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Science&Technology Co., Ltd.

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雷诺尔微信公众号

RENLE

Professional Manufacturer of
Smart Grid·New Energy·Electric Drive

RMNS系列

低压抽出式开关柜
LV Draw-out Switch Cabinet



创芯科技·智惠全球
股票代码：833586



雷诺尔

Shanghai RENLE
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上海雷诺尔科技股份有限公司座落于上海市嘉定区国家级高新技术产业园区内，占地面积100000平方米，厂房85000平方米。产品覆盖高低压电机软起动器、高低压变频调速器、智能化电气、新能源电气和高低压输变电成套设备等，产品广泛应用于电力、冶金、石油石化、矿山、化工、建筑、建材、市政、军工业、轻工业、纺织印染、造纸、制药等行业。产品畅销世界多个国家和地区。

公司先后为上海世博会配套项目、北京奥运会配套项目、上海国际航运中心洋山深水港工程、上海浦东机场、上海虹桥机场、三峡工程、甘肃卫星发射中心、南水北调、西气东输、中国石油集团、中国石化集团等国家重点项目配套使用。优质的产品质量和良好的售后服务赢得了用户的一致好评。

公司严格控制产品质量，力争尽善尽美，构筑了坚实的质量系统工程，公司已获得ISO9001质量管理体系认证、ISO14001环境管理体系认证、欧共体CE认证，国家强制性CCC认证及产品检验认证。公司不断引进国际先进生产设备 & 检测设备。创建实验室。并为多个国内院校提供研发实验基地。公司一直注重自主创新，建立了颇具实力的新产品开发技术中心。

公司将不断地开发出节能、高效、精密、人性化的产品，以专业独特的工控技术、领先适用的创新产品以及深度整合的解决方案。帮助用户实现经济转型和产业升级，并加快国际化步伐，用品质征服世界，立志成为享誉全球的智能电气专业供应商！



企业简介 Enterprise Introduction

Shanghai RENLE Science & Technology Co., Ltd is located in the High & New Technology Industrial Park of Jiading District, Shanghai, China. The company covers a total area of 100,000 square meters, including 85,000 square meters of workshops. Its products include HV/LV motor soft starter, HV/ LV frequency inverter, intelligent electricals, new-energy electricals, HV/LV complete equipment for electric power transmission distribution and so on. Its products are widely used in electric power, metallurgy, petroleum chemistry, military industry, mining, chemical industry, construction, light industry, pharmaceuticals, municipal construction, textile printing and dyeing, papermaking, rubber and plastic, electrified railway construction and other industries. Its products sell well in many countries and regions of the world.

The company products are used in many projects, such as Expo 2010 Shanghai China, 2008 Beijing Olympic Games, Yangshan Deepwater Port Project of Shanghai International Shipping Center, Shanghai Pudong Airport, Shanghai Hongqiao Airport, the Three Gorges Project, Gansu Satellite Launching Center, South-to-North Water Diversion Project, West-to-East Natural Gas Transmission Project, China National Petroleum Corp., SINOPEC, Double Coin Holdings, Shandong Linglong Tyre and other national key supporting projects. Its premium products and excellent after-sales service are favored by the clients.

Renle always lays emphasis on quality control so as to attain perfection. The company has passed the certification of ISO9001 Quality Management System, ISO 14001 Environment System, OHSAS 18001 Occupational Health and Safety Management System, CE, TUV, GOST and national CCC etc. RENLE has been continuously introducing internationally advanced production and test equipment to establish laboratories and provide R&D experiment base to domestic universities and colleges. The company, paying much attention to independent innovation, has established powerful new product R&D technical center.

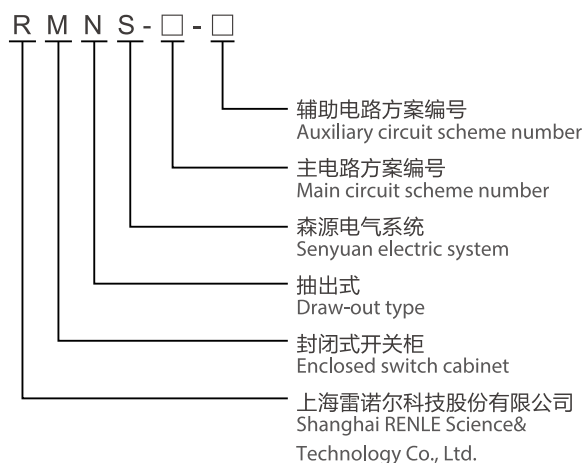
The company shall keep developing products of energy-saving, efficiency, precision and humane. With the specialized and unique control technology, advanced and applicable innovative products, and deep-integrated solutions, the company helps clients in realizing economic transformation, industry upgrading and speedy internalization. With its high-qualified products, the company aims to be the world-renowned specialized manufacture of intelligent electrical equipment.

RMNS型 交流低压配电柜

RMNS Type Lv Draw-out Switch Cabinet



► 型号及其含义 Type & Meanings



► 产品概述 Introduction

RMNS型低压成套开关设备（以下简称低压开关柜）是我公司结合我国低压成套开关设备的发展趋势，在其电器元件的选用与柜体结构方面进行改进，并重新注册的产品。该产品的电气性能和机械性能完全满足原MNS产品技术要求。

本开关柜适用于交流50~60Hz、额定绝缘电压690V和工作电压在660V及以下三相五线制的电力供电系统，可用于发电厂、变电所、工矿企业、大楼宾馆、机场、码头以及广播电视等通信中心，来作为发电、输配电、电能转换及电能消耗设备的控制，并通过电容补偿柜对其主母线进行无功补偿。

RMNS Integrated Low Voltage Switch Equipment (Named as Low Voltage Switchboard for short in the following text) is a registered product of our company. RMNS low voltage switch-board is improved both in electric part choosing and in structure designing according to the trend of integrated low voltage switch equipment. The electric and mechanical performance of this product meet the technical level of the original MNS product.

This low voltage switchboard serves as the control equipment for generating, transmitting, distributing electricity and transducing or consuming power in AC 50-60Hz and triphase five-wired electric systems which rated insulation voltage of 690V and the rated operating voltage of no more than 660V. The product serves as control equipment for generating, transmitting, distributing electricity and transducing or consuming power in the power plant, substation, industrial and mining enterprises, airport, pier and broad-cast television and other communication centers. And the product can conduct reactive compensation for the main bus-bar through the capacitor compensation cabinet.

► 使用条件 Usage Condition

周围空气温度不高于+40℃，不低于-5℃，并且24h内其平均温度不高于+35℃。周围空气相对湿度在最高温度为+40℃时不超过50%，在较低温度时有较大的相对湿度，如+20℃时为90%，但考虑到由于温度的变化有可能会偶然产生湿度的凝露。户内使用，使用地点的海拔高度不得超过2000m。若超过此海拔高度，设备需选择高原型。

应安装在无剧烈震动和冲击，以及不使电器元件受到腐蚀的场所。

The ambient temperature is between -5℃ and +40℃, and the mean temperature of 24 hours is not above +35℃. Relative humidity is not above 50% when the ambient temperature is not above +40℃. When the temperature is relatively low, higher relative humidity is allowed (for example, the allowed relative humidity is 90% when the ambient temperature is +20℃). Condensation may occur occasionally due to temperature alternation. The device shall be used indoor with the height of no more than 2000m. Otherwise, we shall choose the high altitude type.

