

## 西门子(中国)有限公司

北京  
北京市朝阳区望京中环南路7号  
邮政编码: 8543  
邮政编号: 100102  
电话: (010) 6472 1888  
传真: (010) 6472 1459

上海  
上海市浦东新区浦东大道1号  
中国船舶大厦7-11楼  
邮政编码: 200120  
电话: (021) 5888 2000  
传真: (021) 5878 4401

广州  
广东省广州市先烈中路69号  
东山广场16-17层  
邮政编码: 510095  
电话: (020) 8732 0088  
传真: (020) 8732 0121

沈阳  
辽宁省沈阳市和平区南京北街206号  
沈阳城市广场写字楼第二座14-15层  
邮政编码: 110001  
电话: (024) 2334 1110  
传真: (024) 2334 1125

成都  
四川省成都市人民南路二段18号  
川信大厦18/17楼  
邮政编码: 610016  
电话: (028) 619 9499  
传真: (028) 619 9355

大连  
辽宁省大连市西岗区新开路99号  
珠江国际大厦1809-1810室  
邮政编码: 116011  
电话: (0411) 369 9760  
传真: (0411) 360 9468

长春  
吉林省长春市西安大路9号  
香格里拉大饭店809室  
邮政编码: 130061  
电话: (0431) 898 1100  
传真: (0431) 898 1087

西安  
陕西省西安市长乐西路8号  
香格里拉金花饭店310/312室  
邮政编码: 710032  
电话: (029) 324 5666  
传真: (029) 324 8000

济南  
山东省济南市泺源大街22号  
中银大厦18楼  
邮政编码: 250063  
电话: (0531) 699 8118  
传真: (0531) 641 3242

武汉  
湖北省武汉市汉口江汉区  
建设大道709号建银大厦18楼  
邮政编码: 430015  
电话: (027) 8548 6688  
传真: (027) 8548 6668

长沙  
湖南省长沙市五一一路160号  
银华大厦2218室  
邮政编码: 410011  
电话: (0731) 441 1115  
传真: (0731) 441 4722

[www.ad.siemens.com.cn](http://www.ad.siemens.com.cn)

福州  
福建省福州市东街98号  
东方大厦15楼  
邮政编码: 350001  
电话: (0591) 750 0888  
传真: (0591) 750 0333

厦门  
福建省厦门市嘉禾路321号  
汇腾大厦15-02室  
邮政编码: 361012  
电话: (0592) 520 1408  
传真: (0592) 520 4535

深圳  
广东省深圳市深南大道6008号  
深圳特区报业大厦28层南A、B、C区  
邮政编码: 518009  
电话: (0755) 351 6188  
传真: (0755) 351 6527

重庆  
四川省重庆市渝中区邹容路68号  
大都会大厦18层08A-11  
邮政编码: 400010  
电话: (023) 6382 8919  
传真: (023) 6370 2886

昆明  
云南省昆明市青年路395号  
邦克大厦26楼  
邮政编码: 650011  
电话: (0871) 315 8080  
传真: (0871) 315 8093

西门子有限公司(香港)  
香港湾仔港湾道18号中环广场58楼  
电话: (00852) 2583 3388  
传真: (00852) 2802 9802

售后服务中心  
西门子工厂自动化工程有限公司(SFAE)  
北京市朝阳区东直门外东顺路7号  
邮政编码: 100028  
电话: (010) 6461 0005  
传真: (010) 6463 2976  
E-mail: [Siemens.Service@sfae.siemens.com.cn](mailto:Siemens.Service@sfae.siemens.com.cn)

上海西门子工业自动化有限公司(SIAS)  
上海市延安西路1599号怡翔大楼5层  
邮政编码: 200050  
电话: (021) 6213 2050  
传真: (021) 6213 5538

技术培训 热线电话  
北 京: (010) 6472 1888-3718  
上 海: (021) 6213 2050-306  
广 州: (020) 8732 0088-2279  
武 汉: (027) 8548 6688-6601  
哈 尔 滨: (0451) 641 3050  
重 庆: (023) 6382 8919-25

技术资料 热线电话  
电话: (010) 6472 1888-3726

技术支持  
热线: (010) 6473 8566  
传真: (010) 6473 1096  
E-mail: [asc@pek1.siemens.com.cn](mailto:asc@pek1.siemens.com.cn)

用户咨询热线  
电话: (010) 6473 1919  
E-mail: [calldesk@pek1.siemens.com.cn](mailto:calldesk@pek1.siemens.com.cn)

## Siemens Ltd., China

Beijing  
7, Wangjing Zhonghuan Nanlu Chaoyang  
District, Beijing 100102, P.R. China  
P.O.China: 8543  
Tel: (010) 6472 1888  
Fax: (010) 6472 1459

Shanghai  
7-11/F Floor, China Marine Tower 1, Pudong  
Avenue, Shanghai 200120, P.R. China  
Tel: (021) 5888 2000  
Fax: (021) 5878 4401

Guangzhou  
16-17/F, Dongshan Plaza, 69 Xianlie Zhonglu,  
Guangzhou 510095, Guangdong Province,  
P.R. China  
Tel: (020) 8732 0088  
Fax: (020) 8732 0121

Shenyang  
City Plaza Shengyang Office Tower 2 206  
Nanjing North Street, He ping District,  
Shenyang 110001, Liaoning Province, P.R.  
China  
Tel: (024) 2334 1110  
Fax: (024) 2334 1125

Chengdu  
18/17/F, Chuanxin Manion, 18 Sec. 2, Remin S.  
Road, Chengdu 610016, Sichuan Province,  
P.R. China  
Tel: (028) 619 9499  
Fax: (028) 619 9355

Dalian  
Rm. 1809-1810, Dalian Pearl River International  
Building 99, Xin Kai Road, Xigang District,  
Dalian 116011, Liaoning Province, P.R. China  
Tel: (0411) 369 9760  
Fax: (0411) 360 9468

Changchun  
Rm. 809, Changchun Shangri-la Hotel 9, Xi'an  
Avenue Changchun 130061, Jilin Province,  
P.R. China  
EAST Region  
Tel: (0431) 898 1100  
Fax: (0431) 898 1087

Xi'an  
Rm. 310/312 Shangri-La Golden Flower 8,  
Chang Le Road West Xian 710032, P.R. China  
NORTHEAST Region  
Tel: (029) 324 5666  
Fax: (029) 324 8000

Jinan  
18/F, Bank of China Tower, 22, Luo Yuan  
Street, Jinan 250063, Shangdong Province,  
P.R. China  
Tel: (0531) 699 8118  
Fax: (0531) 641 3242

Wuhan  
18/F, Jian Ying Tower No. 709 Jian She  
Avenue, Jiangnan District Hankou, Wuhan  
430015, Hubei, P.R. China  
SOUTH Region  
Tel: (027) 8548 6688  
Fax: (027) 8548 6668

Changsha  
2218, Yinhua Building, No. 160 Wuyi Road,  
Changsha, Hunan Province, P.R. China  
Tel: (0731) 441 1115  
Fax: (0731) 441 4722

Fuzhou  
15/F, Fujian Orient Tower, 98 Dongjie,  
Fuzhou 350001, Fujian Province, P.R. China  
Tel: (0591) 750 0888  
Fax: (0591) 750 0333

Xiamen  
15F, Unit-02 Huiteng Metropolis 321 Jiahe  
Road, Xiamen 361012, P.R. China  
Tel: (0592) 520 1408  
Fax: (0592) 520 4535

Shenzhen  
Unites ABC, 28/F, South, Shenzhen Special  
Zone Press Tower, No. 6008 Shennan Main  
Road, Shenzhen 518009, Guangdong Province,  
P.R. China  
Tel: (0755) 351 6188  
Fax: (0755) 351 6527

Chongqing  
Room 08A-11, 18th Floor, Metropolitan  
Business Mansion, 68 Zou Rong Road,  
Yuzhong District, Chongqing 400010,  
P.R. China  
Tel: (023) 6382 8919  
Fax: (023) 6370 2886

Kunming  
26/F, Bank Building 395 Youth Road, Kunming  
650011, Yunnan Province, P.R. China  
Tel: (0871) 315 8080  
Fax: (0871) 315 8093

Siemens Ltd., Hong Kong  
58 Floor, Central Plaza, 18 Harbour Road  
Wanchai, Hong Kong  
Tel: (00852) 2583 3388  
Fax: (00852) 2802 9802

After Sales Service Center  
SFAE  
7, Jingshun Road, Dongzhimen Wai Chaoyang  
District Beijing 100028, P.R. China  
Tel: (010) 6461 0005  
Fax: (010) 6463 2976  
E-mail: [Siemens.Service@sfae.siemens.com.cn](mailto:Siemens.Service@sfae.siemens.com.cn)

SIAS  
5/F, Yixiang Building 1599, Yan'an Xi Road  
Shanghai 200050, P.R. China  
Tel: (021) 6213 2050  
Fax: (021) 6213 5538

Training Hotline  
Beijing: (010) 6472 1888-3718  
Shanghai: (021) 6213 2050-306  
Guangzhou: (020) 8732 0088-2279  
Wuhan: (027) 8548 6688-6601  
Haerbin: (0451) 641 3050  
Chongqing: (023) 6382 8919-25

Documentation  
Tel: (010) 6472 1888-3726

Customer Support  
Hotline: (010) 6473 8566  
Fax: (010) 6473 1096  
E-mail: [asc@pek1.siemens.com.cn](mailto:asc@pek1.siemens.com.cn)

A&D Calldesk  
Tel: (010) 6473 1919  
E-mail: [calldesk@pek1.siemens.com.cn](mailto:calldesk@pek1.siemens.com.cn)

# SIEMENS

低压控制产品与系统  
Low-Voltage Controlgear, Switchgear and Systems

低压配电产品目录 2001  
Power Distribution Products Catalog 2001

# SIEMENS

## 低压控制产品与系统 Low-Voltage Controlgear, Switchgear and Systems

### 低压配电产品目录 2001 Power Distribution Products Catalog 2001



创新科技的开关装置

INNOVATIVE SWITCHGEAR

如有改动, 恕不事先通知

西门子(中国)有限公司

订货号: E20001-K4180-C200-X-6C00  
236-903159-04018



## 样本索引 Catalog Index

---

低压控制与配电 Low-Voltage Controls and Distribution	低压控制产品与系统 Low-Voltage Control Equipment, Switchgear and Systems	(中 / 英文) (Chinese/English)
	用于配电的保护系统和解决方案 Protective Systems and Solutions for Power Distribution	(中 / 英文) (Chinese/English)
	控制与配电(NSK) Controls and Distribution (NSK)	(英文) (English)
	美国 UL 标准电器产品 Electrical Products SPEEDFAX™ 1998	(英文) (English)
电气安装技术 Electrical Installation Technology	小型断路器和熔断器系统 Miniature Circuit-Breakers and Fuse System	(中 / 英文) (Chinese/English)
	西门子剩余电流保护断路器 Residual Current Operated Circuit-Breakers	(中 / 英文) (Chinese/English)
	终端配电保护产品 Terminal Electrical Distribution and Protection Products	(中文) (Chinese)
	SIKUS 和 STAB UNIVERSAL 从 630A 到 3200A 的低压配电柜 SIKUS and STAB UNIVERSAL From 630A to 3200A Low-Voltage Electrical Distribution Cabinet	(中文) (Chinese)
	SIKUS UNIVERSAL HC 最高电流为 6400A 的低压配电柜 SIKUS UNIVERSAL HC Up to 6400A Low-Voltage Electrical Distribution Cabinet	(中文) (Chinese)

---

如需以上样本，请向就近的西门子办事处联系。  
Please contact your Siemens Representative for the catalogs.

---

您的西门子联系人  
Your contact person at Siemens

姓名  
name:

电话  
Telephone:

传真  
Fax:

---

---

---

用于配电控制的开关装置  
Switchgear for  
Power Distribution

3VL 断路器

3VL Circuit-Breakers

线路保护用断路器

Circuit-breakers for line protection

电动机 / 发电机保护用断路器

Circuit-breakers for motor/generator protection

起动机组合用断路器

Circuit-breakers for starter combinations

不带过电流脱扣器的断路器

Circuit-breakers without overcurrent release

隔离开关

Non-automatic circuit-breakers

断路器最大至 3200A

Circuit-breakers up to 3200 A

3WN6 交流断路器

3WN6 circuit-breakers for AC

具有通讯能力的断路器

Communication-capable circuit-breakers

隔离开关

Switch disconnectors

可配熔断器的隔离开关

Switch disconnectors with or without fuse

顺列式熔断器隔离开关

In-line fuse switch disconnectors

插入式熔断器隔离开关

Plug-in fuse switch disconnectors

带熔断器的隔离开关

Fuse switch disconnectors

控制用开关装置  
Control Switches

主控和急停开关

Main control and EMERGENCY-STOP switches

1

2

3

4

产品系列及其通用性 The family and their commonalities

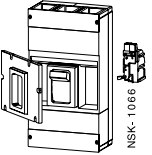

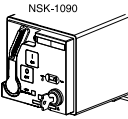


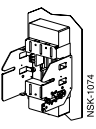
额定电流 16A ~ 1600A。  
每个壳架等级具有各种分断能力。  
N 标准型  
H 高分断型  
L 极高分断型  
温度在 50°C 时，仍无须降容。

壳架等级 160A (VL160) 及以上具有电子式过电流脱扣器，特别提供选择性保护和接地故障保护。  
两类内部附件。  
外部附件齐全，例如用于铝制电缆的接线端子也可提供。

Range of rated current from 16A to 1600A.  
Various switching capacities for each frame size.  
N Standard  
H High  
L Very High  
No derating up to 50°C  
Electronic overcurrent release

from frame size 160A (VL160), especially for time discrimination and earth fault protection.  
2 groups of internal accessories.  
Complete range of external accessories, e.g. terminals also for aluminium cables.

Flexible

断路器 / Circuit-breakers	VL160X	VL160 VL250	VL400	VL630 VL800	VL1250 VL1600
<b>内部附件</b> Internal accessories  分励脱扣器和欠压脱扣器 辅助开关和报警开关 Shunt & undervoltage release Auxiliary & alarm switches	可用	可用	可用	可用	可用
<b>外部附件</b> External accessories  直接旋转驱动机构 Rotary direct drive  储能操作机构 Stored energy operators  端子盖 面框 Terminal covers Cover frames	可用	可用	可用	可用	可用
<b>保护特性</b> Features of protection 剩余电流装置 (RCD) 热 / 磁式 (TM) Residual current device (RCD) Thermal/magnetic (TM) 电子式脱扣器 (ETU) 选项：接地故障 Electronic release (ETU) Option: earth fault	可用	可用	可用	可用 (VL630)	可用 (VL630)
<b>灵活 / 可升级性</b> Flexible/upgradeable  断路器 固定式 → 插入式 → 抽屉式 Circuit-breaker Fix → plug-in → draw-out  过电流脱扣器 TM → ETU → LCD ETU Overcurrent release TM → ETU → LCD ETU	可用	可用	可用	可用	可用

可用  
- 不可用  
available  
- not available

# 3VL160X ~ VL1600 断路器

## 3VL160X to VL1600 Circuit-Breakers

### 前言

### Introduction

3VL 系列断路器以其紧凑式设计和高运行特性满足了当今配电系统的高要求。

该系列断路器具有系列齐全、技术先进、节省空间和易于操作等特点。

3VL 系列断路器是为保护电缆、电线、母排、电动机、变压器以及其他工厂设备和耗电装置免受热过载和短路而设计的。

该系列断路器可用于热/磁式脱扣器 (16A-630A) 以及数字式电子脱扣器 (63A-1600A) 中。

#### 应用

3VL 系列断路器可按照不同类型适用于不同场合：

- 用作配电系统中的输入和输出断路器；
- 用作电动机、变压器和电容器的开关和保护设备；
- 与可锁定的旋转驱动机构和端子盖组合，用作主开关和急停 (EMERGENCY-STOP) 设备。

#### 类型

3VL 系列断路器有下列类型：

##### 1. 用于线路保护 (3 极和 4 极)

过载和短路脱扣器可作各电缆、电线和非电动机负载的保护。

##### 2. 用于电动机保护 (3 极)

过载和短路脱扣器互相配合达到三相鼠笼式电动机直接起动的最佳保护。电动机保护用断路器具有断相保护和可调脱扣等级。过电流脱扣器是由微处理器进行数据分析。

##### 3. 用于起动器组合 (3 极)

这些断路器用于短路保护以及用于起动器组合中可能所需的隔离功能。该起动器组合由断路器、过载继电器和电动机接触器组成。这些断路器具有可调的瞬时短路脱扣器。

##### 4. 隔离型断路器 (3 极和 4 极)

这些断路器可用作不带过载保护的电源开关、主开关或非自动开关。它们均设有固定短路脱扣整定值。因此，无需使用后备熔断器。

所有断路器均是过电流脱扣器一起成套供应的。3VL160X ~ VL1600 断路器具有端子盒或母排连接件。辅助开关 / 报警开关和 / 或辅助脱扣器均可由用户现场改装，也可根据需要由工厂装配。电流分断能力被注明在各断路器的前部。

#### 标准分断能力：

在 380/415V AC 50/60Hz 时  $I_{cu} = 40-50kA$

#### 高分断能力：

在 380/415V AC 50/60Hz 时  $I_{cu} = 70kA$

#### 极高分断能力：

在 380/415V AC 50/60Hz 时  $I_{cu} = 100kA$

#### 标准和规格

3VL 断路器符合下列标准：

- IEC 60 947-1, EN 60 947-1  
DIN VDE 0660, Part 100
- IEC 60 947-2, EN 60 947-2  
DIN VDE 0660, Part 101
- 隔离特性符合 IEC 60 947-3, EN 60 947-3 标准。

有关其他标准，请向西门子公司咨询。

电动机保护用断路器的过电流脱扣器还符合 IEC 60 947-4-1, DIN VDE 0660 Part 102 标准。

#### 运行条件

3VL 断路器是耐气候型。它们是为在无苛刻运行条件 (例如灰尘、碱性气体、有害气体) 的封闭房间内使用而设计的。

当安装在有灰尘及潮湿的房间内时，必须提供合适的外壳。

#### 3VL 系列断路器



#### 限流性

3VL 断路器是根据触点磁斥的原理而设计的。在达到短路电流预期峰值之前，触点开启。3VL 断路器的限流作用将有效保护系统部件在电气故障时免受短路电流的热效应和动态效应的影响。

#### 使用类别

所有 3VL 适用于使用类别 A。

#### 安装

3VL 断路器既适用于敞开式框架内也适合安装在封闭型开关设备和配电系统中。3VL 断路器的推荐安装位置在“技术数据”项下的插图中说明。

# Global

前言 Introduction

The compact design of the 3VL family, with elevated operational characteristics meet the high demands of today's electrical distribution systems.

This family of circuit-breakers offers a wide product range, advanced technology, space savings and easy operation.

The 3VL circuit-breaker is designed to protect cables, wiring, busbars, motors, transformers as well as other plant components and consumers from thermal overloads and in the event of short-circuits.

This family of circuit-breakers is available in both thermal/magnetic (16 A to 630A) and electronic digital release (63 A to 1600A).

Application

The 3VL circuit-breakers are suitable in accordance with the different versions:

- as incoming and outgoing circuit-breakers in distribution systems
- as switching and protecting devices for motors, transformers and capacitors
- as main switches and EMERGENCY-STOP devices in combination with lockable rotary drives and terminal covers.

Versions

The 3VL circuit-breakers are supplied in the following versions:

1. For line protection (in 3- and 4-pole versions)  
The overload and short-circuit releases are matched to the protection of cables, wiring and nonmotorized loads.
2. For motor protection (in 3-pole version)  
The overload and short-circuit releases are matched to the optimum protection and the direct-on-line starting of 3-phase

squirrel cage motors. The circuit-breakers for motor protection have sensitivity to phase failure and adjustable trip class. The overcurrent releases function by means of a microprocessor.

3. For starter combinations (in 3-pole version).  
These circuit-breakers are used for the short-circuit protection as well as for the isolating function possibly required in starter combinations consisting of circuit-breaker, overload relay and motor contactor. These circuit-breakers are exclusively equipped with adjustable instantaneous short-circuit releases.
4. As nonautomatic circuit-breaker (in 3- and 4-pole version)  
These circuit-breakers can be used as supply, main or nonautomatic switches without overload protection. They are fitted with fixed short-release settings. Therefore, no back-up fuses are needed.

All the circuit-breakers completely supplied with integrated overcurrent releases. 3VL160X to VL1600 circuit-breakers have box terminals or busbar connection pieces. Auxiliary switches/alarm switches and/or auxiliary releases are field adaptable by the customer or may be fitted by the factory, if required. Ampere breaking capacities are inscribed on the front of each circuit-breaker.

- Standard breaking capacity:  
 $I_{cu} = 40$  to  $50$  kA at  $380/415$  V AC 50/60 Hz
- High breaking capacity:  
 $I_{cu} = 70$  kA at  $380/415$  V AC 50/60 Hz
- Very high breaking capacity  
 $I_{cu} = 100$  kA at  $380/415$  V AC 50/60Hz

3VL circuit-breakers



Standards and specifications

The 3VL circuit-breakers comply with:  
IEC 60 947-1, EN 60 947-1  
DIN VDE 0660, Part 100  
IEC 60 947-2, EN 60 947-2  
DIN VDE 0660, Part 101 Isolating characteristics according to IEC 60 947-3, EN 60 947-3.

For additional standards consult Siemens.

The overcurrent releases of the circuit-breakers for motor protection comply additionally with IEC 60 947-4-1, DIN VDE 0660, Part 102.

Operating conditions

The 3VL circuit-breakers are climate-proof. They are designed for use in enclosed rooms, in which there are no arduous operating conditions (e.g. dust, caustic vapors, destructive gases).

For installation in dusty and damp rooms, suitable enclosures must be provided.

Current Limitation

The 3VL circuit-breakers are designed on the principles of contact magnetic repulsion. The contacts open before the prospective peak value of the short-circuit current is reached. The current limiting effects of the 3VL circuit-breakers, effectively protects the system components from the thermal and dynamic effects of the short-circuit current in the event of an electrical fault.

Utilization category

All Siemens 3VL are category A.

Installation

The 3VL circuit-breakers are suitable for use in open frames as well as for mounting into enclosed switchgear and distribution systems. The recommended mounting positions of the 3VL circuit-breakers are shown in the illustrations under "technical data".

Global

# 3VL160X ~ VL1600 断路器

## 3VL160X to VL1600 Circuit-Breakers

概览		Overview																					
		标准分断能力 N Standard switching capacity N					高分断能力 H High switching capacity H					极高分断能力 L Very high switching capacity L											
额定电流/Rated current $I_n$ (A)		16	20	25	32	40	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	
用于线路保护 For line protection 3 极断路器 和 4 极断路器 3-pole circuit-breakers and 4-pole circuit-breakers	VL160X	[Standard, High, Very High]																					
	VL160	[Standard, High, Very High]																					
	VL250	[Standard, High, Very High]																					
	VL400	[Standard, High, Very High]																					
	VL630	[Standard, High, Very High]																					
	VL800	[Standard, High, Very High]																					
	VL1250	[Standard, High, Very High]																					
用于电动机保护 For motor protection 3 极断路器 3-pole circuit-breakers	VL160	[Standard, High, Very High]																					
	VL250	[Standard, High, Very High]																					
	VL400	[Standard, High, Very High]																					
	VL630	[Standard, High, Very High]																					
用于起动器组合 For starter combinations 3 极断路器 3-pole circuit-breakers	VL160	[Standard, High, Very High]																					
	VL250	[Standard, High, Very High]																					
	VL400	[Standard, High, Very High]																					
	VL630	[Standard, High, Very High]																					
	VL800	[Standard, High, Very High]																					
隔离开关 Non-automatic circuit-breakers 3 极断路器 和 4 极断路器 3-pole circuit-breakers and 4-pole circuit-breakers	VL160X	[Standard, High, Very High]																					
	VL160	[Standard, High, Very High]																					
	VL250	[Standard, High, Very High]																					
	VL400	[Standard, High, Very High]																					
	VL630	[Standard, High, Very High]																					
	VL800	[Standard, High, Very High]																					
	VL1250	[Standard, High, Very High]																					
160A 及以下 3VL 断路器的特点 Features for 3VL Circuit-breakers up to 160A																							
断路器 /Circuit-breaker		VL160X										VL160											
分断能力 ( $I_{cu}$ , 415V AC) Switching capacity ( $I_{cu}$ , at 415V)		高达 /up to 70 kA										高达 /up to 100 kA											
模块化内部附件 /Modular internal accessories		x										x											
过电流脱扣器 /Overcurrent releases		热 / 磁式 thermal/magnetic										固定 / 固定 可调 / 固定 adjustable/fixed						可调 / 可调 adjustable/ adjustable					
电子式 /electronic		-										-						x					
可互换式 /interchangeable		-										-						x					
尺寸 /Physical size		高度 /height 157										175						105					
宽度 /width		105										105						81					
深度 /depth		81										81						-					
安装 /Mounting		固定式 /fixed x										x						x					
插入式 /plug-in		x										x						-					
抽屉式 /draw-out		-										-						x					
剩余电流装置 RCD/Residual current device RCD		并排安装 /side mounting x										-						底部安装 /bottom mounting x					
x = 有此特点 - = 无此特点		x = available - = not available																					

说明

Description

3VL160X~VL160 系列断路器带有工厂提供的输入和输出端子，适用于多股导线，铜排，以及带终端套管的细多股导线。另外，提供 VL630 ~ VL1600 (630A~1600A) 用的多种进线端子。

对于铜排或电缆的螺丝连接来说，可为 3VL160X~ VL1600 断路器提供合适的适配器。

3VL160X~VL1600 断路器可借助母排加长件连接。这些母排加长件是为连接标准化母排而设计和布置的，并可用于正面连接或背面连接。3VL1600 断路器提供有正面母排连接件。

该系列断路器可提供上进线、下进线，技术数据保持不变。带 RCD 模块的断路器可从顶部或底部进线。

与进线端连接的未绝缘导线必须在灭弧室上方飞弧距离范围内进行绝缘。为此，可使用相间隔板或端子盖。

对于所有的 3VL 160X~ VL1600 系列断路器来说，内部附件(分励脱扣器，辅助开关和报警开关)的连接件提供端子螺丝。

对于所有的 3VL 系列断路器来说，辅助脱扣器(分励脱扣器和欠压脱扣器)以及辅助开关和报警开关均可在现场容易地连接到各装置的端子上。

储能操作机构始终装有端子。装有辅助开关的旋转驱动操作机构始终提供有连接导线。

防护等级

断路器	IP20
面框	IP40
端子盖	IP30
带正面旋转直接操作机构	IP40
带加长旋转操作机构	IP65
带电动机操作机构	IP30
带电动机操作机构	
和门开孔面框	IP40
插入式 / 抽屉式插座	IP20

结构

3VL160X 断路器

3VL160X 系列断路器的主要部件是三个带输入和输出端子的导电回路。静触头和动触头配置的方式能使触头的磁斥在短路条件下得到利用。该系列断路器结合灭弧室一起使用，生成一个动态阻抗，该动态阻抗通过减少  $I_t$  和  $I_p$  能量实现了限流性能。

脱扣器在工厂装配，并且在各级中设计有固定或可调的过载脱扣器和固定短路脱扣器。

断路器设有自由脱扣机构。

在断路器操作机构的右边和左边均设有双隔离辅助室，用于辅助脱扣器和辅助开关。

3VL160~VL630 断路器

导电回路布置、触头配置和断路器机构布置均与 3VL160X 系列断路器相同。只是在脱扣结构上与 3VL160X 不同。

采用热/磁式和电子式设计的脱扣器均可现场安装，无需专用工具。热/磁式脱扣器的过载脱扣器和短路脱扣器均可调整。

3VL800~VL1600 断路器

与 3VL160X~VL630 系列断路器的导电回路和操作机构的布置是相同的。不过，3VL800~ VL1600 系列只有电子式脱扣器。

对于 3VL 系列断路器用的所有电子式脱扣器设计来说，电流互感器内置于一个独立的脱扣器中。它们将一个与负荷电流成正比的信号提供给电子式过电流脱扣器系统。

所有的 3VL 数字式电子脱扣器都测量实际 RMS 电流。以这种方式测量可确保当配电系统中有谐波时能够精确地测量电流值。

过电流脱扣器系统

1. 3VL160X~VL630 断路器的热/磁式过电流脱扣器。

过电流和短路保护脱扣器均是借助双金属或电磁线圈来实现的。这些脱扣器可提供有两种类型，即整定值固定型和整定值可调型。

线路保护用 4 极断路器具有两种过电流脱扣器，一种是在所有 4 极中提供过电流保护，另一种是在第 4 (N) 极中不带过电流保护。110A 及以上，第 4 (N) 极中的脱扣器整定在 60% 的三相主电路电流 ( $I_n$ )，以便保证导电截面减小的 N 极的安全。起动机组合用断路器通常与电动机型接触器和匹配的过载继电器组合使用。

隔离开关具有整定值固定的短路保护脱扣器，因而无需使用后熔断路器。这些装置不含有过载保护。4 极断路器在第 4 (N) 极中不设有短路保护。

2. 电动机保护用 3VL160~ VL630 断路器的过电流脱扣器。

电子式脱扣器系统由下列部件组成：

- 3 个电流互感器
- 带微处理器的电子测量装置
- 脱扣电磁线圈

脱扣器系统无需使用辅助电源。

要使微处理器的脱扣器正常工作，所需的最小负荷电流约为断路器相应额定电流  $I_n$  的 20%。

在电子式过电流脱扣器模块的输出处设有一个脱扣电磁线圈。在发生过载或短路时，该脱扣电磁线圈使断路器脱扣。



Easy Assembling



# 3VL160X ~ VL1600 断路器

## 3VL160X to VL1600 Circuit-Breakers

### 说明

### Description

The 3VL160X to VL160 circuit-breaker families are factory supplied with both incoming and outgoing terminals suitable for stranded conductors, flexible copper bus, finely stranded wire conductors with end sleeves. Multiple feedin terminals for VL630 to VL1600 (sizes 630A to 1600A) are available.

For the screw connection of solid and flexible copper busbars or cable, appropriate adapters are available for the 3VL160X to VL1600 circuit-breakers.

The 3VL160X to VL1600 circuit-breakers may be connected by bus extenders. These are designed and laid out for the connection of standardized busbars and available for front or rear connections. The 3VL1600 circuit-breaker is supplied with front connection busbar pieces.

The incoming and outgoing side can be selected on the circuit-breaker as desired. The electrical data remains unchanged. Circuit-breakers with RCD modules are fed from top or bottom.

Uninsulated conductors which are connected to the upper terminals must be insulated in the arcventing space for space required above arc chutes. Interphase barriers or terminal covers can be used for this purpose.

For the 3VL160X to VL1600 circuit-breaker families, the connections for the integrated accessories (auxiliary releases, auxiliary and alarm switches) are available with terminal screws.

For all circuit-breakers of the 3VL family, the auxiliary release devices (shunt release and undervoltage) and auxiliary and alarm switches are easily field wired directly to terminals on each device.

The stored energy operating mechanisms are always equipped with terminals. The rotary drive

operators supplied with auxiliary switches are always supplied with connecting leads.

#### Degree of protection

Circuit-breaker	IP 20
Cover frame	IP 40
Terminal covers	IP 30
With front rotary direct drive	IP 40
With rotary drive extended	IP 65
With motor operator	IP 30
With motor operator and cover frame	
for door cutout	IP 40
Plug-in socket/draw-out	IP 20

#### Construction

##### 3VL160X circuit-breakers

The main components of the 3VL160X circuit-breaker family are the three conducting paths with incoming and out-going terminals. The fixed and moveable contacts are configured in such a manner as to employ magnetic repulsion of the contacts under short-circuit conditions. In conjunction with the arc quenching chambers, a dynamic impedance is generated that causes current limitation by reducing the damaging effects of  $I^2t$  and the  $I_p$  energy created during short-circuits. The release is factory fitted and is designed with both fixed or adjustable overload releases and fixed short-circuit releases in each pole. The breaker has a trip free mechanism. On the right and on the left of the breaker operating mechanism are the double isolation accessory compartments for the auxiliary releases and switches.

##### 3VL160 to VL630 circuit-breakers

The arrangement of the conducting path, contact configuration and the breaker mechanism is identical to the 3VL160X circuit-breaker family. This exception to the 3VL160X is related to the trip construction.

The releases are field installable with no special tools for both thermal/magnetic and electronic designs. The thermal/magnetic releases have both adjustable overload and short-circuit releases.

##### 3VL800 to VL1600 circuit-breakers

As with the 3VL160X to VL630 families of circuit-breakers, the arrangement of the conducting paths and operating mechanisms is identical. The 3VL800 to VL1600 families, however, are available only in an electronic release design.

As with all of the electronic release designs for the 3VL circuit-breaker families, the current transformers are housed in a separable release. They supply a signal proportional to the load current to the electronic overcurrent release system.

All of the 3VL digital release circuit-breakers measure true RMS current. This type of measurement ensures the most accurate means of measuring currents in today's harmonic filled electrical distributions systems.

#### Overcurrent release systems

##### 1. Overcurrent releases of the 3VL160X to VL630 circuit-breakers thermal/magnetic

The overcurrent and short-circuit releases function by means of bimetals or solenoids. They can be supplied either as fixed setting or adjustable.

The 4-pole circuit-breakers for line protection can be supplied with overcurrent releases in all 4 poles or without overcurrent releases in the 4<sup>th</sup> (N) pole. From 110A and above, the releases in the 4<sup>th</sup> (N) pole are set at 60% of current in the 3 main conducting paths so as to ensure a safe protection of neutral conductors with reduced cross-sections.

The circuit-breakers for starter combination applications are usually combined with motor contactors and matched overload relays.

The non-automatic circuit-breakers are equipped with fixed short-circuit release settings so that back-up fuses are not required. These devices do not contain overload protection. 4-pole circuit-breakers do not have a short-circuit release in the 4<sup>th</sup> (N) pole.

##### 2. Overcurrent releases of the 3VL160 to VL630 circuit-breakers for motor protection

The electronic overcurrent release system consists of:

- 3 current transformers evaluation electronics with microprocessor tripping solenoid.

An auxiliary power supply is not needed for the release system.

Activation of the microprocessor based release requires a minimum load current of approximately 20% of the respective rated current  $I_n$  of the circuit-breaker.

At the output of the electronic overcurrent release module, there is a tripping solenoid, which trips the circuit-breaker in the event of overload or short-circuit.

过电流脱扣器系统—概览 Overcurrent release system - Overview

缩写(功能)

- L = LTD = 过载保护
- S = STD = 短路保护(短延时)
- I = INST = 短路保护(瞬时)
- G = GF = 接地故障保护

应用

- Line = 线路保护
- Mot = 电动机保护
- Gen = 发电机保护
- Start = 起动器组合

- Isol = 隔离开关
- adj. = 可调整
- ETU = 电子式过电流脱扣器
- LCD
- ETU = 带 LCD 的电子式过电流脱扣器

Abbreviations (Functions)

- L = LTD = Overload protection
- S = STD = Short-circuit protection (short time delay)

- I = INST = Short-circuit protection (instantaneous)
- G = GF = Earth fault protection

Application

- Line = Line protection
- Mot = Motor protection
- Gen = Generator protection
- Start = Starter combinations
- Isol = Non-automatic circuit-breaker with self protection

- adj. = adjustable
- ETU = Electronic overcurrent releases
- LCD
- ETU = Electronic overcurrent releases with LCD

壳架等级 Size	热 / 磁式过电流脱扣器 Thermal/Magnetic overcurrent releases					电子式过电流脱扣器 Electronic overcurrent releases					
	固定 / 固定 fixed/fixed	可调 / 固定 adj./fixed	- / 固定 -/fixed	- / 可调 -/adj.	可调 / 可调 adj./adj.	ETU			LCD ETU		
VL160X	Line	Line	Isol	-	-	-	-	-	Line	Mot	Gen
VL160	-	-	Isol	Start	Line	Line	Mot	Gen	Line	Mot	Gen
VL250	-	-	Isol	Start	Line	Line	Mot	Gen	Line	Mot	Gen
VL400	-	-	Isol	Start	Line	Line	Mot	Gen	Line	Mot	Gen
VL630	-	-	Isol	Start	Line	Line	Mot	Gen	Line	Mot	Gen
VL800	-	-	Isol	-	-	-	Line	-	-	Line	-
VL1250	-	-	Isol	Start	-	-	Line	-	-	Line	-
VL1600	-	-	Isol	Start	-	-	Line	-	-	Line	-

接地故障保护

说明

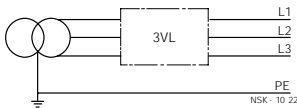
接地故障脱扣器“G”检测流经大地并可能在系统中引起火灾的故障电流。几个串联断路器可借助可调的动作时间实现选择性保护。

下列测量方法可用于检测 N 导线和接地故障电流:

矢量和

在对称负载的系统中进行接地故障检测

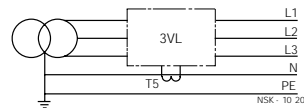
三相电流按照矢量和予以计算。



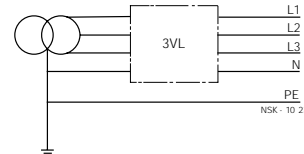
N 导线电流是直接测量的, 并且实现对 N 导线过载保护。

过电流脱扣器借助三相电流和 N 导线电流的矢量和来计算接地故障电流。

3 极断路器, 在 N 导线电流中的电流互感器



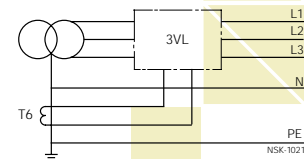
对于 4 极断路器来说, N 导线用的第 4 个电流互感器在内部安装。



通过位于变压器接地中性点处的电流互感器对接地故障电流进行直接检测

电流互感器直接安装在变压器的接地中性点处。

3 极断路器, 位于变压器接地中性点处的电流互感器



剩余电流检测 (RCD) 见第 1/52 页。

外部电流互感器见第 1/18 页。

Earth fault protection

Description

The earthfault release "G" detects fault currents which flow through earth and could cause fires in the system. Several circuit-breakers connected in series can be given time-graded discrimination by means of the adjustable operating delay time.

The following measuring methods can be used to detect N-conductor and earth fault currents:

Vectorial summation

Earth fault detection in symmetrically loaded systems

The three phase currents are evaluated following vectorial summation

The N-conductor current is measured directly and is evaluated for N-conductor overload protection.

The overcurrent release calculates the earthfault current by

means of vectorial summation of the three phase currents and the N-conductor current.

3-pole circuit-breaker, current transformer in the N-conductor current

In the case of 4-pole circuit-breakers, the 4<sup>th</sup> current transformer for the N-conductor is installed internally.

Direct detection of the earth-fault current via a current transformer at the earthed star point of the transformer

The current transformer is installed directly at the earthed star point of the transformer.

3-pole circuit-breaker, current transformer at the earthed star point of the transformer

Residual current detection (RCD) see page 1/52.

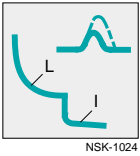
External current transformer see page 1/18.

3VL160X ~ VL1600 断路器  
3VL160X to VL1600 Circuit-Breakers

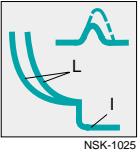
过电流脱扣器系统—概览

Overcurrent release system - Overview

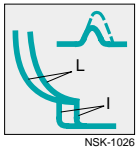
热磁式过电流脱扣器 TM



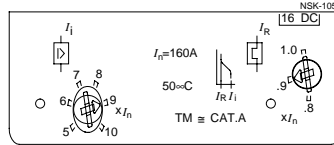
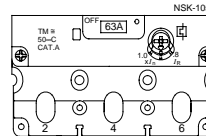
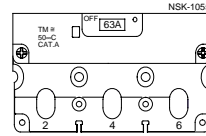
应用：线路保护 - TM，功能 LI  
带固定的过载保护整定值，  
带固定的短路保护整定值，  
VL160X 壳架等级的具体选型，见选型表。



应用：线路保护 - TM，功能 LI  
带可调的过载保护整定值  $I_R = 0.8 \sim 1 \times I_n$ ，  
带固定的短路保护整定值，  
VL160X 壳架等级的具体选型，见选型表。



应用：线路保护 - TM，功能 LI  
带可调的过载保护整定值  $I_R = 0.8 \sim 1 \times I_n$ ，  
带可调的短路保护整定值  $I_i = 5 \sim 10 \times I_n$ ，  
用于 VL160~VL630 壳架等级。



Cost Saving

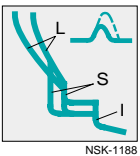
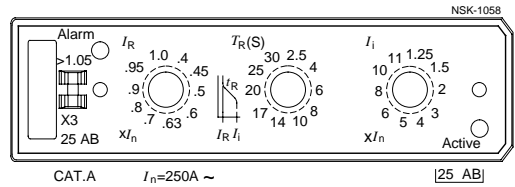
电子式过电流脱扣器 ETU  
用于 VL160~VL1600 壳架等级

概述：  
脱扣器系统无需使用辅助电压。  
绿色闪烁 LED 表明微处理器运行正确。

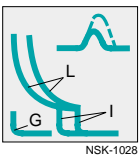
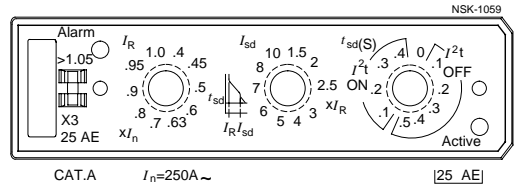
过载状态 ( $I > 1.05 \times I_R$ ) 由常亮黄色 LED 显示，  
集成自测试功能  
测试装置用插入端口



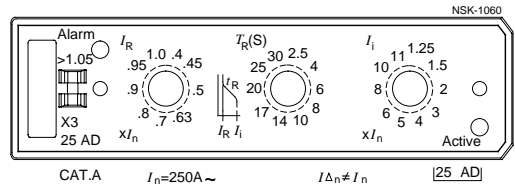
应用：线路保护 - ETU10，功能 LI  
过载保护  $I_R = 0.4; 0.45; 0.5 \sim 0.95; 1 \times I_n$ ，  
时滞等级  $T_R = 2.5 \sim 30$   
短路保护(瞬时)  $I_i = 1.25 \sim 11 \times I_n$



应用：线路和发电机保护 - ETU20，功能 LSI  
过载保护  $I_R = 0.4; 0.45; 0.5 \sim 0.95; 1 \times I_n$ ，  
短路保护(短延时)  $I_{sd} = 1.5 \sim 10 \times I_n$ ， $t_{sd} = 0 \sim 0.5$  秒，  
 $I^2t$  可选择有/无  
短路保护(瞬时)  $I_i = 11 \times I_n$  (固定)

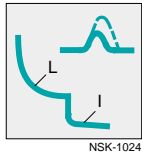


应用：线路保护 - ETU12，功能 LIG  
过载保护  $I_R = 0.4; 0.45; 0.5 \sim 0.95; 1 \times I_n$ ，  
时滞等级  $T_R = 2.5 \sim 30$   
短路保护(瞬时)  $I_i = 1.25 \sim 11 \times I_n$   
接地故障保护：第一种测量方法： $(G_R)$  三线系统 / 及 N 导线 (4 线系统) 中的电流矢量和  $I_{\Delta n} = I_n$ ，第二种测量方法：  
( $G_{GND}$ ) 通过安装在接地中性点处的电流互感器来直接检测接地故障电流， $I_g = I_n$  (瞬时)

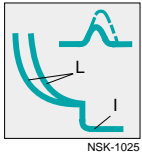
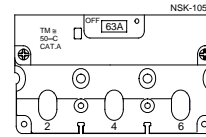


过电流脱扣器系统—概览 Overcurrent release system - Overview

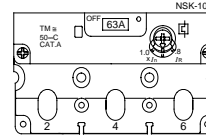
Thermal magnetic overcurrent releases TM



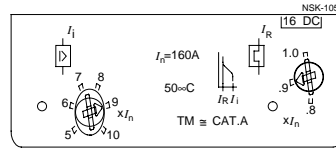
**Application: line protection -TM, Functions LI**  
Overload protection with fixed setting, short-circuit protection with fixed setting, see selection tables, for size VL160X, builtin version



**Application: line protection -TM, Functions LI**  
Overload protection with adjustable setting  
 $I_R = 0.8$  to  $1 \times I_n$ , short-circuit protection with fixed setting, see selection tables, for size VL160X, built-in version



**Application: line protection -TM, Functions LI**  
Overload protection with adjustable setting  
 $I_R = 0.8$  to  $1 \times I_n$ , short-circuit protection with adjustable setting  $I_I = 5$  to  $10 \times I_n$ , for sizes VL160 to VL630



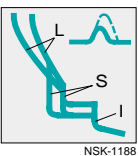
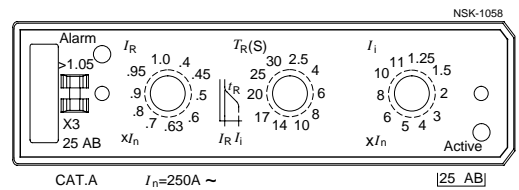
Electronic overcurrent releases ETU  
For sizes VL160 to VL1600

**General:**  
No auxiliary voltage is needed for release system  
Flashing Green LED indicates correct operation of micro processor

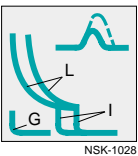
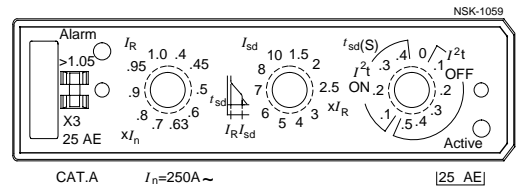
Overload status ( $I > 1.05 \times I_R$ ) is indicated by permanent yellow LED  
Integrated self test function  
Plug in socket for testing device



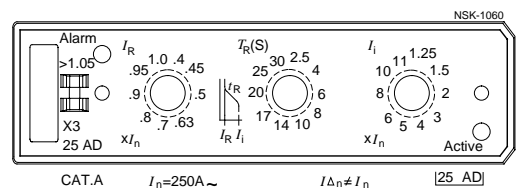
**Application: line protection - ETU10, Functions LI**  
Overload protection  $I_R = 0.4; 0.45; 0.5$  to  $0.95$ ;  
 $1 \times I_n$ , time-lag class  $T_R = 2.5$  to  $30$   
Short-circuit protection (instantaneous)  
 $I_I = 1.25$  to  $11 \times I_n$



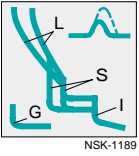
**Application: line and generator protection - ETU20, Functions LSI**  
Overload protection  $I_R = 0.4; 0.45; 0.5$  to  $0.95$ ;  
 $1 \times I_n$ ,  
Short-circuit protection (short time delayed)  
 $I_{sd} = 1.5$  to  $10 \times I_R$ ,  $t_{sd} = 0$  to  $0.5$  sec,  
 $I^2t$  selectable off/on  
Short-circuit protection (instantaneous)  
 $I_I = 11 \times I_n$  (fixed)



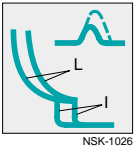
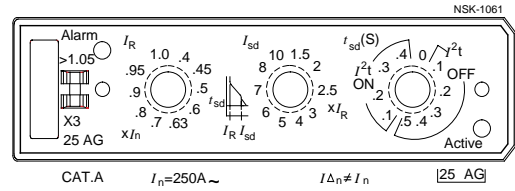
**Application: line protection - ETU12, Functions LIG**  
Overload protection  $I_R = 0.4; 0.45; 0.5$  to  $0.95$ ;  
 $1 \times I_n$ , time-lag class  $T_R = 2.5$  to  $30$   
Short-circuit protection (instantaneous)  
 $I_I = 1.25$  to  $11 \times I_n$   
Earth fault protection: measuring method no. 1:  
( $G_R$ ) vectorial summation of the currents in the three lines/and N-conductor (4-wire systems)  
 $I_{\Delta n} = I_n$ , measuring method no. 2:  
( $G_{GND}$ ) direct detection of the earth fault current via a current transformer installed in the earthed star point,  $I_g = I_n$  (instantaneous)



