

## 1.4 西门子 NXAirS-12 kV 空气绝缘、可移开式金属封闭中压开关柜

SIEMENS NXAirS-12 kV Air Insulation Removable Metal-enclosed medium-voltage Switchgear



### 一、产品概述 General

#### 特点

- 机械动态位置指示牌
- 在机械动态位置指示牌上可分别显示隔离开关和接地开关的合/分状态
- 操作手柄的插孔和控制元件都明显地布置在被控开关或合、分指示旁边
- 开关的所有操作只有在高压室门关闭的情况下才能行
- 所有元件的安装高度都符合人类工程学的要求
- 可选项:电容式带电显示装置用以检测馈线或母线上是否带电

#### 联锁

- 联锁符合GB3906和IEC 62271-200标准
- 只有当主开关装置处于试验位置时才能操作馈线接地开关
- 只有当主开关装置处于分闸状态,且接地开关断开,开关装置才能移动
- 只有在主开关装置处于试验、工作或移开位置时,才能对其进行操作
- 只有在高压室门关闭时,才能进行操作

#### 附加的安全性联锁

- 机械编码可防止小额定电流的开关装置误插入载有大电流的开关柜中
- 高压室门与可移开部分有可靠的机械联锁
- 可选项:电磁联锁,挂锁
- 在手车摇入处,接地开关操作孔处可设置机械挂锁,防止误操作

#### Characteristics

- Mechanical dynamic position indicator
- The closing/opening status of disconnecting switch and grounding switch can be indicated respectively on mechanical dynamic position indicator
- Operating handle socket and control elements are obviously set adjacent to closing/opening indicator or controlled switches
- All the switch operations can be carried out when high-voltage compartment door closed
- All the parts and components installation heights meet the requirements of human engineering
- Options: Capacitive electric indicator can be used to detect feeder or power of busbar

#### Interlock meets GB3906 and IEC 62271-200 standards

- Feeder grounding switch can only be operated when main switch on test position
- The switch device can be removed only when main switch opened and grounding switch disconnected.
- Main switch can be operated only at test, working and removed position
- The operations can be carried out when high-voltage compartment door closed
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#### Additional Safety Interlock avoid low current switch plugging in high current switchgear

- Reliable mechanical interlock connects high-voltage compartment door and removable part

- Options: Electromagnetic interlock, padlock
- Mechanical padlock can be set at handcart inlet and grounding switch operation hole
- to avoid misoperation

## 二、外观尺寸 Overall Dimensions

类别 Category	项目 Items	数据 Parameters
宽度W Width mm	断路器柜 Circuit breaker cabinet	—
	≤630A	650
	1250A~2500A	800
	3150A~4000A	1000
	隔离手车柜 Disconnecting handcart cabinet	—
	≤2500A	800
	3150A~4000A	1000
	所用变压器 Transformer used in substation	1000
	母线分段柜 Bus segment cabinet	—
	≤2500A	2×800
	3150A	2×1000
	计量柜 Measuring cabinet	800,1000
	提升柜 Lifting cabinet	800,1000
	接触器柜 Contactor cabinet	650
高度H <sup>2</sup> Height mm	≤31.5KA	2200
	40 kA	2300
	所用变柜	2500
	接触器柜 Contactor cabinet	2200
深度D <sup>2</sup> Depth mm	配用普通型断路器 Assembled with ordinary circuit breaker assembled	—
	≤31.5 kA且母线电流≤2500A ≤31.5 kA and bus current≤2500A	1350
	≤31.5 kA且母线电流≥3150A ≤31.5 kA and bus current≥3150A	1450
	40 kA	1450
	配用固封型断路器 Assembled with solid-closure circuit breaker assembled	—
	≤31.5 kA且母线电流≤2500A ≤31.5 kA and bus current≤2500A	1350
	≤31.5 kA且母线电流≥3150A ≤31.5 kA and bus current≥3150A	1500
	40 kA	1500
接触器柜 Contactor cabinet	1350, 1500	
重量 Weight kg	1250A/31.5 kA标准柜 1250A/31.5 kA standard cabinet	± 850kg
	3150A/40 kA标准柜 3150A/40 kA standard cabinet	± 1300kg

注:

- 1、强迫风冷条件下开关柜额定电流最大至4000A。
- 2、H1: 标准低压室顶部离地高度2075mm  
H2: 增高低压室顶部离地高度2350mm
- 3、母线上出, 或母线附加元件, 母线电流 $\leq 2500A$ , 柜加深130mm  
母线上出, 或母线附加元件, 母线电流 $> 2500A$ , 柜加深200mm  
后背包方案, 额定电流 $\leq 2000A$ , 背包深度为460mm  
后背包方案, 额定电流 $> 2000A$ , 背包深度为620mm