The equipment shall not be mounted in a concussion and corrosion proof site.

► 主要技术参数 Main Technical Parameters

标注：通过型式试验的组装式开关柜（TTA）* GB7251.1-2005 IEC60439-1
Remark: Assembling switchgear (TTA) passes the type test of GB7251.1-2005 IEC60439-1.

电气参数 Name		
额定绝缘电压 UI Rated insulation voltage UI		690V/AC
额定工作电压 Ue Rated working voltage Ue		660V、380V/AC
额定冲击耐受电压 Uimp Rated impulse withstand voltage Uimp		8kV
过电压等级 Overvoltage level		III
污染等级 Pollution level		3
额定频率 Rated frequency		至50 Hz To 50 Hz
主母线 Main bus-bar	额定电流 Ie Rated current Ie	至5500A (6300A) To 5500A (6300A)
	额定峰值耐受电流 Ipk Rated withstand current during peak Ipk	至220kA To 220kA
	额定短时耐受电流 Icw Rated withstand current during short-time Icw	至150kA To 100kA
配电母线 Distribution bus-bar	额定电流 Ie Rated current Ie	至1200A (2000A) To 1200A (2000A)
	额定峰值耐受电流 Ipk Rated withstand current during peak Ipk	至110kA (176kA) To 110kA (176kA)
	额定短时耐受电流 Icw Rated withstand current during short-time Icw	至50 kA (100 kA) To 50 kA (100 kA)
结构特性 Structure and Features		
尺寸 Dimension	柜体和支持构件 Cabinet body and components	DIN41488
	推荐高度 Height recommended	2200mm
	推荐宽度 Width recommended	400, 600, 800, 1000, 1200mm
	推荐深度 Depth recommended	800, 1000, 1200mm
	模数 Modules	E=25mm 符合 DIN43660 E=25mm complies with DIN43660
内部隔离形式 Form of internal isolation		至 Form 4 To the Form 4
防护等级 Protection Level		按 IEC 529 或 DIN41050 IP30 IP40 Connect to the IEC 529 or DIN41050 IP30 to IP40

TTA符合一种确认型号成系列的低压成套开关设备和控制设备，它与已通过验证认为符合标准的定型成套设备相比，不存在可能会影响性能点差异。

TTA complies with the Low-voltage switchgear and controlgear assemblies which have a series of types. Compared with the standardized assemblies in certain type after the verification, there is no difference which might influence the performance.

► 结构特征 Structure & Feature

本开关柜由于引进了瑞士ABB的先进技术，并在其原有基础上加以技术改进，使其更符合我国国情。柜体采用25mm为模数的C型材通过连接件来组成各种得以满足各种需求的柜架结构和抽屉单元，在MCC柜中大量采用高强度的阻燃型工程塑料组件，使其安全性能更可靠，同时加之将国外的功能板加以改型，以200mm为模数加以组合，使其更有利于PC柜与MCC柜混装柜体的设计需求，同时抽出单元与柜体具有可靠的连锁设置，以防止在开关通电状态下带负荷拉闸，提高了其安全性，另外该柜体一般均采用冷扎钢板进行镀锌钝处理后组装而成，也可根据用户的不同需求采用敷铝锌钢板来加工。

This switchboard is more adaptive to the domestic use owing to the technical improvement on the base of advanced technology of the ABB Company. The cabinet body adopts C-type steel with a module of 25mm to form all kinds of cabinet structures and drawer units in needs through the connecting pieces. The high-strength and flame retardant engineering plastic components are widely used in the MCC cabinet so as to increase product safety and reliability. Meanwhile, the combination with the reformed foreign function boards based on a module of 200mm makes the design more adaptive to the mixed PC and MCC cabinets. And the reliable interlocking between drawer unit and cabinet prevents the on-load switch-off, which increases the safety. In addition, the cabinet body normally was assembled by the cold rolling steel plates after the galvanization treatment and excess zinc removing. And the user can choose to adopt the Al-Zn-plated steel plates to assemble.

► 开关柜类型 Type of Switchboard

➔ 受电、母联柜

➔ 动力中心柜 (PC)

采用点内外的各种类型的框架式断路器，如M、F、ME (DW17)、CDW1进行配电。

➔ 电动机控制中心柜 (MCC)

由大小抽屉组装而成，各回路主开关采用高分断能力的塑壳断路器或旋转式带熔断器的负荷开关。

➔ 无功功率补偿柜

➔ Incoming Cabinet & Bus-tie Cabinet.

➔ The PC adopts all kinds of framed circuit breakers such as M, F, ME (DW17) and CDW1 to realize power distribution.

➔ The MCC was comprised of various sized drawers.

The main switches in all loops adopt the molded case circuit breaker with high-rupturing capacity or rotary load switch with fuse.

➔ Reactive power compensation cabine.

► 抽屉类型 Type of Drawer

有五种尺寸都是以8E (200mm)高度，进行模块化结构设计，其有效元器件安装高度为1800mm，使柜体整体布局更合理，更美观。

8E / 4 在8E高度空间组装4个抽屉单元

8E / 2 在8E高度空间组装2个抽屉单元

8E 在8E高度空间组装1个抽屉单元

16E 在16E (400mm)高度空间组装1个抽屉单元

24E 在24E (600mm)高度空间组装1个抽屉单元

以上五种抽屉单元可在一个柜体中作单一组装，也可最混合组装 (见图一)。

The following five sizes are all designed with the modular structure of 8E (200mm). And the valid installation height of the components is 1800mm, which makes the overall layout of the cabinet body more reasonable and beautiful.

4 drawer units are assembled in the space height of 8E for 8E / 4. 2

drawer units are assembled in the space height of 8E for 8E / 2. 1




drawer unit is assembled in the space height of 8E for 8E.

1 drawer unit is assembled in the space height of 16E (400mm) for 16E. 1

drawer unit is assembled in the space height of 24E (600mm) for 24E.

The above five drawer units can be assembled into one cabinet body as a single entity or a mixture. (See Fig. 1).

► 抽屉类型 Type of Drawer

抽屉型式 Drawer Type	8E/4	8E/2	8E	16E	24E
最多容纳单元数 The maximum units contained	36	18	9	4	3
抽屉外观 Drawer appearance					

► 柜体简介 Introduction to Cabinet Body

➔ 柜体基本尺寸 Size of Cabinet Body

a. 受电柜及联络柜 Incoming Cabinet & Bus-tie Cabinet

	主母线转接柜 Main Bus Transfer Cabinet	1台断路器 1 circuit breaker
高 H (mm)	2200	2200
宽 W (mm)	400	600 800 1000
深 D (mm)	800 1000	800 1000
备注 Remark		M40及以下载流量且体积小的同类断路器 Smaller circuit breaker similar to the M40 and below

b. 动力中心柜 PC

	2台断路器 2 circuit breakers	3台断路器 3 circuit breaker
高 H (mm)	2200	2200
宽 W (mm)	800 1000	800 1000
深 D (mm)	800 1000	800 1000
备注 Remark	M20及以下载流量且体积小的同类断路器 Smaller circuit breaker similar to the M20 and below	M20及以下载流量且体积小的同类断路器 Smaller circuit breaker similar to the M20 and below

c. 电动机控制中心(MCC)柜及电容补偿柜 MCC Cabinet & Capacitor Compensation Cabinet

	MCC柜 MCC Cabinet	电容补偿柜 Capacitor Compensation Cabinet
高 H (mm)	2200	2200
宽 W (mm)	600 800 1000	600 800 1000
深 D (mm)	800 1000	800 1000