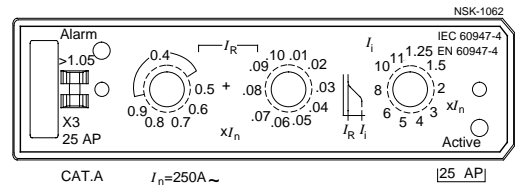
电子式过电流脱扣器 ETU



应用：线路和发电机保护 - ETU22, 功能 LSIG  
 过载保护  $I_R = 0.4; 0.45; 0.5-0.95; 1 \times I_n$ ,  
 短路保护 (短延时)  $I_{sd} = 1.5-10 \times I_R$ ,  $t_{sd} = 0-0.5$  秒,  $I^2t$  可选择有/无  
 短路保护 (瞬时)  $I_I = 11 \times I_n$  (固定)  
 接地故障保护：第一种测量方法：(G<sub>R</sub>) 三线系统 / 及 N 导线 (4 线系统) 中的电流矢量和  $I_{\Delta n} = I_n$ , 第二种测量方法：(G<sub>GND</sub>) 通过电流互感器来直接检测接地故障电流,  $I_g = I_n$  (瞬时)



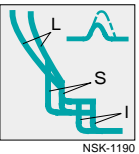
应用：电动机保护 - ETU10M, 功能 LI  
 过载保护可微调  $I_R = 0.41; 0.42-0.98; 0.99; 1 \times I_n$ ,  
 时滞等级  $T_R = 10$  (固定)  
 热记忆  
 短路保护 (瞬时)  $I_I = 1.25-11 \times I_n$   
 具有断相保护功能



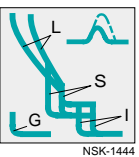
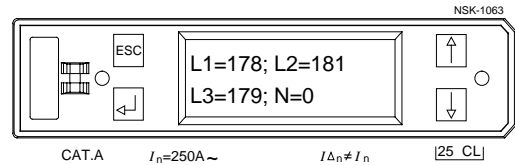
电子式过电流脱扣器 LCD ETU

概述：  
 脱扣器系统无需使用辅助电压  
 电流计量功能  
 激活的 LCD 显示器表明微处理器运行正确  
 过载状态 ( $I > 105\% I_n$ ) 由 LCD 显示器显示“过载”  
 通过各键直接采用安培绝对值以用户友好的菜单驱动方式整定保护参数

集成自测试功能  
 测试 / 编程装置用插入端口



应用：线路保护 - ETU40, 功能 LSI 和电动机 / 发电机保护 - ETU40M, 功能 LSI  
 过载保护  $I_R = 0.4-1 \times I_n$ , 时滞等级  $T_R = 2.5-30$   
 热记忆可选择有/无  
 短路保护 (短延时)  $I_{sd} = 1.5-10 \times I_R$ ,  $t_{sd} = 0-0.5$  秒,  $I^2t$  可选择有/无  
 短路保护 (瞬时)  $I_I = 1.25-11 \times I_n$



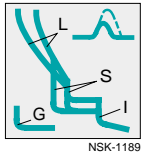
应用：线路保护 - ETU42, 功能 LSIG  
 过载保护  $I_R = 0.4-1 \times I_n$ ,  
 时滞等级  $T_R = 2.5-30$   
 热记忆可选择有/无  
 短路保护 (短延时)  $I_{sd} = 1.5-10 \times I_R$ ,  $t_{sd} = 0-0.5$  秒,  $I^2t$  可选择有/无  
 短路保护 (瞬时)  $I_I = 1.25-11 \times I_n$   
 接地故障保护：第一种测量方法：(G<sub>R</sub>) 三线系统 / 及 N 导线 (4 线系统) 中的电流矢量和  $I_{\Delta n} = 0.2-1 \times I_n$ , 第二种测量方法：(G<sub>GND</sub>) 通过电流互感器来直接检测接地故障电流,  $I_g = 0.4-1 \times I_n$ ,  $t_g = 0.1-0.5$  秒



Flexible

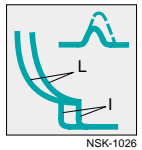
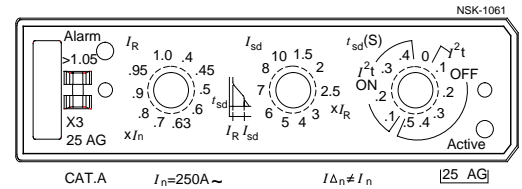
过电流脱扣器系统—概览 Overcurrent release system - Overview

Electronic overcurrent releases ETU



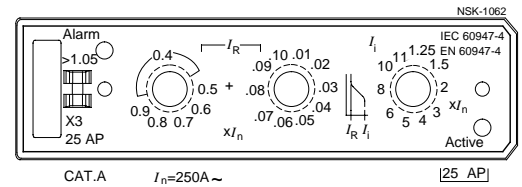
**Application: line and generator protection - ETU22, Functions L SIG**

Overload protection  $I_R = 0.4; 0.45; 0.5$  to  $0.95; 1 \times I_n$ ,  
Short-circuit protection (short time delayed)  
 $I_{sd} = 1.5$  to  $10 \times I_R$ ,  $t_{sd} = 0$  to  $0.5$  sec,  
 $I^2t$  selectable off/on  
Short-circuit protection (instantaneous)  
 $I_i = 11 \times I_n$  (fixed)  
Earth fault protection: measuring method no. 1:  
( $G_R$ ) vectorial summation of the currents in the three lines/and N-conductor (4-wire systems)  
 $I_{\Delta n} = I_n$ , measuring method no. 2:  
( $G_{GND}$ ) direct detection of the earth fault current via a current transformer,  $I_g = I_n$  (instantaneous)



**Application: motor protection - ETU10M, Functions LI**

Overload protection fine adjustable  $I_R = 0.4; 0.41; 0.42$  to  $0.98; 0.99; 1 \times I_n$ ,  
time-lag class  $T_R = 10$  (fixed)  
Thermal memory  
Short-circuit protection (instantaneous)  
 $I_i = 1.25$  to  $11 \times I_n$   
with sensitivity to phase failure

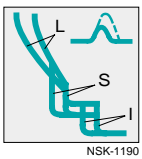


Electronic overcurrent releases LCD ETU

**General:**

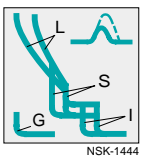
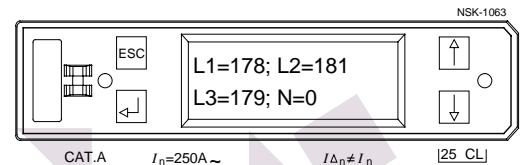
No auxiliary voltage is needed for release system  
Current metering function  
Activated LCD display indicates correct operation of microprocessor  
Overload status ( $I > 105\% I_R$ ) is indicated by "Overload" at the LCD display  
User-friendly menu-driven setting of protection parameters directly in absolute Ampere values via keys

Integrated self test function  
Plug in socket for testing/programming device



**Application: line protection - ETU40, Functions LSI and motor/generator protection - ETU40M, Functions LSI**

Overload protection  $I_R = 0.4$  to  $1 \times I_n$ ,  
timelag class  $T_R = 2.5$  to  $30$   
Thermal memory selectable on/off  
Short-circuit protection (short time delayed)  
 $I_{sd} = 1.5$  to  $10 \times I_R$ ,  $t_{sd} = 0$  to  $0.5$  sec,  
 $I^2t$  selectable off/on  
Short-circuit protection (instantaneous)  
 $I_i = 1.25$  to  $11 \times I_n$



**Application: line protection - ETU42, Functions L SIG**

Overload protection  $I_R = 0.4$  to  $1 \times I_n$ ,  
time-lag class  $T_R = 2.5$  to  $30$   
Thermal memory selectable on/off  
Short-circuit protection (short time delayed)  
 $I_{sd} = 1.5$  to  $10 \times I_R$ ,  $t_{sd} = 0$  to  $0.5$  sec,  
 $I^2t$  selectable off/on  
Short-circuit protection (instantaneous)  
 $I_i = 1.25$  to  $11 \times I_n$   
Earth fault protection: measuring method no. 1:

( $G_R$ ) vectorial summation of the currents in the three lines/and N-conductor (4-wire systems)  
 $I_{\Delta n} = 0.2$  to  $1 \times I_n$ , measuring method no. 2:  
( $G_{GND}$ ) direct detection of the earth fault current via a current transformer,  $I_g = 0.4$  to  $1 \times I_n$ ,  
 $t_g = 0.1$  to  $0.5$  sec.

Flexible

# 3VL160X ~ VL1600 断路器

## 3VL160X to VL1600 Circuit-Breakers

### 说明

### Description

3VL 断路器可根据要求与整机一起提供内部附件 (例如辅助报警开关, 欠压脱扣器或分励脱扣器)。所供类型, 可参见订货号后缀表。另外, 单独提供外部附件 (旋转驱动机构, 电动机构, 抽出式或插入式部件以及各种接线端子)。

#### 固定安装式, 插入式或抽出式

固定安装式断路器为基本类型。它们通过选配适当的部件可容易地改装成插入式或抽出式断路器。该配件含有插入式断路器用的刀形触头、联锁销和端子盖。抽出式配件还含有托架。通过增设面框和摇手柄, 可进行闭门抽出。

#### 操作机构

3VL 系列断路器在其基本类型中都含有扳动手柄操作机构。该操作机构也可用作开关位置指示器, 其不仅显示合闸 (ON) 和分闸 (OFF), 还显示自由脱扣 (TRIPPED) 位置。

如果内部脱扣机构是通过过电流例如过载或短路等而动作, 则扳动手柄处于自由脱扣 (TRIPPED) 位置。由欠压脱扣器或分励脱扣器引起的动作, 也将使扳动手柄处于自由脱扣 (TRIPPED) 位置。在断路器可进行重合闸之前, 扳动手柄必须移到分闸 / 复位 (OFF/RESET) 位置。这就可实现内部脱扣器机构的复位, 以及实现断路器主触头的重合闸 (见右图)。

扳动手柄加长件将随 3VL1250 和 VL1600 断路器一起提供。对于 3VL400 ~ VL800 断路器来说, 如有需要, 该装置将单独订货。

#### 正面旋转直接驱动机构

这些机构直接安装于断路器的正面, 并且将扳动手柄动作从直线运动形式变成旋转形式。

对于带超前动作辅助触头的断路器来说, 可提前提供欠压脱扣器电源, 这将使断路器可以闭合。

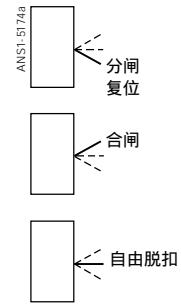
#### 加长旋转驱动机构 (整套机构)

如果断路器安装在开关柜和配电板内, 则加长旋转驱动机构可用于柜门和移动式盖的装置中。这些机构是整套提供的, 包括铰接轴机构。

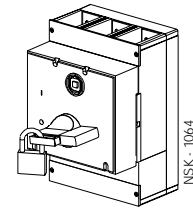
开关的操作及复位 (RESET) 对扳动机构适用的也同样适用于旋转驱动机构。操作手柄 (旋钮) 的位置显示断路器所处的状态。

所有旋转驱动机构都可借助合适的挂锁锁定在分闸 (OFF) 位置。因此, 所有装有这些驱动机构和相应端子盖的 3VL 系列断路器都可用作主开关。

#### 扳动手柄机构位置

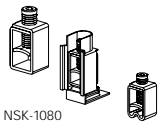


#### 具有挂锁锁定的旋转驱动机构



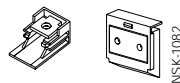
### 主端子, 基本供货范围和选项

#### 3VL160X 和 VL160 断路器



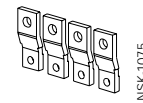
#### 铜电缆和铜排卡箍式端子

#### 3VL250~VL1250 断路器



#### 电缆接头或母排用螺母定位板

#### 3VL1600 断路器



#### 铜排加长式端子

### 主功率输入和输出终端

断路器	端子, 基本供货范围	连接件概览				
		压板式端子	公制螺纹螺母定位板	铝端子	背后端子	正面母排端子
VL160X	压板式端子	X	X	X	X	X
VL160	压板式端子	X	X	X	X	X
VL250	公制螺纹螺母定位板	X	X	X	X	X
VL400	公制螺纹螺母定位板	X	X	X	X	X
VL630	公制螺纹螺母定位板	-	X	X	X	X
VL800	公制螺纹螺母定位板	-	X	X	X	X
VL1250	公制螺纹螺母定位板	-	X	X	X	X
VL1600	加长铜排	-	-	-	X	X

x = 可用  
- = 不可用

**说明** **Description**

The 3VL circuit-breakers can be supplied fully equipped with integrated accessories (e.g. auxiliary alarm switches, undervoltage releases or shunt releases) upon request. The possible versions can be seen in the tables of Order No. supplements. The attachable accessories (rotary drives, motorized mechanisms, withdraw or plugin elements and selective terminal connectors) are always supplied separately.

**Fixed-mounted, plug-in or draw-out version**

The fixed-mounted circuit-breaker is the basic version. This is easily converted into a plug-in or draw-out version with the appropriate kit. This kit contains knife contacts, interlock pin and terminal covers for the plug-in version. The draw-out kit contains brackets additionally. By adding a cover frame and a racking handle closed door draw-out is possible.

**Operating mechanisms**

The 3VL family of circuit-breakers have, in their basic version, a toggle handle operating mechanism, which also serves as a switching position indicator. As well as ON and OFF, the position of TRIPPED is indicated.

The toggle handle moves into the TRIPPED position if the internal tripping mechanism is activated through an overcurrent condition such as an overload or short-circuit. The activation of an undervoltage release or shunt release device will also cause the toggle handle to move to the TRIPPED position. Before the circuit-breaker can be reclosed, the toggle handle must be moved to the OFF/RESET position. This allows for the resetting of the internal release mechanism and for the reclosing of the circuit-breakers' main contacts (see figure on the right).

A toggle handle extension will be shipped with the 3VL1250 and VL1600 circuit-breakers. For 3VL400 to VL800 circuit-breakers this device will be ordered separately if necessary.

**Front rotary direct drives**

These mechanisms are designed for direct attachment to the circuit-breaker and transform the toggle handle movement from a linear to rotary action.

For a circuit-breaker with leading auxiliary contacts, the undervoltage release can be supplied in advance, which makes the circuit-breaker ready to close.

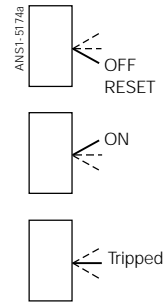
**Rotary drive extended (complete mechanism)**

If the circuit-breakers are installed in switchgear cubicles and distribution boards, rotary extended drives are available for doors and removable covers. These mechanisms are supplied as complete sets, including articulated-shaft mechanism.

With regard to switching positions and moving into RESET, the same applies to rotary drives as for toggle mechanisms. The indication is given by the position of the operating handle (knob).

All rotary drives can be locked in the OFF position by means of suitable padlocks. All of the 3VL family of circuit-breakers, equipped with these drives and corresponding terminal covers, can therefore be used as main switches.

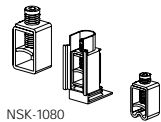
Toggle handle mechanism positions



Rotary drive locked with padlock

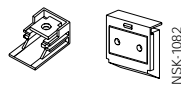
**Main terminals, basic scope of supply and option**

3VL160X and VL160 circuit-breakers



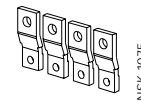
wrap around terminal for copper cables and busbars

3VL250 to VL1250 circuit-breakers



nut keeper plate for cable lug or busbars

3VL1600 circuit-breaker



Termination made through supplied bus extensions

**Main power incoming and outgoing termination**

Circuit-breaker	Terminals, basic scope of supplies	Connections overview				
		wrap around terminals	metric threaded nut keeper plate	aluminium terminals	rear terminals	front busbar terminals
VL160X	wrap around terminal	x	x	x	x	x
VL160		x	x	x	x	x
VL250	metric threaded nut keeper plate	x	x	x	x	x
VL400		x	x	x	x	x
VL630		-	x	x	x	x
VL800		-	x	x	x	x
VL1250		-	x	x	x	x
VL1600	extended busbars	-	-	-	x	x

x = available  
- = not available



# 3VL160X ~ VL1600 断路器

## 3VL160X to VL1600 Circuit-Breakers

### 说明

### Description

#### 储能操作机构

3VL160X-VL1600 断路器 (壳架等级 160-1600A) 可安装电动机操作机构, 用于远程操作合闸和分闸。

这些用于 3VL160X- VL800 断路器的储能操作机构均具有储能特点 (用于同步), 最大合闸速度  $t_E \leq 100\text{ms}$ 。3VL1250 和 VL1600 断路器将由电动机操作 ( $t_E \leq 5\text{s}$ )。它们也可实现断路器的远距离分闸。储能操作机构始终提供有挂锁锁定装置。可选的柱形锁定装置可提供用于所有的储能操作机构。

这些装置可用于操作机构的电气闭锁和机械闭锁。所有远程操作机构都装有手动执行机构, 以便进行维护。

#### 带辅助开关和报警开关的 3VL 断路器的位置配置

1 & 2	1 HS			1 HS
1 & 2	2 HS			2 HS
1 & 2	3 HS			3 HS
2	4 HS			4 HS
1 & 2	1 AS			1 AS
2	2 AS			2 AS
1 & 2	1 HS + 1 AS			1 HS + 1 AS
1 & 2	2 HS + 1 AS			2 HS + 1 AS
2	2 HS + 2 AS			

**左表**

**分励脱扣器 / 欠压脱扣器**

HS 一个辅助开关 1 个常开 (NO) 触头或 1 个常闭 (NC) 触头  
 AS 一个报警开关 1 个常开 (NO) 触头或 1 个常闭 (NC) 触头  
 第 1 组 - VL160X, VL160, VL250, VL400  
 第 2 组 - VL630, VL800, VL1250, VL1600  
 报警开关或报警开关组合将不适合装入第 2 组断路器的右极。

ANSK-10330

### 辅助脱扣器和辅助开关

#### 欠压脱扣器, 超前动作辅助开关

只有在欠压脱扣器已通电之后, 断路器才能合闸。如果脱扣器未通电, 断路器虽有闭合操作, 但不能实现真正闭合。

应避免欠压脱扣器没有通电而频繁地使断路器空合闸, 因为这样会缩短断路器的寿命。

所有欠压脱扣器的设计和测试都符合所有在 IEC 60 947 标准中所列的适用要求 (释放电压  $0.70-0.35U_e$  断路器可在  $-0.85-1.10U_e$  之间接通)。

对于带超前动作辅助开关触头的断路器来说, 欠压脱扣器可提前得电, 这使断路器合闸准备就绪。

对于 3VL 系列断路器来说, 超前动作辅助开关可随旋转机构一起供货。有关详情, 请见附件选型和订购表。

#### 分励脱扣器

分励脱扣器用于断路器的远程脱扣。分励脱扣器的线圈是为短时操作而设计的。其内部具有线圈电流自动切断开关。

这些装置是符合 IEC 60 947 标准 (脱扣电压  $0.70-1.10U_e$ )。

分励脱扣器不能连续施加断开信号来达到防止断路器合闸。

#### 辅助开关

辅助开关 (HS) 用于信号发送和控制。辅助开关的各种功能见上图。

#### 报警开关

报警开关 (AS) 只有在过电流条件, 例如过载或短路引起断路器脱扣时才动作, 但是当分励脱扣器或欠压脱扣器引起断路器脱扣时, 报警开关也会被激活。

#### 辅助报警开关的安装 (见上图)

断路器安装辅助开关和报警开关, 取决于断路器内部附件的安装位置以及断路器的壳架等级。不同壳架的断路器其安装位置各不相同。

Flexible

说明 Description

**Stored energy operating mechanisms**

The 3VL160X to VL1600 circuit-breakers (sizes 160 to 1600A) can be equipped with motorized operating mechanisms for remote in service closing and opening.

These stored energy operators for 3VL160X to VL800 circuit-breakers have a stored energy feature (for synchronization) with maximum closing speed of  $t_E \leq 100$  ms. 3VL1250 and VL1600 circuit-breakers will be operated by motor ( $t_E \leq 5$  sec). They also will allow for remote opening of the circuit-breaker. The stored energy operators are always supplied with a locking device for padlocks. Optional cylinder locking is available for all stored energy operating mechanisms.

These devices can be used for electrical and mechanical blocking of the operating mechanism. All remote operating mechanisms are equipped with a manual actuator for maintenance purposes.

Possible 3VL circuit-breaker complements with auxiliary and alarm switches

Group	3-pole circuit-breakers	4-pole circuit-breakers
1 & 2	1 HS	Use table on the left
1 & 2	2 HS	
1 & 2	3 HS	
2	4 HS	
1 & 2	1 AS	
2	2 AS	
1 & 2	1 HS + 1 AS	
1 & 2	2 HS + 1 AS	
2	2 HS + 2 AS	

Shunt release or undervoltage release

HS one auxiliary switch 1 NO or 1 NC contact  
 AS one alarm switch 1 NO or 1 NC contact  
 Group 1 VL160X, VL160, VL250, VL400  
 Group 2 VL630, VL800, VL1250, VL1600  
 Alarm switch or combination with alarm switch will not fit into right pole of Group 2 breakers.

Auxiliary releases and auxiliary switches

**Undervoltage releases, leading auxiliary switches**

The circuit-breaker cannot be closed until the undervoltage release is energized. If the release is not energized, the circuit-breaker can only perform an idle switching operation.

Frequent idle switching actions should be avoided, as they can shorten the endurance life of the circuit-breaker.

All undervoltage releases are designed and tested to conform with all applicable requirements outlined within IEC 60 947 (drop out voltage level 0.70 to 0.35  $U_e$  pickup-breaker may be turned on -0.85 to 1.10  $U_e$ ). For a circuit-breaker with leading auxiliary

switch contacts, the undervoltage release can be supplied in advance, which makes the circuit-breaker ready to close.

With the 3VL family of circuit-breakers, the leading auxiliary switch can be supplied together with rotary drives. For further details see the tables of selection and ordering of accessories.

**Shunt releases**

The shunt release is used for remote tripping of the circuit-breaker.

The coil of the shunt release device is designed for short-time operation. A coil clearing switch is integrally mounted.

These devices function as outlined within IEC 60 947 (tripping voltage 0.70 to 1.10  $U_e$ ). It is not permissible with the circuit-breaker open to apply a continuous opening command to the shunt release in order to prevent the breaker from closing.

**Auxiliary switches**

Auxiliary switches (HS) are used for signalling and control purposes. The various functions of the auxiliary switches are shown in the figure on the top.

**Alarm switches**




The alarm switches (AS) operate when the circuit-breaker is tripped by an overcurrent




condition such as an overload or short-circuit, but may also be activated when the circuit-breaker has been tripped by a shunt release or undervoltage release.

**Fitting of auxiliary alarm switches** (see figure on the top).

The equipping of the circuit-breaker with auxiliary and alarm switches depends on the mounting position of the switches inside of the circuit-breaker and the size the circuit-breaker. The mounting position the switches differ according to the version of the circuit-breaker.

Flexible

选型和订货数据				Selection and ordering data			
固定安装式断路器 / Fixed-mounted circuit-breakers 热 / 磁式过电流脱扣器 / Thermal/magnetic overcurrent releases							
型号 Type	额定电流 Rated current $I_n$	过载反时限 脱扣器 "L" 的 整定电流 Setting current of inverse-time delayed overload release "L" $I_R$	短路瞬时 脱扣器 "I" 的 整定电流 Operating current of instantaneous short-circuit release "I" $I_I$	标准分断能力 N 40/45/50kA 在 380/415V AC 时 见第 1/60 页 Standard switching capacity N 40/45/50 kA at 380/415 V AC see page 1/60. 订货号 根据第 1/30 页 和第 1/31 页所 需的订货号后缀 Order No. Order No. supplement required according to pages 1/30 and 1/31	高分断能力 H 70kA, 在 380/415V AC 时 High switching capacity H 70 kA at 380/415 V AC 订货号 根据第 1/30 页 和第 1/31 页所 需的订货号后缀 Order No. Order No. supplement required according to pages 1/30 and 1/31	极高分断能力 L 100kA, 在 380/415V AC 时 Very high switching capacity L 100 kA at 380/415 V AC 订货号 根据第 1/30 页 和第 1/31 页所 需的订货号后缀 Order No. Order No. supplement required according to pages 1/30 and 1/31	
	A	A	A				
 <p>线路保护用断路器, TM 带固定整定值的热过载脱扣器, 固定短路脱扣器 Circuit-breakers for line protection, TM with fixed-setting thermal overload releases, fixed short-circuit releases</p>							
NSK-1034	VL160X	16 20 25 32 40 50 63 80 100 125 160	16 20 25 300 300 600 600 1000 1000 1000 1600	3VL17 96-1DA33-.... 3VL17 02-1DA33-.... 3VL17 25-1DA33-.... 3VL17 03-1DA33-.... 3VL17 04-1DA33-.... 3VL17 05-1DA33-.... 3VL17 06-1DA33-.... 3VL17 08-1DA33-.... 3VL17 10-1DA33-.... 3VL17 12-1DA33-.... 3VL17 16-1DA33-....	3VL17 96-2DA33-.... 3VL17 02-2DA33-.... 3VL17 25-2DA33-.... 3VL17 03-2DA33-.... 3VL17 04-2DA33-.... 3VL17 05-2DA33-.... 3VL17 06-2DA33-.... 3VL17 08-2DA33-.... 3VL17 10-2DA33-.... 3VL17 12-2DA33-.... 3VL17 16-2DA33-....	-	
 <p>线路保护用断路器, TM 带可调整定值的热过载脱扣器, 固定短路脱扣器 Circuit-breakers for line protection, TM with adjustable-thermal setting overload releases, fixed short-circuit releases</p>							
NSK-1035	VL160X	20 32 40 50 63 80 100 125 160	16-20 25-32 32-40 40-50 50-63 63-80 80-100 100-125 125-160	300 300 600 600 600 1000 1000 1000 1600	3VL17 02-1DD33-.... 3VL17 03-1DD33-.... 3VL17 04-1DD33-.... 3VL17 05-1DD33-.... 3VL17 06-1DD33-.... 3VL17 08-1DD33-.... 3VL17 10-1DD33-.... 3VL17 12-1DD33-.... 3VL17 16-1DD33-....	3VL17 02-2DD33-.... 3VL17 03-2DD33-.... 3VL17 04-2DD33-.... 3VL17 05-2DD33-.... 3VL17 06-2DD33-.... 3VL17 08-2DD33-.... 3VL17 10-2DD33-.... 3VL17 12-2DD33-.... 3VL17 16-2DD33-....	-
 <p>线路保护用断路器, TM 带可调整定值的热过载脱扣器, 可调短路脱扣器 Circuit-breakers for line protection, TM with adjustable-thermal setting overload releases, adjustable short-circuit releases</p>							
NSK-1036	VL160	50 63 80 100 125 160	40-50 50-63 63-80 80-100 100-125 125-160	300-600 300-600 400-800 500-1000 625-1250 800-1600	3VL27 05-1DC33-.... 3VL27 06-1DC33-.... 3VL27 08-1DC33-.... 3VL27 10-1DC33-.... 3VL27 12-1DC33-.... 3VL27 16-1DC33-....	3VL27 05-2DC33-.... 3VL27 06-2DC33-.... 3VL27 08-2DC33-.... 3VL27 10-2DC33-.... 3VL27 12-2DC33-.... 3VL27 16-2DC33-....	3VL27 05-3DC33-.... 3VL27 06-3DC33-.... 3VL27 08-3DC33-.... 3VL27 10-3DC33-.... 3VL27 12-3DC33-.... 3VL27 16-3DC33-....
	VL250	200 250	160-200 200-250	1000-2000 1200-2500	3VL37 20-1DC36-.... 3VL37 25-1DC36-....	3VL37 20-2DC36-.... 3VL37 25-2DC36-....	3VL37 20-3DC36-.... 3VL37 25-3DC36-....
	VL400	200 250 315 400	160-200 200-250 250-315 315-400	1000-2000 1200-2500 1575-3150 2000-4000	3VL47 20-1DC36-.... 3VL47 25-1DC36-.... 3VL47 31-1DC36-.... 3VL47 40-1DC36-....	3VL47 20-2DC36-.... 3VL47 25-2DC36-.... 3VL47 31-2DC36-.... 3VL47 40-2DC36-....	3VL47 20-3DC36-.... 3VL47 25-3DC36-.... 3VL47 31-3DC36-.... 3VL47 40-3DC36-....
	VL630	315 400 500 630	250-315 315-400 400-500 500-630	1575-3150 2000-4000 2500-5000 3250-6500	3VL57 31-1DC36-.... 3VL57 40-1DC36-.... 3VL57 50-1DC36-.... 3VL57 63-1DC36-....	3VL57 31-2DC36-.... 3VL57 40-2DC36-.... 3VL57 50-2DC36-.... 3VL57 63-2DC36-....	3VL57 31-3DC36-.... 3VL57 40-3DC36-.... 3VL57 50-3DC36-.... 3VL57 63-3DC36-....
<p>通过使用插入式插座组件或抽屉式组件可改装成插入式断路器或抽屉式断路器。见第 1/12-1/13 页、1/38-1/39 页和 1/40-1/41 页。 Conversion into plug-in or draw-out circuit-breaker by using plug-in socket assembly or draw-out assembly see pages 1/12-1/13, 1/38-1/39 and 1/40-1/41.</p>							

选型和订货数据				Selection and ordering data		
固定安装式断路器 /Fixed-mounted circuit-breakers 电磁式和电子式过电流脱扣器 /Magnetic and electronic overcurrent releases						
型号 Type	额定电流 Rated current $I_n$	过载反时限 脱扣器“L” 的整定电流 Setting current of inverse-time delayed overload release “L” $I_R$	短路瞬时 脱扣器“I” 的整定电流 Operating current of current of instantaneous short-circuit release “I” $I_I$	标准分断能力 N 40/45/50kA 在 380/415V AC 时 见第 1/60 页 Standard switching capacity N 40/45/50 kA at 380/415 V AC see page 1/60. 订货号 根据第 1/30 页 和第 1/31 页所 需的订货号后缀 Order No. Order No. supplement required according to pages 1/30 and 1/31	高分断能力 H 70kA, 在 380/415V AC 时 High switching capacity H 70 kA at 380/415 V AC 订货号 根据第 1/30 页 和第 1/31 页所 需的订货号后缀 Order No. Order No. supplement required according to pages 1/30 and 1/31	极高分断能力 L 100kA, 在 380/415V AC 时 Very high switching capacity L 100 kA at 380/415 V AC 订货号 根据第 1/30 页 和第 1/31 页所 需的订货号后缀 Order No. Order No. supplement required according to pages 1/30 and 1/31
	A	A	A			
 <p>电动机 / 发电机保护用断路器 带电子式过电流脱扣器 ETU10M, 固定时滞等级为 <math>T_R = 10</math>, 断相敏感 Circuit-breakers for motor/generator protection with electronic overcurrent release ETU10M, with fixed trip class <math>T_R = 10</math>, with sensitivity to phase failure</p>						
VL160	63 100 160	25-63 40-100 64-160	$1.25-11 \times I_n$ $1.25-11 \times I_n$ $1.25-11 \times I_n$	3VL27 06-1AP33-.... 3VL27 10-1AP33-.... 3VL27 16-1AP33-....	3VL27 06-2AP33-.... 3VL27 10-2AP33-.... 3VL27 16-2AP33-....	3VL27 06-3AP33-.... 3VL27 10-3AP33-.... 3VL27 16-3AP33-....
VL250	200 250	80-200 100-250	$1.25-11 \times I_n$ $1.25-11 \times I_n$	3VL37 20-1AP36-.... 3VL37 25-1AP36-....	3VL37 20-2AP36-.... 3VL37 25-2AP36-....	3VL37 20-3AP36-.... 3VL37 25-3AP36-....
VL400	400	150-400	$1.25-11 \times I_n$	3VL47 40-1AP36-....	3VL47 40-2AP36-....	3VL47 40-3AP36-....
VL630	630	252-630	$1.25-11 \times I_n$	3VL57 63-1AP36-....	3VL57 63-2AP36-....	3VL57 63-3AP36-....
 <p>电动机 / 发电机保护用断路器, 带电子式过电流脱扣器 LCD ETU40M, 可调时滞等级为 <math>T_R (5, 10, 15, 20, 30)</math>, 断相敏感 Circuit breakers for motor/generator protection with electronic overcurrent release LCD ETU40M, with adjustable trip class <math>T_R (5, 10, 15, 20, 30)</math>, with sensitivity to phase failure</p>						
VL160	63 100 160	25-63 40-100 64-160	$1.25-11 \times I_n$ $1.25-11 \times I_n$ $1.25-11 \times I_n$	3VL27 06-1CP33-.... 3VL27 10-1CP33-.... 3VL27 16-1CP33-....	3VL27 06-2CP33-.... 3VL27 10-2CP33-.... 3VL27 16-2CP33-....	3VL27 06-3CP33-.... 3VL27 10-3CP33-.... 3VL27 16-3CP33-....
VL250	200 250	80-200 100-250	$1.25-11 \times I_n$ $1.25-11 \times I_n$	3VL37 20-1CP36-.... 3VL37 25-1CP36-....	3VL37 20-2CP36-.... 3VL37 25-2CP36-....	3VL37 20-3CP36-.... 3VL37 25-3CP36-....
VL400	400	160-400	$1.25-11 \times I_n$	3VL47 40-1CP36-....	3VL47 40-2CP36-....	3VL47 40-3CP36-....
VL630	630	252-630	$1.25-11 \times I_n$	3VL57 63-1CP36-....	3VL57 63-2CP36-....	3VL57 63-3CP36-....
 <p>带电磁式过电流脱扣器的起动器组合用断路器 Circuit-breakers for starter combinations with magnetic overcurrent release</p>						
VL160	至 /up to 63 至 /up to 100 至 /up to 160	- - -	450-900 750-1500 1250-2500	3VL27 06-1DK33-.... 3VL27 10-1DK33-.... 3VL27 16-1DK33-....	3VL27 06-2DK33-.... 3VL27 10-2DK33-.... 3VL27 16-2DK33-....	3VL27 06-3DK33-.... 3VL27 10-3DK33-.... 3VL27 16-3DK33-....
VL250	至 /up to 250	-	2000-4000	3VL37 25-1DK36-....	3VL37 25-2DK36-....	3VL37 25-3DK36-....
VL400	至 /up to 200 至 /up to 250 至 /up to 400	- - -	1250-2500 2000-4000 3000-6000	3VL47 20-1DK36-.... 3VL47 25-1DK36-.... 3VL47 40-1DK36-....	3VL47 20-2DK36-.... 3VL47 25-2DK36-.... 3VL47 40-2DK36-....	3VL47 20-3DK36-.... 3VL47 25-3DK36-.... 3VL47 40-3DK36-....
VL630	至 /up to 315 至 /up to 630	- -	2000-4000 3250-6500	3VL57 31-1DK36-.... 3VL57 63-1DK36-....	3VL57 31-2DK36-.... 3VL57 63-2DK36-....	3VL57 31-3DK36-.... 3VL57 63-3DK36-....
VL800	至 /up to 800	-	3250-6500	3VL67 80-1DK36-....	3VL67 80-2DK36-....	3VL67 80-3DK36-....
<p>通过使用插入式插座组件或抽屉式组件可改装成插入式断路器或抽屉式断路器。见第 1/12-1/13 页、1/38-1/39 页和 1/40-1/41 页。 Conversion into plug-in or draw-out circuit-breaker by using plug-in socket assembly or draw-out assembly see pages 1/12-1/13, 1/38-1/39 and 1/40-1/41.</p>						

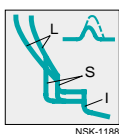
选型和订货数据 Selection and ordering data

固定安装式断路器 / Fixed-mounted circuit-breakers 电磁式和电子式过电流脱扣器 / Magnetic and electronic overcurrent releases						
型号 Type	额定电流 Rated current $I_n$	过载反时限 脱扣器 "L" 的整定电流 Setting current of inverse-time delayed overload release "L" $I_R$	短路瞬时 脱扣器 "I" 的整定电流 Operating current of current of instantaneous short-circuit release "I" $I_I$	标准分断能力 N 40/45/50kA 在 380/415V AC 时 见第 1/60 页 Standard switching capacity N 40/45/50 kA at 380/415 V AC 订货号 根据第 1/30 页 和第 1/31 页所 需的订货号后缀 Order No. Order No. supplement required according to pages 1/30 and 1/31	高分断能力 H 70kA, 在 380/415V AC 时 High switching capacity H 70 kA at 380/415 V AC 订货号 根据第 1/30 页 和第 1/31 页所 需的订货号后缀 Order No. Order No. supplement required according to page 1/30 and 1/31	极高分断能力 L 100kA, 在 380/415V AC 时 Very high switching capacity L 100 kA at 380/415 V AC 订货号 根据第 1/30 页 和第 1/31 页所 需的订货号后缀 Order No. Order No. supplement required according to pages 1/30 and 1/31
	A	A	A			



带电磁式过电流的隔离开关  
Non-automatic circuit-breakers with magnetic overcurrent release

VL160X	至 /up to 100	-	2500	3VL17 10-1DE33-....	3VL17 10-2DE33-....	-
	至 /up to 125	-	3000	3VL17 12-1DE33-....	3VL17 12-2DE33-....	
	至 /up to 160	-	3000	3VL17 16-1DE33-....	3VL17 16-2DE33-....	
VL160	至 /up to 100	-	2500	3VL27 10-1DE33-....	3VL27 10-2DE33-....	3VL27 10-3DE33-....
	至 /up to 160	-	2500	3VL27 16-1DE33-....	3VL27 16-2DE33-....	3VL27 16-3DE33-....
VL250	至 /up to 250	-	4000	3VL37 25-1DE36-....	3VL37 25-2DE36-....	3VL37 25-3DE36-....
VL400	至 /up to 400	-	6000	3VL47 40-1DE36-....	3VL47 40-2DE36-....	3VL47 40-3DE36-....
VL630	至 /up to 630	-	6500	3VL57 63-1DE36-....	3VL57 63-2DE36-....	3VL57 63-3DE36-....
VL800	至 /up to 800	-	8000	3VL67 80-1DE36-....	3VL67 80-2DE36-....	3VL67 80-3DE36-....
VL1250	至 /up to 1250	-	12000	3VL77 12-1DE36-....	3VL77 12-2DE36-....	3VL77 12-3DE36-....
VL1600	至 /up to 1600	-	16000	3VL87 16-1DE30-....	3VL87 16-2DE30-....	3VL87 16-3DE30-....



线路保护用断路器, 用于时间选择性  
带电子式过电流脱扣器 ETU20, 带 LSI 功能 (S 功能:  $I_{sd} = 1.5 \sim 10 I_R$ ,  $t_{sd} = 0, 0.1 \sim 0.5s$ )  
Circuit-breakers for line protection, for time discrimination  
with electronic overcurrent release ETU20, with LSI functions (S-function:  $I_{sd} = 1.5$  to  $10 \times I_R$ ,  $t_{sd} = 0, 0.1$  to  $0.5$  sec)


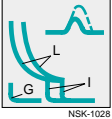
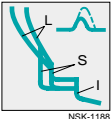
VL160	63	$0.4 - 1.0 \times I_n$	$11 \times I_n$	3VL27 06-1AE33-....	3VL27 06-2AE33-....	3VL27 06-3AE33-....
	100	$0.4 - 1.0 \times I_n$	$11 \times I_n$	3VL27 10-1AE33-....	3VL27 10-2AE33-....	3VL27 10-3AE33-....
	160	$0.4 - 1.0 \times I_n$	$11 \times I_n$	3VL27 16-1AE33-....	3VL27 16-2AE33-....	3VL27 16-3AE33-....
VL250	200	$0.4 - 1.0 \times I_n$	$11 \times I_n$	3VL37 20-1AE36-....	3VL37 20-2AE36-....	3VL37 20-3AE36-....
	250	$0.4 - 1.0 \times I_n$	$11 \times I_n$	3VL37 25-1AE36-....	3VL37 25-2AE36-....	3VL37 25-3AE36-....
VL400	315	$0.4 - 1.0 \times I_n$	$11 \times I_n$	3VL47 31-1AE36-....	3VL47 31-2AE36-....	3VL47 31-3AE36-....
	400	$0.4 - 1.0 \times I_n$	$11 \times I_n$	3VL47 40-1AE36-....	3VL47 40-2AE36-....	3VL47 40-3AE36-....
VL630	630	$0.4 - 1.0 \times I_n$	$11 \times I_n$	3VL57 63-1AE36-....	3VL57 63-2AE36-....	3VL57 63-3AE36-....
VL800	800	$0.4 - 1.0 \times I_n$	$11 \times I_n$	3VL67 80-1AE36-....	3VL67 80-2AE36-....	3VL67 80-3AE36-....
VL1250	1000	$0.4 - 1.0 \times I_n$	$11 \times I_n$	3VL77 10-1AE36-....	3VL77 10-2AE36-....	3VL77 10-3AE36-....
	1250	$0.4 - 1.0 \times I_n$	$11 \times I_n$	3VL77 12-1AE36-....	3VL77 12-2AE36-....	3VL77 12-3AE36-....
VL1600	1600	$0.4 - 1.0 \times I_n$	$11 \times I_n$	3VL87 16-1AE30-....	3VL87 16-2AE30-....	3VL87 16-3AE30-....

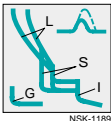
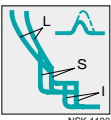

有关短路和 / 或接地故障保护用的其他类型断路器, 见第 1/19-1/20 页 / Further versions also for short-circuit and/or earth fault protection, see page 1/19-1/20.

附件 Accessories

用于三相四线系统中 N 极用于接地故障保护的电流互感器 / Current transformers for N-conductor for earth fault protection in 3-phase 4-wire systems						
型号 Type	额定电流 Rated current $I_n$ A	订货号 Order No.		类型 Type	额定电流 Rated current $I_n$ A	订货号 Order No.
VL160	63	3VL9 280-8TC00		VL630	630	3VL9 563-8TC00
	100	3VL9 210-8TC00		VL800	800	3VL9 680-8TC00
	160	3VL9 216-8TC00		VL1250	1000	3VL9 712-8TC00
VL250	200	3VL9 320-8TC00			1250	3VL9 712-8TC00
	250	3VL9 325-8TC00		VL1600	1600	3VL9 816-8TC00
VL400	315	3VL9 440-8TC00				
	400	3VL9 440-8TC00				

通过使用插入式插座组件或抽屉式组件可改装成插入式断路器或抽屉式断路器。见第 1/12-1/13 页、1/38-1/39 页和 1/40-1/41 页。  
Conversion into plug-in or draw-out circuit-breaker by using plug-in socket assembly or draw-out assembly see pages 1/12-1/13, 1/38-1/39 and 1/40-1/41.

选型和订货数据			Selection and ordering data		
固定安装式断路器 /Fixed-mounted circuit-breakers 电子式过电流脱扣器 /Electronic overcurrent releases					
型号 Type	额定电流 Rated current $I_n$	过载反时限脱扣器“L” 的整定电流 Setting current of inverse-time delayed overload release "L" $I_R$	标准分断能力 N 40/45/50kA 在 380/415V AC 时 见第 1/60 页 Standard switching capacity N 40/45/50 kA at 380/415 V AC see page 1/60. 订货号 根据第 1/30 页 和第 1/31 页所 需的订货号后缀 Order No. Order No. supplement required according to pages 1/30 and 1/31	高分断能力 H 70kA, 在 380/415V AC 时 High switching capacity H 70 kA at 380/415 V AC 订货号 根据第 1/30 页 和第 1/31 页所 需的订货号后缀 Order No. Order No. supplement required according to pages 1/30 and 1/31	极高分断能力 L 100kA, 在 380/415V AC 时 Very high switching capacity L 100 kA at 380/415 V AC 订货号 根据第 1/30 页 和第 1/31 页所 需的订货号后缀 Order No. Order No. supplement required according to pages 1/30 and 1/31
A	A				
断路器 /Circuit-breakers 带电子式过电流脱扣器 ETU with electronic overcurrent release ETU					
VL160	63 100 160	25-63 40-100 64-160	3VL27 06-1□□33-.... 3VL27 10-1□□33-.... 3VL27 16-1□□33-....	3VL27 06-2□□33-.... 3VL27 10-2□□33-.... 3VL27 16-2□□33-....	3VL27 06-3□□33-.... 3VL27 10-3□□33-.... 3VL27 16-3□□33-....
VL250	200 250	80-200 100-250	3VL37 20-1□□36-.... 3VL37 25-1□□36-....	3VL37 20-2□□36-.... 3VL37 25-2□□36-....	3VL37 20-3□□36-.... 3VL37 25-3□□36-....
VL400	315 400	128-315 160-400	3VL47 31-1□□36-.... 3VL47 40-1□□36-....	3VL47 31-2□□36-.... 3VL47 40-2□□36-....	3VL47 31-3□□36-.... 3VL47 40-3□□36-....
VL630	630	252-630	3VL57 63-1□□36-....	3VL57 63-2□□36-....	3VL57 63-3□□36-....
VL800	800	320-800	3VL67 80-1□□36-....	3VL67 80-2□□36-....	3VL67 80-3□□36-....
VL1250	1000 1250	400-1000 500-1250	3VL77 10-1□□36-.... 3VL77 12-1□□36-....	3VL77 10-2□□36-.... 3VL77 12-2□□36-....	3VL77 10-3□□36-.... 3VL77 12-3□□36-....
VL1600	1600	640-1600	3VL87 16-1□□30-....	3VL87 16-2□□30-....	3VL87 16-3□□30-....
3 极断路器的脱扣器 ETU ETU release 3-pole construction					
			订货号后缀 Order No. supplement	订货号后缀 Order No. supplement	订货号后缀 Order No. supplement
	带 LI 功能的电动机 / 发电机保护, ETU10M 63~630A (VL160~VL630) 带 LI 功能的线路保护, ETU10 Motor/generator protection with LI functions, ETU10M from 63 to 630A (VL160~VL630) Line protection with LI functions, ETU10		AP AB	AP AB	AP AB
	带 LIG 功能的线路保护, ETU12 接地保护用于 3 相 3 线系统 接地保护用于 3 相 4 线系统 带 LIG 功能的线路保护, ETU12 用于直接测量接地电流 Line protection with LIG functions, ETU12 residual earth for 3-phase 3-wire systems residual earth for 3-phase 4-wire systems Line protection with LIG functions, ETU12 for earth return applications		AC AD AJ	AC AD AJ	AC AD AJ
	带 LSI 功能的线路和发电机保护, ETU20 Line and generator protection with LSI functions, ETU20		AE AE	AE AE	AE AE

选型和订货数据		Selection and ordering data					
		订货号后缀	订货号后缀	订货号后缀	订货号后缀		
		Order No. supplement	Order No. supplement	Order No. supplement	Order No. supplement		
 <p>NSK-1189</p>	带 LSIG 功能的线路和发电机保护, ETU22 接地保护用于 3 相 3 线系统 接地保护用于 3 相 4 线系统 Line and generator protection with LSIG functions, ETU22 residual earth for 3-phase 3-wire systems residual earth for 3-phase 4-wire systems	AG AH	AG AH	AG AH	AG AH		
	带 LSIG 功能的线路和发电机保护, ETU22 用于接地回路应用 Line and generator protection with LSIG functions, ETU22 for ground loop applications	AK AK	AK AK	AK AK	AK AK		
	3 极断路器的脱扣器 LCD ETU LCD ETU release 3-pole construction						
	 <p>NSK-1190</p>	带 LI 功能的电动机 / 发电机保护, ETU40M (至 VL630) 带 LI/LS/LSI 功能的线路保护, ETU40 Motor/generator protection with LI functions, ETU40M (to VL630) Line protection with LI/LS/LSI functions, ETU40	CP CH CP CH	C P CH CP CH	CP CH CP CH	CP CH CP CH	
		 <p>NSK-1444</p>	带 LSIG 功能的线路保护, ETU42 用于 3 相 3 线系统 用于 3 相 4 线系统 Line protection with LSIG functions, ETU42 for 3-phase 3-wire systems for 3-phase 4-wire systems	CL CM CL CM	CL CM CL CM	CL CM CL CM	CL CM CL CM

- L = 过载长延时
- S = 短路短延时保护
- I = 短路瞬时保护
- G = 接地故障保护



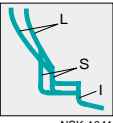
通过使用插入式插座组件或抽屉式组件可改装成插入式断路器或抽屉式断路器。见第 1/12-1/13 页、1/38-1/39 页和 1/40-1/41 页。



- L = Overload
- S = Short-circuit protection, short-time delayed
- I = Short-circuit protection, instantaneous
- G = Earth fault protection

Conversion into plug-in or draw-out circuit-breaker by using plug-in socket assembly or draw-out assembly see pages 1/12-1/13, 1/38-1/39 and 1/40-1/41.

