



INDUSTRIAL SOLUTION SYSTEMS



纳图抖音官方号



纳图视频号



纳图公众号

纳图电气集团股份有限公司
NATUS ELECTRIC GROUP CO.,LTD.

地址：中国江苏省常州市天宁区劳动东路369号

Address : No.369 Laodong East Road,Tianning District,Changzhou,Jiangsu Province,China

电话 / Telephone : 400-928-1888

邮箱 / E-mail : sales@natus-cn.com

网址 / Web : www.natus-cn.com
www.natus.de

版本号:NT 01-2026



INDUSTRIAL SOLUTION SYSTEMS

MNS_nt

低压开关柜

Low-Voltage Switchgear



纳图电气集团股份有限公司
NATUS ELECTRIC GROUP CO.,LTD.

集团业务 Group Business

集团专注于中低压电力行业的系统集成、EPC工程总包服务及核心产品的研发、生产与销售。在电力设备领域，我们深耕智能电气成套产品、高端电力元器件、先进电能质量治理产品、智能控制仪表与控制系统。基于人工智能与大数据分析的技术积累，我们提供变电站与输电线路的气象灾害预防设备与安全运行综合解决方案。在新技术领域，我们聚焦小区域低空气象高精度预测技术，为低空经济发展提供综合性的产品与服务。



The Group specializes in system integration, EPC turnkey services, and the R&D, production, and sales of core products within the medium and low-voltage power industry. In the field of power equipment, we have deep expertise in intelligent electrical switchgear system, high-end power components, advanced power quality management products, intelligent control instruments, and control systems. Leveraging accumulated expertise in artificial intelligence and big data analytics, we provide comprehensive solutions for meteorological disaster prevention equipment and the safe operation of substations and transmission lines. In the domain of new technologies, we focus on small-area, low-altitude meteorological high-precision prediction technology, offering integrated products and services to support the development of the low-altitude economy.

集团理念 Group Vision

纳图电气集团源自德国，立足中国，服务全球。自1956年成立以来，集团以德国技术为基础，深度融合中国智慧与全球视野，依托强大的中国研发与制造团队，精准响应全球市场需求，为各行业客户提供智慧电力的专业解决方案。集团坚持以客户为中心，致力于创新产品、可靠技术与精益制造，携手全球用户共同构建更智能、高效、可持续的电力能源未来。



Natus Electric Group originates from Germany, is firmly rooted in China, and serves the global market. Since its establishment in 1956, the group has built upon German technology deeply integrating Chinese expertise and a global perspective. Supported by a robust Chinese R&D and manufacturing team, we precisely respond to global market demands, delivering professional intelligent power solutions for clients across various industries. Adhering to a customer-centric approach, the group is committed to innovative products, reliable technology, and lean manufacturing.

Working hand-in-hand with global users to build a smarter, more efficient, and sustainable future for the power and energy sector.



产品概述

General Information

01

1

应用领域

Application

01

2

产品特点

Product Characteristics

02

3

结构特点

Structural Feature

03~10

4

主接线

Main wiring

11~16

5

技术参数

Technical Specifications

17~19

6

产品概述 General Information

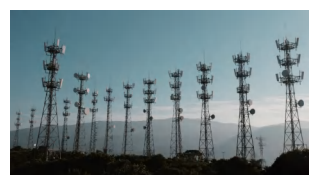


- MNS nt低压开关设备是一款采用标准型材搭建、由纳图工厂生产的低压开关柜。它适用于交流50/60Hz, 额定工作电压690V, 额定电流6300A及以下的供配电系统。柜体架用优质敷铝锌钢板或优质冷轧钢板弯制成零部件, 零件采用标准安装模数孔(模数单位E=25mm), 通过自攻锁紧螺钉或六角螺钉紧固互相连接而成。内部隔室满足IEC439-1"form4"的规定, 外壳防护等级最高可达IP54。广泛应用在发电、建筑、钢铁、水泥、矿山、石化、造纸等供配电系统中。
- MNS_nt low-voltage switchgear is a type of low-voltage switch cabinet constructed with standard section bars and manufactured by NATUS factory. It is suitable for power supply and distribution systems with alternating current of 50/60Hz, rated operating voltage of 690V, and rated current of 6300A or below. The cabinet frame is composed of components bent from high-quality aluminum-zinc coated steel plates or high-quality cold-rolled steel plates. The components feature standard mounting modular holes (modular unit E=25mm) and are interconnected and fastened by self-tapping locking screws or hexagon socket head cap screws. The internal compartments comply with the "Form 4" requirements specified in IEC 439-1, and the maximum protection class of the enclosure can reach IP54. It is widely used in power supply and distribution systems for power generation, construction, steel, cement, mining, petrochemical, papermaking and other industries.

应用领域 Application



数据中心
Data Center



通讯行业
Telecommunications



工厂建设
Industrial Plant Construction



轨道交通
Rail Transit



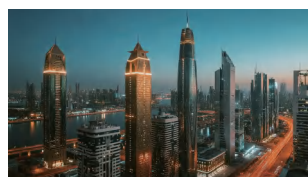
海上平台
Offshore Platform



化工和石化行业
Chemical&Petrochemical Industry



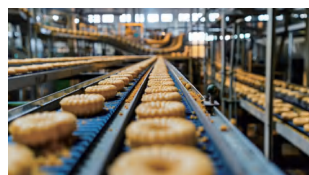
石油和天然气行业
Oil & Gas Industry



市政公用事业和配电
Municipal Utilities
& Power Distribution



纸浆和造纸行业
Pulp&Paper Industry



食品行业
Food Industry



变电站
Electrical Substation



储能行业
Energy Storage Industry

产品特点 Product Features



结构合理, 技术水平高

Reasonable structure, high technical level

- MNS_nt柜的额定载流量, 分断能力, 动热稳定性能指标均高于其它型号的低压开关柜, 并且维护方便, 安全可靠。
- MNS_nt cabinet's rated carrying capacity, breaking capacity, dynamic and thermal stability performance indicators are higher than other types of low-voltage switchgear, and easy to maintain, safe and reliable.