► 柜体分区设计 Cabinet Body Designed in Different Sections

MCC 柜根据需要可组成单面操作柜或双面操作柜，每一柜体又固定分隔成三个小室。即主母线室、电器室和电缆室。(具体见图二)

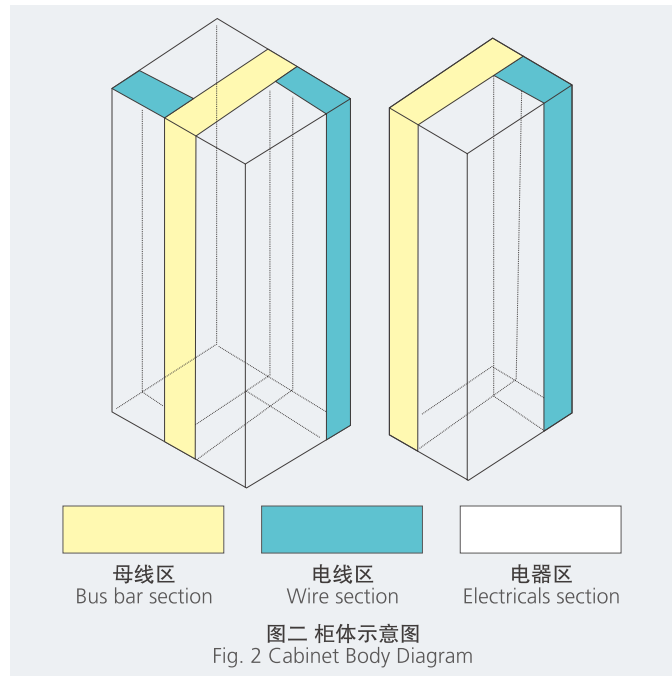
The MCC cabinet can be formed into single or two sided operation according to needs. And each cabinet body is fastened into three small rooms, namely main busbar room, electrical room and cable room. (Please see the Fig. 2 for details)

► 安全保护系统 Safety Protection System

每柜设有一块阻燃型的高密度聚氨酯塑料功能板，或经过电镀的隔板安装在主母线室与电器室之间，其作用为有效防止开关元件因故障引起的飞弧与母线之间短路造成的事故，使操作者更安全。

上下层抽屉之间都有带有通风孔的镀锌金属底板相隔离，较小的8E/4、8E/2抽屉其四周均为阻燃型工程料件，对相邻回路之间具有较强的绝缘隔离作用。

柜内采用了多种塑料组件以支撑带电部分。



One piece of the flame retardant high density polyurethane plastic function board is set in each cabinet or installed through the galvanized partition board between the main busbar room and electrical room to prevent the accident caused by the short circuit between the flashover and busbar due to broken down switch components, and to create a more safety environment for the operator.

A galvanized metal plate with the air vent was set to separate the upper and lower drawers. The smaller 8E/4 and 8E/2 drawers are surrounded with flame retardant engineering materials and parts, which have strong insulation and isolation functions among the neighboring circuits.

Several plastic components are adopted inside the cabinet to support the live parts.

► 母线系统 Busbar System

RMNS 开关柜可配置二组主母线，安装在开关柜的后部母线室。二组母线可分别安装在柜后上部或下部。根据进线需要，上下二组母线可分别采用不同或相同截面的材料。二者既可单独供电，也可并联供电，也可用作后备电源。

配电母线（垂直母线）组装在阻燃型塑料功能板中，既可防止电弧引起的放电，又能防止人体接触通过特殊联接件与主母线联接。

柜内设有独立的PE接地系统和N中性导体。二者贯穿整个装置，安装在柜前底部及右侧，各回路接地或接零都可接近联接。整个母线系统安装见图三所示。框架结构采用自攻螺钉联接，具有较高的接地可靠性。（具体见图三）

Two sets of main busbars can be configured in the RMNS switch cabinet and behinds the back of the busbars room. The two sets of busbars can be separately installed on the top or at the bottom of the cabinet back. The two busbars can respectively adopt the material with different or same cross sections. Both can be used for separate or parallel supplies or as backup.

Distribution bus (vertical bus) is installed in the flame retardant plastic function board to prevent both the arc discharge and human contact via the special connection pieces with the main busbar.

Independent grounding system and N neutral conductor are set inside the cabinet. The two are through the whole device and installed at the bottom of cabinet front and in the right side. Thus, connection can be realized by all circuit grounding or neutral earthing. Please see the Fig. 3 for the installation of the whole busbar system.

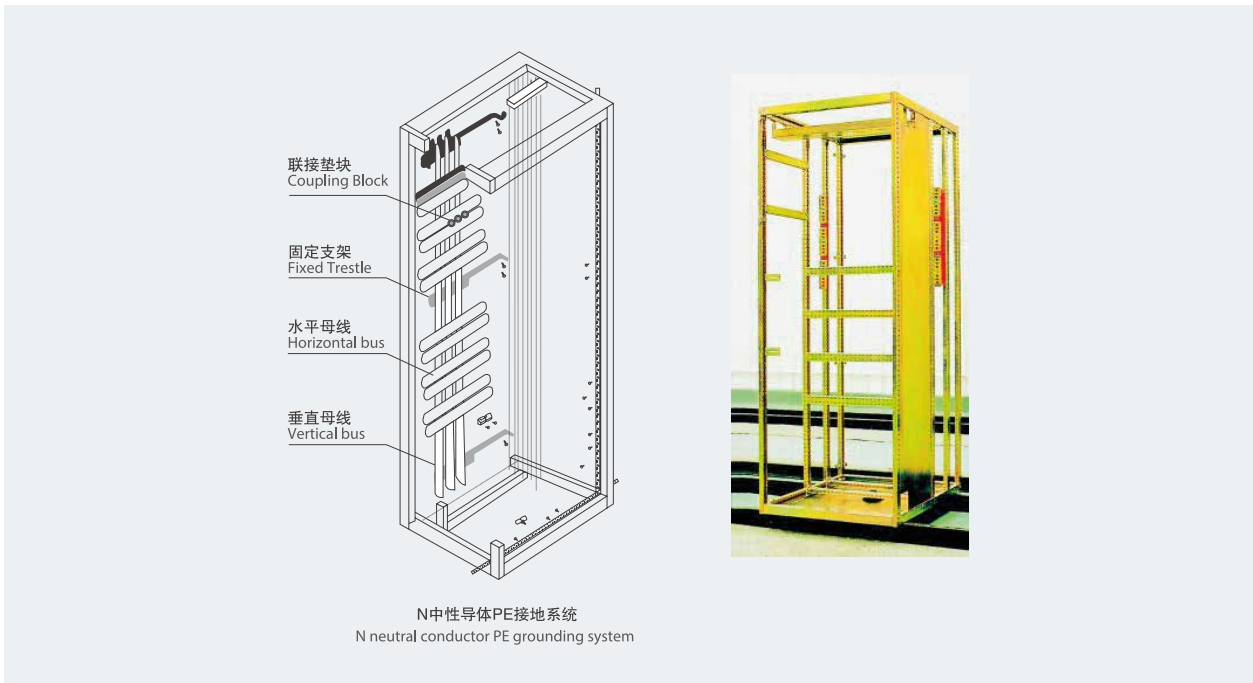
► 抽屉类型 Type of Drawer

抽屉单元有可靠的机械联锁装置，通过操作手柄控制，具有明显的准备、合闸、实验、抽出和隔离位置。

为了加强安全防范，操作手柄定位后可加上挂锁，最多可加三把锁。

Inside the drawer unit are the reliable mechanical interlocking devices, which are equipped with clear positions for preparation, switch-on, test, drawout and isolation for operation through the handle.