选型和订货数据			Selection and ordering data								
不带过电流脱扣器的断路器 /-breakers without overcurrent release											
型号 Type	过载反时限脱扣器“L” 的整定电流 Setting current of inverse-time delayed overload release "L" $I_R$ A	标准分断能力 N 40/45/50kA, 在 380/415V AC 时 见第 1/60 页 Standard switching capacity N 40/45/50 kA at 380/415 V AC see page 1/60. 订货号 Order No.	高分断能力 H 70kA, 在 380/415V AC 时 High switching capacity H 70 kA at 380/415 V AC 订货号 Order No.	极高分断能力 L 100kA, 在 380/415V AC 时 Very high switching capacity L 100 kA at 380/415 V AC 订货号 Order No.							
VL160	25-63 40-100 64-160	3VL27 16-1AA31-0AA0 3VL27 16-1AA31-0AA0 3VL27 16-1AA31-0AA0	3VL27 16-2AA31-0AA0 3VL27 16-2AA31-0AA0 3VL27 16-2AA31-0AA0	3VL27 16-3AA31-0AA0 3VL27 16-3AA31-0AA0 3VL27 16-3AA31-0AA0							
VL250	80-200 100-250	3VL37 25-1AA34-0AA0 3VL37 25-1AA34-0AA0	3VL37 25-2AA34-0AA0 3VL37 25-2AA34-0AA0	3VL37 25-3AA34-0AA0 3VL37 25-3AA34-0AA0							
VL400	126-315 160-400	3VL47 40-1AA34-0AA0 3VL47 40-1AA34-0AA0	3VL47 40-2AA34-0AA0 3VL47 40-2AA34-0AA0	3VL47 40-3AA34-0AA0 3VL47 40-3AA34-0AA0							
VL630	252-630	3VL57 63-1AA36-0AA0	3VL57 63-2AA36-0AA0	3VL57 63-3AA36-0AA0							
VL800	320-800	3VL67 80-1AA36-0AA0	3VL67 80-2AA36-0AA0	3VL67 80-3AA36-0AA0							
VL1250	400-1000 500-1250	3VL77 12-1AA36-0AA0 3VL77 12-1AA36-0AA0	3VL77 12-2AA36-0AA0 3VL77 12-2AA36-0AA0	3VL77 12-3AA36-0AA0 3VL77 12-3AA36-0AA0							
VL1600	640-1600	3VL87 16-1AA30-0AA0	3VL87 16-2AA30-0AA0	3VL87 16-3AA30-0AA0							
改装用过电流脱扣器 /Overcurrent releases for retrofitting											
脱扣器 ETU/ETU release 有关脱扣器功能, 参见上页断路器订货号的第 10 个位置。 For release functions see 10th position of the circuit-breaker Order No. on previous page.											
用于断路器型号 For circuit-breaker Type	过载反时限脱扣器“L” 的整定电流 Setting current of inverse-time delayed overload release "L" $I_R$ A	订货号 Order No.	功能 function								
			P	B	C	D	J	E	G	H	K
VL160	25-63 40-100 64-160	3VL9 206-6A□32 3VL9 210-6A□32 3VL9 216-6A□32									
VL250	80-200 100-250	3VL9 320-6A□35 3VL9 325-6A□35									
VL400	126-315 160-400	3VL9 431-6A□35 3VL9 440-6A□35									
VL630	252-630	3VL9 563-6A□30									
VL800	320-800	3VL9 680-6A□30									
VL1250	400-1000 500-1250	3VL9 710-6A□30 3VL9 712-6A□30									
VL1600	640-1600	3VL9 816-6A□30									
脱扣器 LCD ETU/LCD ETU release											
用于断路器型号 For circuit-breaker Type	过载反时限脱扣器“L” 的整定电流 Setting current of inverse-time delayed overload release "L" $I_R$ A	订货号 Order No.	功能 function								
			P	H	L	M					
VL160	25-63 40-100 64-160	3VL9 206-6C□32 3VL9 210-6C□32 3VL9 216-6C□32	在组装带过电流脱扣器的断路器之后, 应使用手持电子式脱扣器测试元件 (见第 1/48 页, 1/49 页) 进行测试。 通过使用插入式插座组件或抽屉式组件可改装成插入式断路器或抽屉式断路器。见第 1/12-1/13 页、1/38-1/39 页和 1/40-1/41 页。 After assembling the circuit-breaker with the overcurrent release, a test with the hand held electronic release test kit (see pages 1/48, 1/49) is recommended. Conversion into plug-in or draw-out circuit-breaker by using plug-in socket assembly or draw-out assembly see pages 1/12-1/13, 1/38-1/39 and 1/40-1/41.								
VL250	80-200 100-250	3VL9 320-6C□35 3VL9 325-6C□35									
VL400	126-315 160-400	3VL9 431-6C□35 3VL9 440-6C□35									
VL630	252-630	3VL9 563-6C□30									
VL800	320-800	3VL9 680-6C□30									
VL1250	400-1000 500-1250	3VL9 710-6C□30 3VL9 712-6C□30									
VL1600	640-1600	3VL9 816-6C□30									




选型和订货数据				Selection and ordering data		
固定安装式断路器 / Fixed-mounted circuit-breakers 热 / 磁式和电子式过电流脱扣器 / Thermal/magnetic and electronic overcurrent releases						
型号 Type	额定电流 Rated current $I_n$	过载反时限脱扣器 "L" 的整定电流 Setting current of inverse-time delayed overload release "L" $I_R$	短路瞬时脱扣器 "I" 的整定电流 Operating current of instantaneous short-circuit release "I" $I_I$	标准分断能力 N 40/45/50kA 在 380/415V AC 时见第 1/60 页 Standard switching capacity N 40/45/50 kA at 380/415 V AC see page 1/60. 订货号 根据第 1/30 页和第 1/31 页所需的订货号后缀 Order No. Order No. supplement required according to pages 1/30 and 1/31	高分断能力 H 70kA, 在 380/415V AC 时 High switching capacity H 70 kA at 380/415 V AC 订货号 根据第 1/30 页和第 1/31 页所需的订货号后缀 Order No. Order No. supplement required according to pages 1/30 and 1/31	极高分断能力 L 100kA, 在 380/415V AC 时 Very high switching capacity L 100 kA at 380/415 V AC 订货号 根据第 1/30 页和第 1/31 页所需的订货号后缀 Order No. Order No. supplement required according to pages 1/30 and 1/31
	A	A	A			
 线路保护用断路器, TM 带固定整定值的热过载脱扣器, 固定短路脱扣器, 在第 4 极 (N) 中不带过载和短路脱扣器 Circuit-breakers for line protection, TM with fixed-setting thermal overload releases, fixed short-circuit releases, without overload and short-circuit releases in the 4th pole (N)						
VL160X	16 20 25 32 40 50 63 80 100 125 160	16 20 25 32 40 50 63 80 100 125 160	300 300 300 300 600 600 600 1000 1000 1000 1600	3VL17 96-1EH43-.... 3VL17 02-1EH43-.... 3VL17 25-1EH43-.... 3VL17 03-1EH43-.... 3VL17 04-1EH43-.... 3VL17 05-1EH43-.... 3VL17 06-1EH43-.... 3VL17 08-1EH43-.... 3VL17 10-1EH43-.... 3VL17 12-1EH43-.... 3VL17 16-1EH43-....	3VL17 96-2EH43-.... 3VL17 02-2EH43-.... 3VL17 25-2EH43-.... 3VL17 03-2EH43-.... 3VL17 04-2EH43-.... 3VL17 05-2EH43-.... 3VL17 06-2EH43-.... 3VL17 08-2EH43-.... 3VL17 10-2EH43-.... 3VL17 12-2EH43-.... 3VL17 16-2EH43-....	-
 线路保护用断路器, TM 带可调整整定值的热过载脱扣器, 可调短路脱扣器, 在第 4 极 (N) 中不带过载和短路脱扣器 Circuit-breakers for line protection, TM with adjustable thermal setting overload releases, adjustable short-circuit releases, without overload and short-circuit releases in the 4th pole (N)						
VL160	50 63 80 100 125 160	40-50 50-63 63-80 80-100 100-125 125-160	300-600 300-600 400-800 500-1000 625-1250 800-1600	3VL27 05-1EJ43-.... 3VL27 06-1EJ43-.... 3VL27 08-1EJ43-.... 3VL27 10-1EJ43-.... 3VL27 12-1EJ43-.... 3VL27 16-1EJ43-....	3VL27 05-2EJ43-.... 3VL27 06-2EJ43-.... 3VL27 08-2EJ43-.... 3VL27 10-2EJ43-.... 3VL27 12-2EJ43-.... 3VL27 16-2EJ43-....	3VL27 05-3EJ43-.... 3VL27 06-3EJ43-.... 3VL27 08-3EJ43-.... 3VL27 10-3EJ43-.... 3VL27 12-3EJ43-.... 3VL27 16-3EJ43-....
VL250	200 250	160-200 200-250	1000-2000 1250-2500	3VL37 20-1EJ46-.... 3VL37 25-1EJ46-....	3VL37 20-2EJ46-.... 3VL37 25-2EJ46-....	3VL37 20-3EJ46-.... 3VL37 25-3EJ46-....
VL400	200 250 315 400	160-200 200-250 250-315 320-400	1000-2000 1250-2500 1575-3150 2000-4000	3VL47 20-1EJ46-.... 3VL47 25-1EJ46-.... 3VL47 32-1EJ46-.... 3VL47 40-1EJ46-....	3VL47 20-2EJ46-.... 3VL47 25-2EJ46-.... 3VL47 32-2EJ46-.... 3VL47 40-2EJ46-....	3VL47 20-3EJ46-.... 3VL47 25-3EJ46-.... 3VL47 32-3EJ46-.... 3VL47 40-3EJ46-....
VL630	315 400 500 630	200-315 320-400 400-500 500-630	1575-3150 2000-4000 2500-5000 3250-6500	3VL57 32-1EJ46-.... 3VL57 40-1EJ46-.... 3VL57 50-1EJ46-.... 3VL57 63-1EJ46-....	3VL57 32-2EJ46-.... 3VL57 40-2EJ46-.... 3VL57 50-2EJ46-.... 3VL57 63-2EJ46-....	3VL57 32-3EJ46-.... 3VL57 40-3EJ46-.... 3VL57 50-3EJ46-.... 3VL57 63-3EJ46-....
 线路保护用断路器, 用于时间选择性 带电子式过电流脱扣器 ETU20, 带 LSI 功能 (S 功能: $I_{sd} = 1.5 \sim 10 \times I_R$ , $t_{sd} = 0, 0.1 \sim 0.5s$ ) 在第 4 极 (N) 中不带过载和短路脱扣器 Circuit-breakers for line protection, for time discrimination with electronic overcurrent release ETU20, with LSI functions (S-function: $I_{sd} = 1.5$ to $10 \times I_R$ , $t_{sd} = 0, 0.1$ to $0.5$ sec), without overload and short-circuit releases in the 4th pole (N)						
VL800	800	$0.4 \sim 1.0 \times I_n$	$11 \times I_n$	3VL67 80-1BE46-....	3VL67 80-2BE46-....	3VL67 80-3BE46-....
VL1250	1000 1250	$0.4 \sim 1.0 \times I_n$ $0.4 \sim 1.0 \times I_n$	$11 \times I_n$ $11 \times I_n$	3VL77 10-1BE46-.... 3VL77 12-1BE46-....	3VL77 10-2BE46-.... 3VL77 12-2BE46-....	3VL77 10-3BE46-.... 3VL77 12-3BE46-....
VL1600	1600	$0.4 \sim 1.0 \times I_n$	$11 \times I_n$	3VL87 16-1BE40-....	3VL87 16-2BE40-....	3VL87 16-3BE40-....
通过使用插入式插座组件或抽屉式组件可改装成插入式断路器或抽屉式断路器。见第 1/12-1/13 页、1/38-1/39 页和 1/40-1/41 页。 Conversion into plug-in or draw-out circuit-breaker by using plug-in socket assembly or draw-out assembly see pages 1/12-1/13, 1/38-1/39 and 1/40-1/41.						

选型和订货数据				Selection and ordering data		
固定安装式断路器 / Fixed-mounted circuit-breakers 热磁式过电流脱扣器 / Thermal/magnetic overcurrent releases						
型号 Type	额定电流 Rated current $I_n$	过载反时限脱扣器 "L" 的整定电流 Setting current of inverse-time delayed overload release "L" $I_R$	短路瞬时脱扣器 "I" 的整定电流 Operating current of instantaneous short-circuit release "I" $I_I$	标准分断能力 N 40/45/50kA 在 380/415V AC 时 见第 1/60 页 Standard switching capacity N 40/45/50 kA at 380/415 V AC see page 1/60. 订货号 根据第 1/30 页和第 1/31 页所需的订货号后缀 Order No. Order No. supplement required according to pages 1/30 and 1/31	高分断能力 H 70kA, 在 380/415V AC 时 High switching capacity H 70 kA at 380/415 V AC  订货号 根据第 1/30 页和第 1/31 页所需的订货号后缀 Order No. Order No. supplement required according to pages 1/30 and 1/31	极高分断能力 L 100kA, 在 380/415V AC 时 Very high switching capacity L 100 kA at 380/415 V AC  订货号 根据第 1/30 页和第 1/31 页所需的订货号后缀 Order No. Order No. supplement required according to pages 1/30 and 1/31
	A	A	A			
 线路保护用断路器, TM 带固定整定值的热过载脱扣器, 固定短路脱扣器, 带 "N" 过载和短路脱扣器 Circuit-breakers for line protection, TM with fixed-setting thermal overload release, fixed short-circuit releases, with "N" overload and short-circuit release						
VL160X	16 20 25 32 40 50 63 80 100 125 160	16 20 25 32 40 50 63 80 100 125 160	300 300 300 300 600 600 600 1000 1000 1000 1600	3VL17 96-1EA43-.... 3VL17 02-1EA43-.... 3VL17 25-1EA43-.... 3VL17 03-1EA43-.... 3VL17 04-1EA43-.... 3VL17 05-1EA43-.... 3VL17 06-1EA43-.... 3VL17 08-1EA43-.... 3VL17 10-1EA43-.... 3VL17 12-1EA43-.... 3VL17 16-1EA43-....	3VL17 96-2EA43-.... 3VL17 02-2EA43-.... 3VL17 25-2EA43-.... 3VL17 03-2EA43-.... 3VL17 04-2EA43-.... 3VL17 05-2EA43-.... 3VL17 06-2EA43-.... 3VL17 08-2EA43-.... 3VL17 10-2EA43-.... 3VL17 12-2EA43-.... 3VL17 16-2EA43-....	-
 线路保护用断路器, TM 带可调整整定值的过流脱扣器, 可调短路脱扣器, 带 "N" 过载和短路脱扣器 Circuit-breakers for line protection, TM with adjustable thermal setting overload release, adjustable short-circuit releases, with "N" overload and short-circuit releases						
VL160	50 63 80 100 125 160	40-50 50-63 63-80 80-100 100-125 125-160	300-600 300-600 400-800 500-1000 625-1250 800-1600	3VL27 05-1EC43-.... 3VL27 06-1EC43-.... 3VL27 08-1EC43-.... 3VL27 10-1EC43-.... 3VL27 12-1EC43-.... 3VL27 16-1EC43-....	3VL27 05-2EC43-.... 3VL27 06-2EC43-.... 3VL27 08-2EC43-.... 3VL27 10-2EC43-.... 3VL27 12-2EC43-.... 3VL27 16-2EC43-....	3VL27 05-3EC43-.... 3VL27 06-3EC43-.... 3VL27 08-3EC43-.... 3VL27 10-3EC43-.... 3VL27 12-3EC43-.... 3VL27 16-3EC43-....
VL250	200 250	160-200 200-250	1000-2000 1200-2500	3VL37 20-1EC46-.... 3VL37 25-1EC46-....	3VL37 20-2EC46-.... 3VL37 25-2EC46-....	3VL37 20-3EC46-.... 3VL37 25-3EC46-....
VL400	200 250 315 400	160-200 200-250 250-315 320-400	1000-2000 1200-2500 1575-3150 2000-4000	3VL47 20-1EC46-.... 3VL47 25-1EC46-.... 3VL47 32-1EC46-.... 3VL47 40-1EC46-....	3VL47 20-2EC46-.... 3VL47 25-2EC46-.... 3VL47 32-2EC46-.... 3VL47 40-2EC46-....	3VL47 20-3EC46-.... 3VL47 25-3EC46-.... 3VL47 32-3EC46-.... 3VL47 40-3EC46-....
VL630	315 400 500 630	200-315 320-400 400-500 500-630	1575-3150 2000-4000 2500-5000 3250-6500	3VL57 32-1EC46-.... 3VL57 40-1EC46-.... 3VL57 50-1EC46-.... 3VL57 63-1EC46-....	3VL57 32-2EC46-.... 3VL57 40-2EC46-.... 3VL57 50-2EC46-.... 3VL57 63-2EC46-....	3VL57 32-3EC46-.... 3VL57 40-3EC46-.... 3VL57 50-3EC46-.... 3VL57 63-3EC46-....
■ N = 针对 $I_n \leq 100A$ 提供 100% 保护 ■ N = 针对 $I_n \geq 125A$ 提供 60% 保护 通过使用插入式插座组件或抽屉式组件可改装成插入式断路器或抽屉式断路器。见第 1/12-1/13 页、1/38-1/39 页和 1/40-1/41 页。 ■ N = 100 % protected for $I_n \leq 100A$ ■ N = 60 % protected for $I_n \geq 125 A$ Conversion into plug-in or draw-out circuit-breaker by using plug-in socket assembly or draw-out assembly see pages 1/12-1/13, 1/38-1/39 and 1/40-1/41.						

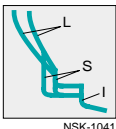
3VL160X ~ VL1600 断路器  
4 极, 1600A 及以下

3VL160X to VL1600 Circuit-Breakers  
4-Pole, up to 1600A

选型和订货数据				Selection and ordering data		
固定安装式断路器 / Fixed-mounted circuit-breakers 电磁式过电流脱扣器 / Magnetic overcurrent release						
型号 Type	额定电流 Rated current $I_n$	过载反时限 脱扣器 "L" 的整定电流 Setting current of inverse-time delayed overload release "L" $I_R$	短路瞬时 脱扣器 "I" 的整定电流 Operating current of current of instantaneous short-circuit release "I" $I_I$	标准分断能力 N 40/45/50kA 在 380/415V AC 时 见第 1/60 页 Standard switching capacity N 40/45/50 kA at 380/415 V AC see page 1/60. 订货号 根据第 1/30 页 和第 1/31 页所 需的订货号后缀 Order No. Order No. supplement required according to pages 1/30 and 1/31	高分断能力 H 70kA, 在 380/415V AC 时 High switching capacity H 70 kA at 380/415 V AC 订货号 根据第 1/30 页 和第 1/31 页所 需的订货号后缀 Order No. Order No. supplement required according to pages 1/30 and 1/31	极高分断能力 L 100kA, 在 380/415V AC 时 Very high switching capacity L 100 kA at 380/415 V AC 订货号 根据第 1/30 页 和第 1/31 页所 需的订货号后缀 Order No. Order No. supplement required according to pages 1/30 and 1/31
	A	A	A			
 带电磁式过电流脱扣器的隔离开关 Non-automatic circuit-breakers with magnetic overcurrent release NSK-1040						
VL160X	至 /up to 100 至 /up to 125 至 /up to 160	-	2500 3000 3000	3VL17 10-1EE43-.... 3VL17 12-1EE43-.... 3VL17 16-1EE43-....	3VL17 10-2EE43-.... 3VL17 12-2EE43-.... 3VL17 16-2EE43-....	-
VL160	至 /up to 100 至 /up to 160	-	2500 2500	3VL27 10-1EE43-.... 3VL27 16-1EE43-....	3VL27 10-2EE43-.... 3VL27 16-2EE43-....	3VL27 10-3EE43-.... 3VL27 16-3EE43-....
VL250	至 /up to 250	-	4000	3VL37 25-1EE46-....	3VL37 25-2EE46-....	3VL37 25-3EE46-....
VL400	至 /up to 400	-	6000	3VL47 40-1EE46-....	3VL47 40-2EE46-....	3VL47 40-3EE46-....
VL630	至 /up to 630	-	6500	3VL57 63-1EE46-....	3VL57 63-2EE46-....	3VL57 63-3EE46-....
VL800	至 /up to 800	-	8000	3VL67 80-1EE46-....	3VL67 80-2EE46-....	3VL67 80-3EE46-....
VL1250	至 /up to 1250	-	12000	3VL77 12-1EE46-....	3VL77 12-2EE46-....	3VL77 12-3EE46-....
VL1600	至 /up to 1600	-	16000	3VL87 16-1EE40-....	3VL87 16-2EE40-....	3VL87 16-3EE40-....

3VL160 ~ VL1600 断路器  
4 极, 1600A 及以下

3VL160 to VL1600 Circuit-Breakers  
4-Pole, up to 1600A

选型和订货数据				Selection and ordering data		
固定安装式断路器 / Fixed-mounted circuit-breakers 电子式过电流脱扣器 / Electronic overcurrent release						
型号 Type	额定电流 Rated current $I_n$	过载反时限 脱扣器 "L" 的整定电流 Setting current of inverse-time delayed overload release "L" $I_R$	短路瞬时 脱扣器 "I" 的整定电流 Operating current of current of instantaneous short-circuit release "I" $I_I$	标准分断能力 N 40/45/50kA 在 380/415V AC 时 见第 1/60 页 Standard switching capacity N 40/45/50 kA at 380/415 V AC see page 1/60. 订货号 根据第 30 页 和第 31 页所 需的订货号后缀 Order No. Order No. supplement required according to pages 1/30 and 1/31	高分断能力 H 70kA, 在 380/415V AC 时 High switching capacity H 70 kA at 380/415 V AC 订货号 根据第 1/30 页 和第 1/31 页所 需的订货号后缀 Order No. Order No. supplement required according to pages 1/30 and 1/31	极高分断能力 L 100kA, 在 380/415V AC 时 Very high switching capacity L 100 kA at 380/415 V AC 订货号 根据第 1/30 页 和第 1/31 页所 需的订货号后缀 Order No. Order No. supplement required according to pages 1/30 and 1/31
	A	A	A			
 线路保护用断路器, 用于时间选择性 带电电子式过电流脱扣器 ETU20, 带 LSI 功能 (S 功能: $I_{sd} = 1.5 \sim 10 I_R$ , $t_{sd} = 0, 0.1 \sim 0.5$ s) 在第 4 极中带有过载和短路脱扣器, 等于 50% Circuit-breakers for line protection, for time discrimination with electronic overcurrent release ETU20, with LSI functions (S-function: $I_{sd} = 1.5$ to $10 \times I_R$ , $t_{sd} = 0, 0.1$ to $0.5$ sec), with overload and short-circuit releases in the 4 <sup>th</sup> pole equals 50 % NSK-1041						
VL160	63 100 160	$0.4 \cdot 1.0 \times I_n$ $0.4 \cdot 1.0 \times I_n$ $0.4 \cdot 1.0 \times I_n$	$11 \times I_n$ $11 \times I_n$ $11 \times I_n$	3VL27 06-1BF43-.... 3VL27 10-1BF43-.... 3VL27 16-1BF43-....	3VL27 06-2BF43-.... 3VL27 10-2BF43-.... 3VL27 16-2BF43-....	3VL27 06-3BF43-.... 3VL27 10-3BF43-.... 3VL27 16-3BF43-....
VL250	200 250	$0.4 \cdot 1.0 \times I_n$ $0.4 \cdot 1.0 \times I_n$	$11 \times I_n$ $11 \times I_n$	3VL37 20-1BF46-.... 3VL37 25-1BF46-....	3VL37 20-2BF46-.... 3VL37 25-2BF46-....	3VL37 20-3BF46-.... 3VL37 25-3BF46-....

选型和订货数据				Selection and ordering data		
固定安装式断路器 /Fixed-mounted circuit-breakers 电子式过电流脱扣器 /Electronic overcurrent release						
型号 Type	额定电流 Rated current $I_n$	过载反时限 脱扣器“L” 的整定电流 Setting current of inverse-time delayed overload release “L” $I_R$	短路瞬时 脱扣器“1” 的整定电流 Operating current of current of instantaneous short-circuit release “1” $I_1$	标准分断能力 N 40/45/50kA 在 380/415V AC 时 见第 1/60 页 Standard switching capacity N 40/45/50 kA at 380/415 V AC see page 1/60. 订货号 根据第 1/30 页 和第 1/31 页所 需的订货号后缀 Order No. Order No. supplement required according to pages 1/30 and 1/31	高分断能力 H 70kA, 在 380/415V AC 时 High switching capacity H 70 kA at 380/415 V AC 订货号 根据第 1/30 页 和第 1/31 页所 需的订货号后缀 Order No. Order No. supplement required according to pages 1/30 and 1/31	极高分断能力 L 100kA, 在 380/415V AC 时 Very high switching capacity L 100 kA at 380/415 V AC 订货号 根据第 1/30 页 和第 1/31 页所 需的订货号后缀 Order No. Order No. supplement required according to pages 1/30 and 1/31
	A	A				
VL400	315 400	0.4-1.0 x $I_n$ 0.4-1.0 x $I_n$	11 x $I_n$ 11 x $I_n$	3VL47 31-1BF46-.... 3VL47 40-1BF46-....	3VL47 31-2BF46-.... 3VL47 40-2BF46-....	3VL47 31-3BF46-.... 3VL47 40-3BF46-....
VL630	630	0.4-1.0 x $I_n$	11 x $I_n$	3VL57 63-1BF46-....	3VL57 63-2BF46-....	3VL57 63-3BF46-....
VL800	800	0.4-1.0 x $I_n$	11 x $I_n$	3VL67 80-1BF46-....	3VL67 80-2BF46-....	3VL67 80-3BF46-....
VL1250	1000 1250	0.4-1.0 x $I_n$ 0.4-1.0 x $I_n$	11 x $I_n$ 11 x $I_n$	3VL77 10-1BF46-.... 3VL77 12-1BF46-....	3VL77 10-2BF46-.... 3VL77 12-2BF46-....	3VL77 10-3BF46-.... 3VL77 12-3BF46-....
VL1600	1600	0.4-1.0 x $I_n$	11 x $I_n$	3VL87 16-1BF40-....	3VL87 16-2BF40-....	3VL87 16-3BF40-....
型号 Type	额定电流 Rated current $I_n$	过载反时限脱扣器 “L”的整定电流 Setting current of inverse-time delayed overload release “L” $I_R$	标准分断能力 N 40/45/50kA 在 380/415V AC 时 见第 1/60 页 Standard switching capacity N 40/45/50 kA at 380/415 V AC see page 1/60. 订货号 根据第 1/30 页 和第 1/31 页所 需的订货号后缀 Order No. Order No. supplement required according to pages 1/30 and 1/31	高分断能力 H 70kA, 在 380/415V AC 时 High switching capacity H 70 kA at 380/415 V AC 订货号 根据第 1/30 页 和第 1/31 页所 需的订货号后缀 Order No. Order No. supplement required according to pages 1/30 and 1/31	极高分断能力 L 100kA, 在 380/415V AC 时 Very high switching capacity L 100 kA at 380/415 V AC 订货号 根据第 1/30 页 和第 1/31 页所 需的订货号后缀 Order No. Order No. supplement required according to pages 1/30 and 1/31	
	A	A				
断路器 /Circuit-breakers 带电子式过电流脱扣器 ETU /with electronic overcurrent release ETU						
VL160	63 100 160	25-63 40-100 64-160		3VL27 06-1□□43-.... 3VL27 10-1□□43-.... 3VL27 16-1□□43-....	3VL27 06-2□□43-.... 3VL27 10-2□□43-.... 3VL27 16-2□□43-....	3VL27 06-3□□43-.... 3VL27 10-3□□43-.... 3VL27 16-3□□43-....
VL250	200 250	80-200 100-250		3VL37 20-1□□46-.... 3VL37 25-1□□46-....	3VL37 20-2□□46-.... 3VL37 25-2□□46-....	3VL37 20-3□□46-.... 3VL37 25-3□□46-....
VL400	315 400	128-315 160-400		3VL47 31-1□□46-.... 3VL47 40-1□□46-....	3VL47 31-2□□46-.... 3VL47 40-2□□46-....	3VL47 31-3□□46-.... 3VL47 40-3□□46-....
VL630	630	252-630		3VL57 63-1□□46-....	3VL57 63-2□□46-....	3VL57 63-3□□46-....
VL800	800	320-800		3VL67 80-1□□46-....	3VL67 80-2□□46-....	3VL67 80-3□□46-....
VL1250	1000 1250	400-1000 500-1250		3VL77 10-1□□46-.... 3VL77 12-1□□46-....	3VL77 10-2□□46-.... 3VL77 12-2□□46-....	3VL77 10-3□□46-.... 3VL77 12-3□□46-....
VL1600	1600	640-1600		3VL87 16-1□□40-....	3VL87 16-2□□40-....	3VL87 16-3□□40-....
通过使用插入式插座组件或抽屉式组件可改装成插入式断路器或抽屉式断路器。见第 1/12-1/13 页、1/38-1/39 页和 1/40-1/41 页。 Conversion into plug-in or draw-out circuit-breaker by using plug-in socket assembly or draw-out assembly see pages 1/12-1/13, 1/38-1/39 and 1/40-1/41.						

选型和订货数据

Selection and ordering data

4 极断路器用脱扣器 ETU  
ETU release 4-pole construction



带 LI 功能的线路保护, ETU10  
N 极无过电流保护  
N 极有过电流保护 N=50%  
Line protection with LI functions, ETU10  
N-pole not overcurrent protected  
N-pole overcurrent protected N=50%

订货号后缀  
Order No.  
supplement

BB  
BA  
BB  
BA

订货号后缀  
Order No.  
supplement

BB  
BA  
BB  
BA

订货号后缀  
Order No.  
supplement

BB  
BA  
BB  
BA

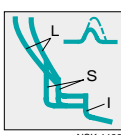


带 LIG 功能的线路保护, ETU12  
接地保护用于 3 相 4 线系统  
N 极无过电流保护  
N 极有过电流保护 N=50%  
Line protection with LIG functions, ETU12  
residual earth for 3-phase 4-wire systems  
N-pole not overcurrent protected  
N-pole overcurrent protected N=50%

BC  
BD  
BC  
BD

BC  
BD  
BC  
BD

BC  
BD  
BC  
BD

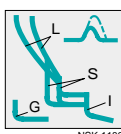


带 LSI 功能的线路保护, ETU20  
N 极无过电流保护  
N 极有过电流保护 N=50%  
Line protection with LSI functions, ETU20  
N-pole not overcurrent protected  
N-pole overcurrent protected N=50%

BE  
BF  
BE  
BF

BE  
BF  
BE  
BF

BE  
BF  
BE  
BF



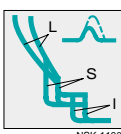
带 LSIG 功能的线路保护, ETU22  
接地保护用于 3 相 4 线系统  
N 极无过电流保护  
N 极有过电流保护 N=50%  
Line protection with LSIG functions, ETU22  
residual earth for 3-phase 4-wire systems  
N-pole not overcurrent protected  
N-pole overcurrent protected N=50%

BG  
BH  
BG  
BH

BG  
BH  
BG  
BH

BG  
BH  
BG  
BH

4 极断路器用脱扣器 LCD ETU  
LCD ETU release 4-pole construction

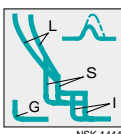


带 L/LS/LSI 功能的线路保护, ETU40  
N 极过电流设定在 50~100% 及无保护  
工厂装运默认整定在 50%  
Line protection with L/LS/LSI  
functions, ETU40  
N-pole overcurrent may be  
set between 50~100% and off  
factory shipping default setting at 50 %

CJ  
CJ  
CJ  
CJ

CJ  
CJ  
CJ  
CJ

CJ  
CJ  
CJ  
CJ



带 LSIG 功能的线路保护, ETU42  
用于 3 相 4 线系统  
N 极过电流设定在 50~100% 及无保护  
工厂装运默认整定在 50%  
Line protection with LSIG  
functions, ETU42  
for 3-phase 4-wire systems  
N-pole overcurrent may be  
set between 50~100% and off  
factory shipping default setting at 50 %

CN  
CN  
CN  
CN

CN  
CN  
CN  
CN

CN  
CN  
CN  
CN

通过使用插入式插座组件或抽屉式组件可改装成插入式断路器或抽屉式断路器。见第 1/12-1/13 页、1/38-1/39 页和 1/40-1/41 页。  
Conversion into plug-in or draw-out circuit-breaker by using plug-in socket assembly or draw-out assembly see pages 1/12-1/13, 1/38-1/39 and 1/40-1/41.

选型和订货数据			Selection and ordering data							
不带过电流脱扣器的断路器 /Circuit-breakers without overcurrent release										
型号 Type	额定电流 Rated current $I_n$  A	标准分断能力 N 40/45/50kA, 在 380/415V AC 时 见第 1/60 页 Standard switching capacity N 40/45/50 kA at 380/415 V AC see page 1/60. 所有极断开 all poles switching 订货号 Order No.	高分断能力 H 70kA, 在 380/415V AC 时 High switching capacity H 70 kA at 380/415 V AC  所有极断开 all poles switching 订货号 Order No.	极高分断能力 L 100kA, 在 380/415V AC 时 Very high switching capacity L 100 kA at 380/415 V AC  所有极断开 all poles switching 订货号 Order No.						
VL160	25-63 40-100 64-160	3VL27 16-1AA41-0AA0 3VL27 16-1AA41-0AA0 3VL27 16-1AA41-0AA0	3VL27 16-2AA41-0AA0 3VL27 16-2AA41-0AA0 3VL27 16-2AA41-0AA0	3VL27 16-3AA41-0AA0 3VL27 16-3AA41-0AA0 3VL27 16-3AA41-0AA0						
VL250	80-200 100-250	3VL37 25-1AA44-0AA0 3VL37 25-1AA44-0AA0	3VL37 25-2AA44-0AA0 3VL37 25-2AA44-0AA0	3VL37 25-3AA44-0AA0 3VL37 25-3AA44-0AA0						
VL400	126-315 160-400	3VL47 40-1AA44-0AA0 3VL47 40-1AA44-0AA0	3VL47 40-2AA44-0AA0 3VL47 40-2AA44-0AA0	3VL47 40-3AA44-0AA0 3VL47 40-3AA44-0AA0						
VL630	252-630	3VL57 63-1AA46-0AA0	3VL57 63-2AA46-0AA0	3VL57 63-3AA46-0AA0						
VL800	320-800	3VL67 80-1AA46-0AA0	3VL67 80-2AA46-0AA0	3VL67 80-3AA46-0AA0						
VL1250	400-1000 500-1250	3VL77 12-1AA46-0AA0 3VL77 12-1AA46-0AA0	3VL77 12-2AA46-0AA0 3VL77 12-2AA46-0AA0	3VL77 12-3AA46-0AA0 3VL77 12-3AA46-0AA0						
VL1600	640-1600	3VL87 16-1AA40-0AA0	3VL87 16-2AA40-0AA0	3VL87 16-3AA40-0AA0						
改装用过电流脱扣器 /Overcurrent releases for retrofitting										
脱扣器 ETU/ETU release										
有关脱扣器功能, 参见上页断路器订货号的第 10 个位置。 For release functions see 10th position of the circuit-breaker Order No. on previous page.										
用于断路器型号 For circuit-breaker Type	过载反时限脱扣器 "L" 的整定电流 Setting current of inverse-time delayed overload release "L" $I_R$ A	订货号 Order No.	功能 function							
			B	A	C	D	E	F	G	H
VL160	left pole = N 25-63 40-100 64-160	3VL9 206-6B□42 3VL9 210-6B□42 3VL9 216-6B□42								
VL250	80-200 100-250	3VL9 320-6B□45 3VL9 325-6B□45								
VL400	126-315 160-400	3VL9 431-6B□45 3VL9 440-6B□45								
VL630	252-630	3VL9 563-6B□40								
VL800	320-800	3VL9 680-6B□40								
VL1250	400-1000 500-1250	3VL9 710-6B□40 3VL9 712-6B□40								
VL1600	640-1600	3VL9 816-6B□40								

3VL160 ~ VL1600 断路器  
4 极, 1600A 及以下

3VL160 to VL1600 Circuit-Breakers  
4-Pole, up to 1600A

选型和订货数据			Selection and ordering data
脱扣器 LCD ETU/LCD ETU release			
用于断路器型号 For circuit-breaker Type	过载反时限脱扣器“L” 的整定电流 Setting current of inverse-time delayed overload release "L" $I_R$ A	订货号 Order No.	功能 function
			J N
VL160	left pole = N 25-63 40-100 64-160	3VL9 206-6C□42 3VL9 210-6C□42 3VL9 216-6C□42	
VL250	80-200 100-250	3VL9 320-6C□45 3VL9 325-6C□45	
VL400	126-315 160-400	3VL9 431-6C□45 3VL9 440-6C□45	
VL630	252-630	3VL9 563-6C□40	
VL800	320-800	3VL9 680-6C□40	
VL1250	400-1000 500-1250	3VL9 710-6C□40 3VL9 712-6C□40	
VL1600	640-1600	3VL9 816-6C□40	
<p>在组装了带过电流脱扣器的断路器之后, 应使用手持电子式脱扣器测试元件 (见第 1/48 页, 1/49 页) 进行测试。                      通过使用插入式插座组件或抽屉式组件可改装成插入式断路器或抽屉式断路器。见第 1/12-1/13 页、1/38-1/39 页和 1/40-1/41 页。                      ETU - N 极过电流脱扣器整定在 100% <math>I_R = 25A \sim 100A</math> 以及 50% 110A~1600A                      脱扣器 LCD - N 保护可选择有 / 无 - 工厂整定在 50%</p> <p>After assembling the circuit-breaker with the overcurrent release, a test with the hand held electronic release test kit (see pages 1/48, 1/49) is recommended.                      Conversion into plug-in or draw-out circuit- breaker by using plug-in socket assembly or draw-out assembly see pages 1/12-1/13, 1/38-1/39 and 1/40-1/41.                      ETU - N-pole overcurrent releases set at 100 % <math>I_R = 25A</math> to 100A and 50% 110A to 1600A                      LCD release - N-protection selectable in/out - factory set at 50%</p>			

3VL160X ~ VL1600 断路器  
3 极和 4 极, 1600A 及以下

3VL160X to VL1600 Circuit-Breakers  
3- and 4-Pole, up to 1600A

**其他类型** **Further versions**

订货时, 将 "-Z" 增加到完整的订货号中  
并注明相应的订货代码。

订货代码

订货号, 带 "-Z"

Order code Order No. with "-Z"  
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16  
3VL . . . . . - . . . . . -Z  
and additional order code(s)  
□□□ + . . . + . . .

For ordering, add "-Z" to the complete Order No.  
and indicate the appropriate order code(s).

和附加订货代码  
identification code  
for further versions -Z

**用于固定安装式断路器 /For fixed-mounted circuit-breakers**

**内部附件**  
(辅助开关, 报警开关, 辅助脱扣器) VL160X, VL160, VL250, VL400  
VL630, VL800, VL1250, VL1600  
**带连接引线 (长 2m)**  
**电缆在背面通过**

L02

□□□

**Internal accessories**  
(auxiliary switches, alarm switches,  
auxiliary releases)  
with connecting leads (2m in length)  
cable let through at the rear

**储能操作机构 (220-250V AC/DC)** VL160X, VL160, VL250  
**安装在断路器上,**  
**断路器的内部附件** VL400, VL630  
VL800  
(辅助开关, 报警开关, 辅助脱扣器) VL1250, VL1600  
**带连接引线 (长 2m)**  
**电缆在背面通过**

M22

□□□

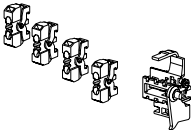
**Stored energy operator**  
(220-250 V AC/DC)  
mounted on the circuit-breaker,  
internal accessories of the circuit-breaker  
(auxiliary switches, alarm switches,  
auxiliary releases)  
with connecting leads (2m in length)  
cable let through at the rear



3VL160X ~ VL1600 断路器  
3 极和 4 极, 1600A 及以下

3VL160X to VL1600 Circuit-Breakers  
3- and 4-Pole, up to 1600A

订货号后缀		Order No. supplements									
第 1 个订货号后缀 欠压脱扣器或分励脱扣器 导线直接接到附件上 1st Order No. supplement Undervoltage release or shunt release Wiring to be made directly to accessory											
额定控制 电压 $U_s$ / 频率 AC 50/60Hz DC		订货号后缀	断路器								
Rated control supply voltage $U_s$ /frequency AC 50/60 Hz DC		Order No. supplement	Circuit-breakers Type								
		3VL . . . . . □□ . .	VL160X	VL160	VL250	VL400	VL630	VL800	VL1250	VL1600	
不带辅助脱扣器 without auxiliary release		0 A	无 none	无 none	无 none	无 none	无 none	无 none	无 none	无 none	
带欠压脱扣器 仅限右极 with undervoltage release Right pole only											
AC V	DC V										
-	12	2N	x	x <sup>1)</sup>	x <sup>1)</sup>	x	x	x	x	x	
-	24	2P	x	x <sup>1)</sup>	x <sup>1)</sup>	x	x	x	x	x	
-	48	2U	x	x <sup>1)</sup>	x <sup>1)</sup>	x	x	x	x	x	
-	60	2V	x	x <sup>1)</sup>	x <sup>1)</sup>	x	x	x	x	x	
-	110-127	2R	x	x <sup>1)</sup>	x <sup>1)</sup>	x	x	x	x	x	
-	220-250	2S	x	x <sup>1)</sup>	x <sup>1)</sup>	x	x	x	x	x	
110-127	-	2G	x	x <sup>1)</sup>	x <sup>1)</sup>	x	x	x	x	x	
220-250	-	2H	x	x <sup>1)</sup>	x <sup>1)</sup>	x	x	x	x	x	
208	-	2M	x	x <sup>1)</sup>	x <sup>1)</sup>	x	x	x	x	x	
277	-	2Q	x	x <sup>1)</sup>	x <sup>1)</sup>	x	x	x	x	x	
380-415	-	2J	x	x <sup>1)</sup>	x <sup>1)</sup>	x	x	x	x	x	
440-480	-	2K	x	x <sup>1)</sup>	x <sup>1)</sup>	x	x	x	x	x	
500-525	-	2L	x	x <sup>1)</sup>	x <sup>1)</sup>	x	x	x	x	x	
600	-	2T	x	x <sup>1)</sup>	x <sup>1)</sup>	x	x	x	x	x	
带分励脱扣器 仅限右极 with shunt release Right pole only											
AC V	DC V										
-	12	8B	x	x <sup>1)</sup>	x <sup>1)</sup>	x	x	x	x	x	
-	24	8C	x	x <sup>1)</sup>	x <sup>1)</sup>	x	x	x	x	x	
-	48-60	8J	x	x <sup>1)</sup>	x <sup>1)</sup>	x	x	x	x	x	
-	110-127	8K	x	x <sup>1)</sup>	x <sup>1)</sup>	x	x	x	x	x	
-	220-250	8Q	x	x <sup>1)</sup>	x <sup>1)</sup>	x	x	x	x	x	
48-60	-	8M	x	x <sup>1)</sup>	x <sup>1)</sup>	x	x	x	x	x	
110-127	-	8R	x	x <sup>1)</sup>	x <sup>1)</sup>	x	x	x	x	x	
208-277	-	8T	x	x <sup>1)</sup>	x <sup>1)</sup>	x	x	x	x	x	
380-600	-	8V	x	x <sup>1)</sup>	x <sup>1)</sup>	x	x	x	x	x	
x = 可用 /available 1) 对于带电子式过电流脱扣器的断路器来说, 仅可有一个欠压脱扣器或一个分励脱扣器或一个辅助 / 报警开关。 1) For circuit-breakers with electronic overcurrent release there is only one undervoltage release or shunt release or auxiliary/ alarm switch possible.											

订货号后缀		Order No. supplements								
第 2 个订货号后缀 2nd Order No. supplement 辅助开关(HS)和报警开关(AS) Auxiliary switches (HS) and alarm switches (AS) 左 / 右极 Left/right pole 直接接导线到附件上 Wiring to be made directly to accessory										
补充 Complement	订货号后缀 Order No. supplement	断路器 Circuit-breakers 型号 /Type								
HS = 1 个触点开关 HS = 1 contact switch AS = 1 个触点开关 AS = 1 contact switch	3VL . . . . . □□	VL160X	VL160	VL250	VL400	VL630	VL800	VL1250	VL1600	
不带辅助 / 报警开关 without auxiliary/alarm switch	A 0	无 none	无 none	无 none	无 none	无 none	无 none	无 none	无 none	无 none
2 HS (1 NO/1 NC)	B 1	x	x	x	x	-	-	-	-	-
4 HS (2 NO/2 NC)	C 1	-	-	-	-	x	x	x	x	x
1 AS (1 NO)	G 1 <sup>1)</sup>	x	x	x	x	-	-	-	-	-
2 HS (1 NO/1 NC) + 1 AS (1 NO)	D 1	x	x	x	x	-	-	-	-	-
2 HS (1 NO/1 NC) + 1 AS (1 NO)	E 1	-	-	-	-	x	x	x	x	x
x = 可用 / available - = 不可用 / not available										
附件		Accessories								
3SB 安装托架 /3SB-adapter										
适合的断路器 For circuit-breaker	辅助开关 (HS) 和报警开关 (AS) 的最大组合 Maximum combination of auxiliary switches (HS) and alarm switches (AS)	用于安装到断路器的 N 极中 For mounting into the N-Pole of the circuit-breaker	用于安装到断路器的左极中 For mounting into the left pole of the circuit-breaker	用于安装到断路器的右极中 For mounting into the right pole of the circuit-breaker						
型号 Type	组 (见第 1/14/1/15 页) Group (see page 1/14/1/15)	订货号 Order No.	订货号 Order No.	订货号 Order No.						
VL160X VL160 VL250 VL400	1 至 /up to 3 HS <sup>2)</sup>	-	3VL9 400-2AH00	3VL9 400-2AH00						
VL630 VL800, VL1250, VL1600	2 至 /up to 4 HS 2 HS + 2 AS	-	3VL9 816-2AL00 3VL9 816-2AN10	3VL9 816-2AL00 -						
当用户想要获得在标准配件供货中未包括的辅助开关或报警开关或开关触头配置时,上表中标明的3SB安装托架可按期望的开关和触头配置单独订购: When a customer desires auxiliary switch or alarm switch or switch contact configurations not included in the standard kit offerings, the 3SB-adapter indicated in the table above may be ordered along with the desired switches and contact configurations as separate items:			1HS 或 1AS, 带常开触头 3SB34 00-0J 1 HS or 1 AS with NO contact 3SB34 00-0J 1HS 或 1AS, 带常闭触头 3SB34 00-0K 1 HS or 1 AS with NC contact 3SB34 00-0K							
1) 仅使用该配件中的一个开关(该配件由 1 个常闭触头和 1 个常开触头组成)。 1) Use only one switch from this kit (kit consists of 1 NC and 1 NO contact switches). 2) 不包括安装到带 RCD 模块的 3VL160X 断路器的左极内以及安装到带电子式过电流脱扣器的 3VL160, VL250 断路器的左极内。 仅针对该应用,可在 N 极 (仅限 4 极断路器) 中安装。 2) Except for mounting into the left pole for 3VL160X circuit-breaker with RCD module and 3VL160, VL250 circuit-breakers with electronic overcurrent release. Bracket may be installed in N-pole (4-pole circuit-breaker only) for this application only.										