防护性能好

Good protection performance

- MNS_nt是全隔离的开关柜, 内部隔室满足IEC439-1“Form 4”的规定, 外壳防护等级为IP30、IP31、IP40、IP41、IP54。
- MNS_nt is a fully isolated switch cabinet, the internal compartment meets the requirements of IEC439-1 "Form 4", and the protection level of the enclosure is IP31, IP40, IP54.

联锁可靠

Reliable interlocking

- MNS_nt的防误操作联锁由断路器操作手柄机构和抽屉位置机械联锁操作机构共同完成, 其设计精确、逻辑性极强, 能有效地防止各种可能出现的误操作, 并且能与运行方式相结合灵活地实现柜间联锁。
- The anti-misoperation interlock of MNS_nt is completed by the circuit breaker operating handle mechanism and the drawer position mechanical interlock operation mechanism, its design is accurate and logical, can effectively prevent various possible misoperation, and can be combined with the operation mode to flexibly realize the interlock between cabinets.

方案齐全, 组合方便

Complete program, convenient combination

- MNS_nt以8E为基本单元, 功能单元有8E/4、8E/2、8E、12E、16E、20E、24E、32E、72E, 一台MCC柜最多时可布置36个功能单元, 而且可实现PC、MCC混装, 为压缩柜子数量、灵活选择方案提供了有利条件。
- MNS_nt with 8E as the basic unit, functional units have 8E/4, 8E/2, 6E, 8E, 12E, 16E, 24E, 32E, 72E, an MCC cabinet can be arranged at most 36 functional units, and can achieve PC, MCC mixed installation, for the compression of the number of cabinets, flexible choice of programs to provide favorable conditions.

权威认证

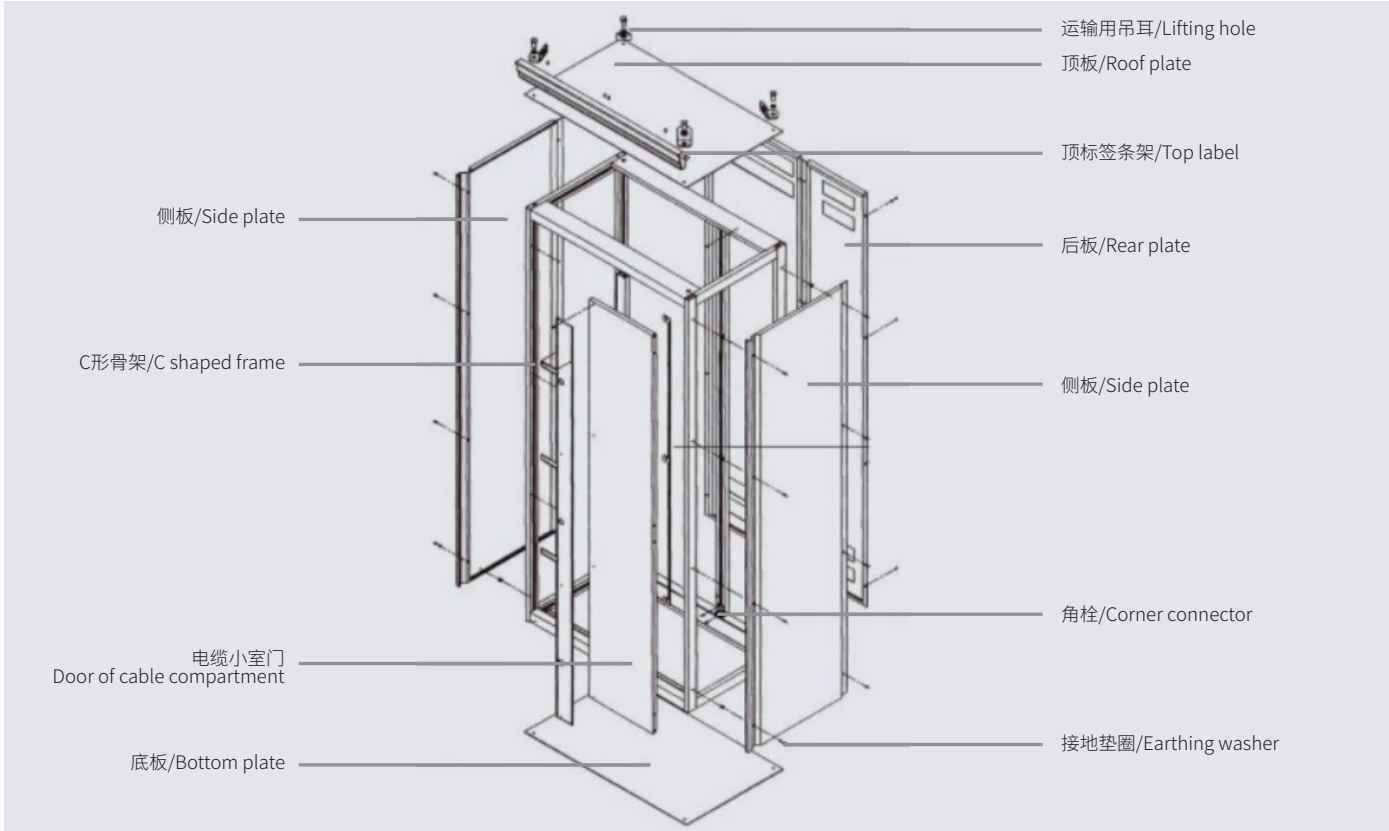
Authoritative Certification

- MNSnt全系列产品通过了国家权威检测机构的型式试验认证。满足GB/T7251及IEC61439等标准要求, 并获得全套型式试验报告、CQC证书、CB及CE证书等。
- The full range of MNS_nt products has passed the type test certification conducted by national authoritative testing institutions. These products comply with the requirements of standards such as GB/T 7251 and IEC 61439, and have obtained a complete set of type test reports, CQC certificates, CB certificates and CE certificates.