Three lockers at most can be added after the positioning of operation handle for the benefit of safeties.



► 主要元器件性能参数 Parameter Performance for Main Components

MO8至M63断路器参数 (法国施耐德公司产品)

Parameters of the MO8-M63 Circuit Breakers (Products of Schneider Company)

型号 Type	框I Frame I					框II Frame II			框 Frame III	
额定电流 (A) Rated Current	800	1000	1200	1600	2000	2500	3200	4000	5000	6300
额定工作电压 (V) Rated Working Voltage	690	690	690	690	690	690	690	690	690	690
极数 Pole Number	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
CT值 CT Value In (A) 订购时确定 Decided at purchase	200.250 320.400 500.600 630.800	1000	1250	1600	2000	2500	3000 3200	4000	5000	6000 6300
额定开断短路电流 Rated Breaking Short Current 440V 50Hz rms(kA)	40(N1级) (N1 level) 65(H1级) (H1 level)				55(N1级) (N1 level) 75(H1级) (H1 level)		75(N1级)(N1 level) 100(H1级)(H1 level)		100(H1级)(N1 level) 125(H2级)(H2 level)	

型号 Type	M08	M10	M12	M16	M20	M25	M32	M40	M50	M63
额定关合短路电流 Rated Closing Short Current 440V 50Hz 峰值 Peak Value	84(N1级) (N1 level) 143(H1级) (H1 level)				121(N1级) (N1 level) 165(H1级) (H1 level)		165(N1级) (N1 level) 220(H1级) (H1 level)		220(N1级) (N1 level) 330(H2级) (H2 level)	
额定短时耐受电流 Rated Short-time Withstand Current 1秒 rms(kA)	30(N1级) (N1 level) 50(H1级) (H1 level)		40(N1级)(N1 level) 50(H1级)(H1 level)		55(N1级)(N1 level) 75(H1级)(H1 level)		75(H1.H2级) (H1.H2 level)		100(H1.H2级) (H1.H2 level)	

RNW1 智能型万能式断路器 Intelligent Universal Circuit Breaker

断路器型号 RNW1 - Circuit Breaker Type	框 I Frame I						框 II Frame II						框 III Frame III		
	630	800	1000	1250	1600	2000	2000	2500	2900	3200	4000	4000	5000	6300	
额定电流 (In)A Rated Current	400 630	800	1000	1250	1600	2000	2000	2500	2900	3200	4000	4000	5000	6300	
额定工作电压 (Ue)V Rated Working Voltage	400 690	400 690	400 690	400 690	400 690	400 690	400 690	400 690	400 690	400 690	400 690	400 690	400 690	400 690	
额定绝缘电压 (ui)V Rated Insulation Voltage	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	
分断时间 ms Breaking Time	30	30	30	30	30	30	30	30	30	30	30	30	30	30	
合·闸时间 ms Closing Time	60	60	60	60	60	60	60	60	60	60	60	60	60	60	
额定冲击耐受电压 (KV)Vimp Rated Impulse Withstand Voltage			12								12				
额定极限短路分断能力 (Icu) KA Rated limit short circuit breaking capacity (Icu)	400	80	80	80	80	80	80	100	100	100	100	100	120	120	120
	690	50	50	50	50	50	50	65	65	65	65	65	85	85	85
额定运行短路分断能力 (Ics) 1s KA Rated short circuit breaking capacity (Ics)	400	65	65	65	65	65	65	80	80	80	80	80	100	100	100
	690	50	50	50	50	50	50	50	50	50	50	50	75	75	75
额定短时耐受电流 (Icw) 1s KA Rated withstand current during short-time Icw	400	50	50	50	50	50	50	80	80	80	80	80	100	100	100
	690	40	40	40	40	40	40	50	50	50	50	50	75	75	75
额定短路接通能力 (Icm) KA Rated short-time making capacity (Icm)	400			176/0.2								220/0.2	264/0.2		
	690			105/0.25								143/0.25	264/0.2		

RNM1系列塑料外壳式断路器 RNM1 series moulded case circuit breaker

型号 Type	额定电流(A) Rated Current	过电流脱扣器额定电流(A) Rated current of over-current tripping device	极限分断能力(kA) Ultimate breaking capacity	
			380V/415V ~ 3	660V/690V ~ 3
RNM1-100L	100	10、12.5、16、20、25、32、40、50、 63、80、100	16	
RNM1-100M			25	
S2-160L	160	12.5、16、20、25、32、40、50、63、 80、100、125、160	16	6
S2-160M			35	8
S2-160H			50	10
S3-160L	160	32、50、80、100、125、160	35	14
S3-160M			65	18
S3-160H			85	20
S3-250L	250	200、250	35	14
S3-250M			65	18
S3-250H			85	20
S4-160L	160	100、160	35	18
S4-160M			65	22
S4-160H			100	30

续上表 Brought Forward

型号 Type	额定电流(A) Rated Current	过电流脱扣器额定电流(A) Rated current of over-current tripping device	极限分断能力(kA) Ultimate breaking capacity	
			380V/415V ~ 3	660V/690V ~ 3
S4-250L	250	250	35	18
S4-250M			65	22
S4-250H			100	30
S5-400L	400	320、400	35	20
S5-400M			65	25
S5-400H			100	35

RNM1系列塑料外壳式断路器 RNM1 series moulded case circuit breaker

型号 Type	额定电流(A) Rated Current	过电流脱扣器额定电流(A) Rated current of over-current tripping device	通断能力(kA) Make-break capacity
			380V × 1.10 Cos φ0.25
RNM1-100L	100	16、20、32、40、50、63、80、100	35
RNM1-100M			50
RNM1-225L	225	100、125、160、180、200、225	35
RNM1-225M			50
RNM1-400M	400	225、250、315、350、400	35
RNM1-400H			50
RNM1-630M	630	400、500、630	35
RNM1-630H			50

RNM1系列塑料外壳式断路器 RNM1 series moulded case circuit breaker

型号 Type	额定电流(A) Rated Current	过电流脱扣器额定电流(A) Rated current of over-current tripping device	通断能力(kA) Make-break capacity
			380V × 1.05 COS φ0.20
RNM1-100M	100	15、20、30、40、50、60、75、100	40
RNM1-225M	225	125、150、175、200、225	42
RNM1-400H	400	250、300、350、400	42
RNM1-600H	600	450、500、600	50

S503系列高分断型断路器(ABB公司产品)
S503 Series High-breaking Circuit Breaker (Product of ABB Company)

