

NEX40 TECHNICAL SPECIFICATION

35kV METALCLAD SWITCHGEAR

TECHNICAL SPECIFICATION

技术规范

1. PRESENTATION 概述

This offer is for the supply of Schneider equipment of the NEX40 type for indoor installation. The NEX40 range is made up of prefabricated panels in metal enclosures of the metalclad type, which are equipped with withdrawable switchgear, SF1/SF2 circuit-breakers.

本技术规范是有关提供施耐德户内NEX40开关柜, NEX40金属铠装柜使用SF1/SF2抽出式断路器

2. SWITCHGEAR INTRODUCTION 柜形介绍

Switchboards 开关柜	Type of panel 柜形	Rating (A) 额定电流	Quantity 数量
NEX40	Incoming & Feeder 进线柜和出线柜	1250-2000	
NEX40	Coupler 母线联络柜	1250-2000	
NEX40	Riser 提升柜	1250-2000	
NEX40	Busbar PT 母线PT柜	1250-2000	
NEX40	Metering 计量柜	1250-2000	
NEX40	Auxiliary Transformer 所用变柜	1250-2000	

3. STANDARDS 标准

The equipment proposed in this offer has been designed, manufactured, and tested according to the relevant IEC and GB recommendations.

在此文件中涉及的设备都以IEC及GB有关条文进行设计,制造和试验

- Common clause for high voltage switchgear standards IEC 694
高压开关设备通用技术条件
- High voltage switchgear in metallic enclosures IEC 298
交流金属封闭开关设备
- High voltage AC circuit breakers IEC 56
高压交流断路器
- Chinese electric standard GB11022, GB3906, GB1984
中国电气标准

4. GENERAL CHARACTERISTICS 总体特性

4.1 Nominal service conditions 正常使用条件

Nominal service conditions 正常使用条件	
Architecture 型式	In metal enclosures, Metalclad, air insulated 金属铠装,空气绝缘(IEC 298)

Normal service conditions 运行环境:	Indoor equipment 户内(IEC 294)
Average daily ambient temperature 环境温度	- 5 °C ~ +40 °C
Altitude 海拔	<= 1000 m
Humidity 相对湿度:	
Daily average 日平均	<= 95 %
Monthly average 月平均	<= 90 %
Protection degree 防护等级	IP4X (IEC 529)

4.2 Electrical characteristics 电气性能

Switchboard 开关柜		
Service voltage 工作电压	kV	35
Rated voltage 额定电压	kV	40.5
Insulation level 绝缘水平:		
Rated insulation level at power frequency (phase-phase / across isolating distance) 工频耐压(相对地 / 隔离断口间)	kV rms	95/110
lighting impulse withstand voltage (phase-phase / across isolating distance) 冲击耐压(相对地 / 隔离断口间)	kV peak	185/215
Rated frequency 额定频率:	Hz	50
Short time withstand current :		
3 sec withstand current 热稳定电流	kA	25-31.5
Peak withstand current 动稳定电流	kA peak	63-80
Busbar rated continuous current 母线额定电流	A	630-1250-2000
Type of circuit-breaker 断路器		SF1 / SF2
Rated breaking capacity 额定开断电流	kA rms	25-31.5
3 sec withstand current 热稳定电流	kA	25-31.5
Rated making capacity 动稳定电流	kA peak	63-80
Rated operating sequence		O--0.3s--CO--3min--CO

4.3 Auxiliary Voltages 辅助电压

Auxiliary voltages 辅助电压		
for HV circuit-breaker charging motor 储能马达	48/110/220	V dc/ac
for HV circuit-breaker closing-opening release 分合闸线圈	48/110/220	V dc/ac

4.4 Overall dimension and weight 外形尺寸及重量

Overall dimension and weight 外形尺寸及重量

Overall dimension(Width×Depth×High) Top Entry Cubicle 外形尺寸 (宽×深×高)	mm	1200×3250×2500
Overall dimension(Width×Depth×High) Bottom Entry Cubicle 外形尺寸 (宽×深×高)	mm	1200×2600×2500
Overall dimension(Width×Depth×High) Auxiliary Transformer Cubicle 外形尺寸 (宽×深×高)	mm	1300×2600×2500
Maximum Switchgear Weight 最大重量	kg	1,700

5. INTERLOCK 联锁

The standard interlock of NEX40 switchboard are:

NEX40开关柜提供下列标准机械联锁:

- ◆ By means of the selector to prevent illegal racking in/out CB.
通过位置选择开关保证断路器手车无法强行推入和抽出。
- ◆ The earthing switch can't be closed during CB on service position. And the CB can't be racking in when the earthing switch is closed aslo.
断路器手车在运行位置时, 禁止接地开关关合。反之, 接地开关处于闭合位置时, 断路器手车禁止推入至运行位置。
- ◆ During the CB truck is racking in/out, prevent to close CB and earthing switch. (automatically open the CB if it is closed before racking)
断路器手车在推入及抽出行程中, 禁止断路器合闸及关合接地开关。如断路器已合闸则自动分断。
- ◆ Prevent to draw-out CB from cubicle if the transmit table is not on the position.
断路器转移小车未到位时, 防止抽出断路器手车。
- ◆ Prevent to racking in CB if the LV-plug is not well connected. Prevent to disconnect LV plug when the CB is on service position.
断路器低压插头未插好时, 禁止推入断路器手车。断路器手车在运行位时, 禁止拔下断路器低压插头。

超出本范围的联锁, 电气联锁及柜间联锁需依具体工程要求而定。

The interlock which is not described as above should be special designed according the project requirement.