# 3VL160X ~ VL1600 断路器

## 3VL160X to VL1600 Circuit-Breakers

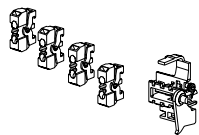
### 附件

用于改装(其安装说明, 见第 1/14-1/15 页, 上部的示意图) /For retrofitting (possible equipment, see page 1/14-1/15, figure on the top)

直接接导线到附件上 Wiring made directly to accessory	用于 /For VL160X	用于 /For VL160	用于 /For VL250
--	----------------	---------------	---------------

订货号 Order No.	订货号 Order No.	订货号 Order No.
3 极和 4 极 /3- or 4-pole		

辅助开关(HS)和报警开关  
(AS)/Auxiliary switches (HS)  
and alarm switches (AS)  
用于改装 /for retrofitting

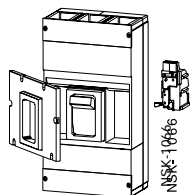


配件 /Kits	安装位置 Mounting side			
2 HS (1 NO/1 NC)	N, 左 <sup>1)</sup> , 右 N, Left <sup>1)</sup> , Right	3VL9 400-2AB00	3VL9 400-2AB00	3VL9 400-2AB00
4 HS (2 NO/2 NC)	N, 左, 右 N, Left, Right	-	-	-
2 HS (1 NC/1 NO) + 1 AS (1 NO) (kit)	左, 右 <sup>2)</sup> Left, Right <sup>2)</sup>	3VL9 400-2AD00	3VL9 400-2AD00	3VL9 400-2AD00
1 AS (1 NO)	左, 右 <sup>1)</sup> Left, Right <sup>1)</sup>	3VL9 400-2AG00	3VL9 400-2AG00	3VL9 400-2AG00

附加的 HS 和 AS  
Additional HS and AS

第 1 组见第 1/14-1/15 页和 1/31 页。  
Group 1 see pages 1/14-1/15 and 1/31.

分励脱扣器 /Shunt releases  
用于改装 /for retrofitting



AC V	DC V	仅为右极 Right pole only			
-	12	Right pole only	3VL9 400-1SB00	3VL9 400-1SB00	3VL9 400-1SB00
-	24	Right pole only	3VL9 400-1SC00	3VL9 400-1SC00	3VL9 400-1SC00
-	48-60	Right pole only	3VL9 400-1SJ00	3VL9 400-1SJ00	3VL9 400-1SJ00
-	110-127	Right pole only	3VL9 400-1SK00	3VL9 400-1SK00	3VL9 400-1SK00
-	220-250	Right pole only	3VL9 400-1SQ00	3VL9 400-1SQ00	3VL9 400-1SQ00
48-60	-	Right pole only	3VL9 400-1SM00	3VL9 400-1SM00	3VL9 400-1SM00
110-127	-	Right pole only	3VL9 400-1SR00	3VL9 400-1SR00	3VL9 400-1SR00
208-277	-	Right pole only	3VL9 400-1ST00	3VL9 400-1ST00	3VL9 400-1ST00
380-600	-	Right pole only	3VL9 400-1SV00	3VL9 400-1SV00	3VL9 400-1SV00

欠压脱扣器 /Undervoltage releases  
用于改装 /for retrofitting

AC V	DC V	仅为右极 Right pole only			
-	12	Right pole only	3VL9 400-1UN00	3VL9 400-1UN00	3VL9 400-1UN00
-	24	Right pole only	3VL9 400-1UP00	3VL9 400-1UP00	3VL9 400-1UP00
-	48	Right pole only	3VL9 400-1UU00	3VL9 400-1UU00	3VL9 400-1UU00
-	60	Right pole only	3VL9 400-1UV00	3VL9 400-1UV00	3VL9 400-1UV00
110-127	-	Right pole only	3VL9 400-1UG00	3VL9 400-1UG00	3VL9 400-1UG00
-	110-127	Right pole only	3VL9 400-1UR00	3VL9 400-1UR00	3VL9 400-1UR00
208	-	Right pole only	3VL9 400-1UM00	3VL9 400-1UM00	3VL9 400-1UM00
220-250	-	Right pole only	3VL9 400-1UH00	3VL9 400-1UH00	3VL9 400-1UH00
-	220-250	Right pole only	3VL9 400-1US00	3VL9 400-1US00	3VL9 400-1US00
277	-	Right pole only	3VL9 400-1UQ00	3VL9 400-1UQ00	3VL9 400-1UQ00
380-415	-	Right pole only	3VL9 400-1UJ00	3VL9 400-1UJ00	3VL9 400-1UJ00
440-480	-	Right pole only	3VL9 400-1UK00	3VL9 400-1UK00	3VL9 400-1UK00
550-525	-	Right pole only	3VL9 400-1UL00	3VL9 400-1UL00	3VL9 400-1UL00
600	-	Right pole only	3VL9 400-1UT00	3VL9 400-1UT00	3VL9 400-1UT00

欠压脱扣器用延时装置 /Time-delay device for undervoltage releases

额定控制电压  $U_c$  /Rated control supply voltage  $U_c$

220V - 250V AC/DC

延时 /Time delay

> 200 ms

3TX4 701-0AN1	3TX4 701-0AN1	3TX4 701-0AN1
---------------	---------------	---------------

1) 不包括安装到带 RCD 模块的 3VL160X 断路器的左极内以及安装到带电子式过电流脱扣器的 3VL160, VL250 断路器的左极内。  
仅针对该应用, 可在 N 极(仅限 4 极断路器)中安装。

1) Except for mounting into the left pole for 3VL160X circuit-breaker with RCD module and 3VL160, VL250 circuit-breakers with electronic overcurrent release.

Bracket may be installed in N-pole (4-pole circuit-breaker only) for this application only.

2) 对 VL400 只能在左侧。

2) VL400 is in left side only.

Accessories

用于 /For VL400	用于 /For VL630	用于 /For VL800	用于 /For VL1250	用于 /For VL1600
订货号 Order No.	订货号 Order No.	订货号 Order No.	订货号 Order No.	订货号 Order No.

3VL9 400-2AB00	-	-	-	-
-	3VL9 800-2AC00	3VL9 800-2AC00	3VL9 800-2AC00	3VL9 800-2AC00
3VL9 400-2AD00	3VL9 800-2AE00	3VL9 800-2AE00	3VL9 800-2AE00	3VL9 800-2AE00
3VL9 400-2AG00	-	-	-	-

第 2 组见第 1/14-1/15 页和 1/31 页。  
Group 2 see pages 1/14-1/15 and 1/31.

3VL9 400-1SB00	3VL9 800-1SB00	3VL9 800-1SB00	3VL9 800-1SB00	3VL9 800-1SB00
3VL9 400-1SC00	3VL9 800-1SC00	3VL9 800-1SC00	3VL9 800-1SC00	3VL9 800-1SC00
3VL9 400-1SJ00	3VL9 800-1SJ00	3VL9 800-1SJ00	3VL9 800-1SJ00	3VL9 800-1SJ00
3VL9 400-1SK00	3VL9 800-1SK00	3VL9 800-1SK00	3VL9 800-1SK00	3VL9 800-1SK00
3VL9 400-1SQ00	3VL9 800-1SQ00	3VL9 800-1SQ00	3VL9 800-1SQ00	3VL9 800-1SQ00
3VL9 400-1SM00	3VL9 800-1SM00	3VL9 800-1SM00	3VL9 800-1SM00	3VL9 800-1SM00
3VL9 400-1SR00	3VL9 800-1SR00	3VL9 800-1SR00	3VL9 800-1SR00	3VL9 800-1SR00
3VL9 400-1ST00	3VL9 800-1ST00	3VL9 800-1ST00	3VL9 800-1ST00	3VL9 800-1ST00
3VL9 400-1SV00	3VL9 800-1SV00	3VL9 800-1SV00	3VL9 800-1SV00	3VL9 800-1SV00

3VL9 400-1UN00	3VL9 800-1UN00	3VL9 800-1UN00	3VL9 800-1UN00	3VL9 800-1UN00
3VL9 400-1UP00	3VL9 800-1UP00	3VL9 800-1UP00	3VL9 800-1UP00	3VL9 800-1UP00
3VL9 400-1UU00	3VL9 800-1UU00	3VL9 800-1UU00	3VL9 800-1UU00	3VL9 800-1UU00
3VL9 400-1UV00	3VL9 800-1UV00	3VL9 800-1UV00	3VL9 800-1UV00	3VL9 800-1UV00
3VL9 400-1UG00	3VL9 800-1UG00	3VL9 800-1UG00	3VL9 800-1UG00	3VL9 800-1UG00
3VL9 400-1UR00	3VL9 800-1UR00	3VL9 800-1UR00	3VL9 800-1UR00	3VL9 800-1UR00
3VL9 400-1UM00	3VL9 800-1UM00	3VL9 800-1UM00	3VL9 800-1UM00	3VL9 800-1UM00
3VL9 400-1UH00	3VL9 800-1UH00	3VL9 800-1UH00	3VL9 800-1UH00	3VL9 800-1UH00
3VL9 400-1US00	3VL9 800-1US00	3VL9 800-1US00	3VL9 800-1US00	3VL9 800-1US00
3VL9 400-1UQ00	3VL9 800-1UQ00	3VL9 800-1UQ00	3VL9 800-1UQ00	3VL9 800-1UQ00
3VL9 400-1UJ00	3VL9 800-1UJ00	3VL9 800-1UJ00	3VL9 800-1UJ00	3VL9 800-1UJ00
3VL9 400-1UK00	3VL9 800-1UK00	3VL9 800-1UK00	3VL9 800-1UK00	3VL9 800-1UK00
3VL9 400-1UL00	3VL9 800-1UL00	3VL9 800-1UL00	3VL9 800-1UL00	3VL9 800-1UL00
3VL9 400-1UT00	3VL9 800-1UT00	3VL9 800-1UT00	3VL9 800-1UT00	3VL9 800-1UT00

3TX4 701-0AN1	3TX4 701-0AN1	3TX4 701-0AN1	3TX4 701-0AN1	3TX4 701-0AN1
---------------	---------------	---------------	---------------	---------------

3VL160X ~ VL1600 断路器  
3VL160X to VL1600 Circuit-Breakers

附件

操作机构 / Operating mechanisms

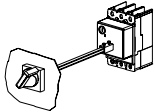
		用于 /For VL160X	用于 /For VL160	用于 /For VL250
		订货号 Order No.	订货号 Order No.	订货号 Order No.
		3 极或 4 极 /3- or 4-pole		
	<b>直接旋转驱动机构</b> Rotary direct drive 用于直接安装到断路器上。 for direct fitting to the circuit-breaker. 不带超前动作辅助开关。 Without leading auxiliary switch. 防护等级 IP 30 <sup>1)</sup> , 黑色。 Degree of protection IP 30 <sup>1)</sup> , black, lockable with max. 3 padlocks	3VL9 300-3HA00	3VL9 300-3HA00	3VL9 300-3HA00
	<b>急停型</b> EMERGENCY-STOP version 带红色旋钮, 黄色显示牌 with red knob, yellow indicator plate	3VL9 300-3HC00	3VL9 300-3HC00	3VL9 300-3HC00
	<b>现场安装用柱形锁</b> Cylinder locks for field installation 见第 1/48 页和 1/49 页。 see pages 1/48 and 1/49.			
	<b>附加的辅助开关配件</b> Additional auxiliary switch kits 标准型或急停型 “分闸 - 合闸” 辅助开关配件 Standard or EMERGENCY-STOP ver- sion "OFF to ON" auxiliary switch kit			
	1 个 CO 开关, 带 1.5m 长的导线 1 CO switch with 1.5 m long wire leads	3VL9 300-3AS10	3VL9 300-3AS10	3VL9 300-3AS10
	2 个 CO 开关, 带 1.5m 长的导线 2 CO switches with 1.5 m long wire leads	3VL9 300-3AT10	3VL9 300-3AT10	3VL9 300-3AT10
	<b>“合闸 - 分闸” 先断辅助开关配件</b> "ON to OFF" early break auxiliary switch kit			
	1 个 CO 开关, 带 1.5m 长的导线 1 CO switch with 1.5 m long wire leads	3VL9 300-3AU10	3VL9 300-3AU10	3VL9 300-3AU10
	2 个 CO 开关, 带 1.5m 长的导线 2 CO switches with 1.5 m long wire leads	3VL9 300-3AW10	3VL9 300-3AW10	3VL9 300-3AW10
	<b>带轴管接头不带旋钮型<sup>2)</sup></b> Version with shaft stub without knob <sup>2)</sup>			
	<b>不带超前动作辅助开关</b> without leading auxiliary switch	3VL9 300-3HE00	3VL9 300-3HE00	3VL9 300-3HE00
	<b>“分闸 - 合闸” 辅助开关配件</b> "OFF to ON" auxiliary switch kit			
1 个 CO 开关, 带 1.5m 长的导线 1 CO switch with 1.5 m long wire leads	3VL9 300-3AS10	3VL9 300-3AS10	3VL9 300-3AS10	
2 个 CO 开关, 带 1.5m 长的导线 2 CO switches with 1.5 m long wire leads	3VL9 300-3AT10	3VL9 300-3AT10	3VL9 300-3AT10	
<b>“合闸 - 分闸” 先断辅助开关配件</b> "ON to OFF" early break auxiliar				
1 个 CO 开关, 带 1.5m 长的导线 1 CO switch with 1.5 m long wire leads	3VL9 300-3AU10	3VL9 300-3AU10	3VL9 300-3AU10	
2 个 CO 开关, 带 1.5m 长的导线 2 CO switches with 1.5 m long wire leads	3VL9 300-3AW10	3VL9 300-3AW10	3VL9 300-3AW10	

Accessories

用于 /For VL400 订货号 Order No.	用于 /For VL630 订货号 Order No.	用于 /For VL800 订货号 Order No.	用于 /For VL1250 订货号 Order No.	用于 /For VL1600 订货号 Order No.
3VL9 400-3HA00	3VL9 600-3HA00	3VL9 600-3HA00	3VL9 800-3HA00	3VL9 800-3HA00
3VL9 400-3HC00	3VL9 600-3HC00	3VL9 600-3HC00	3VL9 800-3HC00	3VL9 800-3HC00
3VL9 400-3AS10	3VL9 600-3AS10	3VL9 600-3AS10	3VL9 800-3AS10	3VL9 800-3AS10
3VL9 400-3AT10	3VL9 600-3AT10	3VL9 600-3AT10	3VL9 800-3AT10	3VL9 800-3AT10
3VL9 400-3AU10	3VL9 600-3AU10	3VL9 600-3AU10	3VL9 800-3AU10	3VL9 800-3AU10
3VL9 400-3AW10	3VL9 600-3AW10	3VL9 600-3AW10	3VL9 800-3AW10	3VL9 800-3AW10
3VL9 400-3HE00	3VL9 600-3HE00	3VL9 600-3HE00	3VL9 800-3HE00	3VL9 800-3HE00
3VL9 400-3AS10	3VL9 600-3AS10	3VL9 600-3AS10	3VL9 800-3AS10	3VL9 800-3AS10
3VL9 400-3AT10	3VL9 600-3AT10	3VL9 600-3AT10	3VL9 800-3AT10	3VL9 800-3AT10
3VL9 400-3AU10	3VL9 600-3AU10	3VL9 600-3AU10	3VL9 800-3AU10	3VL9 800-3AU10
3VL9 400-3AW10	3VL9 600-3AW10	3VL9 600-3AW10	3VL9 800-3AW10	3VL9 800-3AW10

# 3VL160X ~ VL1600 断路器

## 3VL160X to VL1600 Circuit-Breakers

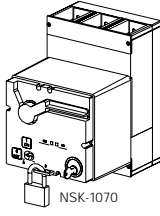
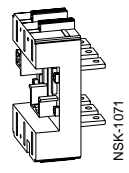

附件				
	用于 /For VL160X 订货号 Order No. 3 极或 4 极 /3- or 4-pole	用于 /For VL160 订货号 Order No.	用于 /For VL250 订货号 Order No.	
 <p>加长旋转驱动机构, 用于安装在门上和盖上 Rotary drive extended, complete for fitting in doors and covers</p> <p>防护等级 IP 65, 包括带防护罩的黑色旋钮, 显示牌, 可拆卸式门偶合, 300mm 加长轴, 以及相关断路器用正面旋转驱动机构, 可用最多 3 个挂锁锁定, 带门联锁。 Degree of protection IP 65, incl. black knob with masking frame, indicator plate, detachable door coupling, 300 mm extension shaft, and front rotary drive for the relevant circuit-breaker, lockable with max. 3 padlocks, with door interlocking</p> <p><b>急停型</b> EMERGENCY-STOP version 带红色旋钮, 黄色显示牌 不带超前动作辅助开关 with red knob, yellow indicator plate without leading auxiliary switches</p> <p><b>现场安装用柱形锁</b> Cylinder locks for field installation 见第 1/48 页和 1/49 页。 see pages 1/48 and 1/49.</p> <p><b>附加的辅助开关配件</b> Additional auxiliary switch kits 标准型或急停型 “分闸 - 合闸” 辅助开关配件 Standard or EMERGENCY-STOP version "OFF to ON" auxiliary switch kit</p> <p>1 个 CO 开关, 带 1.5m 长的导线 1 CO switch with 1.5 m long wire leads</p> <p>2 个 CO 开关, 带 1.5m 长的导线 2 CO switches with 1.5 m long wire leads</p> <p>“合闸 - 分闸” 先断辅助开关配件 "ON to OFF" early break auxiliary switch kit</p> <p>1 个 CO 开关, 带 1.5m 长的导线 1 CO switch with 1.5 m long wire leads</p> <p>2 个 CO 开关, 带 1.5m 长的导线 2 CO switches with 1.5 m long wire leads</p>	3VL9 300-3HF00	3VL9 300-3HF00	3VL9 300-3HF00	
	3VL9 300-3HG00	3VL9 300-3HG00	3VL9 300-3HG00	
	3VL9 300-3AS10	3VL9 300-3AS10	3VL9 300-3AS10	
	3VL9 300-3AT10	3VL9 300-3AT10	3VL9 300-3AT10	
	3VL9 300-3AU10	3VL9 300-3AU10	3VL9 300-3AU10	
	3VL9 300-3AW10	3VL9 300-3AW10	3VL9 300-3AW10	
	<p>辅助开关 CO (转换开关) = 一组 1 常开触头 /1 常闭触头 Auxiliary switch CO (changeover switch) = 1 NO/1 NC set of contacts.</p> <p>1) IP 40, 附加面框安装在门开孔上。 1) IP 40 with additional cover frame mounted on door cutout.</p> <p>2) 有关手柄操作机构 8UC6, 请见产品目录 NS K, 第 13 节。 有关 3VL160X, VL160, VL250 断路器标准手柄的基本详情如下: 8UC62 12-1BD22, 急停: 8UC62 22-3BD22; 用于 3VL400-VL1600 断路器标准手柄: 8UC63 14-1BD44, 急停: 8UC63 24-3BD44.</p> <p>2) Handle operator 8UC6 please see catalogue NS K, section 13. Basic details are for 3VL160X, VL160, VL250 circuit-breakers standard handle: 8UC62 12-1BD22, emergency stop: 8UC62 22-3BD22: for 3VL400 to VL1600 circuit-breakers standard handle: 8UC63 14-1BD44, emergency stop: 8UC63 24-3BD44.</p>			

Accessories

用于 /For VL400 订货号 Order No.	用于 /For VL630 订货号 Order No.	用于 /For VL800 订货号 Order No.	用于 /For VL1250 订货号 Order No.	用于 /For VL1600 订货号 Order No.
3VL9 400-3HF00	3VL9 600-3HF00	3VL9 600-3HF00	3VL9 800-3HF00	3VL9 800-3HF00
3VL9 400-3HG00	3VL9 600-3HG00	3VL9 600-3HG00	3VL9 800-3HG00	3VL9 800-3HG00
3VL9 400-3AS10	3VL9 600-3AS10	3VL9 600-3AS10	3VL9 800-3AS10	3VL9 800-3AS10
3VL9 400-3AT10	3VL9 600-3AT10	3VL9 600-3AT10	3VL9 800-3AT10	3VL9 800-3AT10
3VL9 400-3AU10	3VL9 600-3AU10	3VL9 600-3AU10	3VL9 800-3AU10	3VL9 800-3AU10
3VL9 400-3AW10	3VL9 600-3AW10	3VL9 600-3AW10	3VL9 800-3AW10	3VL9 800-3AW10



3VL160X ~ VL1600 断路器  
3VL160X to VL1600 Circuit-Breakers

附件					
操作机构 / Operating mechanisms					
		用于 /For VL160X 订货号 Order No.	用于 /For VL160 订货号 Order No.	用于 /For VL250 订货号 Order No.	
 <p>NSK-1070</p>	<b>储能操作机构</b> Stored energy operator 防护等级 IP 30 Degree of protection IP 30 带锁具，可用于 3 把挂锁 With locking device for 3 padlocks AC 50/60 Hz V   DC V -   24 42-48   42-48 60   60 110-127   110-127 220-250   220-250	3 极或 4 极 /3- or 4-pole 3VL9 300-3MJ00 3VL9 300-3ML00 3VL9 300-3MS00 3VL9 300-3MN00 3VL9 300-3MQ00	3VL9 300-3MJ00 3VL9 300-3ML00 3VL9 300-3MS00 3VL9 300-3MN00 3VL9 300-3MQ00	3VL9 300-3MJ00 3VL9 300-3ML00 3VL9 300-3MS00 3VL9 300-3MN00 3VL9 300-3MQ00	
	<b>安装有柱形锁</b> With cylinder lock installed -   24 42-48   42-48 60   60 110-127   110-127 220-250   220-250	3VL9 321-3MK00 3VL9 321-3MM00 3VL9 321-3MT00 3VL9 321-3MP00 3VL9 321-3MR00	3VL9 321-3MK00 3VL9 321-3MM00 3VL9 321-3MT00 3VL9 321-3MP00 3VL9 321-3MR00	3VL9 321-3MK00 3VL9 321-3MM00 3VL9 321-3MT00 3VL9 321-3MP00 3VL9 321-3MR00	
	接线方式 / Connections				
	 <p>NSK-1071</p>	<b>插入式插座组件</b> Plug-in socket assembly 包括底板，刀型连接件，IP 20 保护母排盖，安装螺丝和底座联锁装置。如果有必要使用相间隔板，则订购。 includes base plate, knife contacts, busbar cover for IP 20 protection, mounting screws, base interlock. If inter-phase barriers are desired, order if necessary. <b>背后连接 /Rear connected</b> 3 极 /3-pole 3 极，带 RCD/3-pole with RCD 4 极 /4-pole 4 极，带 RCD/4-pole with RCD <b>正面连接 /Front connected</b> 3 极 /3-pole 3 极，带 RCD/3-pole with RCD 4 极 /4-pole 4 极，带 RCD/4-pole with RCD	3 极或 4 极 /3- or 4-pole 3VL9 100-4PA30 3VL9 100-4PB30 3VL9 100-4PA40 3VL9 100-4PB40 3VL9 100-4PC30 3VL9 100-4PD30 3VL9 100-4PC40 3VL9 100-4PD40	3VL9 200-4PA30 3VL9 200-4PB30 3VL9 200-4PA40 3VL9 200-4PB40 3VL9 200-4PC30 3VL9 200-4PD30 3VL9 200-4PC40 3VL9 200-4PD40	3VL9 300-4PA30 3VL9 300-4PB30 3VL9 300-4PA40 3VL9 300-4PB40 3VL9 300-4PC30 3VL9 300-4PD30 3VL9 300-4PC40 3VL9 300-4PD40
		<b>抽屉式改装配件</b> Draw-out conversion kit 用于插入式组件改装 used with plug-in assembly to convert into 抽屉式组件 包括侧板和所有必要硬件。 Draw-out assembly includes side plates and all necessary hardware. 3 极 /3-pole 3 极，带 RCD 3-pole with RCD 4 极 /4-pole 4 极，带 RCD 4-pole with RCD	- - - -	3VL9 300-4WF30 3VL9 300-4WG30 3VL9 300-4WF40 3VL9 300-4WG40	3VL9 300-4WF30 3VL9 300-4WG30 3VL9 300-4WF40 3VL9 300-4WG40
		 <p>NSK-1072</p>			

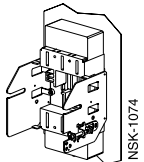
Accessories

用于 /For VL400 订货号 Order No.	用于 /For VL630 订货号 Order No.	用于 /For VL800 订货号 Order No.	用于 /For VL1250 订货号 Order No.	用于 /For VL1600 订货号 Order No.
			远程操作机构 Remote operator	远程操作机构 Remote operator
3VL9 400-3MJ00 3VL9 400-3ML00 3VL9 400-3MS00 3VL9 400-3MN00 3VL9 400-3MQ00	3VL9 600-3MJ00 3VL9 600-3ML00 3VL9 600-3MS00 3VL9 600-3MN00 3VL9 600-3MQ00	3VL9 600-3MJ00 3VL9 600-3ML00 3VL9 600-3MS00 3VL9 600-3MN00 3VL9 600-3MQ00	3VL9 800-3MJ00 3VL9 800-3ML00 3VL9 800-3MS00 3VL9 800-3MN00 3VL9 800-3MQ00	3VL9 800-3MJ00 3VL9 800-3ML00 3VL9 800-3MS00 3VL9 800-3MN00 3VL9 800-3MQ00
3VL9 415-3MK00 3VL9 415-3MM00 3VL9 415-3MT00 3VL9 415-3MP00 3VL9 415-3MR00	3VL9 615-3MK00 3VL9 615-3MM00 3VL9 615-3MT00 3VL9 615-3MP00 3VL9 615-3MR00	3VL9 615-3MK00 3VL9 615-3MM00 3VL9 615-3MT00 3VL9 615-3MP00 3VL9 615-3MR00	3VL9 815-3MK00 3VL9 815-3MM00 3VL9 815-3MT00 3VL9 815-3MP00 3VL9 815-3MR00	3VL9 815-3MK00 3VL9 815-3MM00 3VL9 815-3MT00 3VL9 815-3MP00 3VL9 815-3MR00

用于 /For VL400 订货号 Order No.	用于 /For VL630 订货号 Order No.	用于 /For VL800 订货号 Order No.	用于 /For VL1250 订货号 Order No.	用于 /For VL1600 订货号 Order No.
3VL9 400-4PA30 3VL9 400-4PB30 3VL9 400-4PA40 3VL9 400-4PB40	3VL9 500-4PA30 - 3VL9 500-4PA40 -	- - - -	- - - -	- - - -
3VL9 400-4PC30 3VL9 400-4PD30 3VL9 400-4PC40 3VL9 400-4PD40	3VL9 500-4PC30 - 3VL9 500-4PC40 -	- - - -	- - - -	- - - -
3VL9 400-4WF30 3VL9 400-4WG30	3VL9 500-4WG30 -	- -	- -	- -
3VL9 400-4WF40 3VL9 400-4WG40	3VL9 500-4WF40 -	- -	- -	- -

# 3VL160X ~ VL1600 断路器

## 3VL160X to VL1600 Circuit-Breakers

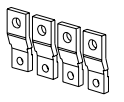
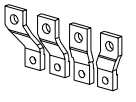
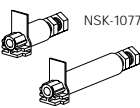
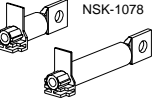

附件					
	用于 /For VL160X	用于 /For VL160	用于 /For VL250		
	订货号 Order No.	订货号 Order No.	订货号 Order No.		
	3极或4极 /3- or 4-pole				
	<b>抽屉式组件</b> Draw-out assembly 带底板 / 插座 / 曲柄, 底部联锁装置 / 必要的保护罩 with base plate/sockets/crank handle, base-interlock/necessary shields				
	<b>背后连接 /Rear connected</b> 3极 /3-pole 3极, 带 RCD/3-pole with RCD 4极 /4-pole 4极, 带 RCD/4-pole with RCD	- - - -	3VL9 200-4WA30 3VL9 200-4WB30 3VL9 200-4WA40 3VL9 200-4WB40	3VL9 300-4WA30 3VL9 300-4WB30 3VL9 300-4WA40 3VL9 300-4WB40	
	<b>正面连接 /Front connected</b> 3极 /3-pole 3极, 带 RCD/3-pole with RCD 4极 /4-pole 4极, 带 RCD/4-pole with RCD	- - - -	3VL9 200-4WC30 3VL9 200-4WD30 3VL9 200-4WC40 3VL9 200-4WD40	3VL9 300-4WC30 3VL9 300-4WD30 3VL9 300-4WC40 3VL9 300-4WD40	
	<b>插入式插座附件</b> Plug-in socket accessory 用于在插入式或抽屉式底座上安装附件接线端子 For accessory conductors for plug-in breakers mounted on plug-in or 8个位置 /draw-out bases 8 positions	3VL9 300-4PJ00 <sup>1)</sup>	3VL9 300-4PJ00 <sup>1)</sup>	3VL9 300-4PJ00 <sup>1)</sup>	
	<b>位置信号发送开关</b> (连接或断开位置信号) Position signaling switch (connected or disconnected) 用于插入式 / 抽屉式底座 for plug-in/draw-out bases 1个常开 /1个常闭 “C” 形开关配件 每个底座可接受最多两个配件 1 NO/1 NC “C” form switch kit each base can accept up to two kits	3VL9 000-4WL00	3VL9 000-4WL00	3VL9 000-4WL00	
	1) 建议为每个断路器订购最多 2 个插座(16 个位置)。 1) Maximum of 2 sockets per breaker (16 positions) are recommended to be ordered. 2) 建议为每个断路器订购最多 3 个插座(24 个位置)。 2) Maximum of 3 sockets per breaker (24 positions) are recommended to be ordered.				

Accessories

用于 /For VL400 订货号 Order No.	用于 /For VL630 订货号 Order No.	用于 /For VL800 订货号 Order No.	用于 /For VL1250 订货号 Order No.	用于 /For VL1600 订货号 Order No.
3VL9 400-4WA30 3VL9 400-4WB30 3VL9 400-4WA40 3VL9 400-4WB40	3VL9 500-4WA30 - 3VL9 500-4WA40 -	3VL9 600-4WA30 - 3VL9 600-4WA40 -	3VL9 800-4WA30 - 3VL9 800-4WA40 -	3VL9 800-4WA30 - 3VL9 800-4WA40 -
3VL9 400-4WC30 3VL9 400-4WD30 3VL9 400-4WC40 3VL9 400-4WD40	3VL9 500-4WC30 - 3VL9 500-4WC40 -	3VL9 600-4WC30 - 3VL9 600-4WC40 -	3VL9 800-4WC30 - 3VL9 800-4WC40 -	3VL9 800-4WC30 - 3VL9 800-4WC40 -
3VL9 400-4PJ00 <sup>2)</sup>	3VL9 600-4PJ00 <sup>2)</sup>	3VL9 600-4PJ00 <sup>2)</sup>	3VL9 800-4PJ00 <sup>2)</sup>	3VL9 800-4PJ00 <sup>2)</sup>
3VL9 000-4WL00	3VL9 000-4WL00	3VL9 000-4WL00	3VL9 000-4WL00	3VL9 000-4WL00

# 3VL160X ~ VL1600 断路器

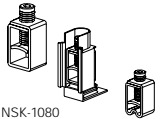
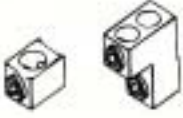
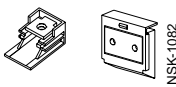


## 3VL160X to VL1600 Circuit-Breakers

附件		用于 /For VL160X	用于 /For VL160	用于 /For VL250
连接 /Connections		订货号 Order No.	订货号 Order No.	订货号 Order No.
		3极或4极 /3- or 4-pole		
 	<b>正面母排连接件</b> Front busbar connection pieces 建议使用螺母定位板 Use of nut keeper plate is recommended 3VL9.00-4TA00, 见第 1/12, 1/13 页 标准 3VL9.00-4TA00, see page 1/12, 1/13 Standard			
	1 件 /1 piece	3VL9 200-4EA00	3VL9 200-4EA00	3VL9 300-4EA00
	1 套 = 3 件	3VL9 200-4EC30	3VL9 200-4EC30	3VL9 300-4EC30
	1 套 = 3 件			
	1 套 = 4 件	3VL9 200-4EC40	3VL9 200-4EC40	3VL9 300-4EC40
	1 套 = 4 件			
	1 套 = 4 件			
	1 套 = 4 件			
	1 套 = 4 件			
	1 套 = 4 件			
  	<b>背面端子/Rear terminals</b> 短圆杆(1 件) Short length round stock (1 piece) 长圆杆(1 件) Long length round stock (1 piece) 圆杆配件/Round stock kit (2 个短的 + 1 个长的) (2 short + 1 long) 圆杆配件/Round stock kit (2 个短的 + 2 个长的) (2 short + 2 long) 扁平端子短圆杆(1 件) Short length round stock flat terminal(1 piece) 扁平端子长圆杆(1 件) flat terminal (1 piece) 扁平端子配件 /Flat terminal kit (2 个短的 + 1 个长的) (2 short + 1 long) 扁平端子配件 /Flat terminal kit (2 个短的 + 2 个长的) (2 short + 2 long) 扁平母排(1 件) Flat busbar (1 piece) 扁平母排套 = 3 件 Flat busbar set = 3 pieces 扁平母排套 = 4 件 Flat busbar set = 4 pieces	3VL9 100-4RA00 3VL9 100-4RB00 3VL9 100-4RC30 3VL9 100-4RF40 3VL9 100-4RK00 3VL9 100-4RL00 3VL9 100-4RM30 3VL9 100-4RN40 - - -	3VL9 200-4RA00 3VL9 200-4RB00 3VL9 200-4RC30 3VL9 200-4RF40 3VL9 200-4RK00 3VL9 200-4RL00 3VL9 200-4RM30 3VL9 200-4RN40 - - -	3VL9 300-4RA00 3VL9 300-4RB00 3VL9 300-4RC30 3VL9 300-3RF40 3VL9 300-4RK00 3VL9 300-4RL00 3VL9 300-4RM30 3VL9 300-4RN40 - - -

Accessories

用于 /For VL400 订货号 Order No.	用于 /For VL630 订货号 Order No.	用于 /For VL800 订货号 Order No.	用于 /For VL1250 订货号 Order No.	用于 /For VL1600 订货号 Order No.
3VL9 400-4EA00 3VL9 400-4EC30	3VL9 500-4EA00 3VL9 500-4EC30	3VL9 600-4EA00 3VL9 600-4EC30	3VL9 800-4EA00 3VL9 800-4EC30	3VL9 800-4EA00 3VL9 800-4EC30
3VL9 400-4EC40	3VL9 500-4EC40	3VL9 600-4EC40	3VL9 800-4EC40	3VL9 800-4EC40
3VL9 400-4ED30	3VL9 500-4ED30	3VL9 600-4ED30	-	-
3VL9 400-4ED40	3VL9 500-4ED40	3VL9 600-4ED40	-	-
3VL9 400-4RA00	-	-	-	-
3VL9 400-4RB00	-	-	-	-
3VL9 400-4RC30	-	-	-	-
3VL9 400-4RF40	-	-	-	-
3VL9 400-4RK00	-	-	-	-
3VL9 400-4RL00	-	-	-	-
3VL9 400-4RM30	-	-	-	-
3VL9 400-4RN40	-	-	-	-
-	3VL9 500-4RG00	3VL9 600-4RG00	3VL9 700-4RG00	3VL9 800-4RG00
-	3VL9 500-4RH30	3VL9 600-4RH30	3VL9 700-4RH30	3VL9 800-4RH30
-	3VL9 500-4RH40	3VL9 600-4RH40	3VL9 700-4RH40	3VL9 800-4RH40

3VL160X ~ VL1600 断路器  
3VL160X to VL1600 Circuit-Breakers

附件				
		用于 /For VL160X	用于 /For VL160	用于 /For VL250
		订货号	订货号	订货号
		Order No.	Order No.	Order No.
		3 极或 4 极 /3- or 4-pole		
 <p>NSK-1080</p>	卡箍式端子 /Wrap-around terminal 软性扁平铜排或电缆用连接器， 见第 1/7 页。 connector for flexible flat copper bus or cable, see page 1/7			
	1 件 /1 piece 1 套 = 3 件 /1 set = 3 pieces 1 套 = 4 件 /1 set = 4 pieces	3VL9 100-4TC00 3VL9 100-4TC30 3VL9 100-4TC40	3VL9 200-4TC00 3VL9 200-4TC30 3VL9 200-4TC40	3VL9 300-4TC00 3VL9 300-4TC30 3VL9 300-4TC40
	端子 <sup>1)</sup> Terminal <sup>1)</sup> 仅用于电缆(铝或铜) 铝制连接器(镀锡) for cable only (AL or CU) Aluminium body (tin plated)			
	1 件 /1 piece 1 套 = 3 件 /1 set = 3 pieces 1 套 = 4 件 /1 set = 4 pieces	3VL9 100-4TD00 3VL9 100-4TD30 3VL9 100-4TD40	3VL9 200-4TD00 3VL9 200-4TD30 3VL9 200-4TD30	3VL9 300-4TD00 3VL9 300-4TD30 3VL9 300-4TD40
 <p>NSK-1082</p>	螺母定位板—公制螺纹 Nut keeper plate - metric thread 带必要绝缘件—与正面母排和电缆接线 头一起使用，见第 1/12-1/13 页(1 套 = 1 件) with necessary insulators - use with front busbars and cable lug, see page 1/12-1/13 (1 set = 1 piece)		3VL9 100-4TA00	3VL9 200-4TA00
	断路器用端子盖 Terminal covers for circuit-breaker 防护等级 IP 30 Degree of protection IP 30 用于主端子 1 套 = 2 件 for main terminals 1 set = 2 pieces			
 <p>NSK-1083 NSK-1084</p>	加长 /Extended	3 极 /3-pole	3VL9 300-8CA30	3VL9 300-8CA30
	标准 /Standard	3 极 /3-pole	3VL9 300-8CB30	3VL9 300-8CB30
	加长 /Extended	4 极 /4-pole	3VL9 300-8CA40	3VL9 300-8CA40
	标准 /Standard	4 极 /4-pole	3VL9 300-8CB40	3VL9 300-8CB40
 <p>NSK-1085</p>	相间隔板，用于插入式或抽屉式断路器 Interphase barriers for circuit- breaker, plug-in or draw-out version			
	1 套 = 2 件 /1 set = 2 pieces	3VL9 300-8CE00	3VL9 300-8CE00	3VL9 300-8CE00

1) 3VL160X, VL160, VL800 和 VL1250 断路器需要使用螺母定位板，见第 1/12-1/13 页。

1) For 3VL160X, VL160, VL800 and VL1250 circuit-breakers the nut keeper plates are required, see page 1/12-1/13.

Accessories

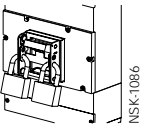
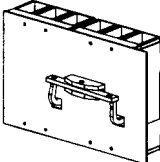
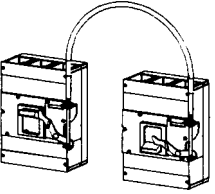
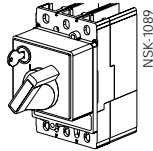
用于 /For VL400 订货号 Order No.	用于 /For VL630 订货号 Order No.	用于 /For VL800 订货号 Order No.	用于 /For VL1250 订货号 Order No.	用于 /For VL1600 订货号 Order No.
3VL9 400-4TC00 3VL9 400-4TC30 3VL9 400-4TC40	- - -	- - -	- - -	- - -
3VL9 400-4TD00 3VL9 400-4TD30 3VL9 400-4TD40	3VL9 500-4TG00 3VL9 500-4TG30 3VL9 500-4TG40	3VL9 600-4TG00 3VL9 600-4TG30 3VL9 600-4TG40	3VL9 700-4TG00 3VL9 700-4TG30 3VL9 700-4TG40	- - -
3VL9 300-4TA00	3VL9 400-4TA00	3VL9 500-4TA00	3VL9 600-4TA00	3VL9 800-4TA00 -
3VL9 400-8CA30 3VL9 400-8CB30 3VL9 400-8CA40 3VL9 400-8CB40	3VL9 600-8CA30 3VL9 600-8CB30 3VL9 600-8CA40 3VL9 600-8CB40	3VL9 600-8CA30 3VL9 600-8CB30 3VL9 600-8CA40 3VL9 600-8CB40	3VL9 800-8CA30 3VL9 800-8CB30 3VL9 800-8CA40 3VL9 800-8CB40	3VL9 800-8CA30 3VL9 800-8CB30 3VL9 800-8CA40 3VL9 800-8CB40
3VL9 600-8CE00	3VL9 600-8CE00	3VL9 600-8CE00	3VL9 800-8CE00	3VL9 800-8CE00



3VL1600 断路器  
3VL1600 Circuit-Breakers

附件

连接 /Connections

		用于 /For VL160X	用于 /For VL160	用于 /For VL250
		订货号 Order No.	订货号 Order No.	订货号 Order No.
		3 极或 4 极 /3- or 4-pole		
	<b>手柄挂锁装置</b> Handle pad-locking device 用于将断路器手柄锁在“分闸”位置。可使用最多 3 把挂锁，其钩环直径为 5-8mm (不含挂锁) to padlock breaker toggle into “OFF” position. Up to 3 padlocks with 5-8 mm shackles may be used (padlocks not included)	3VL9 300-3HL00	3VL9 300-3HL00	3VL9 300-3HL00
		<b>杠杆式联锁机构</b> Walking-beam Interlock mechanism 提供两个相邻断路器之间的机械联锁。断路器必须是相同的类型 / 壳架 / 型号。断路器为固定安装 provides mechanical interlocking between two adjacent circuit-breakers. Breakers must be of like kind/frame/type. Breaker fixed mounted	3VL9 300-8LC00	3VL9 300-8LC00
	<b>断路器为插入式 / 抽屉式安装</b> Breaker draw-out/plug-in mounted	3VL9 300-8LD00	3VL9 300-8LD00	3VL9 300-8LD00
	<b>电缆联锁系统</b> Cable interlock system 提供两个断路器之间的机械联锁。配件由操作机构板组成，仅用在断路器上 provides mechanical interlocking between two circuit-breakers. Kit consist of operator plate for on circuit-breaker only	3VL9 300-8LA00	3VL9 300-8LA00	3VL9 300-8LA00
	<b>连接电缆，用于两个断路器 - 每套需一个</b> Connection cable for two circuit-breakers-one required per set 电缆长度 0.5m cable length 0.5 m 电缆长度 1.0m cable length 1.0 m 电缆长度 1.5m cable length 1.5 m	3VL9 000-8LH10 3VL9 000-8LH20 3VL9 300-8LH30	3VL9 000-8LH10 3VL9 000-8LH20 3VL9 300-8LH30	3VL9 000-8LH10 3VL9 000-8LH20 3VL9 300-8LH30
	<b>安装螺丝配件 (公制螺纹)</b> Mounting screw kit (metric thread) 包括所有必要硬件，以便将 3 极或 4 极断路器安装到用户准备的表面上。 includes all of the necessary hardware to mount a 3- or 4-pole circuit-breaker to customers prepared surface	2 个螺丝配件 /2 screw kit 3VL9 300-8SA20 4 个螺丝配件 /4 screw kit 3VL9 300-8SA40	3VL9 300-8SA20 3VL9 300-8SA40	3VL9 300-8SA20 3VL9 300-8SA40
		<b>脱扣器调整密封盖</b> Trip adjustment sealing cover 以防整定值被篡改或在未经授权的情况下被调整 (不含密封件) to prevent tampering or unauthorized adjustment of settings (seal not included) <b>电子式过电流脱扣器</b> Electronic overcurrent release <b>热 / 磁式</b> Thermal/magnetic	- 3VL9 300-8BM00	3VL9 700-8BL00 3VL9 300-8BM00

Accessories

用于 /For VL400 订货号 Order No.	用于 /For VL630 订货号 Order No.	用于 /For VL800 订货号 Order No.	用于 /For VL1250 订货号 Order No.	用于 /For VL1600 订货号 Order No.
3VL9 400-3HL00	3VL9 600-3HL00	3VL9 600-3HL00	3VL9 800-3HL00	3VL9 800-3HL00
3VL9 400-8LC00	3VL9 600-8LC00	3VL9 600-8LC00	3VL9 800-8LC00	3VL9 800-8LC00
3VL9 400-8LD00	3VL9 600-8LD00	3VL9 600-8LD00	3VL9 800-8LD00	3VL9 800-8LD00
3VL9 400-8LA00	3VL9 600-8LA00	3VL9 600-8LA00	3VL9 800-8LA00	3VL9 800-8LA00
在 3VL400~VL800 断路器之间推荐的电缆长度为 1m。 Recommended cable length between 3VL400 to VL800 circuit-breakers is 1 m			在 3VL1250 和 VL1600 断路器之间推荐的电缆长度为 1.5m。/Recommended cable length between 3VL1250 to VL1600 circuit-breakers is 1.5m	
-	-	-	-	-
3VL9 000-8LH20	3VL9 000-8LH20	3VL9 000-8LH20	-	-
3VL9 000-8LH30	3VL9 000-8LH30	3VL9 000-8LH30	3VL9 000-8LH30	3VL9 000-8LH30
-	-	-	-	-
3VL9 500-8SA40	3VL9 500-8SA40	3VL9 600-8SA40	3VL9 800-8SA40	3VL9 800-8SA40
3VL9 700-8BL00	3VL9 700-8BL00	3VL9 700-8BL00	3VL9 800-8BL00	3VL9 800-8BL00
3VL9 400-8BM00	3VL9 600-8BM00	3VL9 600-8BM00	-	-