型号 Type	额定电流(A) Rated Current	极限分断能力(kA) Ultimate breaking capacity			
		230/400VAC	400VAC	500VAC	690VAC
S503-K0.15	0.1-0.15	50	30	20	6
S503-K0.21	0.14-0.21				
S503-K0.3	0.2-0.3				
S503-K0.42	0.28-0.42				
S503-K0.58	0.38-0.58				
S503-K0.8	0.53-0.8				
S503-K1.1	0.73-1.1				
S503-K1.5	1-1.5				
S503-K2.1	1.4-2.1				
S503-K3	2-3				
S503-K4.2	2.8-4.8				
S503-K5.8	3.8-5.8				
S503-K8	5.3-8				
S503-K11	7.3-11				
S503-K15	10-15	30	25	15	6
S503-K20	14-20				
S503-K26	18-26				
S503-K32	23-32				
S503-K37	29-37				
S503-K41	34-41				
S503-K45	38-45				
S503-B6	6	50	30	15	6
S503-B10	10				
S503-B13	13				
S503-B16	16				
S503-B20	20				
S503-B25	25				
S503-B32	32				
S503-B40	40				
S503-B50	50				
S503-B63	63				

RNGR1 / RNGR2系列开关熔断器组 RNGR1 / RNGR2 Series Switch-fuse

型号 Type	额定电流(A) Rated Current	熔断体额定电流(A) Rated Current of the Fuse Link	极限分断能力(kA) Ultimate breaking capacity	
			550V	660V
RNGR1-00	160	4、6、10、16、20、25、32、35、 50、63、80、100、125、160	100	50
RNGR1-1	250	80、100、125、160、200、224、250	100	50
RNGR1-2	400	125、160、200、224、250、300、315、 355、400	100	50
RNGR1-3	630	315、355、400、425、500、630	100	50

K型负荷开关 K Type Load Switch

型号 Type	额定电流(A) Rated Current	AC3时的电动机最大功率(kW) The Maximum Motor Power at the Ac3		
		380V	550V	660V
KG64B	60	22	30	18.5

型号 Type	熔断体额定电流(A) Rated Current of the Fuse Link	极限分断能力(kA) Ultimate breaking capacity	
		550V	660V
NT-00	4、6、10、16、20、25、32、35、40、50、63、80、100、125、160	120	50
NT-1	80、100、125、160、200、224、250	120	50
NT-2	125、160、200、224、250、300、315、355、400	120	50
NT-3	315、355、400、425、500、630	120	50

RT14高分断能力熔断器 Rt14 High-breaking Fuse

型号 Type	熔断体额定电流(A) Rated Current of the Fuse Link	极限分断能力(kA) Ultimate breaking capacity
RT14-20	2、4、6、8、10、16、20、25、32	100
RT14-32	2、4、6、8、10、20、25、32	100
RT14-63	10、16、20、32、40、50、63	100

B系列交流接触器 B Series AC Contactor

型号 Type	额定发热电流(A) Rated Heating Current	AC3, AC4时额定工作电流 Rated Working Current at the AC3 and AC4		AC3, AC4时额定工作电流 Rated Working Current at the AC3 and AC4	
		380V	660V	380V	660V
B16	25	15.5	6.7	7.5	5.5
B25	40	22	13	11	11
B30	45	30	17.5	15	15
B45	60	45	25	22	22
B65	80	65	44	33	40
B85	100	85	53	45	50
B105	140	105	82	55	75
B170	230	170	118	90	110
B250	300	250	170	132	160
B370	410	370	268	200	250

T系列热继电器 T Series Thermal Relay

型号 Type	额定电流(A) Rated Current	整定电流调节范围(A) Adjustment Range of Setting Current	相配套的接触器 Supported Contactor
T16	0.11 ~ 17.6	0.16,0.21,0.29,0.40,0.52,0.63,0.83,1.0,1.3,1.5	B9、B12、B16
		1.8,2.1,2.4,3.0,4.0,4.5,6.0,7.0,9.0,11,13,17.6	
T25	0.17 ~ 35	0.25,0.32,0.42,0.55,0.70,0.90,1.1,1.5,1.9,2.4,3.2,4.	B9、B12、B16
		1.5,6,7.5,10,13,15.5,17,20,23,27,35	
T85	6.0 ~ 1.00	0.40,0.52,0.63,0.83,1.0,1.3,1.6,2.1,2.5,3.3,4.0,5.2,	B65、B85
		6.3,8.3,10,13,16,21,27,35,45	
T105	36 ~ 115	52,63,82,105,115	B30、B45、B65、B85、B105、B170
T170	90 ~ 200	130,160,200	B65、B85、B105、B170
T250	100 ~ 400	160,250,400	B250
T370		250,400,500	B370

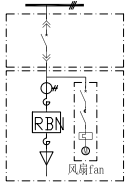
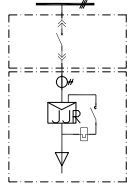
► 一次方案图 Primary Diagram

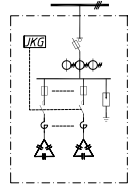
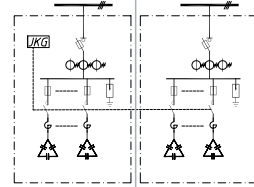
方案编号 Scheme No.	01			02			03		
主电路图 Main Circuit Diagram									
用途 Usage	上进线 Upper incoming line			下进线 Lower incoming line			联络 Contact Cabinet		
规格序号 Sequence	A	B	C	A	B	C	A	B	C
柜宽(mm) Cabinet Width (mm)	600(800)	800(1000)	1000(1200)	600(800)	800(1000)	1000(1200)	600(800)	800(1000)	1000(1200)
小室高度(mm) Height of Small Room	1800	1800	1800	1800	1800	1800	1800	1800	1800
I _{min} (A)	1600	4000	6300	1600	4000	6300	1600	4000	6300
主要电器 Main Electricals	RNW1 630-1600	RNW1 2000-4000	RNW1 5000-6300	RNW1 630-1600	RNW1 2000-4000	RNW1 5000-6300	RNW1 630-1600	RNW1 2000-4000	RNW1 5000-6300
备注 Remark	1.可按用户指定断路器型号 2.选4极断路器柜宽为括号内数字 3.可按用户需要增设计量装置 1.The user can choose the type of circuit breaker. 2.Choose the width of cabinet with 4-pole circuit breaker as the number in brackets. 3.Metering device shall be added according to the user.								

方案编号 Scheme No.	04						05				06		
主电路图 Main Circuit Diagram													
用途 Usage	上出线 Upper outgoing line						下出线 Lower outgoing line				下出线 Lower outgoing line		
规格序号 Sequence	A	B	C	D	E	F	A	B	C	D	A	B	C
柜宽(mm) Cabinet Width (mm)	600	600	800	800	800	800(1000)	600	800	800	1000	600	800	800
小室高度(mm) Height of Small Room	400	800	1200	1400	1800	1800	800	1000	1400	1800	200	400	600
I _{min} (A)	200	400	630	1000	1600	2000	630	1000	1600	2000	100	200	400
主要电器 Main Electricals	RNM1 250	RNM1 400	RNM1 630	RNW1 1000	RNW1 1600	RNW1 2000	RNM1 630	RNW1 1000	RNW1 1600	RNW1 2000	RNM1 100	RNM1 250	RNM1 400
备注 Remark	1.可按用户指定断路器型号 2.每台柜上出线只出一路 3.选4极断路器柜宽为括号内数字 1.User can choose the type of circuit breaker. 2.Only one way for the outlet wire in each cabinet. 3.Choose the width of cabinet with 4-pole circuit breaker as the number in brackets.						1.可按用户指定断路器型号 1.User can choose the type of circuit breaker				1.可按用户指定断路器型号 1.User can choose the type of circuit breaker		