6. SCRIPTION OF NEX40 PANELS NEX40 开关柜说明

6.1 NEX40 panel description NEX40 开关柜说明

NEX40 panels are of the indoor design housed in metal enclosures of the metalclad type as defined in the IEC 298.

NEX40柜是户内型,金属铠装, 按照IEC298标准

Each panel is composed of four compartments, fully segregated by steel partitions :

每一个柜分成四个独立隔室,用钢板分隔

- ◆ circuit-breaker compartment, 断路器室
- ◆ cable connection compartment, 电缆室
- ◆ busbar compartment, 母线室
- ◆ low voltage compartment, 低压室

The segregation of compartments is achieved through the use of earthed steel partitions, insulating bushings, and sliding metallic shutters. The shutters can be fitted with padlocks.

隔室之间采用接地的钢板及绝缘套管和活门隔离

6.2 SF1/SF2 SF6 type circuit breaker SF1/SF2 SF6断路器

Technical information please refer the technical specification of SF circuit breaker.

技术参数信息请参见SF断路器技术规范

The circuit-breaker is mounted on a roller frame and can be positioned as follows :

断路器安装在手车上, 有三个位置

- ◆ connected (service position), 运行
- ◆ disconnected (test position), 试验
- ◆ withdrawn. 抽出

The circuit-breaker front plates are designed to close the front of the switchboard, so no additional doors are required.

断路器前面板和柜体配合, 不需附加的门

6.3 Busbars and connections 母线及连接

The busbar supports are made of epoxy resin and also serve as disconnecting contact chambers.

The main busbars are made of bare copper with sleeve and are multiple insulated.

Connections are of bare copper, or tinned aluminium, or a mixture of both.

母线的支持绝缘材料为环氧树脂, 导体由裸铜管制成, 包裹热缩套管, 复合绝缘

母线连接处为铜制或镀铝制成

The main busbar is tubular busbar with demision :

1250A main busbar: $\varnothing 50$ (outside diameter) / $\varnothing 40$ (inside diameter) mm

2000A main busbar: $\varnothing 60$ (outside diameter) / $\varnothing 40$ (inside diameter) mm

主母排采用管形母排, 尺寸为:

1250A 主母排: $\varnothing 50$ (外径) / $\varnothing 40$ (内径) mm

2000A 主母排: $\varnothing 60$ (外径) / $\varnothing 40$ (内径) mm

6.4 Current transformers 电流互感器

Current transformers are of the dry cast resin type. They are installed in the cable connection compartment.

电流互感器为干式浇铸, 安装在电缆室

Schneider recommend: local manufacturer

Type: LZB8-35G

Schneider推荐: 江苏靖江互感器厂

型式: LZB8-35G

6.5 Voltage transformers (disconnectable) 电压互感器

Voltage transformers are made of dry cast resin and are of the disconnectable type with fuses.

They are placed in BBVT cubicles.

电压互感器为干式浇铸型, 安装在母线PT柜, 有隔离功能

Schneider recommend: local manufacturer

Type: JDZX9-35W2

Schneider推荐: 大连第一互感器厂

型式: JDZX9-35W2

6.6 Earthing switch 接地开关

Earthing switch is located in the cable compartment and operated from the front of the panel.

The earthing device is of the quick make type, and is able to make 80kA short-circuit current.

接地开关位于电缆室内, 柜前操作。

接地装置为快速关合型, 关合能力80kA。

6.7 Low voltage wiring 二次连线

Low voltage wiring is self extinguishable, 2000 V grade, insulated with black PVC.

- current circuits : 2,5 mm²
- voltage circuits : 1,5 mm²

所有的二次连线采用自熄材料，2000 V 耐压等级，黑色PVC绝缘，有以下两种截面：

- 电流回路 : 2,5 mm²
- 电压回路 : 1,5 mm²

6.8 Auxiliary Transformer 所用变压器

Schneider recommend: local manufacturer

Type: SC9

Schneider推荐: 江苏省昆山特种变压器制造有限公司

型式: SC9

7 ROUTINE TESTS 出厂试验

The routine test will be applied according GB standard :

- Rated short-duration power-frequency withstand voltage test for main circuit,
- Rated short-duration power-frequency withstand voltage test for auxiliary and control circuit,
- Main circuit resistance test,
- Mechanical performance, mechanical operation tests, and checking of interlocks,
- Meter & relay checkout and connection inspect,
- Testing of the interchangeability of moving parts,

设备出厂时，将按照国家GB标准，进行下列试验：

- 主回路的工频耐压试验
- 辅助回路和控制回路的工频耐压试验
- 测量主回路电阻
- 机械性能，机械操作及机械防止误操作装置或电气联锁装置功能的试验
- 仪表、继电器元件校验及接线正确性检定
- 在使用中可以互换的具有同样额定值和结构的组件，应检验互换性