3VL1600 断路器  
3VL1600 Circuit-Breakers

附件				
连接 /Connections				
	用于 /For VL160X	用于 /For VL160	用于 /For VL250	
	订货号 Order No.	订货号 Order No.	订货号 Order No.	
	3 极或 4 极 /3- or 4-pole			
 <p>NSK-1090</p>	<b>柱形锁配件</b> Cylinder lock kits 当断路器处在“分闸”位置时，钥匙可取下。 Key removable when circuit-breakers in “OFF” position 用于旋转手柄 /Used for rotary handles 锁类型 /lock types Ronis CES			
	3VL9 715-8HA00 3VL9 711-8HA00	3VL9 715-8HA00 3VL9 711-8HA00	3VL9 715-8HA00 3VL9 711-8HA00	
	<b>用于储能操作机构</b> Stored energy operators 锁类型 /Lock types Ronis Filli Giussani			
	- 3VL9 321-8HA00	- 3VL9 321-8HA00	- 3VL9 321-8HA00	
	<b>手持电子脱扣器测试元件 (蓄电池供电)</b> Hand held electronic release test kit 用于脱扣器 ETU/LCD ETU，以及与 Laptop 或 PC 之间的接口 (battery powered) for ETU/LCD ETU releases, as well as interface with Laptop or PC			
	-	3VL9 000-8AK00	3VL9 000-8AK00	
	<b>通用电源 (120-240V AC 50/60Hz)</b> Universal power supply (120-240 V AC 50/60 Hz) 适配器 - 当蓄电池不用于电子脱扣器测试元件时使用 Adapter unit used when battery supply is not used for electronic release test kit			
-	3VL9 000-8AL00	3VL9 000-8AL00		
<b>PROFIBUS 通讯用适配器 COM 10</b> PROFIBUS Communications adapter COM 10				
-	3VL9 000-8AM00	3VL9 000-8AM00		

Accessories

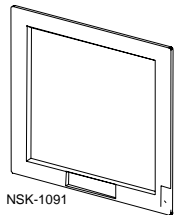
用于 /For VL400 订货号 Order No.	用于 /For VL630 订货号 Order No.	用于 /For VL800 订货号 Order No.	用于 /For VL1250 订货号 Order No.	用于 /For VL1600 订货号 Order No.
3VL9 715-8HA00 3VL9 711-8HA00	3VL9 715-8HA00 3VL9 711-8HA00	3VL9 715-8HA00 3VL9 711-8HA00	3VL9 815-8HA00 3VL9 811-8HA00	3VL9 815-8HA00 3VL9 811-8HA00
3VL9 715-8HA00 -	3VL9 715-8HA00 -	3VL9 715-8HA00 -	3VL9 815-8HA00 -	3VL9 815-8HA00 -
3VL9 000-8AK00	3VL9 000-8AK00	3VL9 000-8AK00	3VL9 000-8AK00	3VL9 000-8AK00
3VL9 000-8AL00	3VL9 000-8AL00	3VL9 000-8AL00	3VL9 000-8AL00	3VL9 000-8AL00
3VL9 000-8AM00	3VL9 000-8AM00	3VL9 000-8AM00	3VL9 000-8AM00	3VL9 000-8AM00

# 3VL1600 断路器

## 3VL1600 Circuit-Breakers

### 附件

#### 连接 /Connections



		用于 /For VL160X	用于 /For VL160	用于 /For VL250
		订货号	订货号	订货号
		Order No.	Order No.	Order No.
		3 极或 4 极 /3- or 4-pole		
柜门开孔面框 Cover frame for door cutout				
IP 40	固定安装式或插入安装式断路器 Circuit-breaker fixed or plug-in mounted	3VL9 300-8BC00	3VL9 300-8BC00	3VL9 300-8BC00
IP 40	带旋转操作机构或储能操作机构的断路器 Circuit-breaker with rotary or stored energy operator	3VL9 300-8BG00	3VL9 300-8BG00	3VL9 300-8BG00
IP 20	抽屉安装式断路器。配件含有面框和必要的加长框(如使用手柄或储能操作机构则不用) Circuit-breaker draw-out mounted. Kit contains cover frame and necessary extended escutcheon (not used if handle or stored energy operator is used)	-	3VL9 300-8BH00	3VL9 300-8BH00
IP 40	固定安装式或插入安装式断路器， Circuit-breaker fixed or plug-in mounted with 带 RCD 断路器面框 RCD Breaker cover frame RCD 面框 /RCD cover frame	3VL9 300-8BD00	3VL9 300-8BC00	3VL9 300-8BC00
		3VL9 300-8BD00	3VL9 300-8BD00	3VL9 300-8BD00
IP 40	装有 RCD 和旋转驱动机构的断路器。配件含有面框和加长框。 Circuit-breaker mounted with RCD and rotary drive. Kit contains cover frame and extended escutcheon	-	3VL9 300-8BH00	3VL9 300-8BH00
	装有 RCD 和储能操作机构的断路器。配件含有面框和必要的加长框。 Circuit-breaker mounted with RCD and stored energy operator. Kit contains cover frame and necessary extended escutcheon	-	3VL9 300-8BJ00	3VL9 300-8BJ00
扳动手柄加长件 Toggle handle extension		-	-	-

Accessories

用于 /For VL400 订货号 Order No.	用于 /For VL630 订货号 Order No.	用于 /For VL800 订货号 Order No.	用于 /For VL1250 订货号 Order No.	用于 /For VL1600 订货号 Order No.
3VL9 400-8BC00	3VL9 600-8BC00	3VL9 600-8BC00	3VL9 800-8BC00	3VL9 800-8BC00
3VL9 400-8BG00	3VL9 600-8BG00	3VL9 600-8BG00	3VL9 800-8BG00	3VL9 800-8BG00
3VL9 400-8BH00	3VL9 600-8BH00	3VL9 600-8BH00	3VL9 800-8BH00	3VL9 800-8BH00
3VL9 400-8BC00	-	-	-	-
3VL9 400-8BD00	-	-	-	-
3VL9 400-8BH00	-	-	-	-
3VL9 400-8BJ00	-	-	-	-
-	3VL9 600-3HN00	3VL9 600-3HN00	3VL9 800-3HN00	3VL9 800-3HN00

选型和订货信息					Selection and ordering information		
RCD模块是为用户自行安装而设计的。装配好的3VL断路器与RCD模块的组合可反向得电。 带有RCD模块的(3极和4极) 3VL断		路器可装有辅助开关,报警开关,欠压脱扣器和分励脱扣器,这取决于安装的附件空间。详情见下表。		The RCD module is designed for customer installation. The assembled combination of 3VL circuit-breaker and RCD module may be reverse fed. The (3- and 4-pole) 3VL circuit-breakers with RCD module		applied may have auxiliary switches, alarm switches, undervoltage and shunt releases installed dependent on available accessory space. See details below.	
<b>RCD 模块 /RCD module</b>							
线路保护用断路器, 仅限 TM, 起动机, 隔离开关 Circuit-breakers for line protection, for TM, starter, non-auto only 3 极和 4 极 3- and 4-pole		额定电流 $I_n$ Rated current $I_n$ A	漏电电流 $I_{\Delta n}$ 可调节量 Differential currents $I_{\Delta n}$ adjustable increments A	延迟时间 $t_d$ 可调 Delay time $t_d$ adjustable s	额定工作电压 $U_e$ Rated operational voltage $U_e$ AC V	3 极断路器 Circuit-breaker 3-pole	4 极断路器 Circuit-breaker 4-pole
					订货号 Order No.	订货号 Order No.	
VL160X VL160X (底部安装)/(bottom mounting) <sup>1)</sup> (左侧安装)/(left side mounting) <sup>2)</sup>	125	0.03 0.10 0.30 0.50	瞬时 Instantaneous 0.06 0.10 0.25	127-480 127-480	3VL9 112-5GA30 3VL9 112-5GB30	3VL9 112-5GA40 3VL9 112-5GB40	
VL160	160	1.00 3.00	0.50 1.00	127-480 230-690	3VL9 216-5GC30 3VL9 216-5GD30	3VL9 216-5GC40 3VL9 216-5GD40	
VL250	250			127-480 230-690	3VL9 325-5GE30 3VL9 325-5GF30	3VL9 325-5GE40 3VL9 325-5GF40	
VL400	400			127-480 230-690	- -	3VL9 440-5GG40 3VL9 440-5GH40	
<b>带 RCD 模块的断路器 /Circuit-Breaker with RCD module</b>							
线路保护用断路器, 仅限 TM 3 极和 4 极 Circuit-breakers for line protection, for TM only 3- and 4-pole		额定电流 $I_n$ Rated current $I_n$ A	漏电电流 $I_{\Delta n}$ 可调节量 Differential currents $I_{\Delta n}$ adjustable increments A	延迟时间 $t_d$ 可调 Delay time $t_d$ adjustable s	额定工作电压 $U_e$ Rated operational voltage $U_e$ AC V	3 极断路器 Circuit-breaker 3-pole 订货号带 "Z" Order No. with "Z" 3VL..... - . D... - .... -Z 以及附加的订货代码 and additional order code □□□	4 极断路器 Circuit-breaker 4-pole 订货号带 "Z" Order No. with "Z" 3VL..... - . E... - .... -Z 以及附加的订货代码 and additional order code □□□
VL160X VL160X (底部安装)/(bottom mounting) <sup>1)</sup> (左侧安装)/(left side mounting) <sup>2)</sup>	125	0.03 0.10 0.30 0.50	瞬时 Instantaneous 0.06 0.10 0.25	127-480 127-480	A 0 1) -	A 0 1) -	
VL160	160	1.00 3.00	0.50 1.00	127-480 230-690	A 0 1 A 0 2	A 0 1 A 0 2	
VL250	250			127-480 230-690	A 0 1 A 0 2	A 0 1 A 0 2	
VL400	400			127-480 230-690	- -	A 0 1 A 0 2	
<p>1) 只有右极和 N 极 (4 极) 可安装附件, 见第 1/14-1/15 页。 Only right and N-pole (4-pole) accessory pocket is available for accessories, see page 1/14-1/15.</p> <p>2) 该订货号提供侧面安装的安装零件 (需单独订购 RCD)。 The kit allows RCD to mount on the leftside of the MCCB (order RCD separatly).</p>							

选型和订货信息 Selection and ordering information

RCD 模块与 DI 模块相对应。

应用

在 TT、IT 和 TN 系统中的人员安全性(整定到  $I_{\Delta n} = 30\text{mA}$ ,  $t_d$  瞬时)

保护线路和设备以免受到因接地故障引起的过载和损坏(接地故障保护)

当对地泄漏电流超过预整定的动作电流和延时整定值时, 该装置利用所有相电流的矢量和使断路器脱扣。

特性

用户易于安装

侧部安装配件符合 DIN 50 023, 用于 3VL160X 断路器, 订货号带有 3VL9 112-5GA30/ 3VL9 112-5GA40

使用脱扣按钮 (Push-to-Trip), 可对安装的 RCD 进行功能检查。

复位 / 脱扣按钮弹出(在复位 / 脱扣按钮复位前, 断路器不会再扣。)

断路器脱扣器远程脱扣用电路, 无需外部辅助电压源 (用于 3VL160 ~ VL400 断路器)。

用户将提供遥控开关和双绞线电缆 LED 指示器可实现对 RCD 装置的目视监视

- 绿色

$I_{\Delta} \leq I_{\Delta n}$  的 25%

- 绿色 + 黄色

25%  $I_{\Delta n} < I_{\Delta} =$  可调  $I_{\Delta n}$  的 50%

- 绿色 + 黄色 + 红色

$I_{\Delta} \geq$  可调  $I_{\Delta n}$  的 50%

3VL160 ~ VL400 断路器报警开关转换(C0)触头将表明, RCD 已使断路器脱扣。

3VL160 ~ VL400 断路器可提供 690V AC 应用。

切断电源功能可进行介电性能测试, 无需拆除电缆。

增设 RCD 不会影响断路器的功能特性。

无需外部电压。

The RCD module corresponds to the DI module.

Application

Safety of persons in TT, IT and TN Systems (set to  $I_{\Delta n} = 30\text{ mA}$ ,  $t_d$  instantaneous).

Protection of line and equipment against overload and damage by earth faults (earth-fault protection).

Using vectorial summation of all phase currents this device trips the circuit-breaker when earth leakage currents exceed the preset pick-up and time delay settings.

Attributes

Easy mounting by customer Side mounting kit for DIN 50 023 for 3VL160X circuit-breaker order with 3VL9 112-5GA30/ 3VL9 112-5GA40

Push-to-Trip Button permits functional checkout of installed RCD

Pop-up reset/trip button (that will not allow circuit-breaker relatching until reset/trip button is reset)

Circuitry for remote tripping of circuit-breaker release unit without the need for external source of additional voltage (for 3VL160 to VL400 circuit-breakers). Customer to supply remote control switch and twisted pair cable LED indicators that allow for visual monitoring of RCD unit

- Green

$I_{\Delta} \leq 25\% I_{\Delta n}$

- Green + Yellow

25%  $I_{\Delta n} < I_{\Delta} = 50\%$  of the adjusted

- Green + Yellow + Red

$I_{\Delta} \geq 50\%$  of the adjusted  $I_{\Delta n}$

3VL160 to VL400 circuit-breakers alarm switch changeover (C0) contacts to indicate that RCD has tripped the circuit-breaker 3VL160 to VL400 circuit-breakers 690 V AC application available

Power disconnect allows for dielectric testing without removing cables

Circuit-breaker functional characteristics not effected by addition of RCD

No external voltage required.



技术数据		Technical data							
型号 /Type	VL160X	VL160	VL250	VL400	VL630	VL800	VL1250	VL1600	
最大额定电流 $I_n$ Max. rated current $I_n$ 与断路器壳架等级有关 depending on the version	A 160	160	250	400	630	800	1250	1600	
额定绝缘电压 $U_i$ 符合 IEC 60 947-2 标准 Rated insulation voltage $U_i$ acc. to IEC 60 947-2									
主导电回路 Main conducting paths	AC V 750	750	750	750	750	750	750	750	
辅助电路 Auxiliary circuits	AC V 690	690	690	690	690	690	690	690	
额定冲击耐受电压 $U_{imp}$ Rated impulse withstand voltage $U_{imp}$									
主导电回路 Main conducting paths	kV 8	8	8	8	8	8	8	8	
辅助电路 Auxiliary circuits	kV 4	4	4	4	4	4	4	4	
额定工作电压 $U_e$ Rated operational voltage $U_e$									
IEC	AC kV 690	690	690	690	690	690	690	690	
NEMA	AC kV 600	600	600	600	600	600	600	600	
允许环境温度 Permissible ambient temperature	°C -25~+75	-25~+75	-25~+75	-25~+75	-25~+75	-25~+75	-25~+75	-25~+75	
各种环境温度用的允许负荷 Permissible loads for various ambient temperatures 断路器附近, 与断路器的额定电流有关 close to the circuit-breaker, related to the rated current of the circuit-breaker									
- 线路保护用断路器 Circuit-breakers for line protection at	在 at 40°C 时 % 100 在 at 50°C 时 % 100 在 at 60°C 时 % 93 在 at 70°C 时 % 86	100 100 93 86	100 100 93 86	100 100 93 86	100 100 93 86	100 100 93 86	100 100 95 86	100 100 95 86	100 100 95 80
- 具有 ETU 脱扣器的断路器 Circuit-breakers with ETU at	在 at 40°C 时 % 100 在 at 50°C 时 % 100 在 at 60°C 时 % 93 在 at 70°C 时 % 86	100 100 93 86	100 100 93 86	100 100 93 86	100 100 93 86	- - - -	- - - -	- - - -	
- 起动机组合和隔离保护用断路器 Circuit-breakers for starter at combinaisons and non-automatic breaker	在 at 40°C 时 % 100 在 at 50°C 时 % 100 在 at 60°C 时 % 93 在 at 70°C 时 % 86	100 100 93 86	100 100 93 86	100 100 93 86	100 100 93 86	100 100 93 86	100 100 95 86	100 100 95 86	100 100 95 80
额定短路分断能力 (DC) Rated short-circuit breaking capacity (DC) 不用于电动机保护用 3VL 断路器 not for 3VL circuit-breakers for motor protection 时间常数 $t = 10ms$ /Time constant $t = 10$ ms 1 极导通 2 极串联的 3 极串联的 回路 导电回路 导电回路 1 conducting 2 conducting 3 conducting path paths in series paths in series 用于 VL160X~VL1600 断路器 /for VL160X to VL1600 可达 /up to 250V DC 440 VDC 600V DC kA 30 30 30 30 30 30 30 30 30									
NEMA 时间常数 $t = 8ms$ /Time constant $t = 8$ ms 1 极导通 2 极串联的 回路 导电回路 1 conducting 2 conducting path paths in series 250V DC - kA 30 30 30 30 30 30 30 30 30 - 250V DC kA 30 30 30 30 30 30 30 30 30									
主开关特性符合 IEC 60 947 标准 Main switch-characteristics acc. to IEC 60 947-2 包括可锁定的旋转驱动机构 in combination with lockable rotary drives	是 yes	是 yes	是 yes	是 yes	是 yes	是 yes	是 yes	是 yes	
急停开关特性 EMERGENCY-STOP switch-characteristics 符合 DIN VDE 0113 标准 acc. to DIN VDE 0113	是 yes	是 yes	是 yes	是 yes	是 yes	是 yes	是 yes	是 yes	
额定短路分断能力 Rated short-circuit breaking capacity 符合 IEC 60 947-2(在 50/60Hz 时) acc. to IEC 60 947-2 (at 50/60 Hz)	额定短路分断能力见第 1/60 页上的表 Rated short-circuit breaking capacity see table on page 1/60								

技术数据		Technical data							
型号 /Type		VL160X	VL160	VL250	VL400	VL630	VL800	VL1250	VL1600
寿命 Endurance	操作循环次数 operating cycles	20000	20000	20000	20000	10000	5000	3000	3000
最大操作频率 Max. switching frequency	1/h	120	120	120	120	60	60	30	30
导线截面和主导线的端子类型 Conductor cross-sections and terminal types for main conductors		卡箍式 Wrap around	卡箍式 Wrap around	扁平 Flat	扁平 Flat	扁平 Flat	扁平 Flat	扁平 Flat	扁平 Flat
卡箍式端子 Wrap around terminal									
单股或多股电缆 Solid or stranded cable	仅为铜 Copper only	mm <sup>2</sup>	2.5-70	2.5-70	25-150	50-240	-	-	-
带端部套筒的细多股电缆 Finely stranded with end sleeve		mm <sup>2</sup>	2.5-50	2.5-50	25-120	50-185	-	-	-
母排 /Busbar		mm	12 x 10	12 x 10	17 x 10	25 x 10	-	-	-
端子的拧紧力矩 Tightening torque for terminals		Nm	3/6	3/6	10	25	-	-	-
电缆用铝端子 Aluminium terminal for cable									
单股或多股电缆 Solid or stranded cable	铜或铝 Cu or Al	mm <sup>2</sup>	10-95	10-95	25-185	50-240	-	-	-
多路进线槽 Multiple feed-in cavity	铜或铝 Cu or Al	mm <sup>2</sup>				2 件 50-120	2 件 95-120	3 件 50-240	4 件 50-240
铝端子的拧紧力矩 Tightening torque for Al. terminal	铜或铝 Cu or Al	Nm	6/14	6/14	31	56/31	34	42	42
安装螺丝拧紧力矩 Mounting screw tightening torque		Nm	-	-	11	15/15	15	15	24
螺栓连接的母排 Bolted busbars	铜或铝 Cu or Al	mm	17 x 10	24 x 10	24 x 10	32 x 10	40 x 10	3x40x5	2x50x10
螺栓，与螺母板一起使用 Bolt for use with nut plate			M 5	M 5	M 8	M 8	M 6	M 8	M 10
母排连接件的拧紧力矩 Tightening torque for busbar connection pieces		Nm	4.5	4.5	11	15	15	15	24
控制电路用导线截面，带端子连接或端子板 Conductor cross-sections for control circuits with terminal connection or terminal strip									
单股线 /Solid	mm <sup>2</sup>	0.75-1.5	0.75-1.5	0.75-1.5	0.75-1.5	0.75-1.5	0.75-1.5	0.75-1.5	0.75-1.5
带端部套筒的细多股线 Finely stranded with end sleeve	mm <sup>2</sup>	0.75-1.0	0.75-1.0	0.75-1.0	0.75-1.0	0.75-1.0	0.75-1.0	0.75-1.0	0.75-1.0
安装螺丝用拧紧力矩 Tightening torque for fitting screws	Nm	1	1	1	1	1	1	1	1
最大额定电流时，每个断路器的功率损耗 Power loss per circuit-breaker at max. rated current									
线路保护 /Line protection	TM0.8-1.0 W	12-70	15-48	32-80	60-175	85-230	-	-	-
线路保护 /Line protection	ETU 或 LCD ETU W	-	40	60	90	160	250	210	260
对于隔离开关 for non-automatic breaker	W	40	40	60	90	160	250	210	260
用于电动机保护 for motor protection	W	-	40	60	90	160	-	-	-
允许安装位置 Permissible mounting position									
辅助开关和报警开关 3SB34 00-0K-3SB3400-0J Auxiliary and alarm switches 3SB34 00-0K-3SB3400-0J									
约定发热电流 I <sub>th</sub> Conventional free-air thermal current I <sub>th</sub>	A	10	10	10	10	10	10	10	10
额定接通能力 Rated making capacity	A	10	10	10	10	10	10	10	10

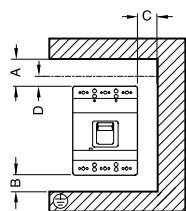
技术数据			Technical data							
型号 /Type			VL160X	VL160	VL250	VL400	VL630	VL800	VL1250	VL1600
<b>AC (AC-15)</b>										
额定工作电压	V		24	48	110	230	400	600		
Rated operational voltage										
额定工作电流	AC-12	A	10	10	10	10	10	10		
Rated operational current	AC-15	A	6	6	6	6	3	1		
<b>DC (DC-13)</b>										
额定工作电压	V		24	48	110	230				
Rated operational voltage										
额定工作电流	DC-12	A	10	5	2.5	1				
Rated operational current DC	DC-13	A	3	1.5	0.7	0.3				
后备熔断器 / 微型断路器	A		10 TDZ / 10							
Back-up fuse/Miniature circuit-breaker										
<b>专用指示开关旋转驱动机构，超前动作辅助开关</b>										
Special application indication switches rotary drive, leading auxiliary switch										
额定发热电流 $I_{th}$	A	2	2	2	2	2	2	2	2	2
Rated thermal current $I_{th}$										
额定接通能力	A	2 (ind 0.5)	2 (ind 0.5)	2 (ind 0.5)	2 (ind 0.5)	2 (ind 0.5)	2 (ind 0.5)	2 (ind 0.5)	2 (ind 0.5)	2 (ind 0.5)
Rated making capacity										
额定工作电压	AC V	220	220	220	220	220	220	220	220	220
Rated operational voltage										
额定工作电流	A	2	2	2	2	2	2	2	2	2
Rated operational current										
额定分断能力，感性，p.f. 0.7	A	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Rated breaking capacity, inductive, p.f. 0.7										
额定分断能力	A	2	2	2	2	2	2	2	2	2
Rated breaking capacity										
后备熔断器 (快速动作型)	A	2	2	2	2	2	2	2	2	2
Back-up fuse (quick response)										
<b>专用指示开关，插入式位置指示开关</b>										
Special application indication switches plug-in position switch										
额定发热电流 $I_{th}$	A	16	16							
Rated thermal current $I_{th}$										
额定接通能力	A	16	10							
Rated making capacity										
额定工作电压	AC V	250	400							
Rated operational voltage										
额定工作电流	A	16	10							
Rated operational current										
额定分断能力，感性，p.f. 0.7	A	4	4							
Rated breaking capacity, inductive, p.f. 0.7										
额定分断能力	A	16	10							
Rated breaking capacity										
后备熔断器 (快速动作型)	A	16	10							
Back-up fuse (quick response)										
<b>专用指示开关，RCD 报警开关</b>										
Special application indication switches RCD alarm switch										
额定发热电流 $I_{th}$	A		2	2	2					
Rated thermal current $I_{th}$										
额定接通能力	A		2	2	2					
Rated making capacity										
额定工作电压	AC V		250	250	250					
Rated operational voltage										
额定工作电流	A		2	2	2					
Rated operational current										
额定分断能力，感性，p.f. 0.7	A		0.5	0.5	0.5					
Rated breaking capacity, inductive, p.f. 0.7										
额定分断能力	A		2	2	2					
Rated breaking capacity										
后备熔断器 (快速动作型)	A		2	2	2					
Back-up fuse (quick response)										

技术数据		Technical data							
型号 /Type		VL160X	VL160	VL250	VL400	VL630	VL800	VL1250	VL1600
脱扣器 Releases		第 1 组 - VL160X~VL400 Group No. 1 - VL160X to VL400				第 2 组 - VL630~VL1600 Group No. 2 - VL630 to VL1600			
欠压脱扣器(“r”脱扣器) Undervoltage releases (“r” releases)									
工作电压 : Response voltage:		$U_s$	$U_s$	$U_s$	$U_s$	$U_s$	$U_s$	$U_s$	$U_s$
降释放(断路器已脱扣) Drop (breaker tripped)	V	0.35-0.70	0.35-0.70	0.35-0.70	0.35-0.70	0.35-0.70	0.35-0.70	0.35-0.70	0.35-0.70
吸合(断路器可接通) Pick-up (breaker may be switched on)	V	0.85-1.1	0.85-1.1	0.85-1.1	0.85-1.1	0.85-1.1	0.85-1.1	0.85-1.1	0.85-1.1
下列情况下的功率消耗(持续工作): Power consumption (continuous operation) at:									
110-127 V AC, 50/60 Hz	VA	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
220-250 V AC, 50/60 Hz	VA	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
208 V AC, 50/60 Hz	VA	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
277 V AC, 50/60 Hz	VA	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
380-415 V AC, 50/60 Hz	VA	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
440-480 V AC, 50/60 Hz	VA	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
500-525 V AC, 50/60 Hz	VA	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
600 V AC, 50/60 Hz	VA	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
12 V DC	W	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
24 V DC	W	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
48 V DC	W	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
60 V DC	W	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
110-127 V DC	W	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
220-250 V DC	W	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
最大分闸时间 Max. opening time	ms	50	50	50	50	50	50	50	80
分励脱扣器(“f”脱扣器) Shunt releases (“f” releases)									
工作电压 : /Response voltage: 动作(断路器脱扣) Pick-up (breaker tripped)	V	$U_s$ 0.7-1.1	$U_s$ 0.7-1.1	$U_s$ 0.7-1.1	$U_s$ 0.7-1.1	$U_s$ 0.7-1.1	$U_s$ 0.7-1.1	$U_s$ 0.7-1.1	$U_s$ 0.7-1.1
下列情况下的功率消耗(短时) : Power consumption (short-time) at:									
48-60 V AC, 50/60 Hz	VA	158-200	158-200	158-200	158-200	300-480	300-480	300-480	300-480
110-127 V AC, 50/60 Hz	VA	136-158	136-158	136-158	136-158	302-353	302-353	302-353	302-353
208-277 V AC, 50/60 Hz	VA	274-350	274-350	274-350	274-350	330-349	330-349	330-349	330-349
380-600 V AC, 50/60 Hz	VA	158-237	158-237	158-237	158-237	243-384	243-384	243-384	243-384
12 V DC	W	110	110	110	110	50	50	50	50
24 V DC	W	110	110	110	110	360	360	360	360
48-60 V DC	W	110-172	110-172	110-172	110-172	500-820	500-820	500-820	500-820
110-127 V DC	W	220-254	220-254	220-254	220-254	302-353	302-353	302-353	302-353
220-250 V DC	W	97-110	97-110	97-110	97-110	348-397	348-397	348-397	348-397
最大分闸时间 Max. opening time	ms	50	50	50	50	50	50	50	50
最大负荷持续时间 Max. load duration	s	自动断电 interrupts automatically							

技术数据		Technical data							
型号 /Type		VL160X	VL160	VL250	VL400	VL630	VL800	VL1250	VL1600
同步电动机操作机构 Synchronizable motorized operating mechanism		x	x	x	x	x	x	O	O
工作范围 /Operating range	V	0.85-1.1							
在 $U_s$ 时的最小命令持续时间 Minimum command duration at $U_s$	ms	50							
全部合闸时间 /Total closing time	ms	<100						<5000	<5000
分断时间 /Break time	s	<5							
充电时间 /Charging time	s	<5							
重合闸间隙 /Reclosing after approx.	ms	50							
最大允许开关频率 /Max. permissible operating frequency	1/h	120	120	120	120	60	60	30	30
最长命令持续时间 /Max. command duration	ms	连续 /Continuous							
功率消耗 /Power consumption	VA/W	<500							
额定控制电源 /Rated control supply	50/60 Hz AC V	-	48	60	110-127	220-250			
电压 $U_s$ /Voltage $U_s$	DC V	24	48	60	110-127	220-250			
后备熔断器或微型断路器(慢响应) Back-up fuse or miniature circuit-breaker (slow response)	A	20	16	10	6	2			

x = 可用/available    O = 电动机操作机构 /Motor operator

灭弧室上方所需空间 /Space required above arc chutes



断路器 Circuit-breaker	分断能力 Switching capacity	最小外壳 体积 Minimum Enclosure Volume m <sup>3</sup>	A ≤ 415 V 不带盖 without covers	A >415 - 690 V 不带盖 without covers	带盖 with covers	B ≤ 690 V	C ≤ 690 V	D ≤ 690 V
型号 Type								
VL160X	标准 /Standard 高 /High	0.011	35	70	35	25	25	35
VL160	标准 /Standard 高 /High 极高 /Very high	0.011	50	100	50	25	25	35
VL250	标准 /Standard 高 /High 极高 /Very high	0.015	50	100	50	25	25	35
VL400	标准 /Standard 高 /High 极高 /Very high	0.36	50	100	50	25	25	35
VL630	标准 /Standard 高 /High 极高 /Very high	0.18	50	100	50	25	25	35
VL800	标准 /Standard 高 /High 极高 /Very high	0.22	50	100	50	25	25	35
VL1250	标准 /Standard 高 /High 极高 /Very high	0.22	70	100	70	30	30	50
VL1600	标准 /Standard 高 /High	请向西门子咨询 /Consult Siemens 极高 /Very high						

允许安全间隙的定义

与断路器的距离

- A: 到导电回路 (包括无遮挡物或有接地金属)
  - B: 断路器相端子到底墙
  - C: 断路器侧部到侧墙(包括无遮挡物或有接地金属)
  - D: 到非导电部件, 最小 3mm 厚绝缘(绝缘件, 绝缘棒, 上漆板)
- 注: 当电压 >600V AC, 500V DC 时需要装端子盖。

Definitions of the permitted safety clearance distances distance from the circuit-breaker

- A: to conductive paths (blank and earthed metal)
  - B: circuit-breaker phase terminal to bottom wall
  - C: side of circuit-breaker to side walls (blank and earthed metal)
  - D: to non-conductive parts minimum of 3 mm thick insulation (insulator, insulated bar, painted plate)
- Note: Terminal covers required >600V AC, 500V DC.

技术数据 Technical data

直流通断

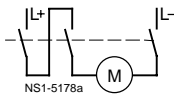
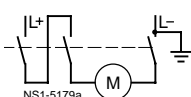
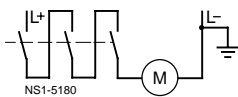
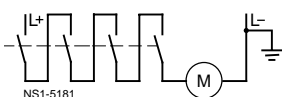
VL160X~VL630具有TM,起动机及隔离开关也可用于通断直流。但ETU不能用于直流。带电子式数字脱扣器的VL800~VL1600断路器不适合通断直流。在通断直流时,必须考虑每个导电回路的最大允许直流电压。在电压高于250V时,要求将2个或3个导电回路串联使用。

由于电流必须流经所有导电回路以便保持热脱扣特性,推荐采用下列电路布置方案。对于直流应用场合,短路瞬时脱扣值("I"脱扣器)会增加30~40%。

**DC switching**  
The VL160X to VL630 with TM, starter and non-automatic breakers are also suitable for switching DC currents. ETU

cannot be used in DC application. The VL800 to VL1600 circuit-breakers with electronic digital releases are not suitable for DC currents. For switching DC currents, however, the maximum permissible DC voltage per conducting path has to be considered.

For voltages higher than 250 V, the series connection of 2 or 3 conducting paths is required. As the current has to flow through all conducting paths so as to maintain the thermal tripping characteristics, the following circuit arrangements are recommended. With DC, the release values of the instantaneous short-circuit releases ("I" release) are increased by 30 to 40 %.

推荐线路 Recommended circuit	最大允许直流电压 $U_e$ Maximum permissible DC voltage $U_e$	说明 Remarks
用于 3 极和 4 极断路器 For 3- and 4-pole circuit-breakers		
	250 V DC	<b>双极通断</b> Double pole switching 如果没有接地故障危险,或者如果任何接地故障能够立即消除(接地故障监控),则最大允许直流电压可达600V。 If there is no risk of an earth fault, or if any earth fault can be immediately eliminated (earth fault monitoring), the maximum permissible DC voltage can be 600 V.
	440 V DC	<b>双极通断(接地系统)</b> Double pole switching (earthed system) 接地极必须始终是单个导电回路,因而出现接地故障时,两个回路始终是串联的。 The earthed pole must always be assigned to the individual conducting path, so that two paths are always in series in the event of an earth fault.
	600 V DC	<b>单极通断(接地系统)</b> Single pole switching (earthed system) 3个导电回路串联。 接地极必须是非开关的导电回路。 The earthed pole must be assigned to the non-switched conducting path.
	750 V DC	<b>单极通断(接地系统)</b> Single pole switching (earthed system) 4个导电回路串联。 接地极必须是非开关的导电回路。 The earth pole must be assigned to the non-switched conducting path.

短路接通能力, 短路分断能力和相关功率因数之间的关系  
(符合 IEC 60 947 标准)

Relation between short-circuit making capacity, short-circuit breaking capacity and the related power factor  
(acc. to IEC 60 947)

短路分断能力 Short-circuit breaking capacity $I$ A	功率因数 Power factor p.f	短路接通能力的最小值(短路分断能力的n倍) Minimum value for short-circuit making capacity (n times short-circuit breaking capacity) $n \times I$
$4500 < I \leq 6000$	0.7	$1.5 \times I$
$6000 < I \leq 10000$	0.5	$1.7 \times I$
$10000 < I \leq 20000$	0.3	$2.0 \times I$
$20000 < I \leq 50000$	0.25	$2.1 \times I$
$50000 < I$	0.2	$2.2 \times I$

技术数据

Technical data

额定短路分断能力  
Rated short-circuit breaking capacity

额定极限短路分断能力  $I_{cu}$  和额定运行短路分断能力  $I_{cs}$   
Rated ultimate short-circuit breaking capacity  $I_{cu}$  and rated service short-circuit breaking capacity  $I_{cs}$

线路保护用断路器和隔离开关		Circuit-breakers for line protection and non-automatic circuit-breakers																							
型号 /Type		VL160X		VL160		VL250		VL400		VL630		VL800		VL1250		VL1600									
额定电流	A	160		160		250		400		630		800		1250		1600									
Rated current $I_n$																									
至 /up to 220/240 V AC		$I_{cu}$	kA	65	100	65	100	200	65	100	200	65	100	200	65	100	200	65	100	200	65	100	200		
		$I_{cs}$	kA	65	75	65	75	150	65	75	150	65	75	150	65	100	150	65	75	150	65	75	150		
至 /up to 380/415 V AC		$I_{cu}$	kA	40	70	40	70	100	40	70	100	45	70	100	45	70	100	50	70	100	50	70	100		
		$I_{cs}$	kA	40	70	40	70	75	40	70	75	45	70	75	45	70	75	50	70	75	50	70	75		
至 /up to 440 V AC		$I_{cu}$	kA	25	42	25	50	100	25	50	100	35	50	100	35	50	100	35	50	100	35	50	100		
		$I_{cs}$	kA	20	32	20	38	50	20	38	50	26	38	50	26	38	50	26	38	50	26	38	50		
至 /up to 500 V AC		$I_{cu}$	kA	18	42	25	50	65	25	50	65	25	50	65	25	50	65	25	50	65	25	50	65		
		$I_{cs}$	kA	14	32	20	38	50	20	38	50	20	38	50	20	38	50	20	38	50	20	38	50		
至 /up to 690 V AC		$I_{cu}$	kA	8	12	14	18	20	14	18	20	20	22	25	20	30	35	20	30	35	20	30	35		
		$I_{cs}$	kA	4	6	7	9	10	7	9	10	10	12	12	10	15	17	10	15	17	10	15	17		
起动器组合用断路器		Circuit-breakers for starter combinations																							
型号 /Type		VL160		VL250		VL400		VL630		VL800															
额定电流	A	160		250		400		630		800															
Rated current $I_n$																									
至 /up to 220/240 V AC		$I_{cu}$	kA	65	100	200	65	100	200	65	100	200	65	100	200	65	100	200	65	100	200	65	100		
		$I_{cs}$	kA	65	75	150	65	75	150	65	75	150	65	75	150	65	100	150	65	75	150	65	75		
至 /up to 380/415 V AC		$I_{cu}$	kA	40	70	100	40	70	100	45	70	100	45	70	100	45	70	100	45	70	100	45	70		
		$I_{cs}$	kA	40	70	75	40	70	75	45	70	75	45	70	75	45	70	75	45	70	75	45	70		
至 /up to 440 V AC		$I_{cu}$	kA	25	50	100	25	50	100	35	50	100	35	50	100	35	50	100	35	50	100	35	50		
		$I_{cs}$	kA	20	38	50	20	38	50	26	38	50	26	38	50	26	38	50	26	38	50	26	38		
至 /up to 500 V AC		$I_{cu}$	kA	25	50	65	25	50	65	25	50	65	25	50	65	25	50	65	25	50	65	25	50		
		$I_{cs}$	kA	20	38	50	20	38	50	20	38	50	20	38	50	20	38	50	20	38	50	20	38		
至 /up to 690 V AC		$I_{cu}$	kA	14	18	20	14	18	20	20	22	25	20	30	35	20	30	35	20	30	35	20	30		
		$I_{cs}$	kA	7	9	10	7	9	10	10	12	12	15	15	17	15	17	17	15	17	17	15	17		
电动机保护用断路器		Circuit-breakers for motor protection																							
型号 /Type		VL160		VL250		VL400		VL630																	
额定电流	A	160		250		400		630																	
Rated current $I_n$																									
至 /up to 220/240 V AC		$I_{cu}$	kA	65	100	200	65	100	200	65	100	200	65	100	200	65	100	200	65	100	200	65	100		
		$I_{cs}$	kA	65	75	150	65	75	150	65	75	150	65	75	150	65	100	150	65	75	150	65	75		
至 /up to 380/415 V AC		$I_{cu}$	kA	40	70	100	40	70	100	45	70	100	45	70	100	45	70	100	45	70	100	45	70		
		$I_{cs}$	kA	40	70	75	40	70	75	45	70	75	45	70	75	45	70	75	45	70	75	45	70		
至 /up to 440 V AC		$I_{cu}$	kA	25	50	100	25	50	100	35	50	100	35	50	100	35	50	100	35	50	100	35	50		
		$I_{cs}$	kA	20	38	50	20	38	50	26	38	50	26	38	50	26	38	50	26	38	50	26	38		
至 /up to 500 V AC		$I_{cu}$	kA	25	50	65	25	50	65	25	50	65	25	50	65	25	50	65	25	50	65	25	50		
		$I_{cs}$	kA	20	38	50	20	38	50	20	38	50	20	38	50	20	38	50	20	38	50	20	38		
至 /up to 690 V AC		$I_{cu}$	kA	14	18	20	14	18	20	20	22	25	20	30	35	20	30	35	20	30	35	20	30		
		$I_{cs}$	kA	7	9	10	7	9	10	10	12	12	15	15	17	15	17	17	15	17	17	15	17		

■ = 极高分断能力 L/Very high switching capacity L  
 ■ = 高分断能力 H/High switching capacity H  
 ■ = 标准分断能力 N/Standard switching capacity N

脱扣特性

Tripping characteristics

反时限过电流脱扣器(热过载脱扣器,“L”脱扣器)所标定的动作值是在冷态下和在导电回路具有衡定的电流负载时,所有整定范围的误差带的平均值。

瞬时(电磁式)短路脱扣器(“I”脱扣器)的脱扣特性是以额定相电流  $I_n$  为基础的,对于带可调热过载脱扣器的断路器,指整定范围的最大额定电流。对于较低的整定电流值,“I”脱扣器的动作电流倍数会相应增加。

“L”热过载脱扣器

“I”瞬时(电磁式)短路脱扣器

The operating values specified for the inverse time overcurrent releases (thermal overload releases, "L" releases) are mean values of the scatter bands of all setting ranges from the cold state

and with uniform current loading of the conducting paths.

The tripping characteristics of the instantaneous (electromagnetic) short-circuit releases ("I" releases) are based on the rated phase current  $I_n$ , which in the case of circuit-breakers with adjustable thermal overload releases is also the upper value of the setting range. With a lower setting current, a correspondingly higher multiple is obtained for the operating current of the "I" release.

"L" thermal overload release

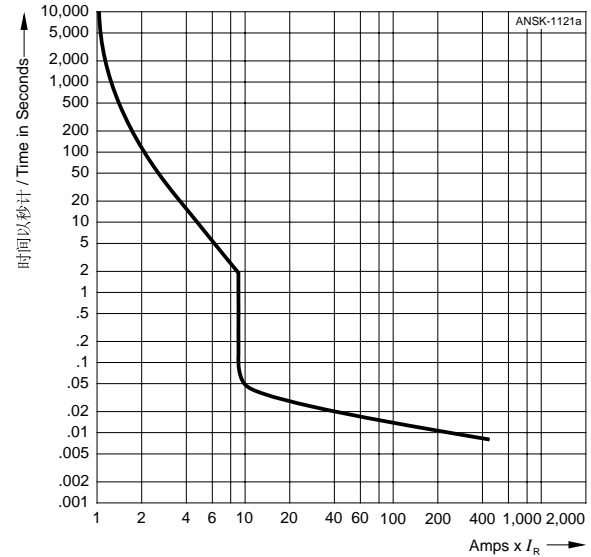
"I" instantaneous (electromagnetic) short-circuit release.

3VL160X 断路器

在 415V 时,线路保护用断路器的脱扣特性,“I”脱扣器为固定式

3VL160X circuit-breaker

Tripping characteristics of circuit-breakers for line protection, at 415 V; "I" release fixed setting

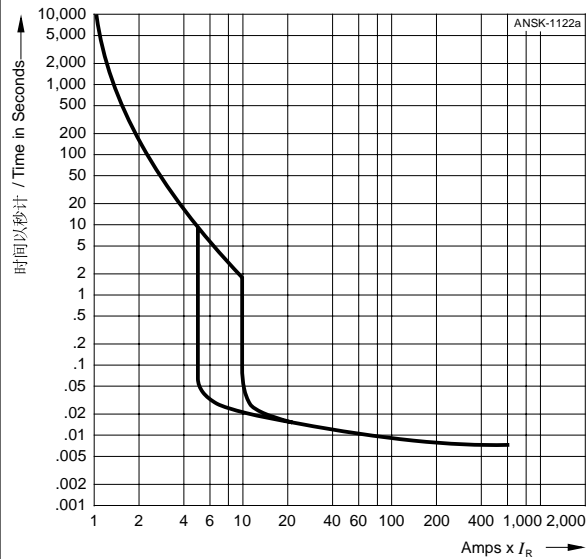


3VL160 断路器

在 415V 时,线路保护用断路器的脱扣特性,“I”脱扣器可调

3VL160 circuit-breaker

Tripping characteristics of circuit-breakers for line protection, at 415 V; "I" release adjustable

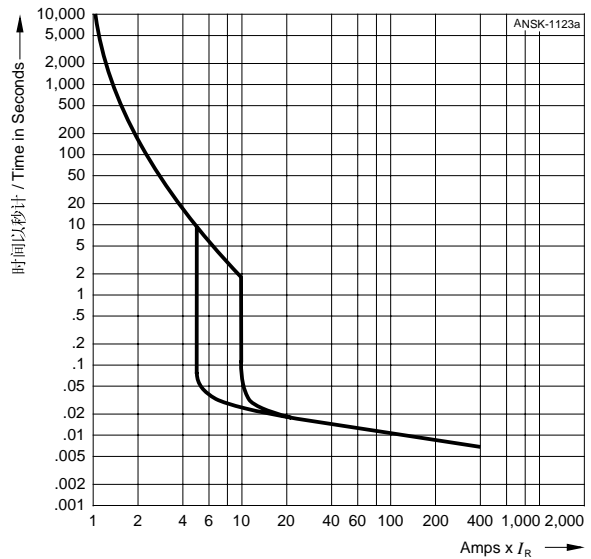


3VL250 断路器

在 415V 时,线路保护用断路器的脱扣特性,“I”脱扣器可调

3VL250 circuit-breaker

Tripping characteristics of circuit-breakers for line protection, at 415 V; "I" release adjustable





脱扣特性

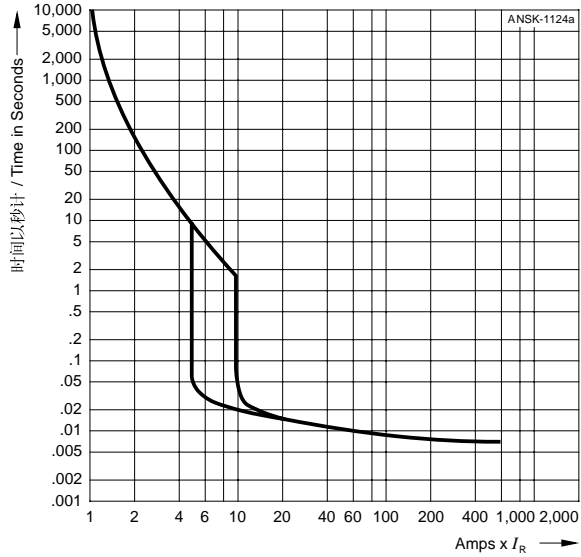
Tripping characteristics

3VL400 断路器

在 415V 时, 线路保护用断路器的脱扣特性, "I" 脱扣器可调

3VL400 circuit-breaker

Tripping characteristics of circuit-breakers for line protection, at 415 V; "I" release adjustable

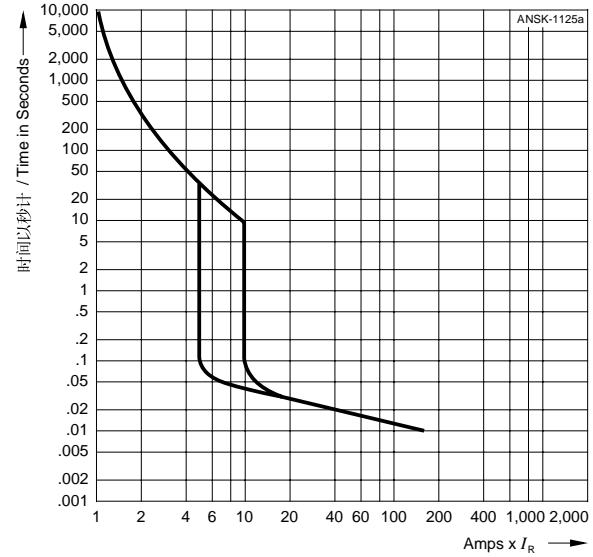


3VL630 断路器

在 415V 时, 线路保护用断路器的脱扣特性, "I" 脱扣器可调

3VL630 circuit-breaker

Tripping characteristics of circuit-breakers for line protection, at 415 V; "I" release adjustable

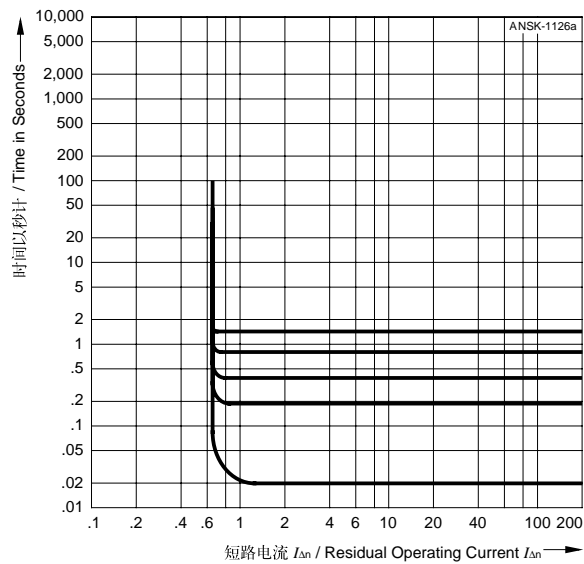


剩余电流检测(RCD)

RCD 的脱扣特性,  $t_d$  和  $I_{\Delta n}$  可调

Residual current detection (RCD)

Tripping characteristics of RCD,  $t_d$  and  $I_{\Delta n}$  adjustable

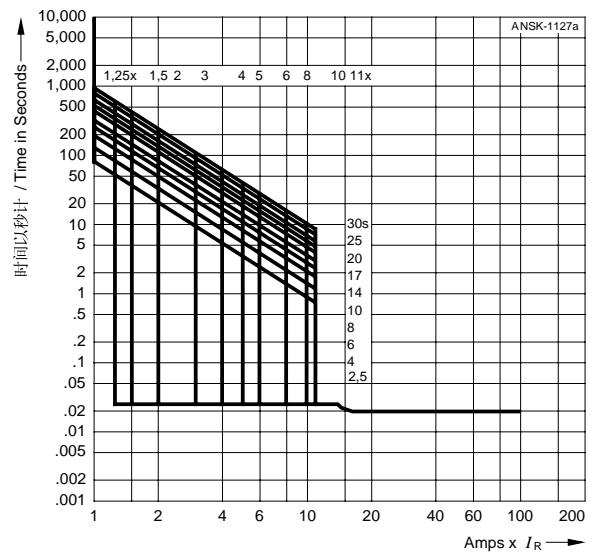


带线路保护的 ETU

在 415V 时, 带电子式过载脱扣器的断路器的脱扣特性, 实际故障情况决定曲线末端的状态

ETU with line protection

Tripping characteristics for circuit-breakers with electronic overload release, at 415 V. Application determined end of curve.