结构形式概述

Structural form overview

- 低压开关柜结构的基本骨架为组合装配式结构, 柜体封板采用高质量的冷轧钢板, 全部框架、内隔板及功能单元采用高质量的进口敷铝锌钢板, 加工剪切时铝锌膜自动随剪切刀覆盖剪切口, 因此剪切口具有较强的自愈能力并不会发生腐蚀或生锈现象, 柜体其余用冷轧板的金属结构件都经过镀锌防腐处理。
- 低压开关柜用C型直柱, 通过钢制自攻螺丝和8.8级螺栓, 装配而成。具有足够的机械强度, 可以保证元件安装后及操作时无摇晃、不变形。开关柜内的每个柜体分隔为三室, 即水平母线隔室, 功能单元隔室及电缆室, 室与室之间用整块高强度阻燃环保塑料功能板和敷铝锌板相互隔开。
- MNS_nt以8E为基本单元(E=25mm),功能单元有8E/4、8E/2、8E、12E、16E、20E、24E、32E、72E,一台MCC柜最多可布置36个功能单元, 可实现PC,MCC混装。
- The basic skeleton of the low-voltage switchgear structure is a composite assembly structure.The cabinet sealing plate adopts high-quality cold-rolled steel plate,and all he frames,inner partitions and functional units adopt high-quality imported aluminum zinc steel plate.The aluminum zinc film automatically covers the shear mouth with the shear knife during shearing process,so the shear mouth has a strong self-healing ability without corrosion or rust phenomenon.The rest of the cold rolled metal structural parts of the cabinet are galvanized anti-corrosion treatment.
- The low-voltage switchgear is assembled witha C-type straight column by stel self-taping screws and 8.8 classbots. With sufcent mechanical strength,it can ensure that the components are installed and operated without shaking and deformation.Each cabinet in the switch cabinetis divided into three rooms, namely,the horizontal bus compartment, the functional unit compartment and the cable room,and the whole high-strength flame-retardant environmental protection plastic functional board and aluminum zinc plate are separated from each other between the rooms.
- MNS_nt takes 8E as the basic unit(E=25mm),and the functional units are 8E/4,8E/2,6E,8E,12E,16E,24E,32E,72E.An MCC cabinet can be arranged with a maximum of 36 functional units,which can realize the mixed instllation of PC and MCC.



MNS_nt开关柜按照用途和柜体结构, 分为以下几种柜型:

MN S_nt switch cabinet according to the use and cabinet structure,is divided into the following types of cabinet:

PC柜:

PC Cabinet:

- 主要安装框架式断路器或者大容量刀熔开关, 一般用于进线开关柜和大电流配电出线柜。
- Primarily installed with frame-type circuit breakers or high-capacity knife switches, typically used in incoming switchgear and high-current distribution feeder cabinets.

MCC柜:

MCC Cabinet:

- 主要安装塑壳开关、接触器、热继电器或者小容量的刀熔开关, 一般用于电动机控制中心或者小电流的配电中心。
- The main installtion of plastic-case switch,contactor,thermal relay or small capacity knife melt switch,generlly used in the motor control center or smallcurrent distribution center.

PC与MCC混装柜:

PC and MCC Combined Cabinet:

- 开关柜部分为PC回路, 部分为MCC回路, 采用混装结构, 可以提高柜体元件的安装效率, 减少开关柜数量。
- Part of the switchgear is PC circuit,par of the MCC cicuit,the use of mixed structure,can improve the installaion efficiency of the cabinet components,reduce the number of switchgear.

无功功率补偿柜:

Reactive Power Compensation Cabinet

- 主要安装低压电力电容器和其相应的控制回路, 用于系统的低压无功补偿。
- The low-voltage power capacitor and its corresponding control loop are mainly installed for the low-voltage reactive power compensation of the system.

- MNS_nt开关柜具有两种型号产品, MNS_nt和MNS_nt-D。MNS_nt-D具有透明玻璃门, 外观美观大方, 同时具有很高的防污秽、防灰尘、防溅水能力, 可适应高防护等级的要求。
- 同时, 根据现场的安装条件等情况, 抽出式的MNS_nt开关柜具有侧面出线和后部出线两种形式, 侧面出线开关柜的电缆仓在开关柜侧面, 水平母线布置在柜体后部; 后部电缆出线开关柜的电缆仓设计在开关柜后部, 水平母线布置在柜体顶部。对于这两种开关柜, 电缆出线均可在柜体底部或顶部出线。

- The MNS_nt switchgear comes in two models: MNS nt and MNS nt-D. The MNS nt-D features a transparent glass door, offering an aesthetically pleasing appearance while providing high resistance to contamination, dust, and splashing water, meeting the requirements for high protection ratings.

At the same time,according to the installation conditions of the site,the withdrawable MNS_nt switchgear has two forms of

- side outlet and rear outlet.The cable bin of the side outlet switchgear is on the side of the switchgear,and the horizontal bus baris arrangedat the rear of the cabinet. The cable bin of the rear cable outlet switch cabinet is designed at the rear of the switch cabinet,and the horizontal bus bar is arranged on the top of the cabinet.For both types of switchgear,the cable outlet can be routed at the bottom or top of the cabinet.