方案编号 Scheme No.	07				08		09	
主电路图 Main Circuit Diagram								
用途 Usage	下出线 Lower outgoing line				下出线 Lower outgoing line		母线转接 Bus switch	
规格序号 Sequence	A	B	C	D	A	B	A	
柜宽(mm) Cabinet Width (mm)	800	1000	800	800	600	800	400	
小室高度(mm) Height of Small Room	200/2	200/3	400	600	400	600		
I _{min} (A)	100	100	250	400	63-250	400-630		
主要电器 Main Electricals	RNM1 100	RNM1 100	RNM1 250	RNM1 400	NT00 KG64B	NT00 KG64B		
备注 Remark	1.可按用户指定断路器型号 1.User can choose the type of circuit				1.可按用户指定隔离开关熔断器组 1.User can choose the disconnectors with fuse		1.当PC柜深1000mm同MCC柜单面操作且深600mm拼柜时，需要本方案。 This scheme is needed when the PC cabinet is 1000mm at depth and MCC cabinet is operated in the front and LCL is 600mm at depth. 2.当MCC柜选用双面操作时，必须加本方案。 This scheme is needed when the MCC cabinet is operated in the front and back.	

方案编号 Scheme No.	10			11			12		
主电路图 Main Circuit Diagram									
用途 Usage	电动机不可逆 Motor irreversible			电动机可逆 Motor reversible			Y/Δ启动 Start		
规格序号 Sequence	A	B	C	A	B	C	A	B	C
柜宽(mm) Cabinet Width (mm)	800	800	800	800	800	800	800	800	800
小室高度(mm) Height of Small Room	200	400	600	200	400	600	200	400	600
I _{min} (A)	100	250	400	100	250	400	100	250	400
主要电器 Main Electricals	RNM1 100	RNM1 250	RNM1 400	RNM1 100	RNM1 250	RNM1 400	RNM1 100	RNM1 250	RNM1 400
备注 Remark	1.可按用户指定元器件型号配 1.Components type shall be equipped according to the user .			1.可按用户指定元器件型号配 1.Components type shall be equipped according to the user .			1.可按用户指定元器件型号配 1.Components type shall be equipped according to the user .		

方案编号 Scheme No.	13 非标 Self define			14 非标 Self define		
主电路图 Main Circuit Diagram						
用途 Usage	变频调速 Frequency control			软启动 Soft start		
规格序号 Sequence	A	B	C	A	B	C
柜宽(mm) Cabinet Width (mm)	600	800	1000	800	800	1000
小室高度(mm) Height of Small Room	200 800	400 1000	600 1200	200 800	400 1000	600 1200
I _{min} (A)	100	250	400	100	250	400
主要电器 Main Electricals	RNM1 100	RNM1 250	RNM1 400	RNM1 100	RNM1 250	RNM1 400
备注 Remark	1.可按用户指定元器件型号配 1.Components type shall be equipped according to the user .			1.可按用户指定元器件型号配 1.Components type shall be equipped according to the user .		

方案编号 Scheme No.	15			16(主柜) (Main cabinet)	16(付柜) (Auxiliary cabinet)
主电路图 Main Circuit Diagram					
用途 Usage	无功补偿 Reactive compensation			无功补偿 Reactive compensation	
规格序号 Sequence	A	B	C	A	A
柜宽(mm) Cabinet Width (mm)	600	800	1000	1000	1000
小室高度(mm) Height of Small Room	1800	1800	1800	1800	1800
最大补偿容量(kVar) Max.Compensation capacity	100	200	300	300	300
主要电器 Main Electricals	QSA 250	QSA 400	QSA 630	QSA 630	QSA 630
备注 Remark	1.可按用户指定元器件型号配 1.Components type shall be equipped according to the user .			1.可按用户指定元器件型号配 1.Components type shall be equipped according to the user .	

方案编号 Scheme No.	17			18(主柜) (Main cabinet)		18(付柜) (Auxiliary cabinet)		19	
主电路图 Main Circuit Diagram									
用途 Usage	无功补偿 Reactive compensation			无功补偿 Reactive compensation		无功补偿 Reactive compensation		无功补偿(SVG) Reactive compensation	
规格序号 Sequence	A	B	C	A	A	A	A	B	
柜宽(mm) Cabinet Width (mm)	600	800	1000	1000	1000	1000	1000	1200	
小室高度(mm) Height of Small Room	1800	1800	1800	1800	1800	1800	1800	1800	1800
最大补偿容量(kVar) Max.Compensation capacity	100	200	300	300	300	300	400	600	
主要电器 Main Electricals	RNM1 225	RNM1 400	RNM1 630	RNM1 630	RNM1 630	RNM1 630	RNM1 800	RNM1 1250	
备注 Remark	1.可按用户指定元器件型号配 1.Components type shall be equipped according to the user .			1.可按用户指定元器件型号配 1.Components type shall be equipped according to the user .		1.可按用户指定元器件型号配 1.Components type shall be equipped according to the user .		1.可按用户指定元器件型号配 1.Components type shall be equipped according to the user .	

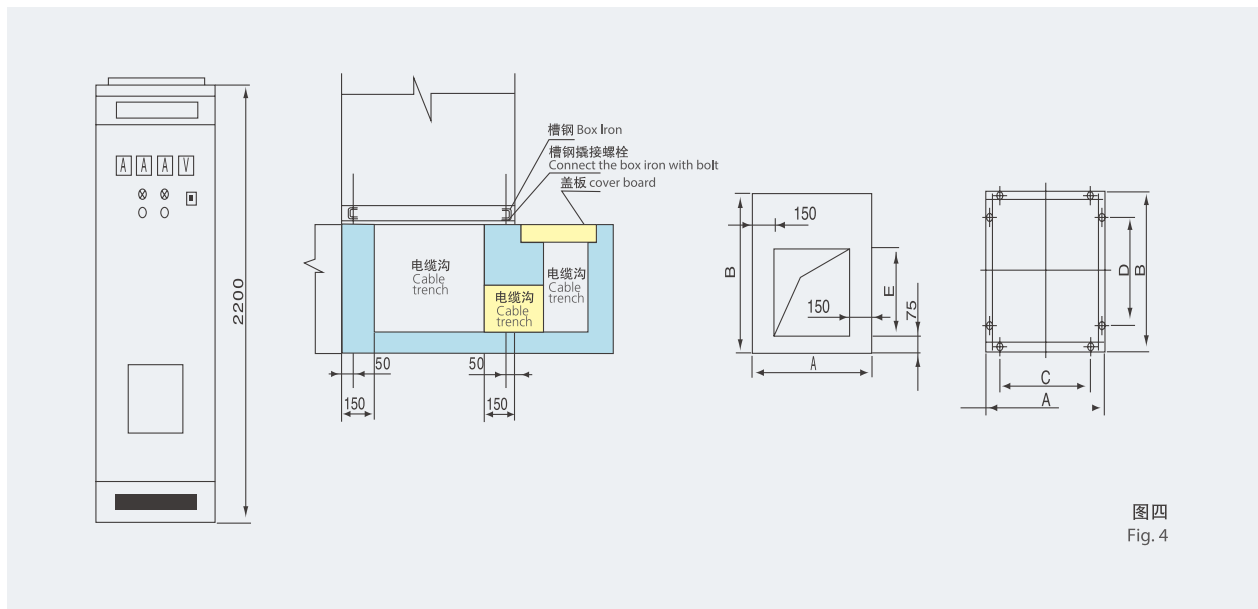
方案编号 Scheme No.	20			21			22		
主电路图 Main Circuit Diagram									
用途 Usage	双电源自动切换(CB级) Dual-power automatic switch (CB Level)								
规格序号 Sequence	A	B	C	A	B	C	A	B	C
柜宽(mm) Cabinet Width (mm)	800	1000	1200	600	800	1000	600	800	1000
小室高度(mm) Height of Small Room	600	800	800	400	600	800	400	600	800
I _{min} (A)	1600	4000	6300	250	400	630	250	400	630
主要电器 Main Electricals	RNW1 630-1600	RNW1 2000-4000	RNW1 5000-6300	Rnxx 250	Rnxx 400	Rnxx 630	Rnxx 250	Rnxx 400	Rnxx 630
备注 Remark	1.可按用户指定断路器型号 2 柜宽按4极断路器考虑 3.可按用户需要增设计量装置 1.User can choose the type of circuit breaker. 2.Cabinet width shall be adjusted according to the choice of 4-pole circuit breaker. 3.Metering device shall be added according to the user.								