脱扣特性

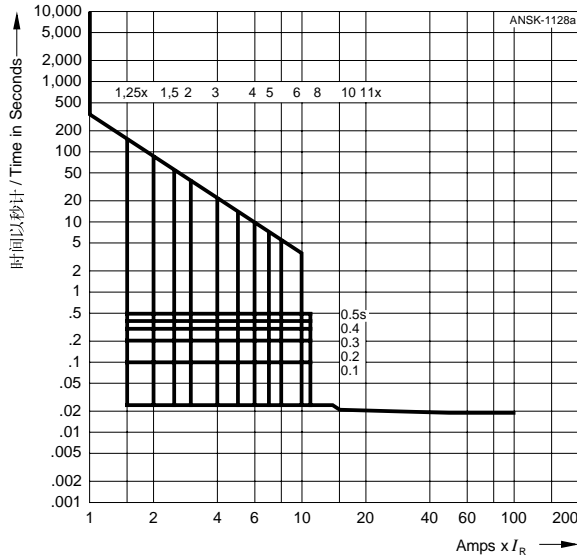
Tripping characteristics

带 LSI 的 ETU,  $I^2t$  关闭

在 415V 时, 带电子式过载脱扣器的断路器的脱扣特性, 实际故障情况决定曲线末端的状态

ETU with LSI,  $I^2t$  OFF

Tripping characteristics for circuit-breakers with electronic overcurrent releases, at 415 V. Application determined end of curve.

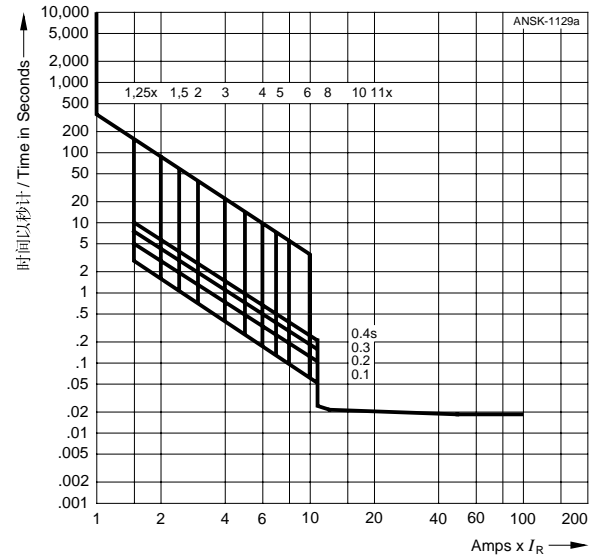


带 LSI 的 ETU,  $I^2t$  开启

在 415V 时, 带电子式过载脱扣器的断路器的脱扣特性, 实际故障情况决定曲线末端的状态

ETU with LSI,  $I^2t$  ON

Tripping characteristics for circuit-breakers with electronic overcurrent releases, at 415 V. Application determined end of curve.

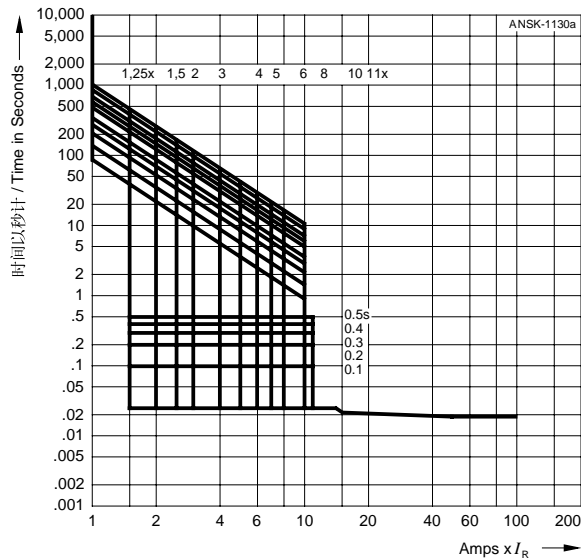


带 LSI 的 LCD ETU,  $I^2t$  关闭

在 415V 时, 带电子式过载脱扣器的断路器的脱扣特性, 实际故障情况决定曲线末端的状态

LCD ETU with LSI,  $I^2t$  OFF

Tripping characteristics for circuit-breakers with electronic overcurrent releases, at 415 V. Application determined end of curve.

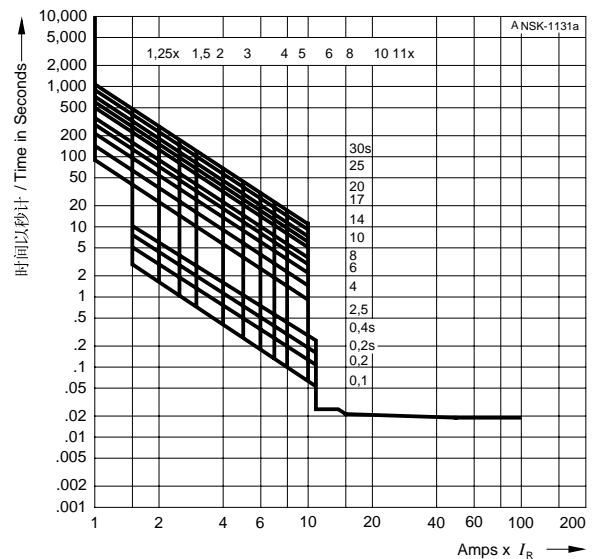


带 LSI 的 LCD ETU,  $I^2t$  开启

在 415V 时, 带电子式过载脱扣器的断路器的脱扣特性, 实际故障情况决定曲线末端的状态

LCD ETU with LSI,  $I^2t$  ON

Tripping characteristics for circuit-breakers with electronic overcurrent releases, at 415 V. Application determined end of curve.

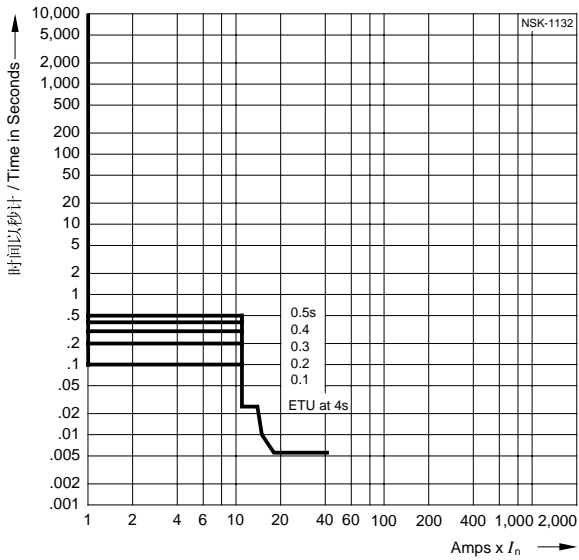


脱扣特性

Tripping characteristics

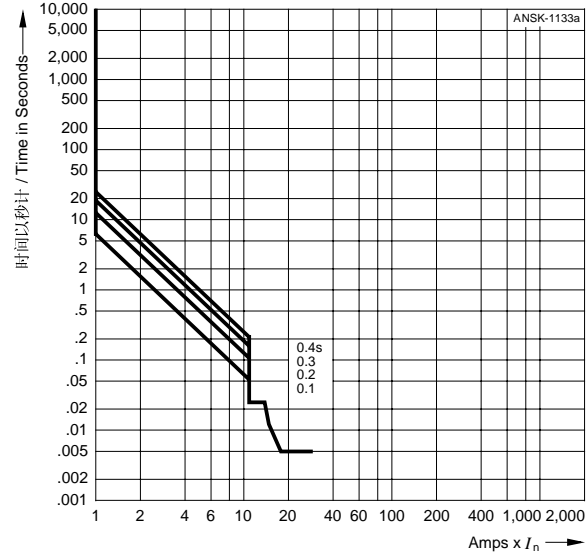
带接地故障保护的 LCD ETU 和 ETU (仅为  $t_d = 400\text{ms}$ )， $I^2t$  关闭在 415V 时，带电子式过载脱扣器的断路器的脱扣特性。

LCD ETU and ETU ( $t_d = 400\text{ ms}$  only) with earth fault protection,  $I^2t$  OFF  
Tripping characteristics for circuit-breakers with electronic overcurrent releases, at 415 V



带接地故障保护的 LCD ETU， $I^2t$  开启在 415V 时，带电子式过载脱扣器的断路器的脱扣特性。

LCD ETU with earth fault protection,  $I^2t$  ON  
Tripping characteristics for circuit-breakers with electronic overcurrent releases, at 415 V



带电子式过电流脱扣器的电动机 / 发电机保护用 3VL160，VL250，VL400 和 VL630 断路器的特性。

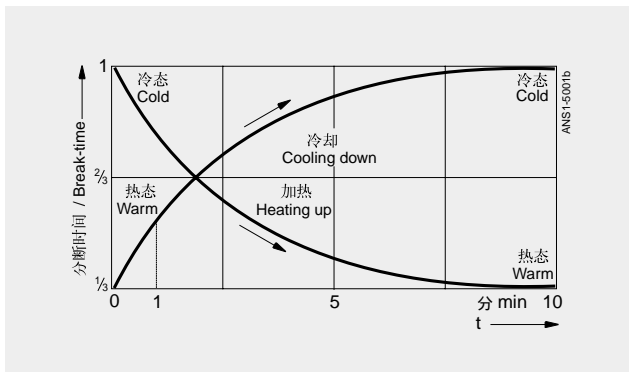
过电流反时限脱扣器的脱扣时间仅对非预负载(冷态)起动状态有效。在工作温度时(在加载额定电流之后)，脱扣时间缩短至约 33%。在过电流脱扣之后，脱扣时间按照脱扣时间特性缩短(见右图)，这样，在重新启动电动机之前，需要冷却几分钟。

Characteristics of 3VL160, VL250, VL400 and VL630 circuit-breakers for motor/generator protection with electronic overcurrent releases.

The tripping times of the inverse-time delayed overcurrent releases are only valid for the nonpreloaded (cold) start state. At operating temperature (after load with rated current), the tripping times are reduced to approx. 33%. After an overcurrent trip, the tripping times are reduced according to the tripping time characteristics (see fig. on the right) so that cooling down for some minutes is required before restart the motor.

脱扣时间特性(热记忆)

Tripping time characteristics (thermal memory)

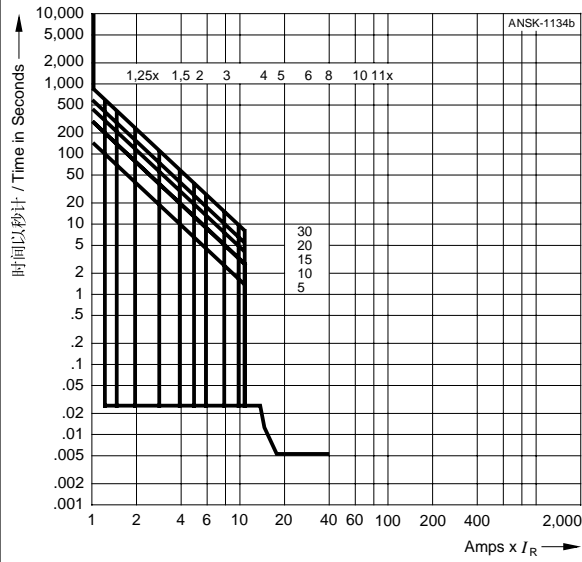


脱扣特性

Tripping characteristics

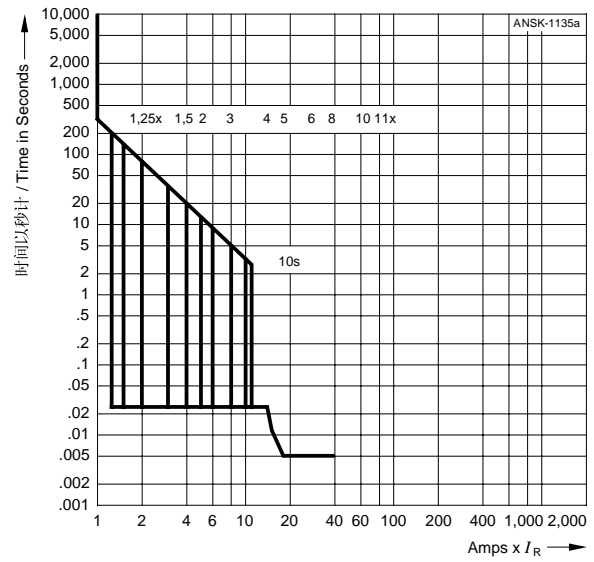
时滞等级为 5, 10, 15, 20, 30 的 LCD ETU  
在 415V 时, 带电子式过载脱扣器的断路器的脱扣特性。

LCD ETU with trip class 5, 10, 15, 20, 30  
Tripping characteristics for circuit-breakers with electronic overcurrent releases,  
at 415 V



时滞等级为 10 的 ETU  
在 415V 时, 带电子式过载脱扣器的断路器的脱扣特性。

ETU with trip class 10  
Tripping characteristics for circuit-breakers with electronic overcurrent releases,  
at 415 V



脱扣特性

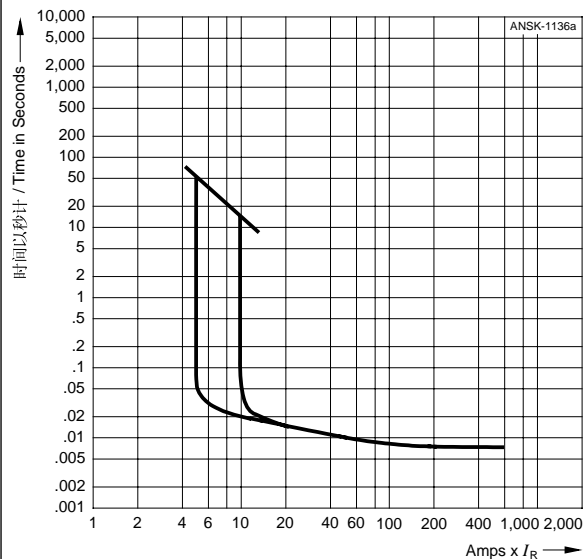
Tripping characteristics

3VL160 断路器

起动器组合用断路器的脱扣特性,  $I_{cu}$  40/70/100kA

3VL160 circuit-breaker

Tripping characteristics of circuit-breakers for starter combinations,  $I_{cu}$  40/70/100 kA

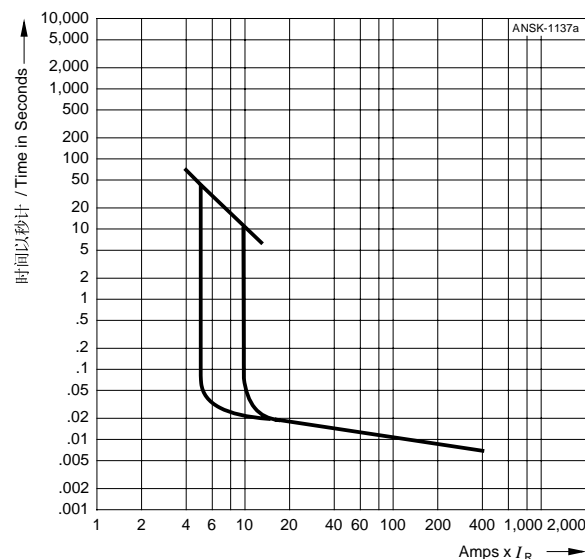


3VL250 断路器

起动器组合用断路器的脱扣特性,  $I_{cu}$  40/70/100kA

3VL250 circuit-breaker

Tripping characteristics of circuit-breakers for starter combinations,  $I_{cu}$  40/70/100 kA

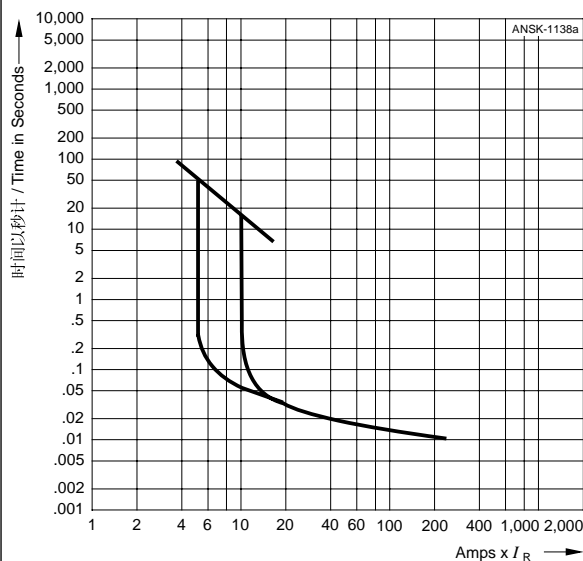


3VL400 断路器

415V 时, 起动器组合用断路器的脱扣特性。

3VL400 circuit-breaker

Tripping characteristics of circuit-breakers for starter combinations, at 415 V

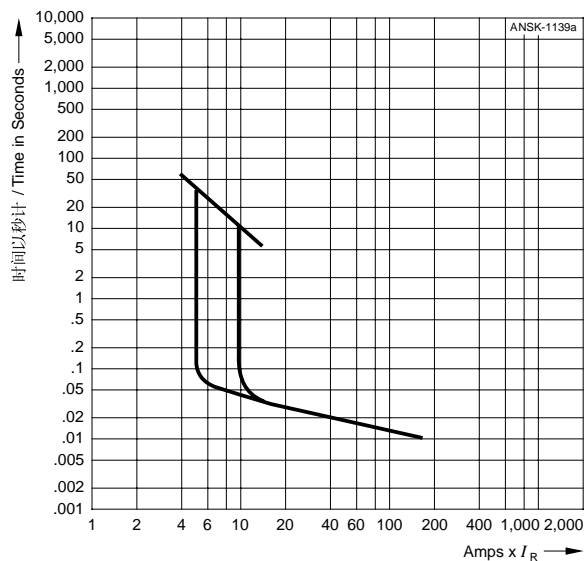


3VL630/VL800 断路器

在 415V 时, 起动器组合用断路器的脱扣特性。

3VL630/VL800 circuit-breakers

Tripping characteristics of circuit-breakers for starter combinations, at 415 V

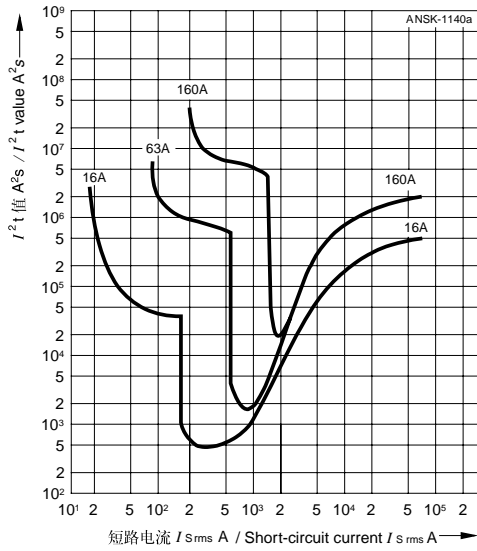


允通量曲线

Let-through curves

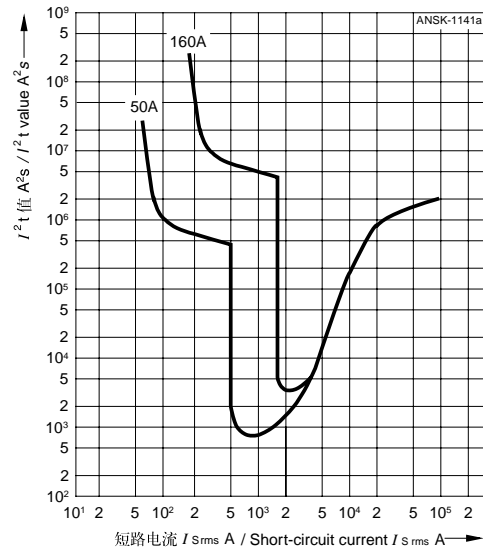
3VL160X 断路器, 在 415V 时为 16A~160A  
热磁式过电流脱扣器

3VL160X circuit-breaker, 16 A to 160 A at 415 V  
Thermal magnetic overcurrent releases



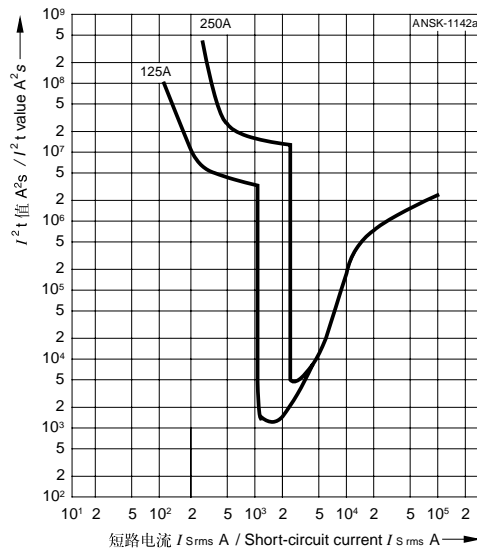
3VL160 断路器, 在 415V 时 50A~160A  
热磁式过电流脱扣器

3VL160 circuit-breaker, 50 A to 160 A at 415 V  
Thermal magnetic overcurrent releases



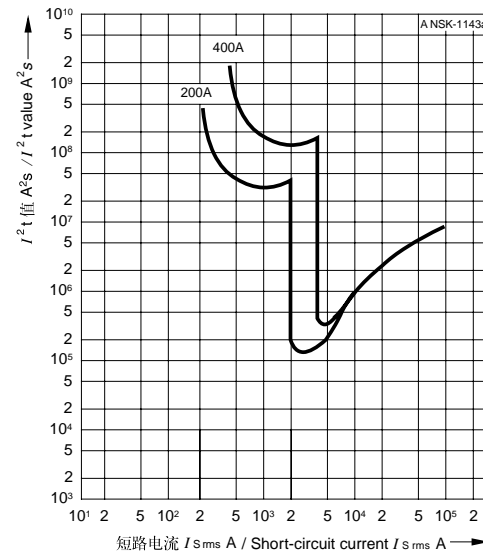
3VL250 断路器, 在 415V 时 125A~250A  
热磁式过电流脱扣器

3VL250 circuit-breaker, 125 A to 250 A at 415 V  
Thermal magnetic overcurrent releases



3VL400 断路器, 在 415V 时, 200A~400A  
热磁式过电流脱扣器

3VL400 circuit-breaker, 200 A to 400 A at 415 V  
Thermal magnetic overcurrent releases

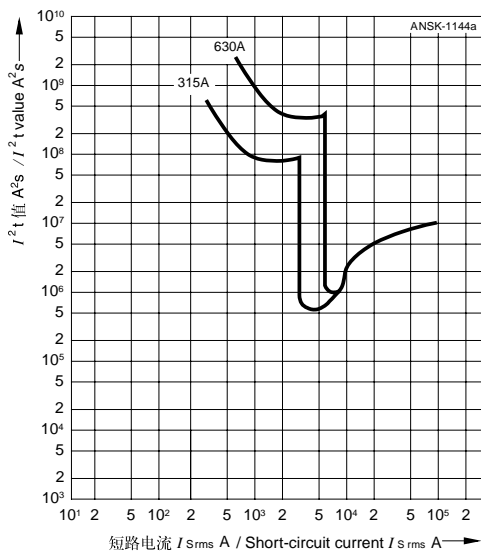


允通量曲线

Let-through curves

3VL630 断路器, 在 415V 时, 315A~630A  
热磁式过电流脱扣器

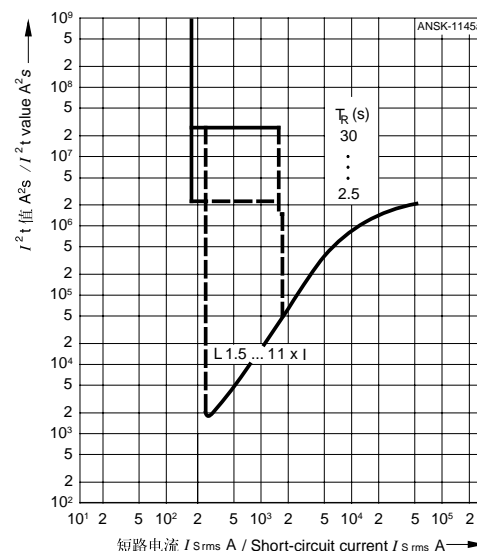
3VL630 circuit-breaker, 315 A to 630 A at 415 V  
Thermal magnetic overcurrent releases



3VL160 断路器, 63A~160A  
电子式过电流脱扣器

所示特性为在 415V 时  $I_R = 160A$ , LSI,  $I^2t$  关闭

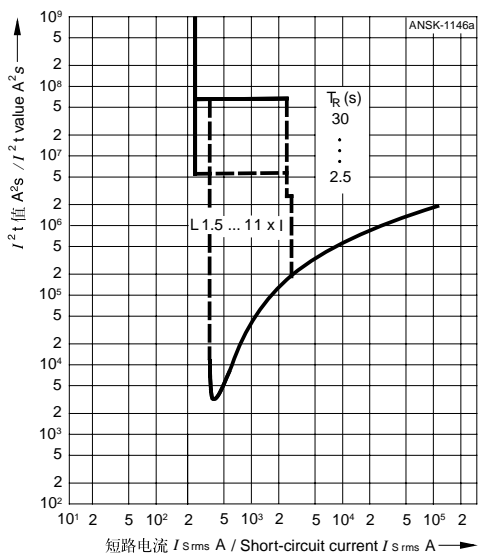
3VL160 circuit-breaker, 63 A to 160 A  
Electronic overcurrent releases  
Characteristics shown for  $I_R = 160 A$  at 415 V, LSI with  $I^2t$  OFF



3VL250 断路器, 200A~250A  
电子式过电流脱扣器

所示特性为在 415V 时  $I_R = 250A$ , LSI,  $I^2t$  关闭

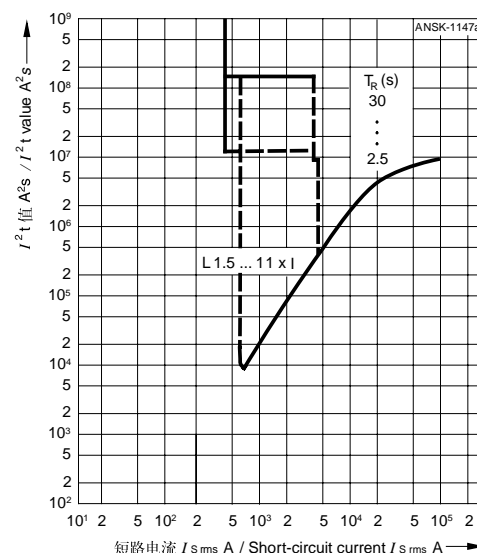
3VL250 circuit-breaker, 200 A to 250 A  
Electronic overcurrent releases  
Characteristics shown for  $I_R = 250 A$  at 415 V, LSI with  $I^2t$  OFF



3VL400 断路器, 315A~400A  
电子式过电流脱扣器

所示特性为在 415V 时  $I_R = 400A$ , LSI,  $I^2t$  关闭

3VL400 circuit-breaker, 315 A to 400 A  
Electronic overcurrent releases  
Characteristics shown for  $I_R = 400 A$  at 415 V, LSI with  $I^2t$  OFF



穿越电流波形

Let-through curves

3VL630/VL800 断路器, 630A~800A

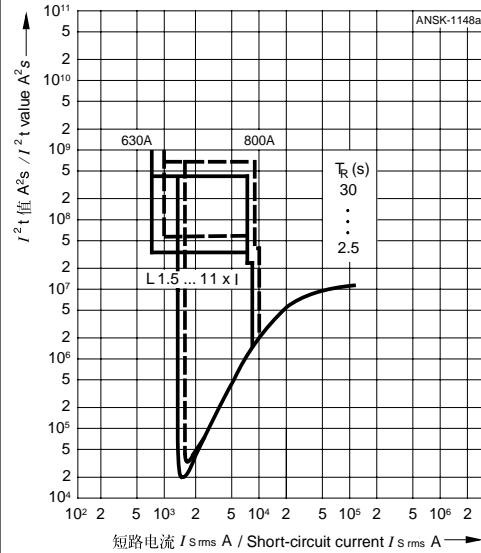
电子式过电流脱扣器

所示特性为在 415V 时  $I_R = 630A$  和  $I_R = 800A$ , LSI,  $I^2t$  关闭

3VL630/VL800 circuit-breakers, 630 A to 800 A

Electronic overcurrent releases

Characteristics shown for  $I_R = 630 A$  and  $I_R = 800 A$  at 415 V, LSI with  $I^2t$  OFF



3VL1250/VL1600 断路器, 1000A~1600A

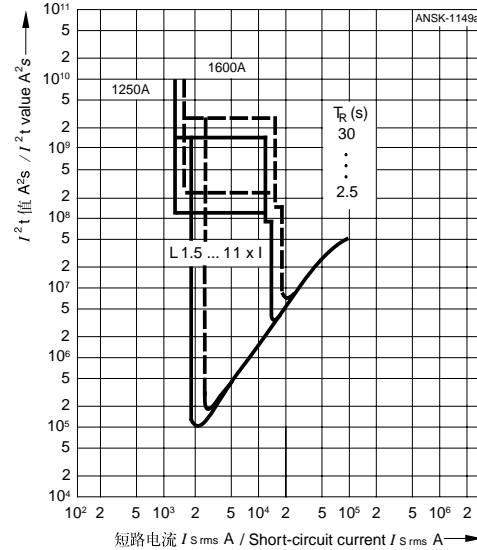
电子式过电流脱扣器

所示特性为在 415V 时  $I_R = 1250A$  和  $I_R = 1600A$ , LSI,  $I^2t$  关闭

3VL1250/VL1600 circuit-breakers, 1000 A to 1600 A

Electronic overcurrent releases

Characteristics shown for  $I_R = 1250 A$  and  $I_R = 1600 A$  at 415 V, LSI with  $I^2t$  OFF



3VL160/VL250 断路器, 63A~250A

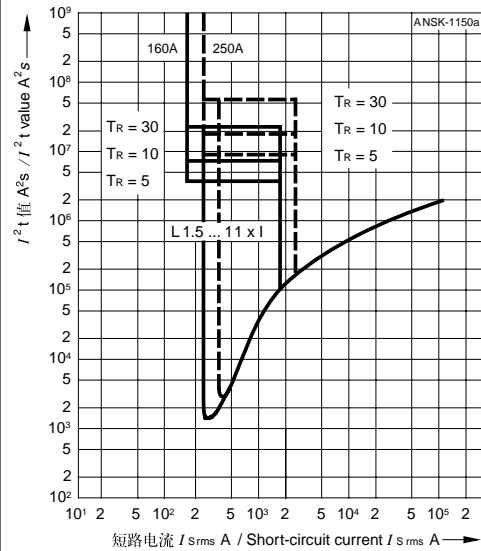
电动机 / 发电机保护, 带电子式过电流脱扣器

所示特性为在 415V 时  $I_R = 160A$  和  $I_R = 250A$ ,  $T_R = 0.5-30$

3VL160/VL250 circuit-breakers, 63 A to 250 A

Motor/generator protection with electronic overcurrent releases

Characteristics shown for  $I_R = 160 A$  and  $I_R = 250 A$  at 415 V,  $T_R = 0.5-30$



3VL400 断路器, 315A~400A

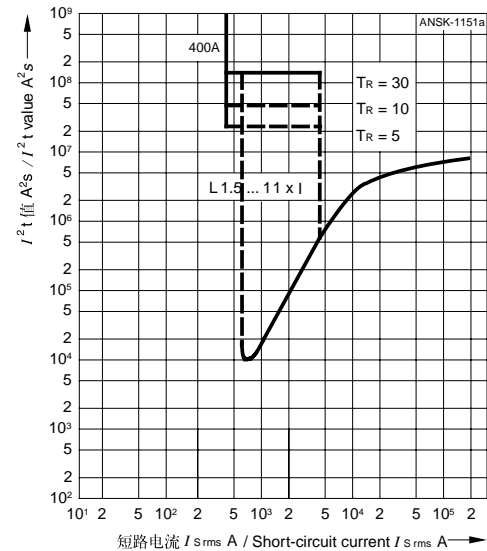
电动机 / 发电机保护, 带电子式过电流脱扣器

所示特性为在 415V 时  $I_R = 400A$ ,  $T_R = 0.5-30$

3VL400 circuit-breaker, 315 A to 400 A

Motor/generator protection with electronic overcurrent releases

Characteristics shown for  $I_R = 400 A$  at 415 V,  $T_R = 0.5-30$





电路图

Circuit diagrams

下列图中使用的符号表示开关设备的型号、线路和工作方式,符合DIN 40 713标准,但不表示其实际设计。

此处仅显示必要的电路图,以便更好地了解有关设备的工作方式。

此处所示的可能组合数量并非全部。对于未示出的类型,应相应修改或补充电路图。

The symbols used in the following diagrams indicate the type, circuitry and mode of operation of the switching

devices in accordance with DIN 40 713, but not their actual design.

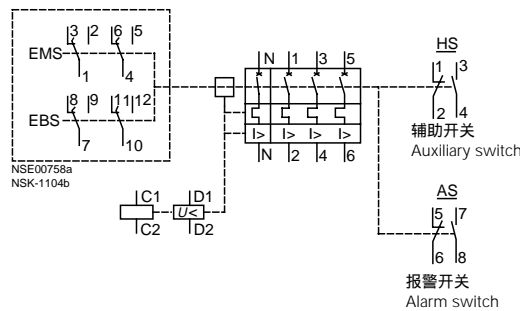
The number of possible combinations shown here is not complete. For versions different from those shown, the dia-grams

should be modified or supplemented accordingly.

Circuit diagrams are shown only where they are necessary for better understanding of the mode of operation of the equipment concerned.

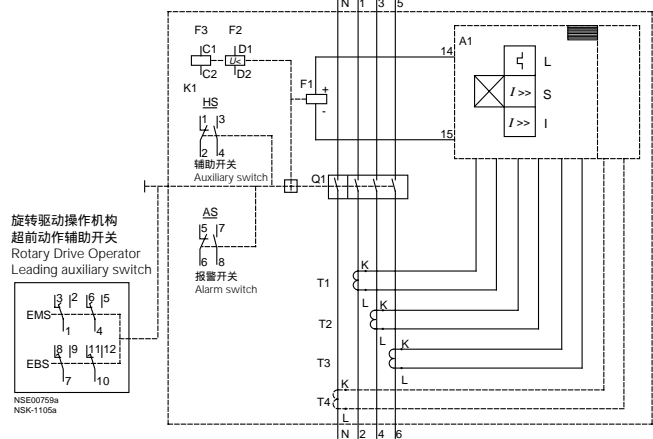
带热磁式过电流脱扣器的线路保护用 3VL160X-VL630 3 极和 4 极断路器的端子图

Terminal diagram for 3VL160X to VL630, 3- and 4-pole circuit-breakers for line protection with thermal magnetic overcurrent releases



带电子式过电流脱扣器的线路和电动机保护用 3VL160 和 VL250 3 极和 4 极断路器的电路图

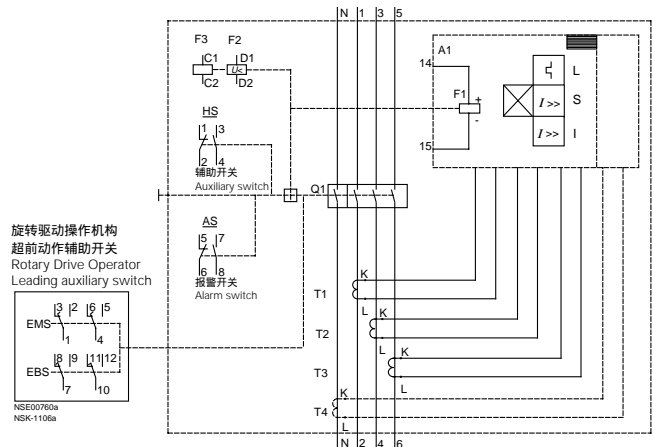
Circuit diagram for 3VL160 and VL250, 3- and 4-pole circuit-breakers for line and motor protection with electronic overcurrent releases



- Q1 主触头
- A1 电子式过电流脱扣器
- F1 A1 用脱扣器电磁线圈
- F2 欠压脱扣器
- F3 分励脱扣器
- HS 辅助开关
- AS 报警开关
- EBS 超前动作辅助开关, 合闸-分闸 (包含在旋转驱动机构中)
- EMS 超前动作辅助开关, 分闸-合闸 (包含在旋转驱动机构中)
- T1...T4 电流互感器
- Q1 Main contacts
- A1 Electronic overcurrent release
- F1 Release solenoid for A1
- F2 Undervoltage release
- F3 Shunt release
- HS Auxiliary switches
- AS Alarm switches
- EBS Leading auxiliary switch after ON to OFF (integrated in the rotary drive)
- EMS Leading auxiliary switch after OFF to ON (integrated in the rotary drive)
- T1 ... T4 Current transformers

电动机保护用 3VL400 断路器以及带电子式过电流脱扣器的线路保护用 3VL400-VL1600 3 极和 4 极断路器的电路图

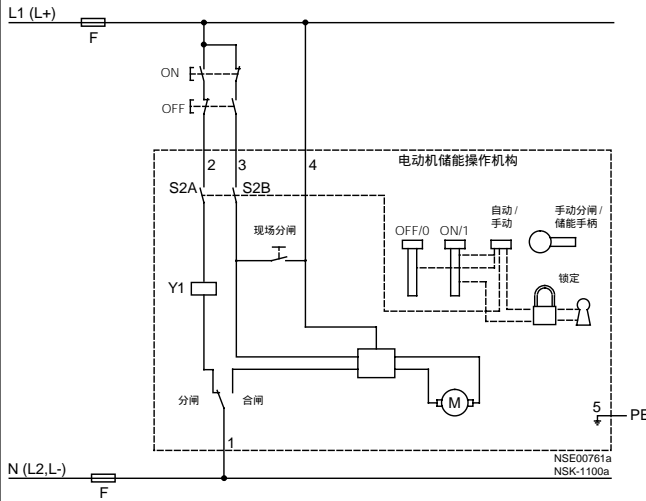
Circuit diagram for 3VL400 circuit-breakers for motor protection and 3VL400 to VL1600, 3- and 4-pole circuit-breakers for line protection with electronic overcurrent releases



# 3VL160X ~ VL1600 断路器 3 极和 4 极

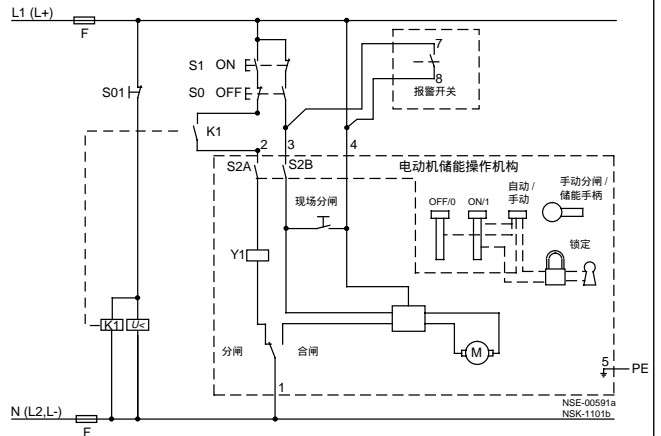
## 电路图

3VL160X~VL250 断路器用电动机储能操作机构。不与欠压脱扣器一起使用。



- S0 分闸(用户提供)
- S1 合闸(用户提供)
- S2 自动 / 手动选择
- F1 储能用脱扣器
- F 控制线路熔断器

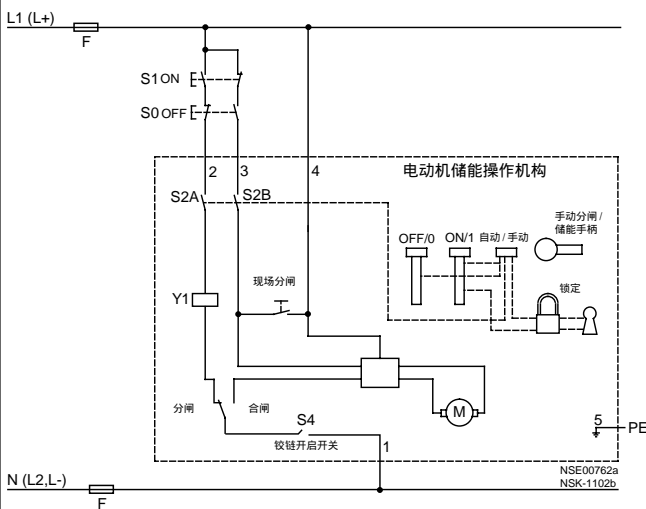
带欠压脱扣器的 3VL160X~VL250 断路器用电动机储能操作机构



- S0 分闸(用户提供)
- S1 合闸(用户提供)
- S2 自动 / 手动选择
- F1 储能用脱扣器
- F 控制线路熔断器
- S01 远程命令(用户提供)
- K1 接触器继电器(用户提供)

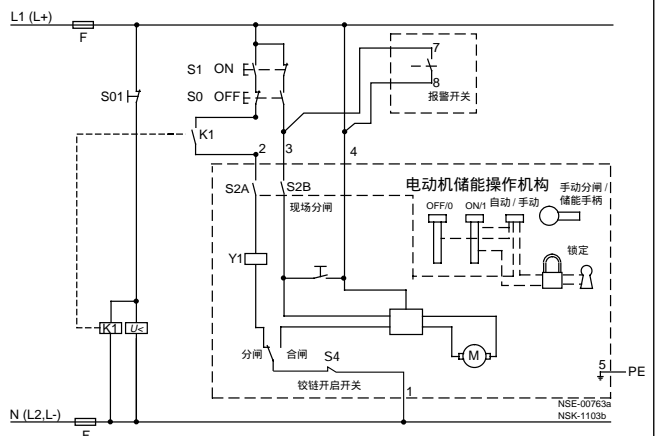
注：可连接一个单独报警开关触头(7-8)，便于在“脱扣”后自动储能。  
建议不要为已脱扣的断路器提供自动合闸，以避免断路器在未能解除线路故障时合闸。

3VL400~VL800 断路器用电动机储能操作机构。不与欠压脱扣器一起使用。



- S0 分闸
- S1 合闸
- S2 自动 / 手动选择
- S4 铰链“开启”开关
- F1 储能用脱扣器
- F 控制线路熔断器

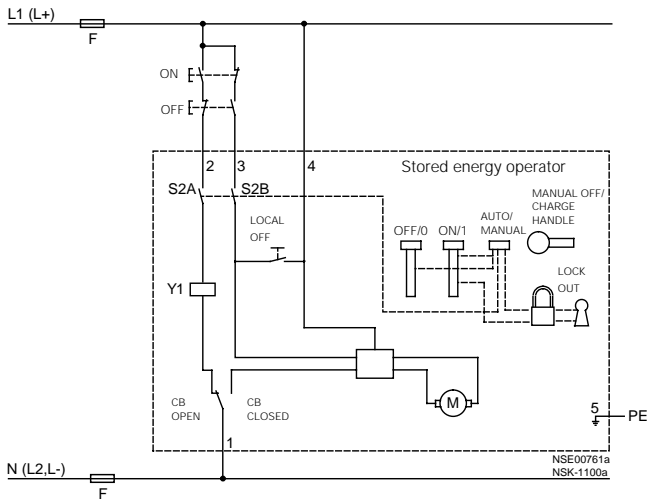
带欠压脱扣器的 3VL400~VL800 断路器用电动机储能操作机构



- S0 分闸(用户提供)
- S1 合闸(用户提供)
- S2 自动 / 手动选择
- S4 铰链“开启”开关
- F1 储能用脱扣器
- F 控制线路熔断器
- S01 远程命令(用户提供)
- K1 接触器继电器(用户提供)

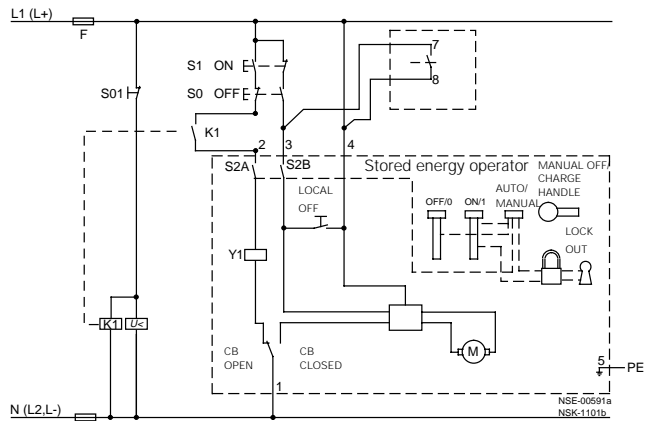
注：可连接一个单独报警开关触头(7-8)，便于在“脱扣”后自动储能。  
建议不要为已脱扣的断路器提供自动合闸，以避免断路器在未能解除线路故障时合闸。

Motor charged stored energy mechanism for 3VL160X to VL250 circuit-breakers. Not for use with undervoltage release device



- S0 OFF (customer supplied)
- S1 ON (customer supplied)
- S2 Auto/manual selector
- F1 Release for stored energy
- F Control circuit fuse

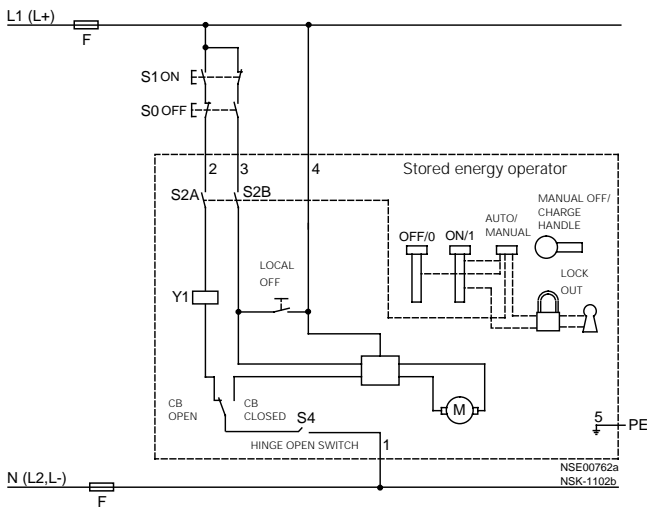
Motor charged stored energy mechanism for 3VL400 to VL800 circuit-breakers with undervoltage device



- S0 OFF (customer supplied)
- S1 ON (customer supplied)
- S2 Auto/manual selection
- F1 Release for stored energy
- F Control circuit fuse
- S01 Remote command (customer supplied)
- K1 Contactor relay (customer supplied)

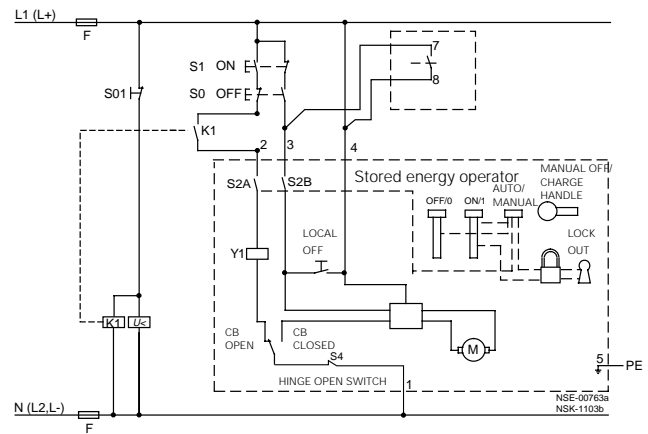
Note: A separate alarm switch contact (7-8) can be connected for automatic charging after "TRIP".  
Automatic closing is not recommended for a tripped circuit-breaker to avoid closing the circuit-breaker into a fault on the protected circuit.