抽出式开关柜母线系统:

Draw-out type switchgear busbar system:

- 抽出式开关柜水平母线具有两种形式,对于侧面出线的开关柜,水平母线布置在柜体后部;对于柜后出线的开关柜,水平母线布置在柜顶。根据要求,可以配置一组或者二组水平母线,二者既可单独供电又可并联供电,或者一组作为工作母线,一组作为备用母线。
- There are two types of horizontal bus bar for the draw-out switchgear. For the switchgear with side outlet, the horizontal bus bar is arranged at the rear of the cabinet. For the switch cabinet with the outlet line at the back of the cabinet, the horizontal bus bar is arranged on the top of the cabinet. According to the requirements, one or two groups of horizontal busbars can be configured, both of which can be powered separately or in parallel, or one group as a working busbar and one group as a standby busbar.
- 水平母线布置在侧面和顶部这两种方式的柜体在布置时,不能布置在同一排列中。单独设置并贯穿整个排列的保护导体(PE线)与裸露导电部件(框架)相连接后组成完整的保护接地系统。而且PE母线能承受一定的短路电流。根据系统要求,开关柜可以是三相四线制(TN-C)的或者三相五线制(TN-S或TN-C-S)。
- Cabinets with horizontal bus bars arranged on the side and top cannot be arranged in the same arrangement when they are arranged. The protective conductor (PE wire), which is individually arranged and runs through the entire arrangement, is connected with the exposed conductive part (frame) to form a complete protective grounding system. And PE bus can withstand a certain short circuit current. Depending on the system requirements, the switchgear can be three-phase four-wire system (TN-C) or three-phase five-wire system (TN-S or TN-C-S).
- MCC柜垂直母线组装在绝缘功能板之中,可防止开关电弧引起的对垂直母线的相间放电,提高了产品的电击防护能力和安全运行率。
- The vertical bus of MCC cabinet is assembled in the insulation function board, which can prevent the interphase discharge of the vertical bus caused by the switching arc, and improve the electric shock protection ability and safe operation rate of the product.



柜顶母线
Busbar on top



柜后母线
Busbar on rear

抽屉单元：

Drawer unit:

- 抽屉式开关柜总的可利用高度为72E(E=25mm), 按照上下左右布置;
 - 单元最小高度为8E(200mm);
 - 抽屉单元共有七种类型:8E/4、8E/2、8E、12E、16E、20E、24E;
 - 安装最小尺寸的8E/4抽屉时, 每柜最多可装36个抽屉单元;
 - 双面操作时, 每台柜最多可装72个抽屉单元。
- The total available height of the drawer switch cabinet is 72E(E=25mm), arranged according to the upper, lower, left and right;
 - Unit minimum height is 8E (200mm);
 - There are seven types of drawer units: 8E/4, 8E/2, 8E, 12E, 16E, 20E, 24E;
 - When installing the smallest 8E/4 drawers, each cabinet can hold up to 36 drawer units;
 - Each cabinet can hold up to 72 drawer units when operated on both sides.

抽屜单元的最大容量
Maximum capacity of the drawer unit

规格 Specifications	最大容量 Maximum capacity			
	塑壳开关最大流量(A) Maximum Breaking Capacity (A) of MCCB	直接启动最大电动机 控制功率(KW) Maximum Motor Control Power (kW) For Direct Starting	直接启动(可逆)最大电动机 控制功率(KW) Maximum motor control power (kW) for direct starting (reversible)	(Y/△)启动最大电动机 控制功率(KW) Maximum motor control power (kW) for Y/ △ starting
8E/4	32	7.5	---	---
8E/2	100	15	15	---
8E	250	45	30	---
12E*	400	75	55	---
16E	400	110	110	90
20E*	630	132	132	90
24E	630	160	160	110

注:12E 和20E 抽屉单元为非常用规格

Note : The 12E and 20E drawer units are non-common specifications.

- 抽屉单元具有二次隔离插头, 可供控制回路外部引出控制信号使用
 - 抽屉单元一般均有16节二次隔离插头引出
 - 除8E/4 外, 其他抽屉单元均可增至32节引出端子
 - 每个引出单子上可接二根1.5~2.5mm² 多股软导线
 - 8E/4和8E/2抽屉单元四周均为阻燃型塑料隔板隔离, 使单元之间具有较强的绝缘隔离性能
 - 8E 及以上抽屉单元均采用敷铝锌钢板或优质冷轧钢板制作, 具有优良的机械强度和接地性能。抽屉单元具有可靠的机械联锁装置, 以防止误操作和带负荷插拔, 并通过操作手柄控制指示出合闸、试验、移动、分离位置。每个位置定位后最多均可以加三把挂锁。
- The drawer unit has a secondary isolation plug, which can be used to elicit control signals from outside the control loop.
 - Drawer units generally have 16 secondary isolation plugs leading out,
 - Except 8E/4, other drawer units can be configured with up to 32 outgoing terminals.
 - Two 1.5~2.5 mm² multi-core flexible wires can be connected to each outgoing terminal.
 - 8E/4 and 8E/2 drawer units are surrounded by flame-retardant plastic partitions, so that the units have strong insulation isolation performance; f)
 - 8E and above drawer units are made of aluminum coated zinc steel or high-quality cold rolled steel, with excellent mechanical strength and grounding properties. The drawer unit has a reliable mechanical interlocking device to prevent misoperation and load insertion and removal, and indicates the closing, testing, moving, and separation positions through the operation handle control. Up to three padlocks can be added to each position after positioning.