► 安装示意图 Installation Diagram

受电柜、联络柜安装示意图（具体见图四）

Installation diagram for incoming cabinet and contact cabinet (Please see the Fig. 4 for details)

	A	B	C	D	E	
各种柜体的 组合类型 The combination of all kinds of cabinet bodies	600	800	500	700	500	受电 Incoming Cabinet
	800	800	700	700	500	受电, 联络 Incoming Cabinet, Contact Cabinet
	1000	800	900	700	500	受电, 联络 Incoming Cabinet, Contact Cabinet
	600	1000	500	900	500	受电 Incoming Cabinet
	800	1000	700	900	500	受电, 联络 Incoming Cabinet, Contact Cabinet
	1000	1000	900	900	500	受电, 联络 Incoming Cabinet, Contact Cabinet

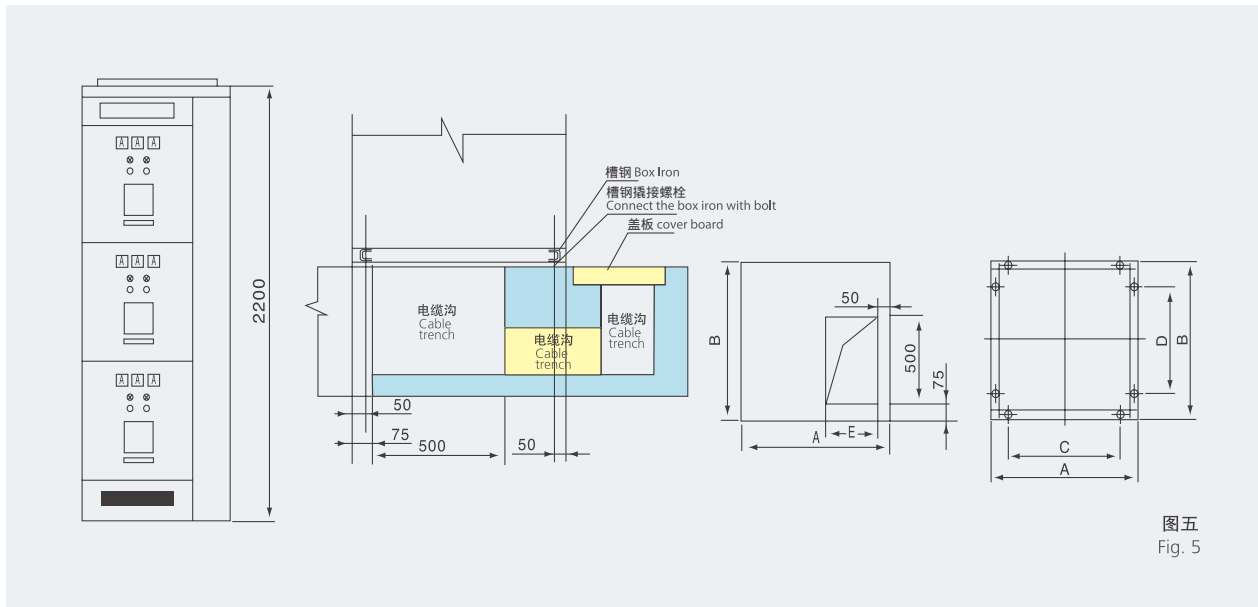


图四
Fig. 4

PC柜安装示意图（具体见图五）

Installation diagram for PC cabinet (Please see the Fig. 5 for details)

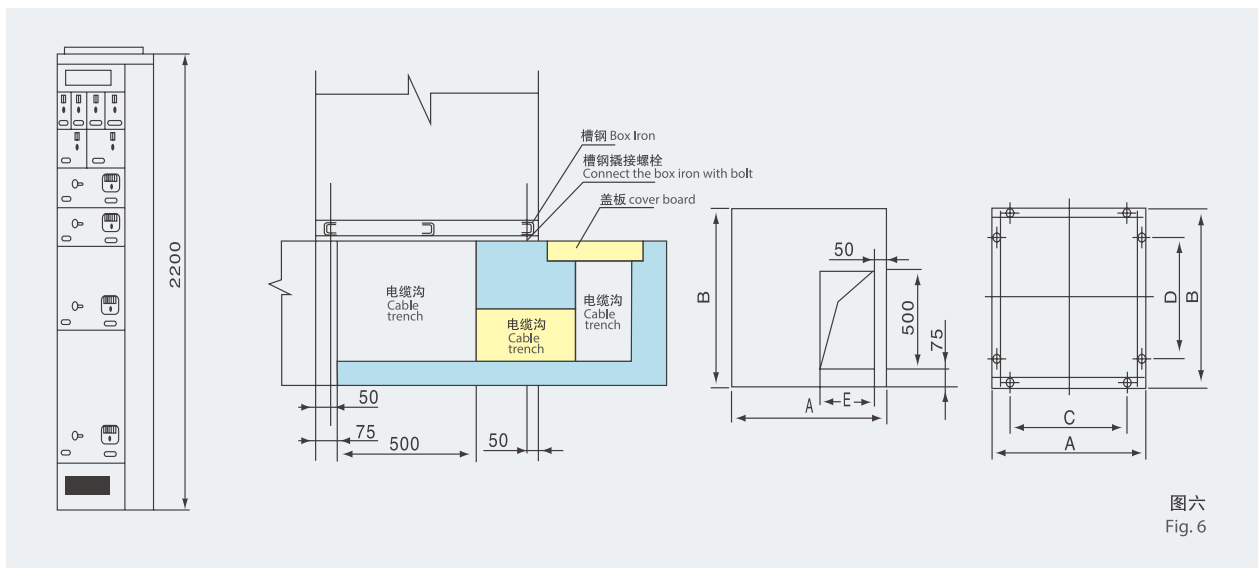
	A	B	C	D	E	
各种柜体的 组合类型 The combination of all kinds of cabinet bodies	800	800	700	700	300	PC
	1000	800	900	700	500	PC
	800	1000	700	900	300	PC
	1000	1000	700	900	500	PC