Motor charged stored energy mechanism for 3VL400 to VL800 circuit-breakers. Not for use of undervoltage release device



- S0 OFF
- S1 ON
- S2 Auto/manual selector
- S4 Hinge "OPEN" switch
- F1 Release for stored energy
- F Control circuit fuse

Motor charged stored energy mechanism for 3VL400 to VL800 circuit-breakers with undervoltage device



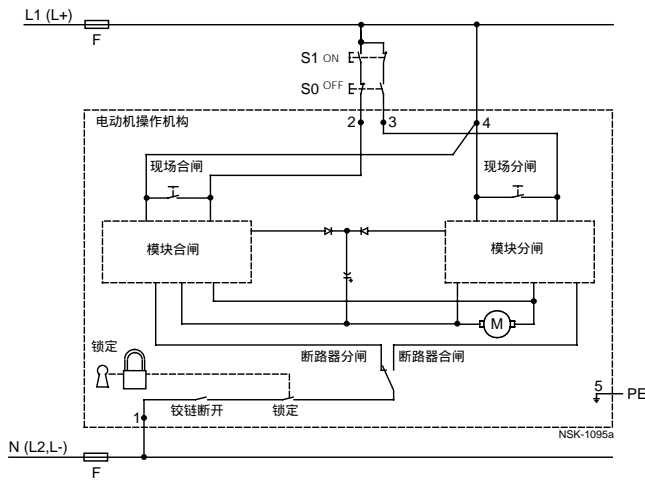
- S0 OFF (customer supplied)
- S1 ON (customer supplied)
- S2 Auto/manual selection
- S4 Hinge "OPEN" switch
- F1 Release for stored energy
- F Control circuit fuse
- S01 Remote command (customer supplied)
- K1 Contactor relay (customer supplied)

Note: A separate alarm switch contact (7-8) can be connected for automatic charging after "TRIP".  
Automatic closing is not recommended for a tripped circuit-breaker to avoid closing the circuit-breaker into a fault on the protected circuit.

# 3VL160X ~ VL1600 断路器 3 极和 4 极

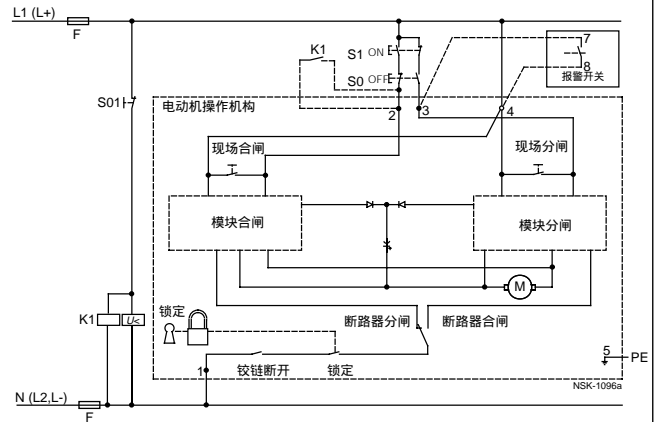
## 电路图

不带欠压脱扣器的 3VL1250 和 VL1600 断路器用电动机操作机构



- S1 合闸(用户提供)
- S0 分闸(用户提供)
- F 控制线路中的熔断器

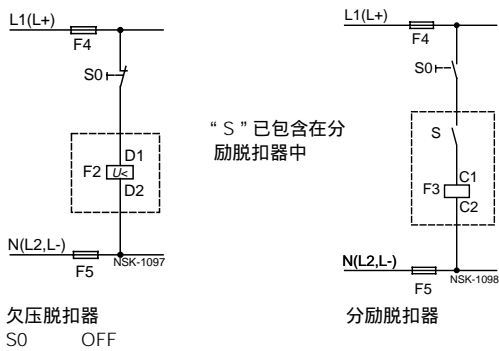
带欠压脱扣器的 3VL1250 和 VL1600 断路器用电动机操作机构



- S1 合闸(用户提供)
- S0 分闸(用户提供)
- F 控制线路中的熔断器
- S01 远程命令
- K1 接触器继电器

注：可连接一个单独报警开关触头(7-8)，便于在“脱扣”后自动储能。建议不要为已脱扣的断路器提供自动合闸，以避免断路器在未解除线路故障时合闸。

3VL160X~VL1600 断路器用欠压脱扣器和分励脱扣器

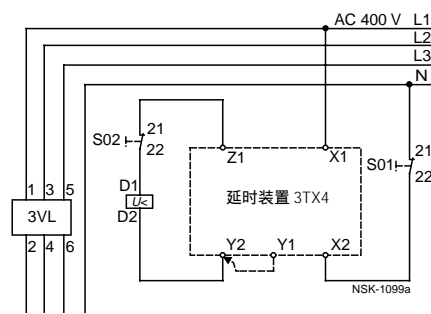


欠压脱扣器  
S0 OFF

分励脱扣器

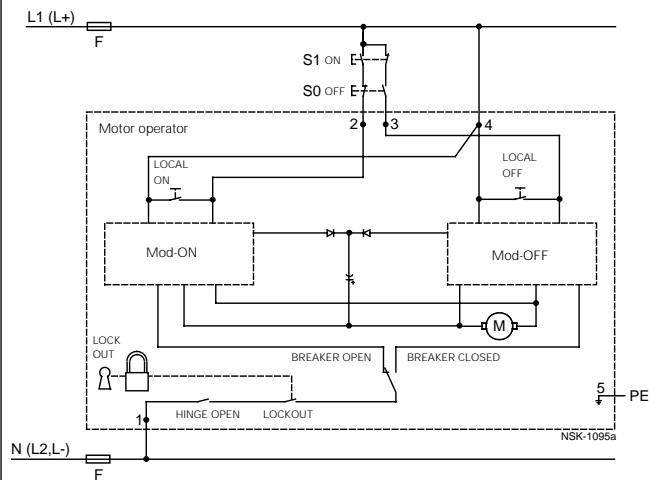
触头 S 已包含在分励脱扣器中

3VL160X~VL1600 断路器用欠压脱扣器延时装置



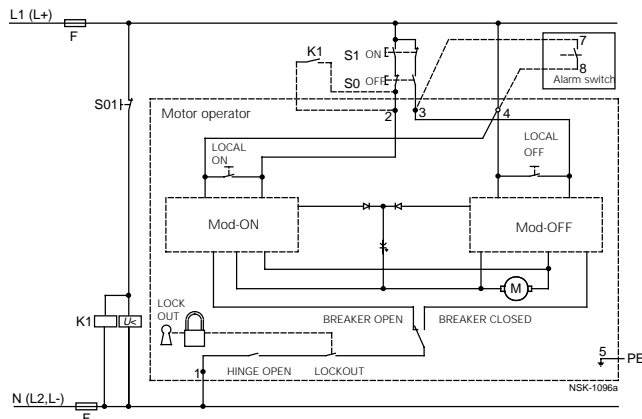
S01 延时脱扣器  
S02 急停回路用瞬时脱扣器 (如需要)

Motor operated mechanism for 3VL1250 and VL1600 circuit-breakers without undervoltage release device



S1 ON (customer supplied)  
S0 OFF (customer supplied)  
F Fuse in control circuit

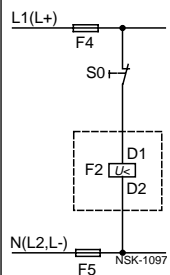
Motor operated mechanism for 3VL1250 and VL1600 circuit-breakers with undervoltage release device



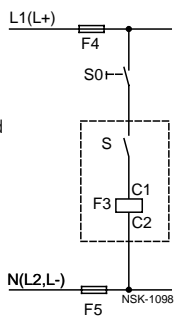
S1 ON (customer supplied)  
S0 OFF (customer supplied)  
F Fuse in control circuit  
S011 Remote command  
K1 Contactor relay

Note: A separate alarm switch contact (7-8) can be connected for automatic charging after "TRIP".  
Automatic closing is not recommended for a tripped circuit-breaker to avoid closing the circuit-breaker into a fault on the protected circuit.

Undervoltage and shunt releases for 3VL160X to VL1600 circuit-breakers



"S" is integrated into the shunt release

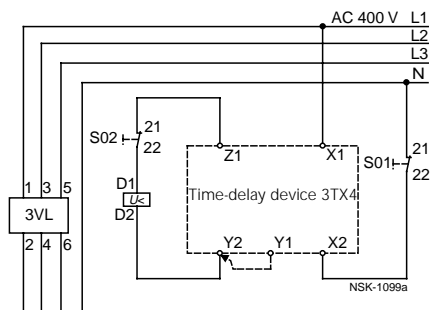


UNDERVOLTAGE RELEASE  
S0 OFF

SHUNT RELEASE

Contact S is integrated into the shunt release

Time delay device for undervoltage releases for 3VL160X to VL1600 circuit-breakers



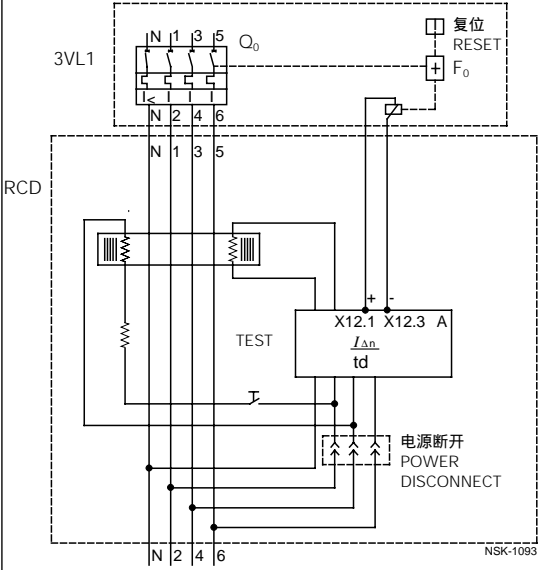
S01 Delayed release  
S02 Instantaneous release for EMERGENCY-STOP loop (if necessary)

电路图

Circuit diagrams

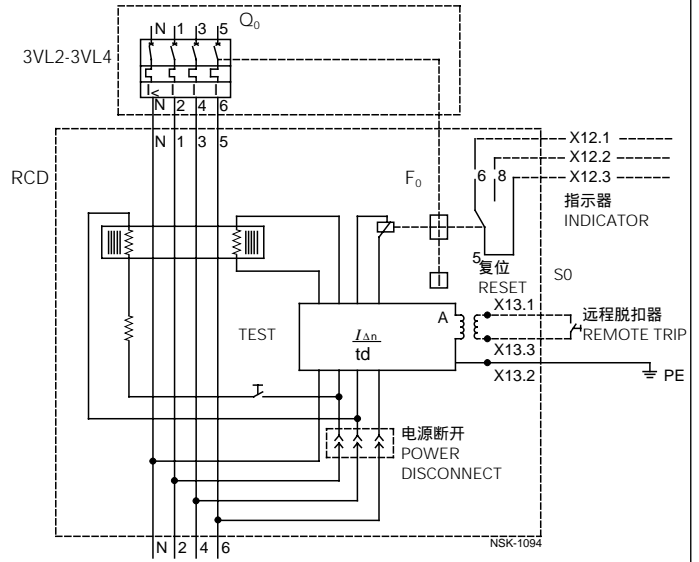
带 RCD 的 3VL160X 4 极断路器  
3 极类似，但不带 N 极

4-pole 3VL160X circuit-breaker with RCD shown.  
3-pole is similar, but without N-pole



3VL160, VL250 和 VL400 4 极断路器线路图，带远程脱扣器和远程脱扣器显示。  
3 极类似，但不带 N 极。

4-pole circuit-breaker diagram for 3VL160, VL250 and VL400 circuit-breakers with remote trip and remote trip indication. 3-pole is similar, but without N-pole.



- Q<sub>0</sub> 断路器
- A 电子式计算装置
- F<sub>0</sub> 脱扣器电磁线圈，带现场脱扣显示和复位
- TEST 测试按钮
- Q<sub>0</sub> Circuit-breaker
- A Evaluation electronics
- F<sub>0</sub> Solenoid release with local trip indication and reset
- TEST Test button

- Q<sub>0</sub> 断路器
- A 电子式计算装置
- F<sub>0</sub> 脱扣器电磁线圈，带现场脱扣显示和复位
- TEST 测试按钮
- S<sub>0</sub> 远程脱扣器(用户提供)
- Q<sub>0</sub> Circuit-breaker
- A Evaluation electronics
- F<sub>0</sub> Solenoid release with local trip indication and reset
- TEST Test button
- S<sub>0</sub> Remote trip (customer supplied)

# 尺寸 Dimensions

	页号 Page		页号 Page
<b>3VL160X, VL160 和 VL250 断路器</b>		<b>3VL160X, VL160 and VL250 Circuit-Breakers</b>	
3 极和 4 极断路器	1/78	Circuit-breakers, 3- and 4-pole	1/78
操作机构	1/79	Operators	1/79
连接件和相间隔板	1/80	Connections and interphase barriers	1/80
端子盖	1/81	Terminal covers	1/81
附件	1/82	Accessories	1/82
面板开孔	1/83	Panel cutouts	1/83
插入式插座和附件	1/84	Plug-in socket and accessories	1/84
抽屉型 和附件 - 仅限 3VL160 和 VL250	1/86	Drawout version and accessories -only for 3VL160 and VL250	1/86
<b>3VL400 断路器</b>		<b>3VL400 Circuit-Breakers</b>	
3 极和 4 极断路器	1/88	Circuit-breakers, 3- and 4-pole	1/88
操作机构	1/88	Operators	1/88
连接件和相间隔板	1/89	Connections and interphase barriers	1/89
端子盖	1/90	Terminal covers	1/90
附件	1/91	Accessories	1/91
面板开孔	1/92	Panel cutouts	1/92
插入式插座和附件	1/93	Plug-in socket and accessories	1/93
抽屉型和附件	1/94	Drawout version and accessories	1/94
<b>3VL630 断路器</b>		<b>3VL630 Circuit-Breakers</b>	
3 极和 4 极断路器	1/96	Circuit-breakers, 3- and 4-pole	1/96
操作机构	1/96	Operators	1/96
连接件和相间隔板	1/97	Connections and interphase barriers	1/97
端子盖	1/98	Terminal covers	1/98
附件	1/99	Accessories	1/99
面板开孔	1/100	Panel cutouts	1/100
插入式插座和附件	1/101	Plug-in socket and accessories	1/101
抽屉型和附件	1/102	Drawout version and accessories	1/102
<b>3VL800 断路器</b>		<b>3VL800 Circuit-Breakers</b>	
3 极和 4 极断路器	1/104	Circuit-breakers, 3- and 4-pole	1/104
操作机构	1/104	Operators	1/104
连接件和相间隔板	1/105	Connections and interphase barriers	1/105
端子盖	1/106	Terminal covers	1/106
附件	1/107	Accessories	1/107
面板开孔	1/108	Panel cutouts	1/108

	页号 Page		页号 Page
<b>3VL1250 和 VL1600 断路器</b>		<b>3VL1250 und VL1600 Circuit-Breakers</b>	
3 极和 4 极断路器	1/109	Circuit-breakers, 3- and 4-pole	1/109
操作机构	1/110	Operators	1/110
连接件和相间隔板	1/111	Connections and interphase barriers	1/111
端子盖	1/112	Terminal covers	1/112
附件	1/113	Accessories	1/113
面板开孔	1/114	Panel cutouts	1/114
<b>带 RCD 的 3VL160X 断路器</b>		<b>3VL160X Circuit-Breakers with RCD</b>	
3 极和 4 极断路器	1/115	Circuit-breakers, 3- and 4-pole	1/115
连接件和相间隔板	1/116	Connections and interphase barriers	1/116
端子盖	1/117	Terminal covers	1/117
面板开孔	1/118	Panel cutouts	1/118
插入式插座和附件	1/119	Plug-in socket and accessories	1/119
<b>带 RCD 的 3VL160 和 VL250 断路器</b>		<b>3VL160 and VL250 Circuit-Breakers with RCD</b>	
3 极和 4 极断路器	1/120	Circuit-breakers, 3- and 4-pole	1/120
连接件和相间隔板	1/121	Connections and interphase barriers	1/121
端子盖	1/122	Terminal covers	1/122
面板开孔	1/123	Panel cutouts	1/123
插入式插座和附件	1/124	Plug-in socket and accessories	1/124
抽屉型和附件	1/125	Drawout version and accessories	1/125
<b>带 RCD 的 3VL400 断路器</b>		<b>3VL400 Circuit-Breakers with RCD</b>	
4 极断路器	1/127	Circuit-breaker, 4-pole	1/127
连接件和相间隔板	1/128	Connections and interphase barriers	1/128
端子盖	1/129	Terminal covers	1/129
面板开孔	1/130	Panel cutouts	1/130
插入式插座和附件	1/131	Plug-in socket and accessories	1/131
抽屉型和附件	1/132	Drawout version and accessories	1/132

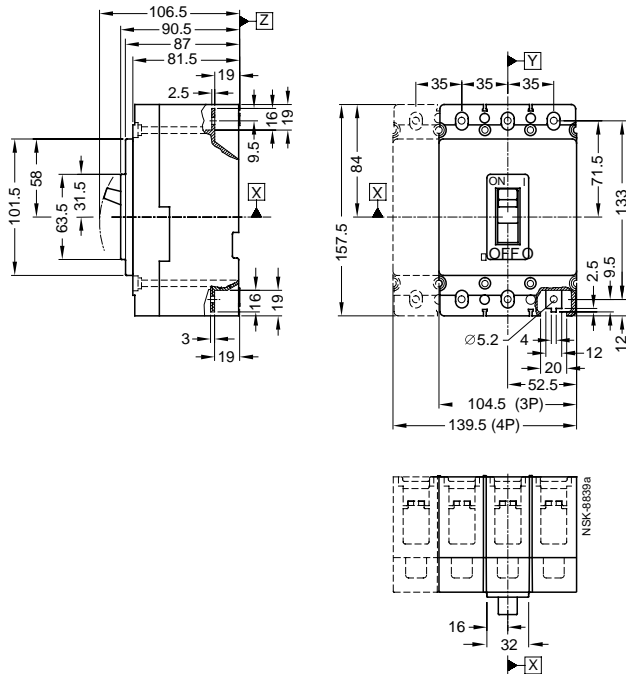


3VL160X, VL160 和 VL250 断路器  
 3VL160X, VL160 and VL250 Circuit-Breakers

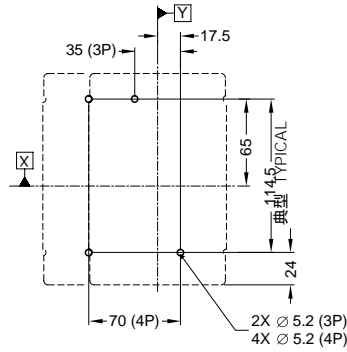
3 极和 4 极断路器

Circuit-breakers, 3- and 4-pole

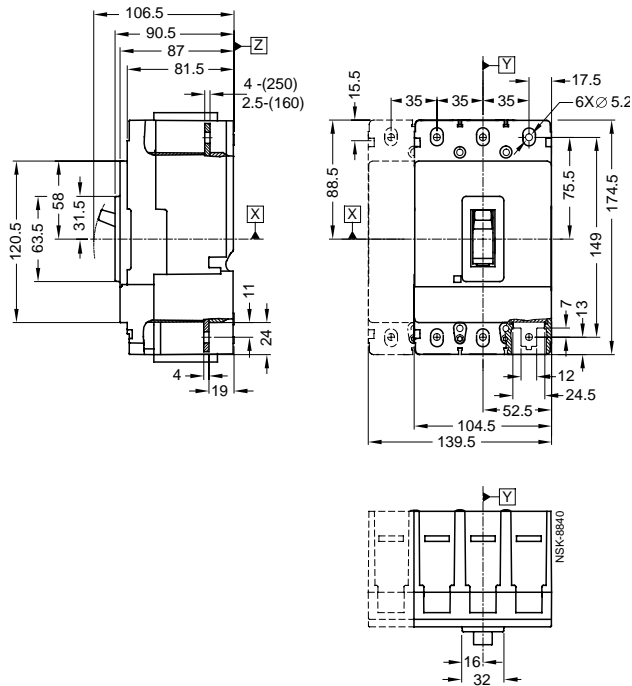
3VL160X 断路器  
 3VL160X circuit-breaker



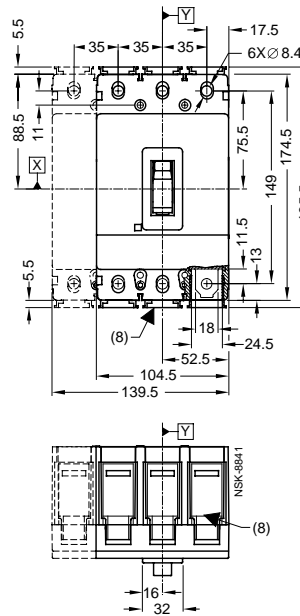
断路器安装详图  
 Circuit-breaker mounting detail



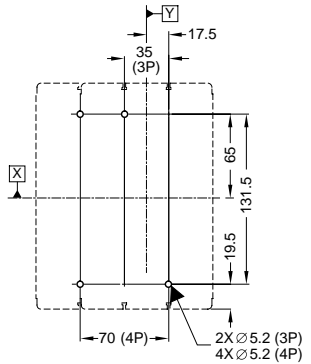
3VL160 断路器  
 3VL160 circuit-breaker



3VL250 断路器  
 3VL250 circuit-breaker



3VL160 和 VL250 断路器  
 安装详图  
 3VL160 and VL250  
 circuit-breakers mounting detail



注: 只有当使用铜或铝电缆用端子时, 才可在 3VL250 断路器的任何一端增加 5.5mm。

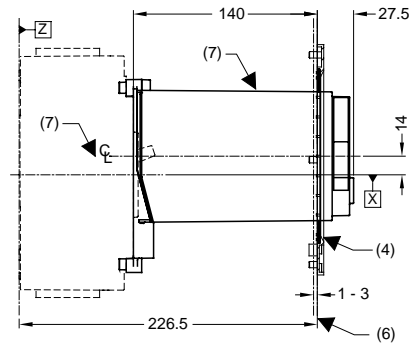
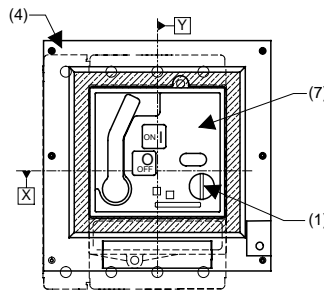
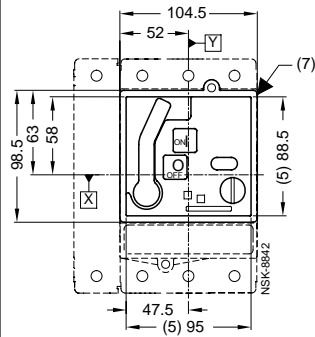
Note: The increase of 5.5 mm to either end of the 3VL250 circuit-breaker is only applicable when using terminals for copper or aluminium cables.

操作机构

Operators

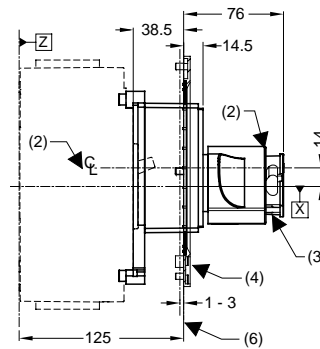
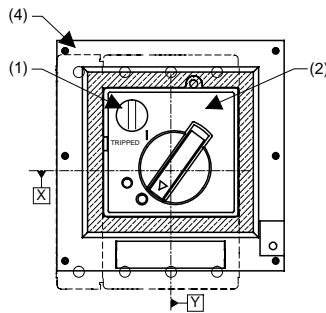
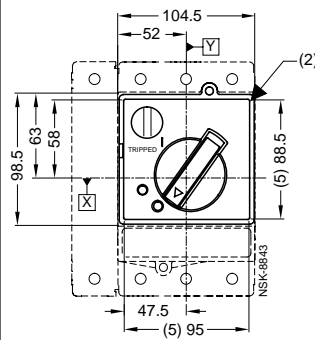
储能操作机构

Stored energy operator



旋转手柄操作机构

Rotary handle operator



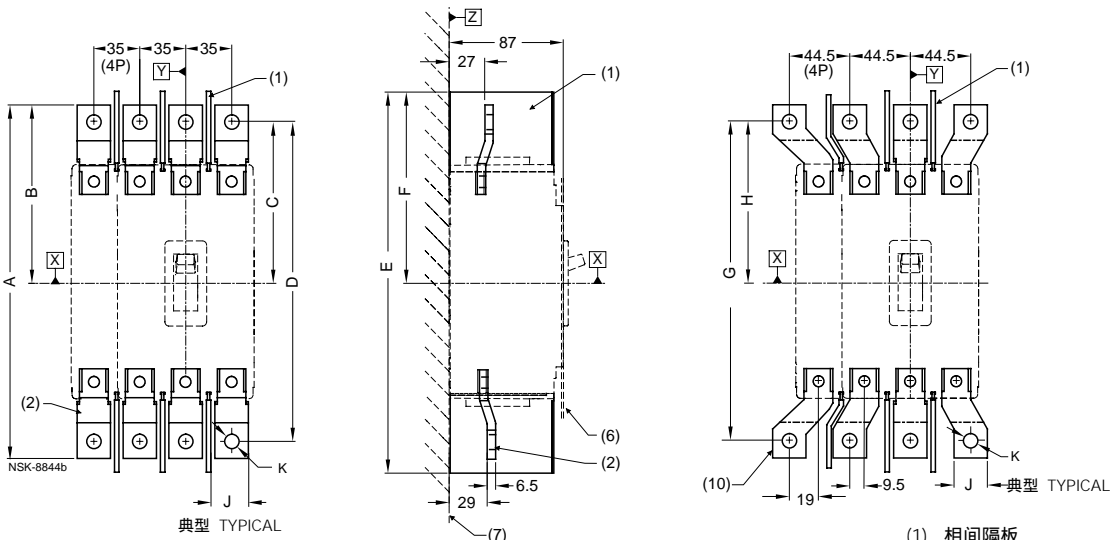
- (1) 柱形锁
- (2) 旋转手柄
- (3) 挂锁钩
- (4) 柜门开孔面框  
(用于带操作机构的断路器)
- (5) 柜门接口凸缘
- (6) 柜门外表面
- (7) 储能操作机构
- (8) 凸耳护罩

- (1) Cylinder locks
- (2) Rotary handle
- (3) Padlock hook
- (4) Cover frame for door cutout  
(for circuit-breaker with operator)
- (5) Door interface ledge
- (6) Outside surface of cabinet door
- (7) Stored energy operator
- (8) Lug shield

3VL160X, VL160 和 VL250 断路器  
3VL160X, VL160 and VL250 Circuit-Breakers

连接件和相间隔板

Connections and interphase barriers

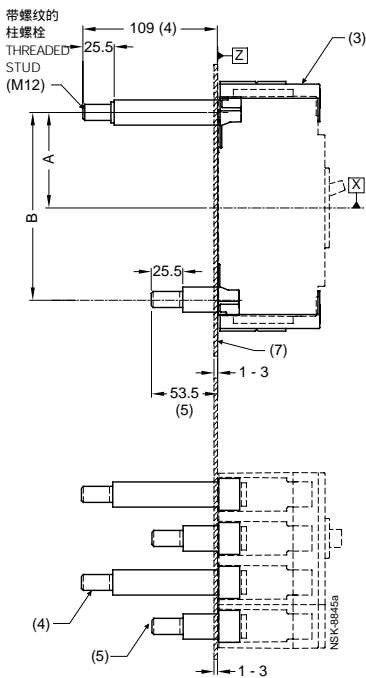


	A	B	C	D	E	F	G	H	J	K
VL160X	242	128.5	116	222	267.5	138.5	222	116	20	7
VL160	258	130	120	238	284	142.5	238	120	20	7
VL250	264	133	120	238	284	142.5	238	120	22	11

- (1) 相间隔板
  - (2) 正面母排连接件
  - (3) 端子盖(标准)
  - (4) 带螺纹的背面端子, 圆杆(长)
  - (5) 带螺纹的背面端子, 圆杆(短)
  - (6) 柜门外表面
  - (7) 安装表面
  - (8) 背后端子, 扁平圆杆(长)
  - (9) 背后端子, 扁平圆杆(短)
  - (10) 张开式正面母排连接件
- (1) Interphase barrier
  - (2) Front busbar connection pieces
  - (3) Terminal covers (standard)
  - (4) Threaded rear terminals, round stock (long)
  - (5) Threaded rear terminals, round stock (short)
  - (6) Outside surface of cabinet door
  - (7) Mounting surface
  - (8) Rear terminals, round stock flat (long)
  - (9) Rear terminals, round stock flat (short)
  - (10) Flared front busbar connection pieces

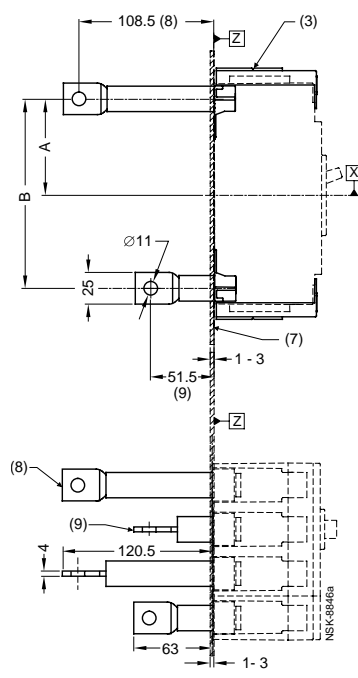
带背后端子长圆杆和短圆杆的断路器

Circuit-breaker with rear terminals round stock - long and short length



带背后端子长扁平圆杆和短扁平圆杆的断路器

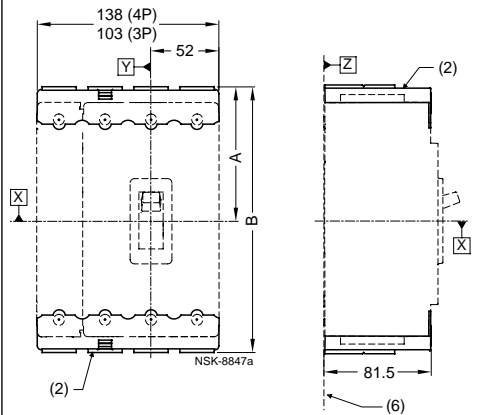
Circuit-breaker with rear terminals round stock flat - long and short length



	A	B
VL160X	71.5	133
VL160	75.5	149
VL250	75.5	149

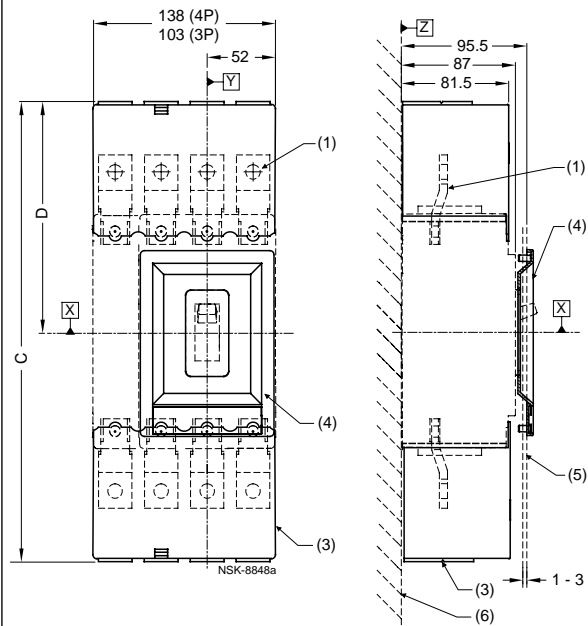
端子盖 Terminal covers

短的端子盖  
Short terminal covers



	A	B	C	D
VL160X	96	182	326.5	168.5
VL160	100	198	343	172.5
VL250	100	198	343	172.5

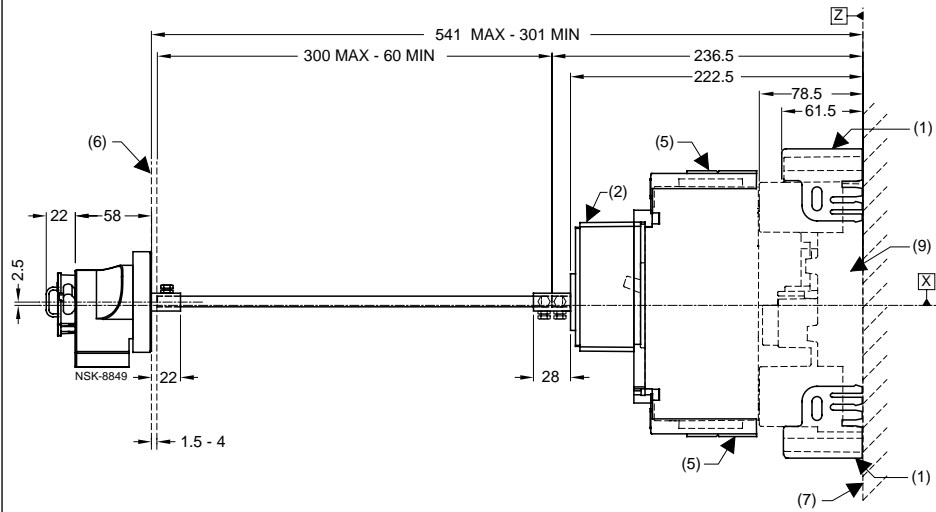
加长的端子盖  
Extended terminal covers



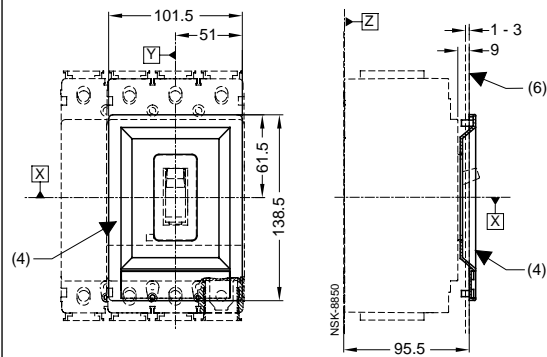
- (1) 正面母排连接件
  - (2) 端子盖(标准)
  - (3) 端子盖(加长)
  - (4) 柜门开孔面框  
(用于带扳动手柄的断路器)
  - (5) 柜门外表面
  - (6) 安装表面
- (1) Front busbar connection pieces
  - (2) Terminal covers (standard)
  - (3) Terminal covers (extended)
  - (4) Cover frame for door cutout  
(for circuit-breaker with toggle handle)
  - (5) Outside surface of cabinet door
  - (6) Mounting surface

3VL160X, VL160 和 VL250 断路器  
 3VL160X, VL160 and VL250 Circuit-Breakers

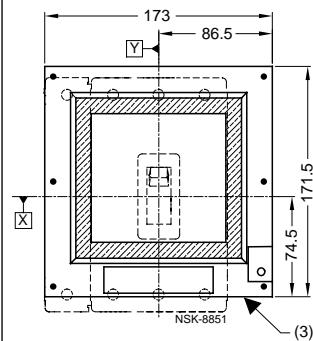
带加长手柄旋转操作机构的断路器  
 Circuit-breaker with extended handle rotary operator



带扳动手柄的断路器用柜门开孔面框  
 Cover frame for door cutout for circuit-breaker with toggle handle



带操作机构的断路器用柜门开孔面框  
 Cover frame for door cutout for circuit-breaker with operator

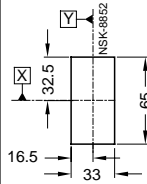


- (1) 插入式插座端子盖
  - (2) 加长旋转手柄
  - (3) 柜门开孔面框  
(用于带操作机构的断路器)
  - (4) 柜门开孔面框  
(用于带扳动手柄的断路器)
  - (5) 端子盖
  - (6) 柜门外表面
  - (7) 安装表面
  - (9) 插入式插座
- (1) Plug-in socket terminal covers
  - (2) Extended rotary handle
  - (3) Cover frame for door cutout  
(for circuit-breaker with operator)
  - (4) Cover frame for door cutout  
(for circuit-breaker with toggle handle)
  - (5) Terminal covers
  - (6) Outside surface of cabinet door
  - (7) Mounting surface
  - (9) Plug-in socket

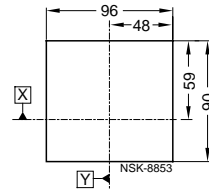
面板开孔

Panel cutouts

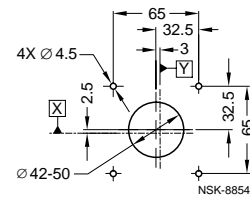
断路器的扳动手柄门开孔 (不带面框)  
Door cutout toggle operator (without cover frame)



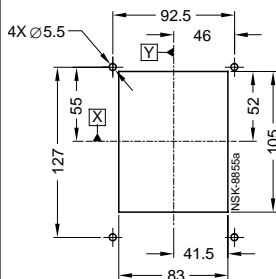
旋转操作机构和储能操作机构门开孔 (不带面框)  
Door cutout rotary handle operator and stored energy operator (without cover frame)



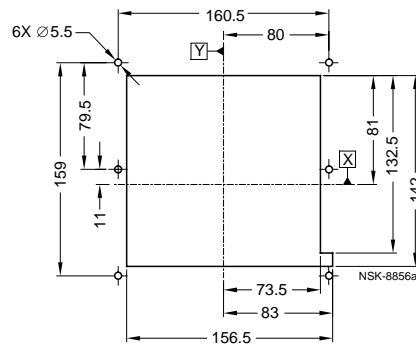
加长旋转操作机构门开孔  
Door cutout extended handle rotary operator



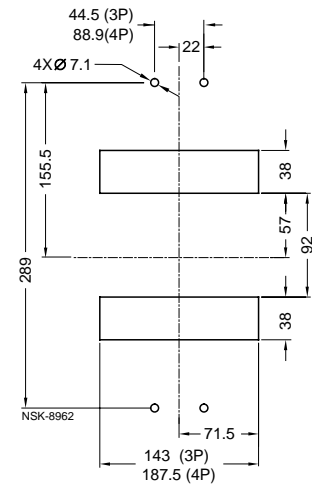
断路器的扳动手柄门开孔 (带面框)  
Door cutout toggle operator (with cover frame)



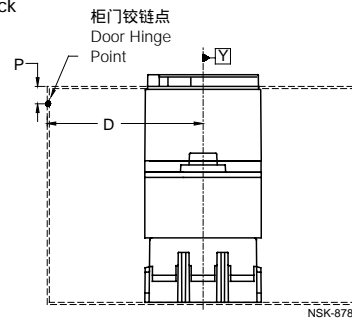
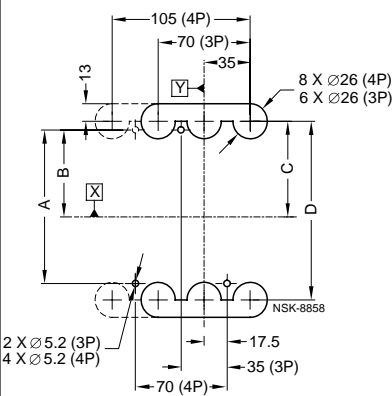
旋转操作机构、储能操作机构和加长框的门开孔 (带面框)  
Door cutout rotary handle operator, stored energy operator and extended escutcheon (with cover frame)



带背后母排连接件的插入式插座的孔型和开孔  
Hole pattern and cutout for plug-in socket with rear busbar connection pieces



圆杆背后端子的孔型和开孔  
Hole pattern and cutout rear terminals, round stock



注 门开孔要求在基准轴 Y 和门铰链之间的最小间隔。  
Note: Door cutouts require a minimum distance between datum Y and the door hinge.