PC柜:

PC cabinet:

- 根据开关容量和尺寸要求, PC柜可以有多种宽度。PC柜内可安装各种型号的框架式断路器或者刀熔开关, 并可按照要求安装1~3台框架式断路器。
- 安装2台框架式断路器时, 通常采用上下布置的方式, 根据需要也可以采用左右布置的方式。左右布置时, 柜体宽度较上下布置有所增加, 但与上下布置相比散热条件更好, 在长期满负荷运行的 情况下优于上下布置的方式。
- 水平母线柜后布置时, 当额定电流 $\geq 4000A$ 时, 母联柜必须增加600mm宽的母线转接柜; 水平母 线柜顶布置时, 母联柜均需增加300mm宽的母线转接柜, 详见一次方案图。
- 一般情况下, 推荐PC和MCC分开, 将框架式断路器和抽屉单元布置在不同的柜中, 以便使用维护的方便; 但在特殊情况下, 允许将PC和MCC混装, 同一个开关柜中既安装有框架式断路器, 也安装有小电流的抽屉单元。采用混装方式时, 应将PC布置在柜体上部, 下部布置抽屉单元, 在PC和抽屉单元之间应留有8E的空室作为垂直母线的转接用, 具体请参见一次方案30~31。
- Depending on the switch capacity and size requirements, the PC cabinet can be in a variety of widths. Various type of frame type circuit breakers or knife melt switches can be installed in the PC cabinet, and 1 to 3 frame type circuit breakers can be installed according to requirements.
- When two frame type circuit breakers are instaled, they are usually arrange up and down, and can also be aranged left and right according to needs. When left and rght arangement, the width of the cabinets increased compared with the upper and lower arangement, but the heat dissipation condition is better than the upper and lower arrangement, and it is better than the upper and lower arrangement in the case of long-term full load operation.
- When the rated curent is greater than or equal to 4000A, add a 600mm wide bus-bar conversion cabinet to the bus-bar connection cabinet. If the top of a horizontal busbar cabinet is arranged, a 300mm wide busbar conversion cabinet must be added to the busbar connection cabinet. For details, see the primary solution diagram.
- Generally, it is recommended to separate the PC and MCC, placing the frame-type circuit breaker and drawer units in different cabinets for ease of operation and maintenance. However, in special circumstances, it is permissible to co-install the PC and MCC within the same switchgear cabinet, accommodating both the frame-type circuit breaker and low-current drawer units. When adopting the combined installation method, the PC should be positioned in the upper section of the cabinet, with drawer units arranged in the lower section. An 8E clearance must be maintained between the PC and drawer units to accommodate vertical busbar transitions. For specific details, refer to Primary Schematic 30~31.

无功功率补偿柜:

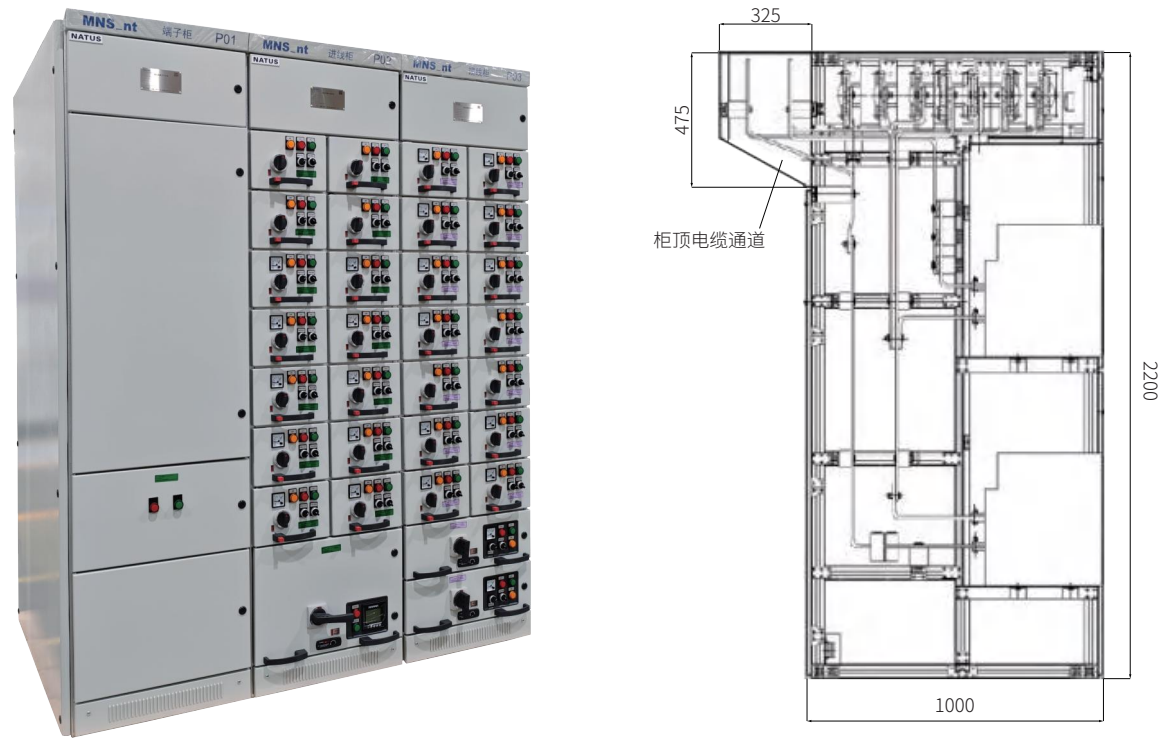
Reactive Power Compensation Cabinet:

- 根据系统情况, MNS_nt 开关柜设计有无功功率补偿柜, 供低压补偿用。无功功率补偿柜配置有低压电容器, 以及接触器、复合开关、可控硅投切开关、低压熔断器、电抗器等相应的控制保护元 件, 并可根据需要安装自动无功补偿控制器, 实现无功功率补偿的自动控制。
- 根据电网的实际情况, 以上参数亦可按用户要求配置。
- Based on system requirements, the MNS_nt switchgear incorporates reactive power compensation cabinets for low-voltage compensation. These cabinets are equipped with low-voltage capacitors and corresponding control and protection components such as contactors, composite switches, thyristor switching devices, low-voltage fuses, and reactors. An automatic reactive power compensation controller may be installed as needed to enable automated control of reactive power compensation.
- According to the actual situation of the power grid, the above parameters can be configured according to user requirements.