Note:

- 1、The rated current of switchgear under forced air cooling is up to 4000A;
- 2、H1: the height from standard low-voltage com-partment top to ground is 2075mm;  
H2: the height from raising low-voltage com-partment top to ground is 2350mm;
- 3、Upper outgoing, or bus accessories, bus current  $\leq 2500A$  , cabinet deepens 130mm;  
Upper outgoing, or bus accessories, bus current  $> 2500A$  , cabinet deepens 200mm;  
Backpack plans, rated current  $\leq 2000A$ , the depth is 460mm;  
Backpack plans, rated current  $> 2000A$ , the depth is 620mm

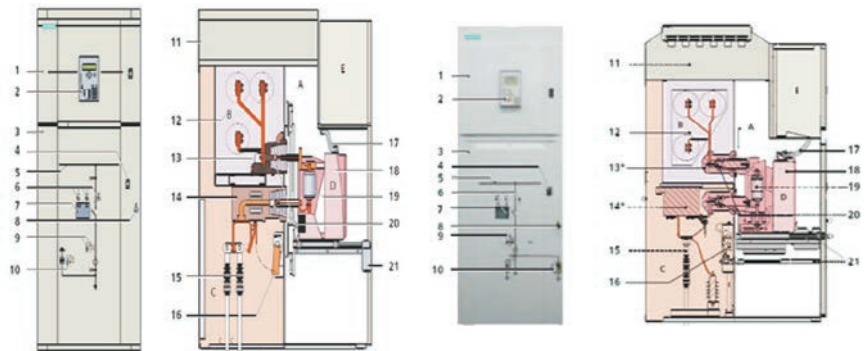
### 三、柜体结构 Cabinet Structure

40kA, 额定电流4000A, 配用普通型断路器

25kA/31.5kA, 额定电流 $\leq 2500A$ , 配用普通型断路器 $\leq 40kA$ , 额定电流 $\leq 4000A$ , 配用固封型断路器

40kA, rated current 4000A, assembled with ordinary circuit breaker assembled

25kA/31.5kA, rated current $\leq 2500A$ , ordinary circuit breaker $\leq 40kA$ , rated current $\leq 4000A$ , assembled with solid-closure circuit breaker.



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|--------------------------------------|-----------|
| 1 低压室门                               | A 高压室     |
| 2 继电保护装置                             | B 母线室     |
| 3 高压室门                               | C 电缆室     |
| 4 高压室门锁                              | D 可移开式断路器 |
| 5 模拟线路图                              | E 低压室     |
| 6 断路器“开/关”按钮和储能弹簧操作插孔                |           |
| 7 观察窗用于观察断路器的合分状态, 弹簧储能状态和计数器操作次数等指示 |           |
| 8 开启高压室门手柄                           |           |
| 9 移动开关装置的操动孔                         |           |
| 10 接地开关的机械式位置指示和操作手柄插孔               |           |

- 11 压力释放通道
- 12 母排
- 13 套管式绝缘子
- 13 触头盒
- 14 套管式电流互感器
- 14 电流互感器
- 15 每相4根电缆连接
- 16 快速接地开关
- 17 低压插头/插座
- 18 断路器操动机构以及联锁装置
- 19 真空灭弧室
- 20 动、静触头
- 21 断路器和接地操动机构以及联锁装置

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|--|-----------------------------|
| 1 Low-voltage compartment door   | A High-voltage compartment  |
| 2 Relay protection device  | B Bus compartment           |
| 3 High-voltage compartment door  | C Cable compartment         |
| 4 High-voltage compartment door lock   | D Removable circuit breaker |
| 5 Analog circuit diagram   | E Low-voltage compartment   |
| 6 Circuit breaker "open/close" button and energy storage spring hole   |                             |
| 7 Observation window for observing circuit breaker open/close status, spring storage status, counter operational times, etc. |                             |
| 8 High-voltage compartment door opening handle   |                             |
| 9 Operational hole for moving switch device  |                             |
| 10 Grounding switch mechanical position in-dication and operational handle hole  |                             |
| 11 Pressure relief channel   |                             |
| 12 Bus   |                             |
| 13 Insulator with bushing  |                             |
| 13 Contact box   |                             |
| 14 Bushing current transformer   |                             |
| 14 Current transformer   |                             |
| 15 Four cables connection for each phase   |                             |
| 16 High speed grounding switch   |                             |
| 17 Low-voltage plug/socket   |                             |
| 18 Circuit breaker operating mechanism and interlock   |                             |
| 19 Vacuum arc extinguishing chamber  |                             |
| 20 Moving/static contact   |                             |
| 21 CB and grounding operating mechanism and interlock  |                             |