受电柜、联络柜安装示意图（具体见图六）

Installation diagram for Incoming cabinet and Contact Cabinet (Please see the Fig. 6 for details)

	A	B	C	D	E	
各种柜体的 组合类型 The combination of all kinds of cabinet bodies	800	600	700	500	300	MCC
	1000	600	900	500	300	MCC
	800	800	700	700	400	MCC
	1000	800	900	700	400	MCC
	800	1000	700	900	400	MCC
	1000	1000	900	900	400	MCC



▶ 订货须知 Order Instruction

- ➔ 主接线方案图编号，用途和单线图；额定电压；额定电流；配电室平面布置图及开关柜的排列配置图，并标明每一回路模数多少。
- ➔ 标明进出线电缆规格。
- ➔ 开关柜内主要电气元件的型号、规格及数量。
- ➔ 如开关柜之间或进线柜需要母线桥或母线槽连接，应提供母线桥或母线槽的额定载流量，母线桥或母线槽的跨度，距地高度等具体要求数据。详见母线桥或母线槽的订货须知。
- ➔ 开关柜用在特殊环境条件时，应在订货时详细说明。
- ➔ 其它具体要求。
- ➔ Number of main wiring schematic diagram, usage, single line diagram; rated voltage, rated current, layout diagram of power distribution room, and the configuration diagram of the switch cabinet, and the number of modular in each circuit shall be marked.
- ➔ Specification of the outgoing cables shall be marked.
- ➔ Type, specification and quantity of main electrical parts inside the switch cabinet.
- ➔ In case of busbar bridge or busway is needed for the switch cabinet or incoming cable, the rated current-carrying capacity, span, height above ground and other detailed data of the busbar bridge or busway shall be provided. Please see the instructions for busbar bridge or busway ordering for details.
- ➔ Specific statement shall be made at the time of ordering for the use of switch cabinet in special environment. Other
- ➔ detailed requirements.



雷诺尔

Shanghai RENLE
Science&Technology Co., Ltd.



▶ 国家重点项目 National Key Projects



三峡工程

Three Gorges Project
北京奥林匹克水上公园
Beijing Olympic Rowing-Canoeing Park
北京奥运会配套项目
Supporting Projects for the Beijing Olympic Games
北京五棵松体育馆
Wukesong Indoor Stadium
国务院机关事务管理局
Bureau of Government Offices Administration of the State Council
中国中央电视台
CCTV (China Central Television)



首都国际机场
Beijing Capital International Airport
二炮导弹基地
China Second Artillery Corps Missile Base
中国空空导弹研究中心
China Air-to-air Missile Research Centre
中国人民解放军空军雷达基地
LA Air Force Radar Base



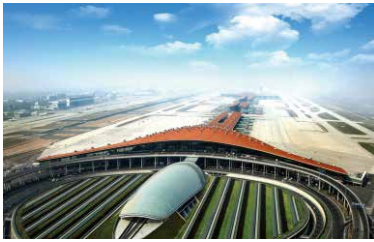
“南水北调”
South-to-North Water Diversion
黄衢南高速公路
Zhejiang Huangqunan Expressway
“西电东送”
Electricity Transmission from West to East China
“西气东输”
West-East Natural Gas Transmission



上海磁悬浮轨道交通车站
Shanghai Maglev Rail Transit Station
上海世博会配套项目
Supporting Projects for Shanghai Expo
上海浦东机场
Shanghai Pudong International Airport
上海国际汽车博物馆
Shanghai Auto Museum
上海虹桥机场扩建工程
Extension Project for Shanghai Hongqiao Airport
内蒙古呼和浩特白塔机场扩建工程航站楼
Terminal Expanded for Hohhot Baita International Airport
沈阳奥体中心
Shenyang Olympic Sports Center
北京南苑机场
Beijing Nanyuan Airport
云南2409空军机场
Yunnan 2409 Airforce Airport
青岛奥体中心
Qingdao Olympic Sports Center
济南奥体中心
Jinan Olympic Sports Center
双流国际机场扩建工程
Extension Projects for Chengdu Shuangliu International Airport



重庆袁家岗奥林匹克体育中心
Chongqing Olympic Sports Center
新白云国际机场
New Baiyun International Airport
武汉天河机场
Wuhan Tianhe Airport
上海地铁明珠三号线
Shanghai Metro Line 3
重庆国际会议中心
Chongqing International Conference Centre
山西万家寨引黄工程
Shanxi Wanjiashai Yellow River Diversion Project
青海小游山生态工程
Qinghai Xiaoyou Mountain Ecological Project



- 天津“八大片”供热工程
- Tianjin Badapian Heating Project
- 山东菏泽市引黄供水工程
- Shandong Heze Yellow River Diversion & Water Supply Project
- 上海国际航运中心洋山深水港工程
- Shanghai International Shipping Center Yangshan Deepwater Port
- 四川西昌卫星发射中心
- Xichang Satellite Launch Center
- 广西龙滩水电工程
- Guangxi Longtan Hydropower Project
- 甘肃卫星发射中心
- Gansu Satellite Launch Center
- 云南红河南沙水电站
- Yunnan Honghe Nansha Hydropower Station
- 大唐国际发电股份有限公司
- Datang International Power Generation Co., Ltd.
- 贵州开磷化工
- Guizhou Kailin Group Co., Ltd.
- 内蒙古神华集团有限责任公司
- Inner Mongolia Shenhua Group
- 金山石化
- Jinshan Petrochemical Company
- 上海宝钢集团
- Shanghai Baosteel Group
- 泰州石化
- Taizhou Petrochemical Company
- 鞍山钢铁集团
- Anshan Iron and Steel Group
- 吉林石化
- Jilin Petrochemical Company
- 武汉钢铁公司
- Wuhan Iron and Steel Group
- 广西柳化
- Guangxi Liuzhou Chemical Industry
- 中国首钢集团
- Capital Iron and Steel Company
- 广州石化
- Guangzhou Petrochemical Company
- 中国长城铝业公司
- China Great Wall Aluminum Corporation
- 洛阳石化
- Luoyang Petrochemical Company
- 广西平果铝业
- Guangxi Pingguo Aluminum Company
- 岳阳石化
- Yueyang Petrochemical Company
- 广西柳钢
- Guangxi Liuzhou Iron and Steel Group
- 南京石化
- Nanjing Petrochemical Company
- 马鞍山钢铁
- Maanshan Iron and Steel
- 北京燕山石化
- Beijing Yanshan Petrochemical Company
- 山西中阳钢厂
- Shanxi Zhongyang Steel
- 乌鲁木齐石化
- Urumqi Petrochemical Company
- 大庆油田
- Daqing Oilfield
- 锦西石化
- Jinxi Petrochemical Company
- 胜利油田
- Shengli Oilfield
- 独山子石化
- Dushanzi Petrochemical Company
- 辽河油田
- Liahe Oilfield
- 北京金融街
- Beijing Financial Street
- 塔里木油田
- Talimu Oilfield
- 成都大熊猫生态园大熊猫博物馆
- Panda Museum in the Chengdu Ecological Park of Giant Panda
- 克拉玛依油田
- Karamay Oilfield
- 青岛北海船厂
- Qingdao Beihai Shipyard
- 陕西长庆石油
- Shaanxi Changqing Oilfield