进出线电缆室:

Inlet and outlet cable room:

- 根据实际需要, MNS_nt开关柜的进出线电缆可以采取柜侧面进出线, 也可采取柜后进出线。采用柜侧面出线, 水平母线布置在柜后; 采用柜后出线, 水平母线布置在柜顶。
- MNS_nt开关柜进出线电缆可采取底部或柜顶进出线, 对于水平母线布置在柜后, 电缆侧面出线的柜体, 在标准柜体尺寸内电缆室上下方可任意上下进出线(需要向我公司提供相应数据, 以便在柜体生产时布置相应开孔)。
- 对于水平母线布置在柜顶, 电缆柜后出线的方案, 当水平母线的额定电流 $\leq 3150A$ 且只布置一组母线时, 在标准柜体尺寸内电缆室上下方可任意上、下进出线;
- 当水平母线的额定 $> 3150A$ 或布置二组水平母线时, 需要在标准柜体的后上方配备一个柜顶进出线通道。
- According to actual requirements, the inlet and outlet cables of the MNS_nt switch cabinet can be taken from the side of the cabinet or from the rear of the cabinet. The side of the cabinet is used, and the horizontal bus bar is arranged at the back of the cabinet. The cable is routed from the back of the cabinet, and the horizontal bus is arranged on the top of the cabinet.
- MNS_nt switch cabinet inlet and outlet cables can be taken at the bottom or top of the cabinet. For the cabinet body with the horizontal bus bar arranged in the cabinet and the cable side outlet, the cable room can enter and exit the cable arbitrarily up and down within the standard cabinet size (it is necessary to provide the corresponding data to our company so that the corresponding opening can be arranged in the cabinet production).
- When the rated current of the horizontal bus is $\leq 3150A$ and only one set of bus bars is arranged, the cables can be entered and discharged from the cable room up or down within the standard cabinet size.
- When the rating of the horizontal bus bar is greater than 3150A or two sets of horizontal bus bars are arranged, a cabinet top inlet and outlet channel is required at the back of the standard cabinet.



外形尺寸与重量:

Overall Dimensions and Weight:

外形尺寸(单层门) Overall Dimensions (Single-Layer Door)				
项目 Project	单位 Unit	高 (H)	宽 (W)	深 (D)
PC柜 PC cabinet	mm	2200	400	1000
PC和无功功率补偿柜 PC and Reactive Power Compensation Cabinet	mm	2200	600	1000
	mm	2200	800	1000
	mm	2200	1000	1000
	mm	2200	1200	1000
MCC柜(旁出线)* MCC Cabinet (Side Outgoing) *	mm	2200	1000	1000*
MCC柜(后出线)* MCC Cabinet (Rear Outgoing) *	mm	2200	600/800	1000

外形尺寸(双层门) Overall Dimensions (Double-Layer Door)				
项 目 Project	单位 Unit	高 (H)	宽 (W)	深 (D)
PC柜 PC cabinet	mm	2200	550	1000
PC和无功功率补偿柜 PC and Reactive Power Compensation Cabinet	mm	2200	650	1000
	mm	2200	850	1000
MCC柜(侧出线)* MCC Cabinet (Side Outgoing) *	mm	2200	1000	1000**
MCC柜(后出线)* MCC Cabinet (Rear Outgoing) *	mm	2200	650	1000

- 注:

MNS_nt 开关柜的单柜重量为500~800kg, 根据结构形式和柜内安装的元器件种类、数量的不同 而不同。

侧出线和后出线不能装在同一排列中。

**侧出线的MCC 柜其深度可减小到600mm, 但和同排列中的1000mm 宽柜连接时, 必须增加宽 度为400mm的母排转接柜。

宽度≥1000mm 的 PC 柜、无功功率补偿柜和双面操作柜无双层门结构形式。
- Note:

The single cabinet weight of the MNS_nt switchgear ranges from 500 to 800kg, varying according to the structural form and the type and quantity of components installed inside the cabinet.

The side outlet and the back outlet cannot be installed in the same arrangement.

The depth of an MCC cabinet with side cables can be reduced to 600mm.However,when connecting a 1000mm wide cabinet in the same arrangement,a 400mm wide busbar conversion cabinet must be added.

The PC cabinet,SVG cabinet and double-sided operating cabinet with width≥1000mm have no double-layer door structure.

插拔式/固定式开关柜

Plug-in / Fixed switchgear

- 插拔式开关柜采用插拔式空气断路器固定安装, 底座与母线系统可靠联接的方式, 简化了柜体结构, 减少机械构件, 避免了抽屉式结构带来的触头发热, 联锁机构复杂的缺点, 提高了运行的安全可靠。
- The pluggable switchgear adopts the pluggable air cicuit breaker fixed installation,and the base is reliably connected to the bus system, which simplifes the structure of the cabinet,reduces the mechanical components,avoids the shortcomings of the hair touch heat brought by the drawer structure and the complex interlock mechanism,and improves the safety and reliability of operation.

