cables and other data cables;</li> <li>Floor heating cables, used for indoor or industrial heating, etc.</li> </ol>
	<b>上海华普电缆有限公司</b> Shanghai Hua Pu Cable Co., Ltd 电话 TEL: 021-54981381	35kV及以下的高、低压电力电缆以及架空线、阻水、阻燃、耐火、低烟无卤等特种电缆; 220kV 电缆及电缆附件, 220kV海底电缆。 High and low voltage cables of 35kV and below, as well as special cables like overhead cables, water swellable cables, flame retardant cables, flame resistant cables and LSZH cables; 220V cables and accessories, 220V submarine cables.
	上海飞航电线电缆有限公司 Shanghai Feihang Wires& Cables Co.,Ltd 电话 TEL: 021-57705569	110kV超高压及以下高、中、低压级电缆以及架空线、阻水、阻燃、耐火、低烟无卤等特种电缆; 220V电缆及电缆附件, 220V海底电缆。 110kV extra high voltage cables and high, medium and low voltage cables below 110kV, as well as special cables like overhead cables, water swellable cables, flame retardant cables, flame resistant cables and LSZH cables; 220V cables and accessories, 220V submarine cables.
	<b>上海捷锦电力新材料有限公司</b> Shanghai Jiejin Advanced Electro-materials Co., Ltd 电话 TEL: 021-58599559	220kV及以下电缆附件 Cable accessories of 220kV and below

分 类 Classification	企业名称 Enterprise Name	产品范围 Product Range
新能源类 New Energy	上海电气电力电子有限公司 Shanghai Electric Power Electronics Co., Ltd 电话 TEL: 021-33713200	风电主控、变流、变桨系统; 电能质量产品(APF、SVG电容器、DVR、STATCOM、UPQC等) 交直流电源系统、新能源接入系统。 Wind power master control, converters, variable pitch systems; Power quality products (APF, SVG capacitor, DVR, STATCOM, UPQC, etc.), AC/DC power-supply systems, and new-energy access systems.
二次设备 及系统 Secondary Equipment and Systems	南京磐能电力科技股份有限公司 Nanjing Paneng Technology Development Co.,Ltd 电话 TEL: 025-66775988	110kV智能变电站系统、中压变电站综合自动化、电网能量管理系统、调度监控自动化、配网自动化。 110kV smart substation systems, integrated automation of medium-voltage substations, energy management systems for power grids, dispatching and monitoring automation, and distribution network automation.
元器件类 Parts and Components	上海电器股份有限公司人民电器厂 Shanghai Renmin Electrical Apparatus Works 电话 TEL: 021-62523029	"上联"牌智能型、高压真空断路器、低压框架、塑壳式、微型断路器、接触器。 Intelligent high voltage vacuum breakers, low voltage frame, plastic shell-type, miniature circuit breakers and contactors of "Shanglian" Brand.
	上海电器陶瓷厂有限公司 Shanghai Electric Ceramics Works Co., Ltd 电话 TEL: 021-56629791	"飞灵"牌低压熔断器、高压熔断器、熔断器式隔离开关。 Low voltage fuse, high voltage fuse, fuse disconnector of "Feiling" Brand.
工程与服务 Engineering and services	上海电气输配电工程成套有限公司 Shanghai Electric Power Transmission & Distribution Engineering Co., Ltd. 电话 TEL: 021-52371666	提供国内/海外电力工程领域综合解决方案。 Provide comprehensive solutions for domestic and overseas electric power engineering.
	上海电气承广电力工程有限公司 Shanghai Electric Chengguang Power Engineering Co.,Ltd. 电话 TEL: 021-64343588	承接各类低压至220千伏的电力变配电工程及各类高端LED工程:提供一站式解决方案、工程管理、设计、设备采购及施工安装调试等专业服务。 Undertake various power transformation and distribution projects ranging from low voltage to 220 kV, and various high-end LED projects; provide turnkey solutions, engineering management, design, equipment purchase, construction, installation, commissioning and other professional services.
	上海电气输配电试验中心有限公司 Shanghai Electric Transmission & Distribution Testing Centre Co.,Ltd. 电话 TEL: 021-56037283	电气设备检测及本领域内的技术咨询、技术服务、技术开发。 Testing of electrical equipment and the related technical consulting, technical support and technical development services.
	上海资文建设工程咨询有限公司 Shanghai Ziwen Construction Engineering Consulting Co.,Ltd. 电话 TEL: 021-51523935	招投标代理,建设监理、工程项目服务、建设工程技术可行性研究的咨询。 Bidding agency, consulting on construction supervision, engineering project service, and technical feasibility research of construction projects.
	上海电气(江苏)综合能源服务有限公司 Shanghai Electric (Jiangsu) Integrated Energy Service Co., LTD. 电话 TEL:025-83603276	各类工程的设计,施工及总承包能力;电力设备及各类材料的销售业务;信息系统及数据处理等服务。  Design, construction and general contracting of various engineering projects; sales of power equipment and various materials; information system and data processing services, etc.

processing services, etc.

#### 集团使命 MISSION

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Become an integrated intelligent solution provider and benchmarking enterprise in the power transmission and distribution industry