主接线 Main wiring								
方案编号 Scheme No.	09	10	11	12	13	14	15	16
一次方案 Primary scheme								
宽 Width(mm)	800	800	800	1000	800	800	1000	1200
单元高度 Unit height(E=25mm)	72E	72E	72E	72E	72E	72E	72E	72E
额定电流 Rated current(A)	1250	2500	3200	5000	1250	2500	3200	5000
描述 Description	联络 Interconnection (3P)				联络 Interconnection (4P)			

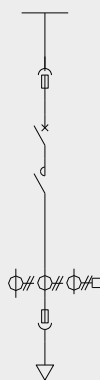
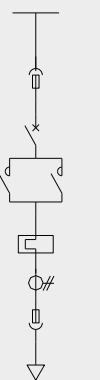
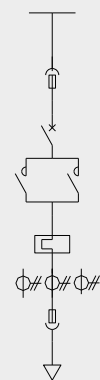
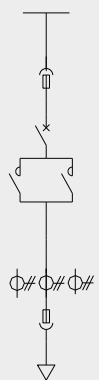
主接线 Main wiring								
方案编号 Scheme No.	01	02	03	04	05	06	07	08
一次方案 Primary scheme								
宽 Width(mm)	400/500	600	800	1000	600	800	1000	1200
单元高度 Unit height(E=25mm)	72E	72E	72E	72E	72E	72E	72E	72E
额定电流 Rated current(A)	1250	2500	3200	5000	1250	2500	3200	5000
描述 Description	进线、联络、馈电 Incoming line, Interconnection, Feeder (3P)				进线、联络、馈电 Incoming line, Interconnection, Feeder (4P)			

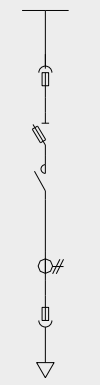
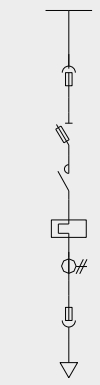
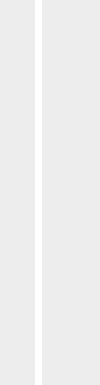
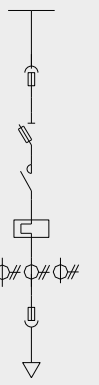
方案编号 Scheme No.	25	26	27	28	29	30	31
一次方案 Primary scheme							
宽 Width(mm)	500/550	800	1000	800	1000	600/1000	
单元高度 Unit height(E=25mm)	2x32E			3x24E		72E	
额定电流 Rated current(A)	2x630	2x1250	2x1250	5000	1250	2500	3200
描述 Description	馈电 Feed (3P)			馈电 Feed (3P)		馈电 Feed (3P)	

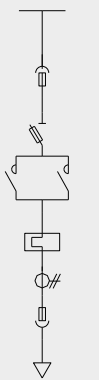
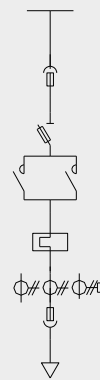
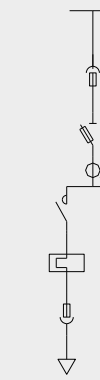
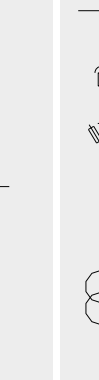
方案编号 Scheme No.	32	33	34	35	36	37	38	39	40
一次方案 Primary scheme									
宽 Width(mm)	600/1000								
单元高度 Unit height(E=25mm)	8E/4	8E/2	8E	12E	16E	16E	24E	8E/4	8E/2
额定电流 Rated current(A)	30	100	250	250/4P	315	400	630	32	50
描述 Description	馈电、照明 Feed、Lighting								

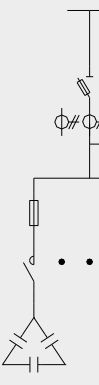
方案编号 Scheme No.	41	42	43	44	45	46	47	48	49
一次方案 Primary scheme									
宽 Width(mm)	600/1000				600/1000				
单元高度 Unit height(E=25mm)	8E	12E	16E	24E	6E	8E	12E	16E	24E
额定电流 Rated current(A)	100	200	400	630	160	200	250	400	630
描述 Description	馈电、照明 Feed、Lighting				馈电、照明（插拔式单元） Feed、Lighting (Plug-in Unit)				

方案编号 Scheme No.	50	51	52	53	54	55	56	57	58
一次方案 Primary scheme									
宽 Width(mm)	600/1000								
单元高度 Unit height(E=25mm)	6E	8E	12E	16E	8E/4	8E/2	8E/4	8E/2	8E
额定功率 Rated Power(kW)	160	225	400	630	7.5	15	7.5	15	45
描述 Description	馈电、照明（固定分隔式单元） Feed、Lighting (Fixed Separate Unit)				电机控制（直接启动） Motor Control (Direct Starting)				

主接线 Main wiring									
NATUS									
INDUSTRIAL SOLUTION SYSTEMS									
方案编号 Scheme No.	59	60	61	62	63	64	65	66	67
一次方案 Primary scheme									
宽 Width(mm)	600/1000								
单元高度 Unit height(E=25mm)	16E	24E	8E/2	8E	16E	20E	24E	16E	24E
额定功率 Rated Power(kW)	110	160	15	30	110	132	160	90	110
描述 Description	电机控制(直接启动) Motor Control (Direct Starting)		电机控制(可选) Motor Control (Optional)				电机控制(Y-△) Motor Control(Y-△)		

方案编号 Scheme No.	68	69	70	71	72	73	74	75
一次方案 Primary scheme								
宽 Width(mm)	600/1000							
单元高度 Unit height(E=25mm)	8E/4	8E	8E/4	8E	12E	16E	24E	8E/2
额定功率 Rated Power(kW)	7.5	18.5	7.5	18.5	45	75	110	15
描述 Description	电机控制(直接启动) Motor Control (Direct Starting)							

主接线 Main wiring					NATUS INDUSTRIAL SOLUTION SYSTEMS				
方案编号 Scheme No.	76	77	78	79	80	81	82		
一次方案 Primary scheme									
宽 Width(mm)	600/1000								
单元高度 Unit height(E=25mm)	8E	16E	20E	24E	16E	24E	8E	16E	
额定功率 Rated Power(kW)	30	45	75	110	90	160	100VA	200VA	
描述 Description	电机控制(可选) Motor Control (optional)				电机控制(Y-△) Motor control(Y-△)		电源 Power		

方案编号 Scheme No.	83	84	85	86	87	88
一次方案 Primary scheme						
宽 Width(mm)	600	800	1000	600	800	1000
单元高度 Unit height(E=25mm)	72E	72E	72E	72E	72E	72E
额定容量 Rated Capacity(kW)	150	240	360	90	240	360
描述 Description	RC			RCR		

- MNS_nt系列低压抽出式开关柜 (以下简称装置) 是组装式的配电装置, 它适用于交流50/60HZ额定工作电压名690V, 额定电流6300A及以下的供配电系统, 作为电能分配、转换、控制和无功功率补偿之用, 并在发电、建筑、钢铁、水泥、矿山、石化等供配电系统中广泛使用, 本装置符合下列标准:

● The MNS_nt Series Low-Voltage Draw-Out Switchgear (hereinafter referred to as the device) is a modular power distribution unit. It is suitable for AC 50/60Hz power supply systems with a rated operating voltage of 690V and a rated current of 6300A or below. It serves for power distribution, conversion, control, and reactive power compensation, and is widely used in power supply systems for power generation, construction, steel, cement, mining, petrochemical, and other industries. This device complies with the following standards:
- 中国国家标准

GB/T14048_1《低压开关设备和控制设备总则》

GB7947《绝缘导体和裸导体的颜色标志》

GB7251《低压成套开关设备和控制设备》

JB/T9661《低压抽出式成套开关设备》

JB4012《低压空气式隔离器、开关、隔离开关及熔断器组合电器》

■ GB3983_1《低电压并联电容器》

GB7947《绝缘导体和裸导体的颜色标志》

IEC标准

EC60439《低压成套开关设备和控制设备》

● Chinese national standard

GB/T14048_1General rules for low voltage switchgear and control equipment

GB7947Color marks for insulated and bare conductors

GB7251Low-voltage switchgear and control equipment

JB/T9661Low-voltage switchgear and control equipment

JB4012Low pressure air isolators,switches,isolators and fuse combinations

GB3983_1Low voltage shunt capacitor

GB7947Color marks for insulated and bare conductors

● IEC standard

EC60439Low-voltage switchgear and control equipment

■ 同时, MNS_nt开关柜还符合德国标准VDE 0660 Part5标准的要求。

● At the same time,the MNS_nt switchgear also meets the requirements of the German standard VDE 0660 Part5.

技术参数 Technical Specifications

NATUS

INDUSTRIAL SOLUTION SYSTEMS

使用条件

Conditions of use

■ 环境温度:

周围空气温度不超过+40°C,不低于-5°C,且在24小时内测得的平均值不超过+35°C。

■ 环境湿度:

空气清洁, 在最高温度+40°C时其相对湿度不超过50%,较低温度时允许有较大的相对湿度。例如+20°C时为90%,但考虑到由于温度的变化,有可能会偶然地产生适度的凝露。

■ 海拔不超过5000米。

■ 地震烈度不超过9级。

■ 环境污染等级3级。

● Ambient temperature:

The ambient air temperature should not exceed +40°C,not lower than -5°C,and the average measuredwithin 24 hours should not exceed+35°C.

● Ambient humidity:

The air is clean,and its relative humidity does not exceed 50%at the highest temperature of +40°C,and alarger relative humidity is allowed at lower temperatures.For example,90%at+20°C,but considering that due to changes in temperature,it is possible to occasionallyproduce moderate condensation.

● The altitude does not exceed 5000 meters.

● The intensity of the earthquake is not more than 9.

● Environmental pollution level 3.

■ 注:

如选用某些电器元件不能符合上述工作条件时, 由制造厂与用户协商解决。当使用条件与上述工作条件不符时, 由用户向制造厂提出, 双方协商解决。

● Note:

If certain electrical components selected cannot meet the above operating conditions, the manufacturer and user shall resolve the matter through consultation. When usage conditions deviate from the specified operating conditions, the user shall notify the manufacturer, and both parties shall resolve the issue through mutual consultation.

17 / MNS

MNS / 18

MNS_nt电气性能参数 Electrical performance parameter			
项 目 Items		单位 Unit	数据 Date
额定工作电压 Rated working voltage	主电路 Main circuit	V	400,690
	辅助电路 Auxiliary circuit	V	AC220,AC380,DC110,DC220
额定绝缘电压 Rated insulation voltage	主电路 Main circuit	V	690, 1000
额定冲击耐受电压1.2/50 μ s Rated impulse withstand voltage 1.2/50 μ s	主电路 Main circuit	kV	68
额定工作电流(IP3X时) Rated working curent (at IP3X)	水平母线 Horizontal busbar	A	≤5000(单面操作柜),≤3600(双面操作柜) Single-side operating,Double-sided operating
	垂直母线 Vertical busbar	A	1000(抽出式),2000(插拔式MCCB) Drawout type,Pug-intype MCCB
额定短时耐受电流 Rated short-time withstand current	水平母线 Horizontal busbar	kA/1S	50,65,80,100
	垂直母线 Vertical busbar	kA/1S	50,65,80
额定峰值耐受电流 Rated peak withstand current	水平母线 Horizontal busbar	kA/0.1S	105,143,176,220
	垂直母线 Vertical busbar	kA/0.1S	105,143,176



PRECISION IN DETAIL