D > 表中的 A + (P x 5)  
D > A from table + (P x 5)

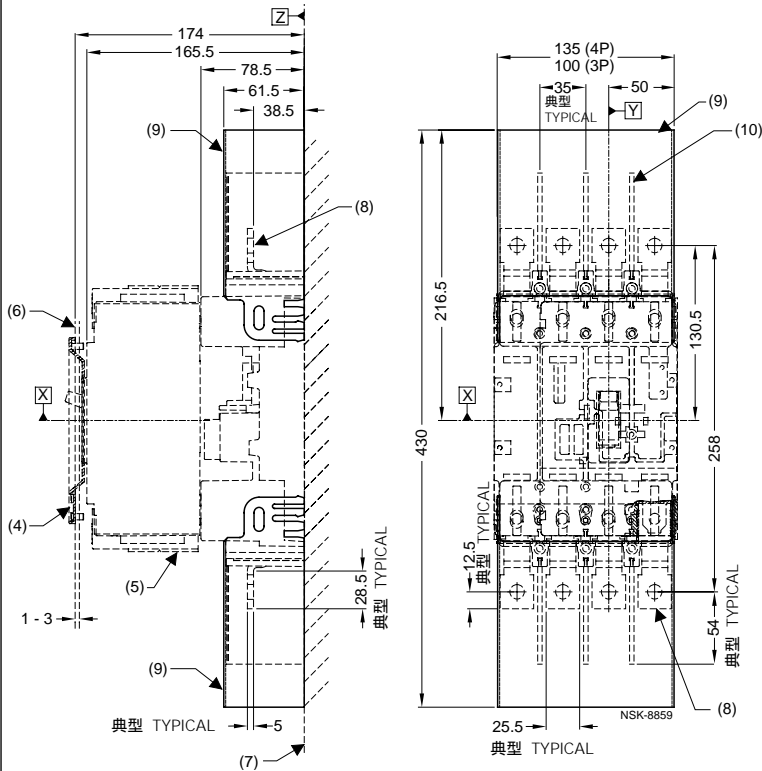
	A	B	C	D
VL160X	114.5	65	71.5	133
VL160	131.5	65	75.5	149
VL250	131.5	65	75.5	149

	A
仅有断路器 Circuit-breaker only	100
断路器 + 插入式插座 + 储能操作机构 Circuit-breaker + Plug-in socket + Stored energy operator	100
断路器 + 插入式插座 + 旋转手柄 Circuit-breaker + Plug-in socket + Rotary handle	200
断路器 + 抽出式装置 Circuit-breaker + Withdraw device	200

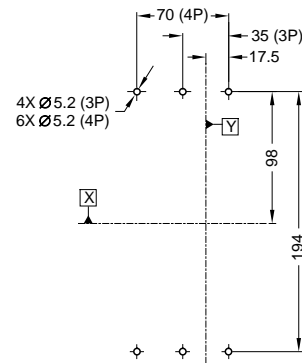
3VL160X, VL160 和 VL250 断路器  
3VL160X, VL160 and VL250 Circuit-Breakers

插入式插座和附件 Plug-in socket and accessories

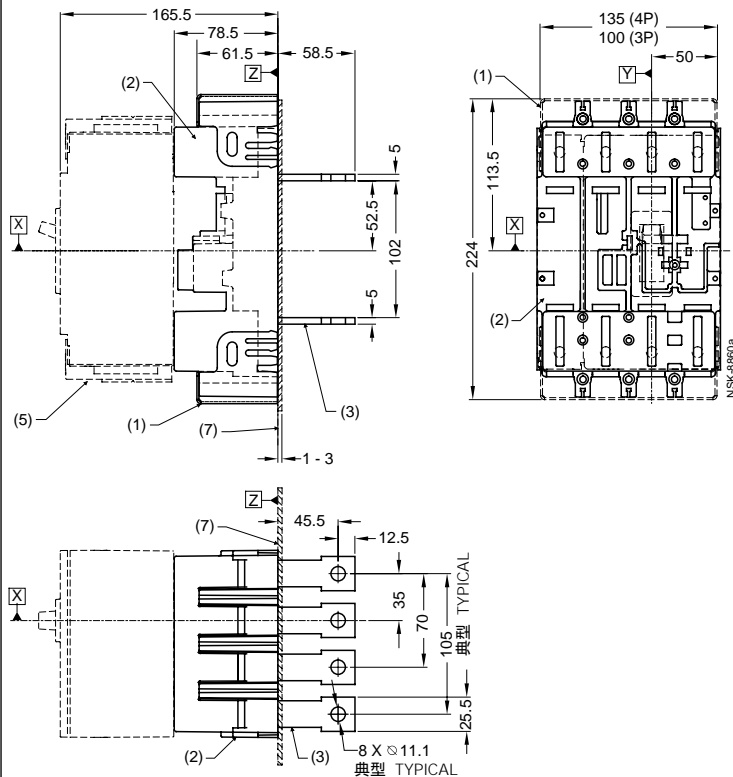
带正面母排连接件的插入式插座  
Plug-in socket with front busbar connection pieces



带正面母排连接件的插入式插座的孔型  
Hole pattern for plug-in socket with front busbar connection pieces



带扁平母排背面端子的插入式插座  
Plug-in socket with rear terminals flat bus



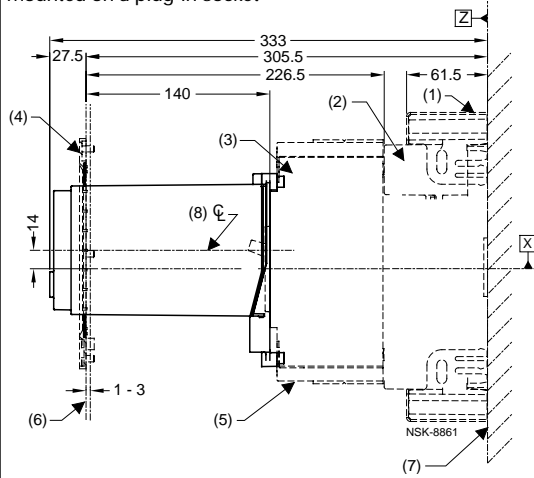
- (1) 带背面端子盖的插入式插座
  - (2) 插入式插座
  - (3) 带扁平母排背面端子的插入式插座
  - (4) 柜门开孔面框  
(用于带扳动手柄的断路器)
  - (5) 端子盖(标准)
  - (6) 柜门外表面
  - (7) 安装表面
  - (8) 带正面母排连接件的插入式插座
  - (9) 前部带端子盖的插入式插座
  - (10) 相间隔板
- (1) Plug-in socket with rear terminal covers
  - (2) Plug-in socket
  - (3) Plug-in socket with rear terminals flat bus
  - (4) Cover frame for door cutout  
(for circuit-breaker with toggle handle)
  - (5) Terminal covers (standard)
  - (6) Outside surface of cabinet door
  - (7) Mounting surface
  - (8) Plug-in socket with front busbar connection pieces
  - (9) Plug-in socket with terminal covers in the front
  - (10) Interphase barrier

插入式插座和附件

Plug-in socket and accessories

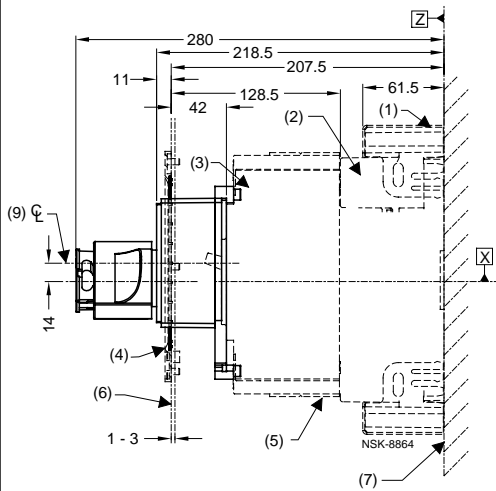
带有插入式插座和储能操作机构的 3VL160X 断路器

3VL160X circuit-breaker with stored energy operator mounted on a plug-in socket



带有插入式插座和旋转手柄操作机构的 3VL160X 断路器

3VL160X circuit-breaker with rotary handle operator mounted on a plug-in socket



- (1) 带端子盖的插入式插座
  - (2) 插入式插座
  - (3) 断路器
  - (4) 柜门开孔面框  
(用于带操作机构的断路器)
  - (5) 端子盖(标准)
  - (6) 柜门外表面
  - (7) 安装表面
  - (8) 储能操作机构
  - (9) 旋转手柄操作机构
- (1) Plug-in socket with terminal covers
  - (2) Plug-in socket
  - (3) Circuit-breaker
  - (4) Cover frame for door cutout  
(for circuit-breaker with operator)
  - (5) Terminal covers (standard)
  - (6) Outside surface of cabinet door
  - (7) Mounting surface
  - (8) Stored energy operator
  - (9) Rotary handle operator

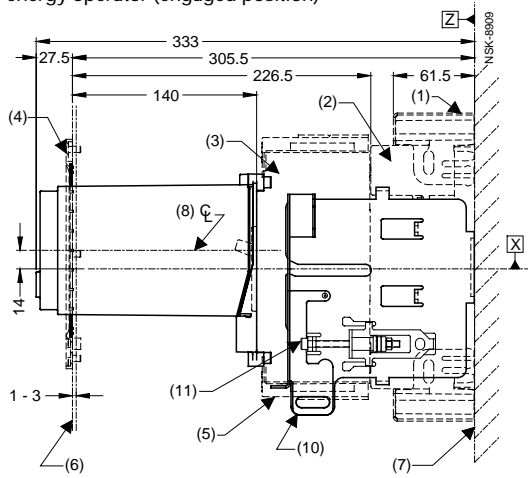


# 3VL160 和 VL250 断路器 3VL160 and VL 250 Circuit-Breakers

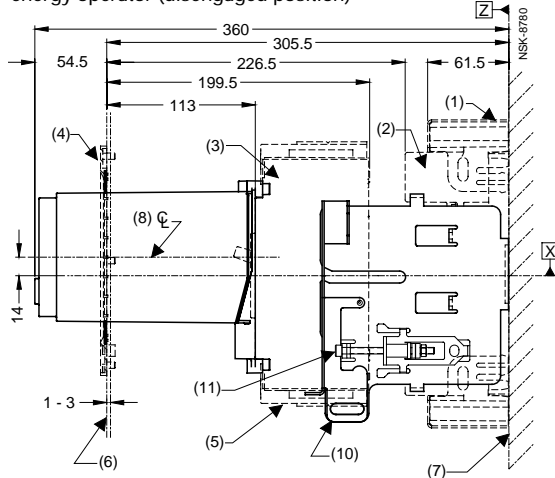
## 抽屉型和附件

## Drawout version and accessories

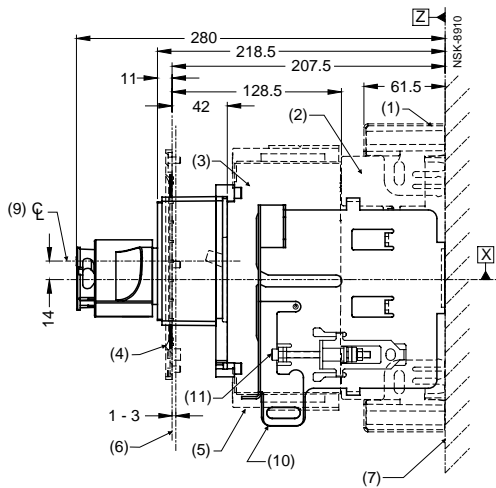
带储能操作机构的 3VL160 和 VL250 断路器 (运行位置)  
3VL160 and VL250 circuit-breakers with stored energy operator (engaged position)



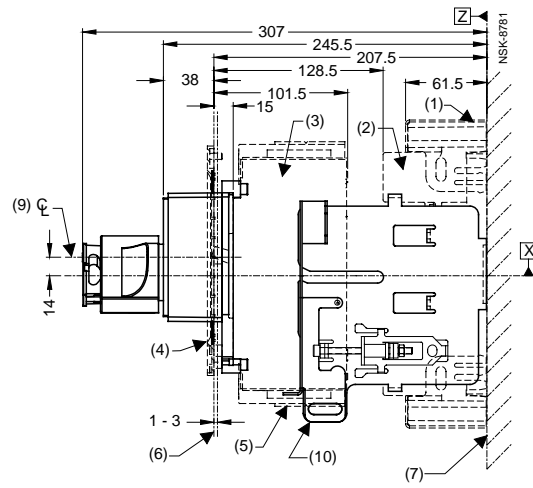
带储能操作机构的 3VL160 和 VL250 断路器 (断开位置)  
3VL160 and VL250 circuit-breakers with stored energy operator (disengaged position)



带旋转手柄操作机构的 3VL160 和 VL250 断路器 (运行位置)  
3VL160 and VL250 circuit-breakers with rotary handle operator (engaged position)



带旋转手柄操作机构的 3VL160 和 VL250 断路器 (断开位置)  
3VL160 and VL250 circuit-breakers with rotary handle operator (disengaged position)

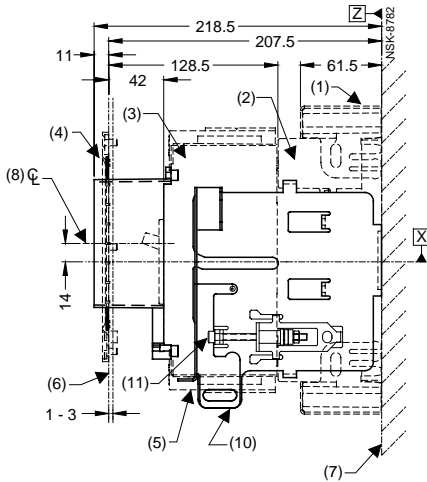


- |                             |  |
|-----------------------------|--|
| (1) 带端子盖的插入式插座              | (1) Plug-in socket with terminal covers                                |
| (2) 插入式插座                   | (2) Plug-in socket   |
| (3) 断路器                     | (3) Circuit-breaker  |
| (4) 柜门开孔面框<br>(用于带操作机构的断路器) | (4) Cover frame for door cutout<br>(for circuit-breaker with operator) |
| (5) 端子盖(标准)                 | (5) Terminal covers (standard)   |
| (6) 柜门外表面                   | (6) Outside surface of cabinet door                                    |
| (7) 安装表面                    | (7) Mounting surface   |
| (8) 储能操作机构                  | (8) Stored energy operator   |
| (9) 旋转手柄操作机构                | (9) Rotary handle operator   |
| (10) 抽出式装置                  | (10) Withdraw device   |
| (11) 抽出式曲柄位置                | (11) Withdraw crank location   |

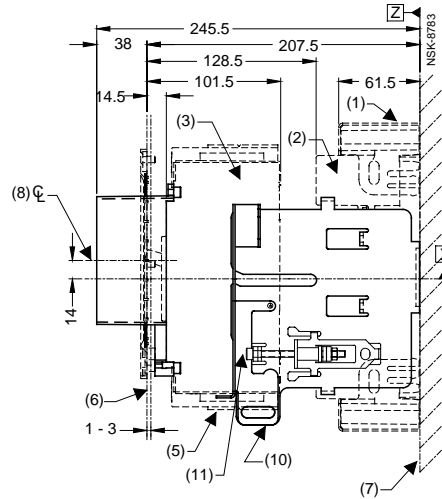
抽屉型和附件

Drawout version and accessories

带加长框的 3VL160 和 VL250 断路器(运行位置)  
3VL160 and VL250 circuit-breakers with extended escutcheon (engaged position)

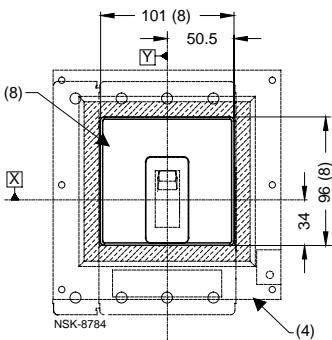


带加长框的 3VL160 和 VL250 断路器(断开位置)  
3VL160 and VL250 circuit-breakers with extended escutcheon (disengaged position)



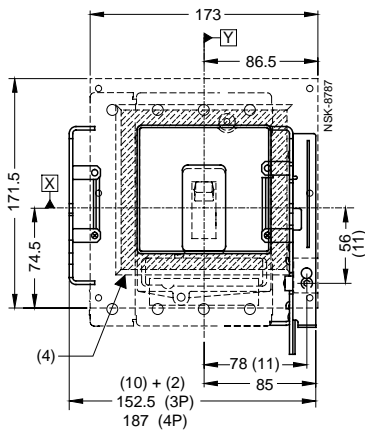
加长框外形尺寸

Extended escutcheon overall dimensions



抽屉型外形尺寸

Drawout version overall dimensions

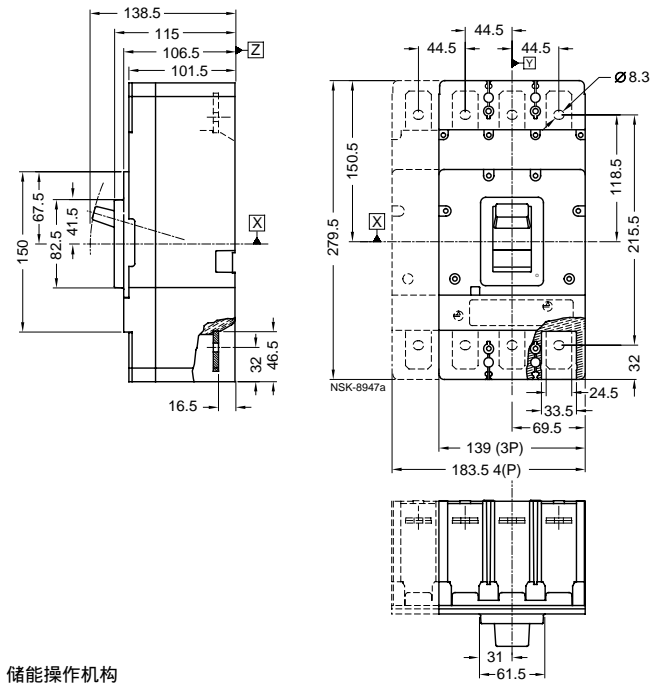


- (1) 带端子盖的插入式插座
  - (2) 插入式插座
  - (3) 断路器
  - (4) 柜门开孔面框  
(用于带操作机构的断路器)
  - (5) 端子盖(标准)
  - (6) 柜门外表面
  - (7) 安装表面
  - (8) 加长框
  - (10) 抽出式装置
  - (11) 抽出式曲柄位置
- (1) Plug-in socket with terminal covers
  - (2) Plug-in socket
  - (3) Circuit-breaker
  - (4) Cover frame for door cutout  
(for circuit-breaker with operator)
  - (5) Terminal covers (standard)
  - (6) Outside surface of cabinet door
  - (7) Mounting surface
  - (8) Extended escutcheon
  - (10) Withdraw device
  - (11) Withdraw crank location

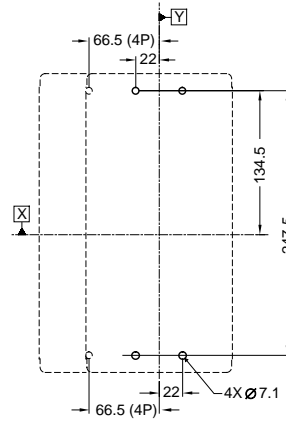
3VL400 断路器  
3VL400 Circuit-Breakers

3极和4极断路器 Circuit-breakers, 3- and 4-pole

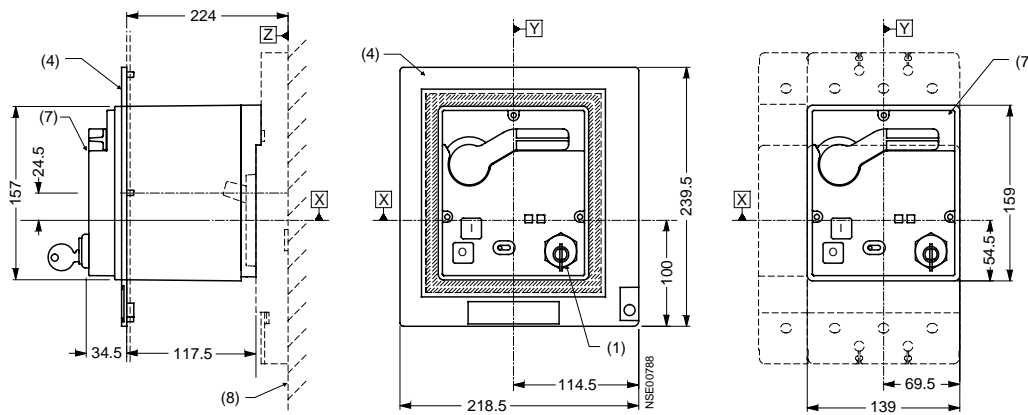
3VL400 断路器  
3VL400 circuit-breaker



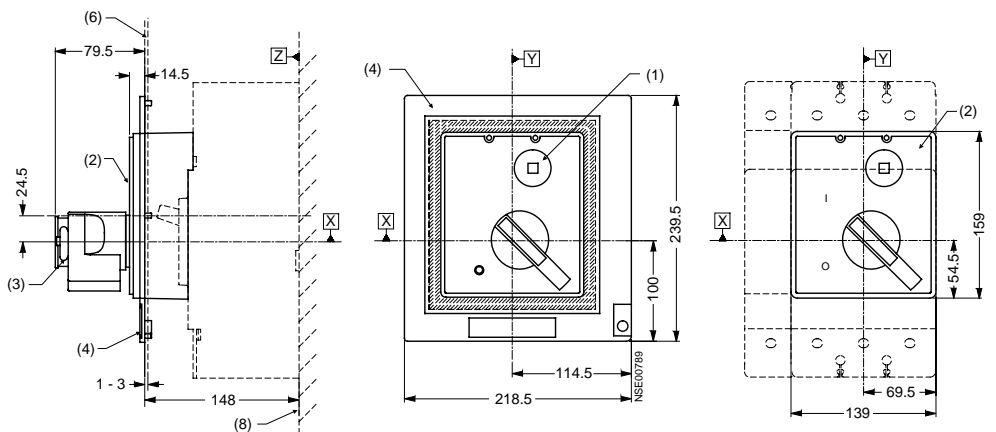
断路器安装详图  
Circuit-breaker mounting detail



储能操作机构  
Stored energy operator



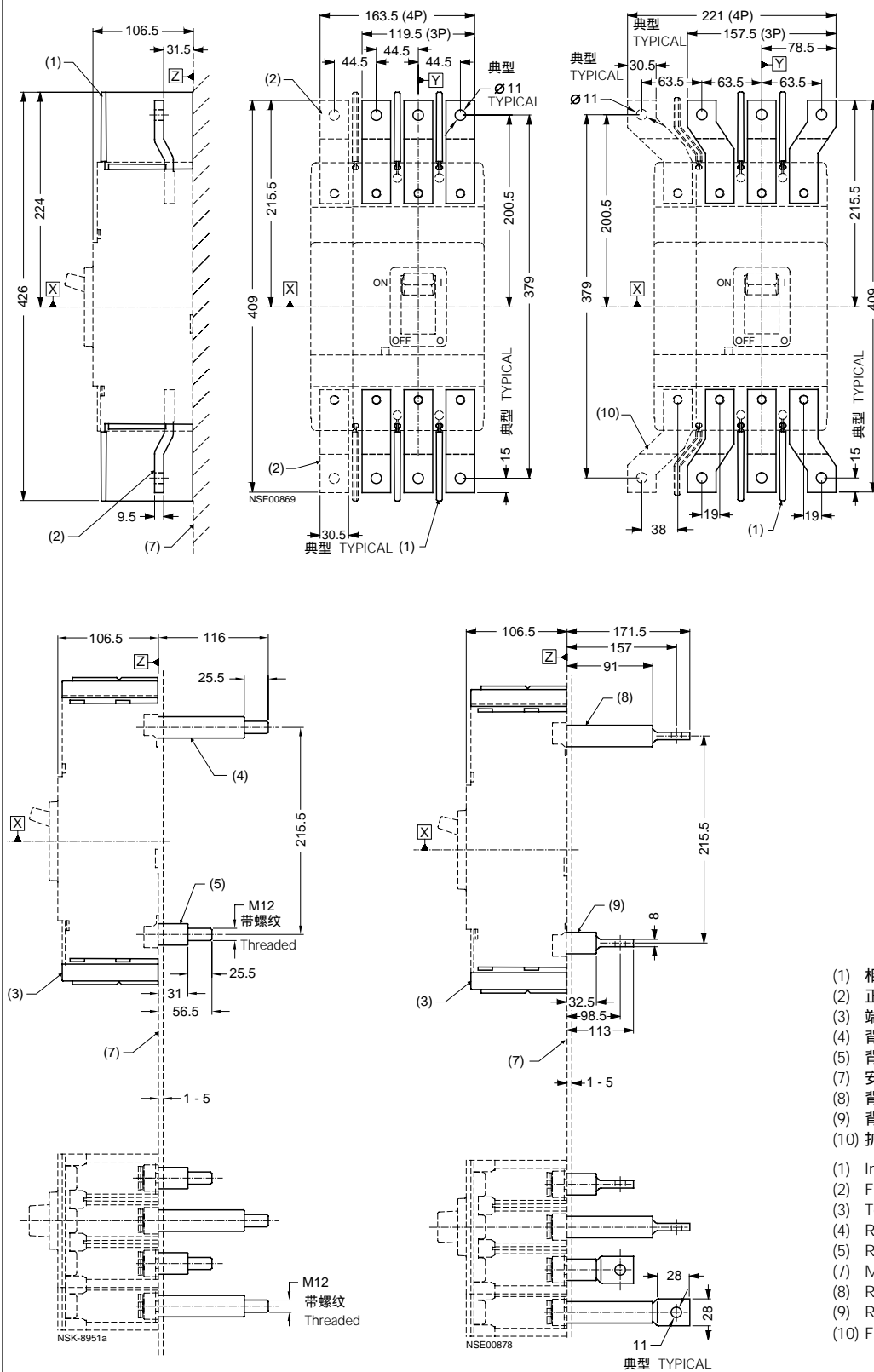
旋转手柄操作机构  
Rotary handle operator



- (1) 柱形锁
- (2) 旋转手柄操作机构
- (3) 挂锁钩
- (4) 柜门开孔面框  
(用于带操作机构的断路器)
- (6) 柜门外表面
- (7) 储能操作机构
- (8) 安装表面
- (1) Cylinder locks
- (2) Rotary handle operator
- (3) Padlock hook
- (4) Cover frame for door cutout  
(for circuit-breaker with operator)
- (6) Outside surface of cabinet door
- (7) Stored energy operator
- (8) Mounting surface

连接件和相间隔板

Connections and interphase barriers

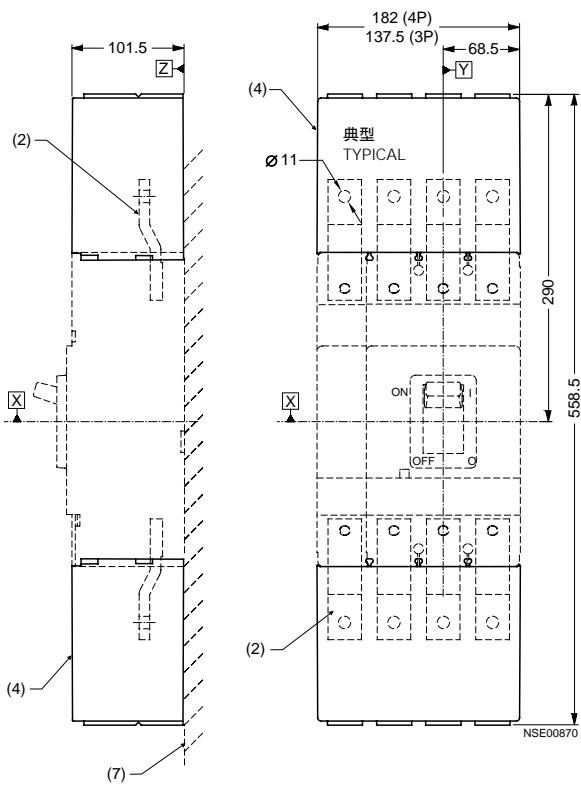


- (1) 相间隔板
- (2) 正面母排连接件
- (3) 端子盖(标准)
- (4) 背后端子, 圆杆(长)
- (5) 背后端子, 圆杆(短)
- (7) 安装表面
- (8) 背后端子, 扁平圆杆(长)
- (9) 背后端子, 扁平圆杆(短)
- (10) 扩口正面母排连接件
- (1) Interphase barrier
- (2) Front busbar connection pieces
- (3) Terminal covers (standard)
- (4) Rear terminals, round stock (long)
- (5) Rear terminals, round stock (short)
- (7) Mounting surface
- (8) Rear terminals, round stock flat (long)
- (9) Rear terminals, round stock flat (short)
- (10) Flared front busbar connection pieces

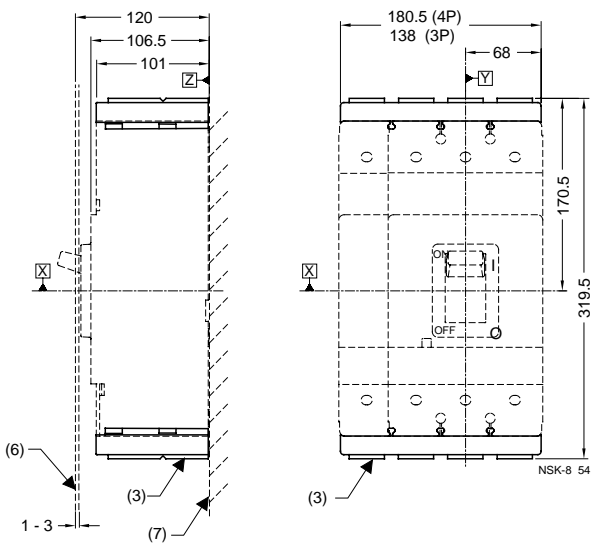
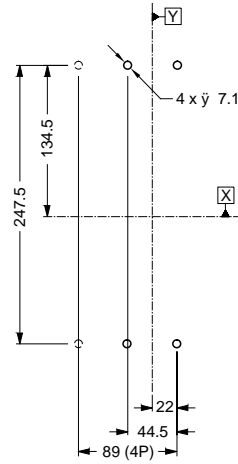
3VL400 断路器  
3VL400 Circuit-Breakers

端子盖

Terminal covers



断路器安装详图  
正面母排连接件  
Circuit-breaker mounting detail  
front busbar connection pieces



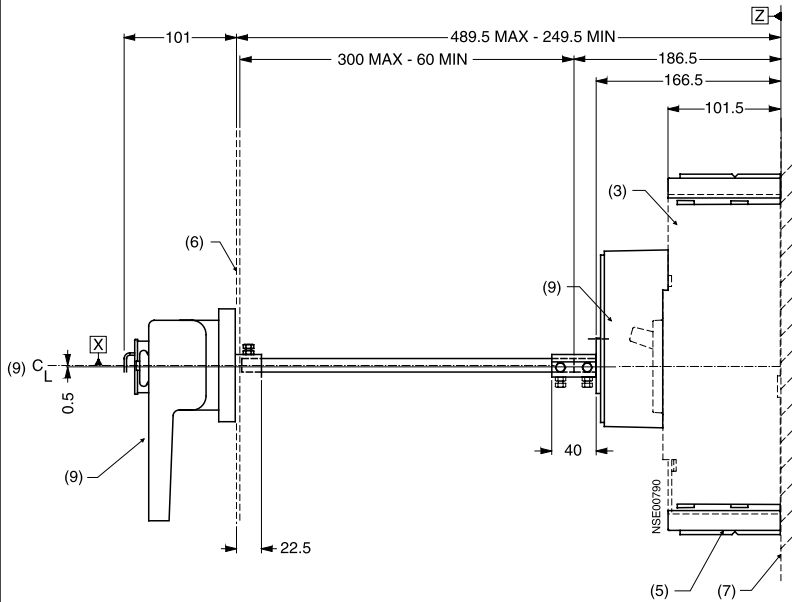
- (1) 正面母排连接件
  - (2) 端子盖(标准)
  - (3) 端子盖(加长)
  - (6) 柜门外表面
  - (7) 安装表面
- (1) Front busbar connection pieces
  - (2) Terminal covers (standard)
  - (3) Terminal covers (extended)
  - (6) Outside surface of cabinet door
  - (7) Mounting surface

附件

Accessories

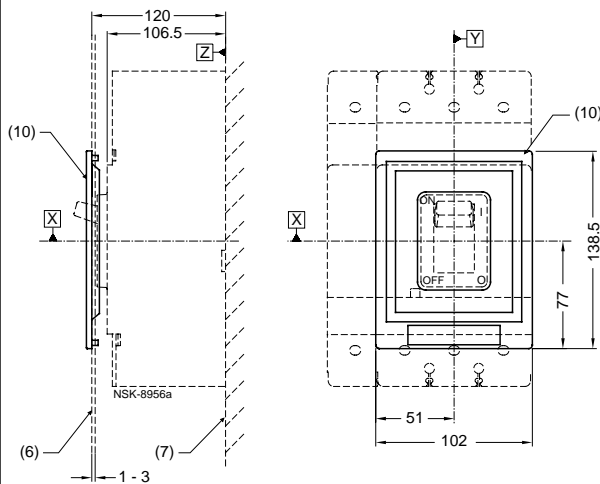
加长旋转操作机构的插入式断路器

Plug-in socket rotary handle operator extended handle



带扳动手柄及面框的断路器柜门开孔

Cover frame for door cutout for circuit-breaker with toggle handle



- (1) 带端子盖的插入式插座
  - (2) 插入式插座
  - (3) 断路器
  - (5) 端子盖(标准)
  - (6) 柜门外表面
  - (7) 安装表面
  - (9) 加长旋转手柄操作机构
  - (10) 柜门开孔面框  
(用于带扳动手柄的断路器)
- (1) Plug-in socket with terminal covers
  - (2) Plug-in socket
  - (3) Circuit-breaker
  - (5) Terminal covers (standard)
  - (6) Outside surface of cabinet door
  - (7) Mounting surface
  - (9) Extended rotary handle operator
  - (10) Cover frame for door cutout  
(for circuit-breaker with toggle handle)

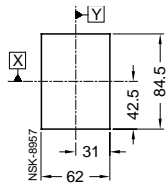
# 3VL400 断路器

## 3VL400 Circuit-Breakers

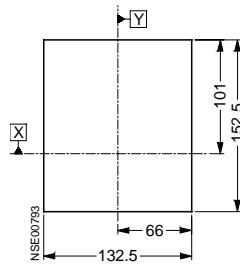
### 面板开孔

### Panel cutouts

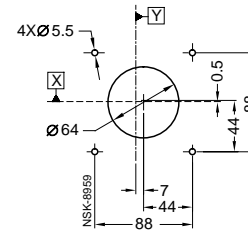
断路器的扳动手柄门开孔 (不带面框)  
Door cutout toggle operator (without cover frame)



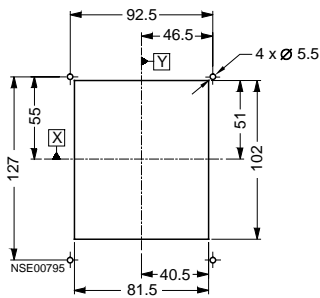
旋转操作机构和储能操作机构的门开孔 (不带面框)  
Door cutout rotary handle operator and stored energy operator (without cover frame)



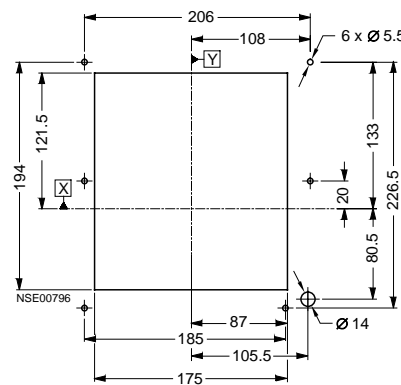
加长旋转操作机构门开孔  
Door cutout extended handle rotary operator



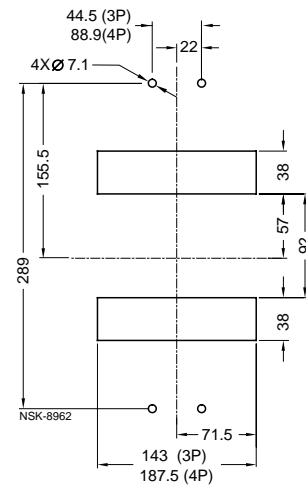
断路器的扳动手柄门开孔 (带面框)  
Door cutout toggle operator (with cover frame)



旋转操作机构、储能操作机构和加长框的门开孔 (带面框)  
Door cutout rotary handle operator, stored energy operator and extended escutcheon (with cover frame)

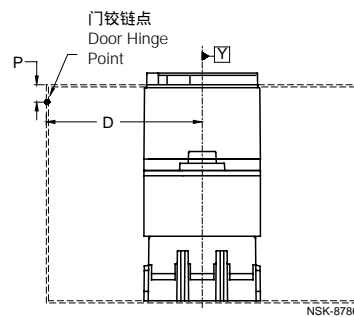
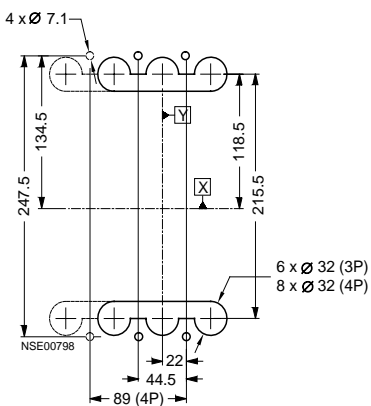


带扁平母排背后端子的插入式插座的孔型和开孔  
Hole pattern and cutout for plug-in socket with rear terminals flat bus



圆杆背后端子的孔型和开孔

Hole pattern and cutout rear terminals round stock



注 门开孔要求在基准轴 Y 和门铰链之间的最小间隔。

Note: Door cutouts require a minimum distance between datum Y and the door hinge.

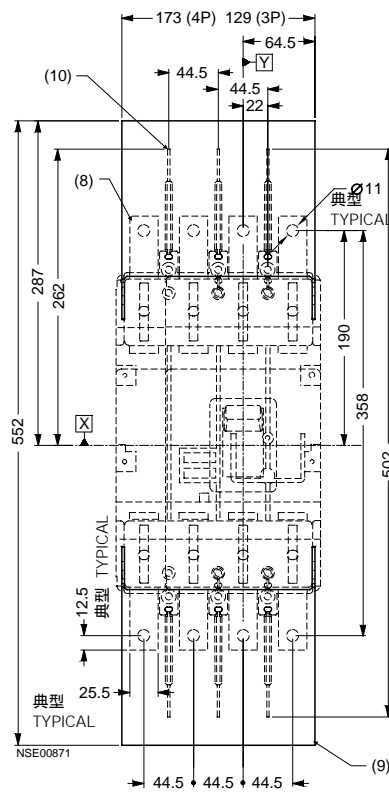
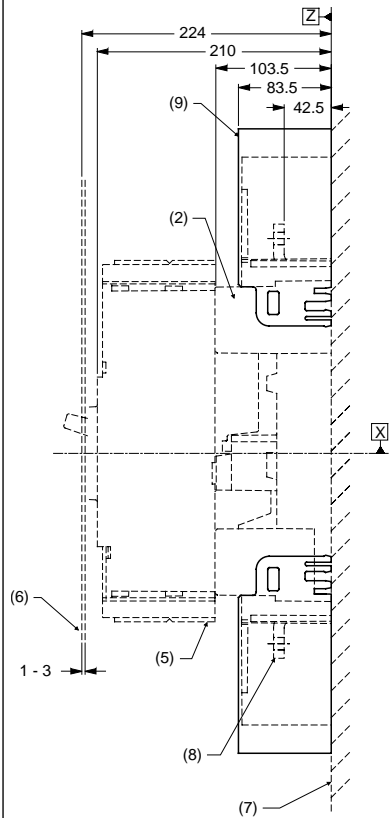
$D > \text{表中的 } A + (P \times 5)$

$D > A \text{ from table} + (P \times 5)$

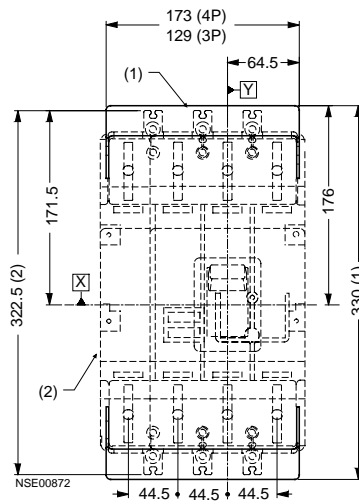
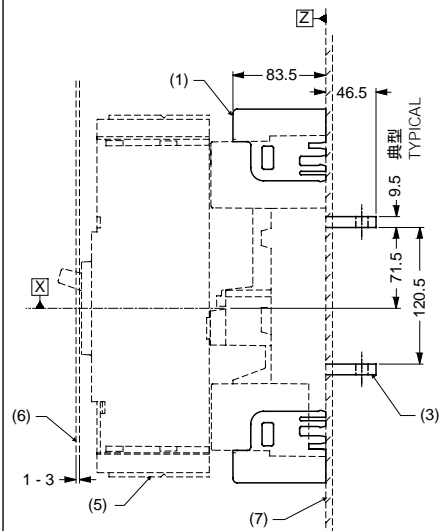
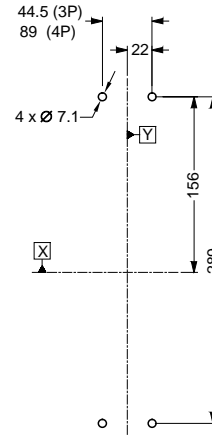
	A
仅有断路器 Circuit-breaker only	150
断路器 + 插入式插座 + 储能操作机构 Circuit-breaker + Plug-in socket + Stored energy operator	150
断路器 + 插入式插座 + 旋转手柄 Circuit-breaker + Plug-in socket + Rotary handle	200
断路器 + 抽出式装置 Circuit-breaker + Withdraw device	200

插入式插座和附件

Plug-in socket and accessories

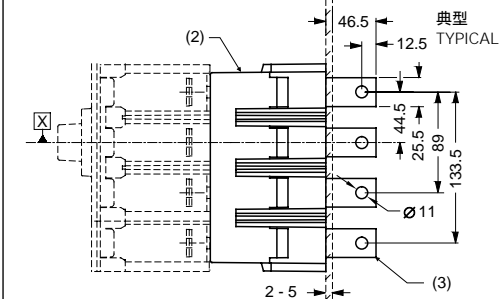


带正面母排连接件的插入式插座的孔型  
Plug-in socket hole pattern  
front busbar connection pieces



- (1) 带后端端子盖的插入式插座
- (2) 插入式插座
- (3) 带扁平母排背后端子的插入式插座
- (5) 端子盖 (标准)
- (6) 柜门外表面
- (7) 安装表面
- (8) 带正面母排插入件的插入式插座
- (9) 正面母排连接的端子盖的插入式插座
- (10) 相间隔板

- (1) Plug-in socket with rear terminal covers
- (2) Plug-in socket
- (3) Plug-in socket with rear terminals flat bus
- (5) Terminal covers (standard)
- (6) Outside surface of cabinet door
- (7) Mounting surface
- (8) Plug-in socket with front busbar connection pieces
- (9) Plug-in socket with terminal covers in the front
- (10) Interphase barrier



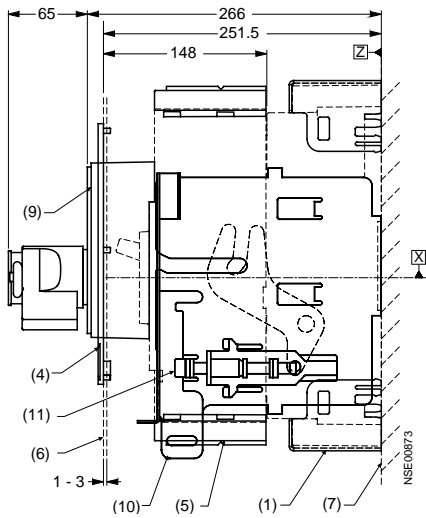


3VL400 断路器  
3VL400 Circuit-Breakers

抽屉型和附件 Drawout version and accessories

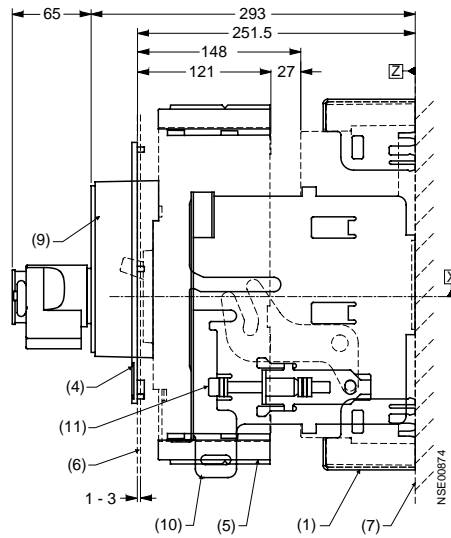
旋转操作机构的抽屉型断路器(运行位置)

Drawout version rotary handle operator  
(engaged position)



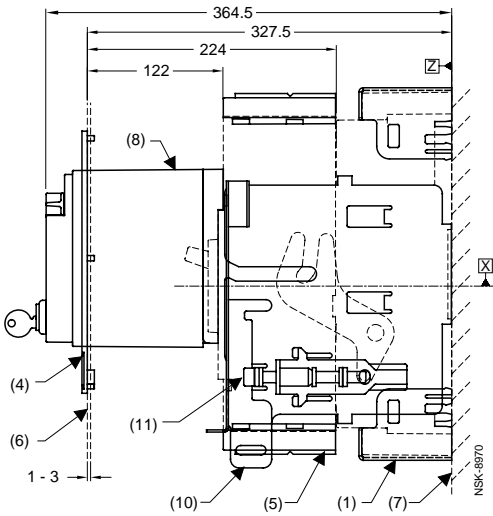
旋转操作机构的抽屉型(断开位置)

Drawout version rotary handle operator  
(disengaged position)



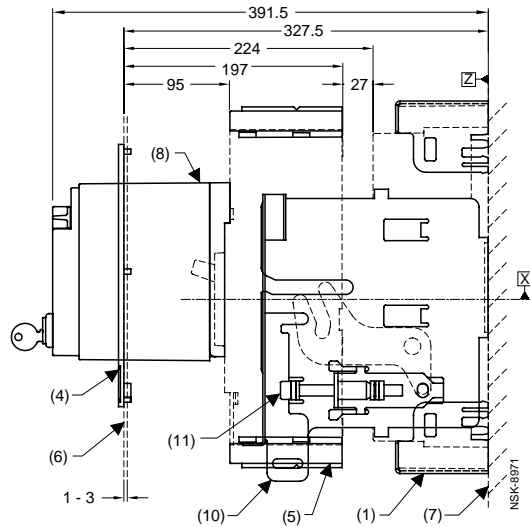
储能操作机构插的抽屉型(运行位置)

Drawout version stored energy operator  
(engaged position)



储能操作机构的抽屉型(断开位置)

Drawout version stored energy operator  
(disengaged position)



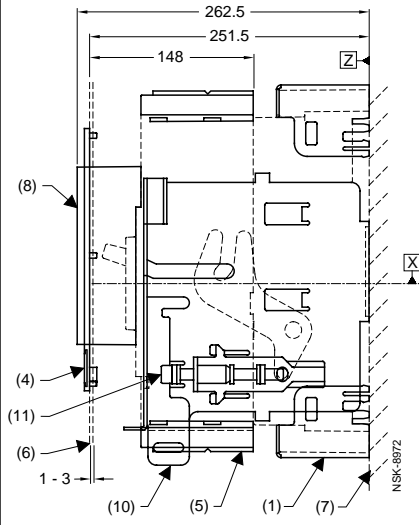
- |                             |  |
|-----------------------------|--|
| (1) 带端子盖的抽屉型                | (1) Drawout version with terminal covers                               |
| (4) 柜门开孔面框<br>(用于带操作机构的断路器) | (4) Cover frame for door cutout<br>(for circuit-breaker with operator) |
| (5) 端子盖(标准)                 | (5) Terminal covers (standard)   |
| (6) 柜门外表面                   | (6) Outside surface of cabinet door                                    |
| (7) 安装表面                    | (7) Mounting surface   |
| (8) 储能操作机构                  | (8) Stored energy operator   |
| (9) 旋转手柄操作机构                | (9) Rotary handle operator   |
| (10) 抽出式装置                  | (10) Withdraw device   |
| (11) 抽出式曲柄位置                | (11) Withdraw crank location   |

抽屉型和附件

Drawout version and accessories

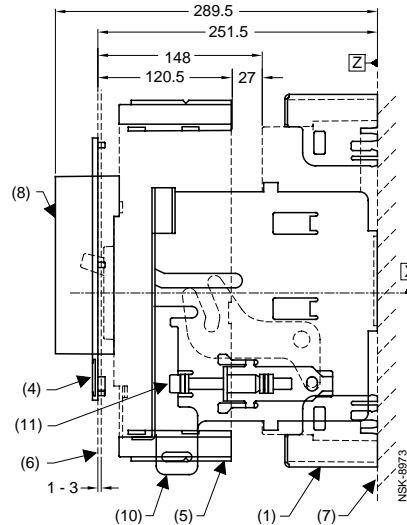
加长框的抽屉型 (运行位置)

Drawout version extended escutcheon (engaged position)



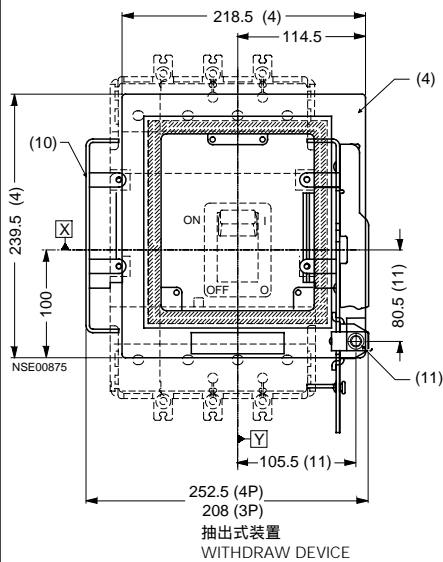
加长框的抽屉型 (断开位置)

Drawout version extended escutcheon (disengaged position)



安装在抽出式装置内的加长框

Extended escutcheon mounted in withdraw device



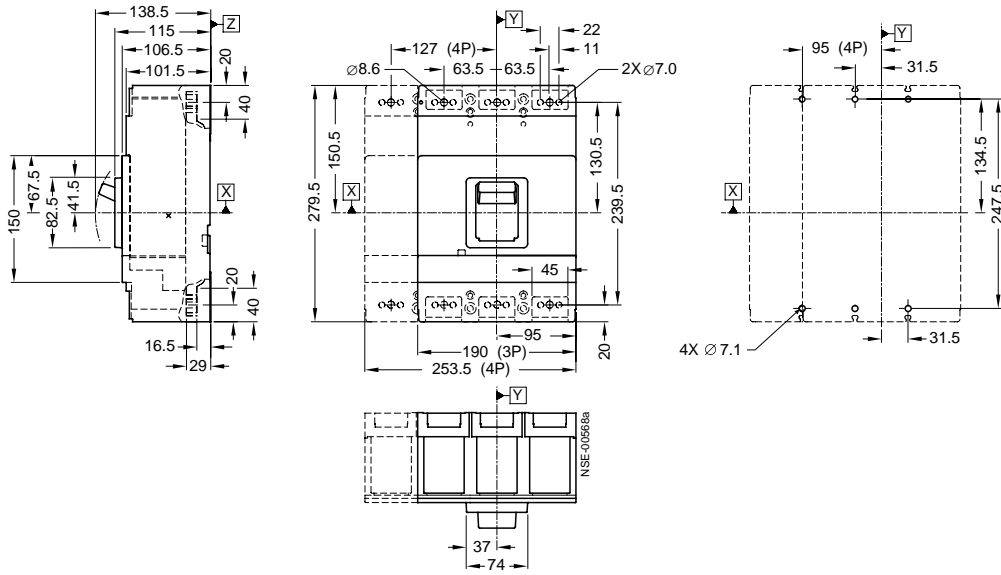
- (1) 带端子盖的抽屉型
  - (4) 柜门开孔面框  
(用于带操作机构的断路器)
  - (5) 端子盖(标准)
  - (6) 柜门外表面
  - (7) 安装表面
  - (8) 加长框
  - (10) 抽出式装置
  - (11) 抽出式曲柄位置
- (1) Drawout version with terminal covers
  - (4) Cover frame for door cutout  
(for circuit-breaker with operator)
  - (5) Terminal covers (standard)
  - (6) Outside surface of cabinet door
  - (7) Mounting surface
  - (8) Extended escutcheon
  - (10) Withdraw device
  - (11) Withdraw crank location

3VL630 断路器  
3VL630 Circuit-Breakers

3极和4极断路器 Circuit-breakers, 3- and 4-pole

3VL630 断路器  
3VL630 circuit-breaker

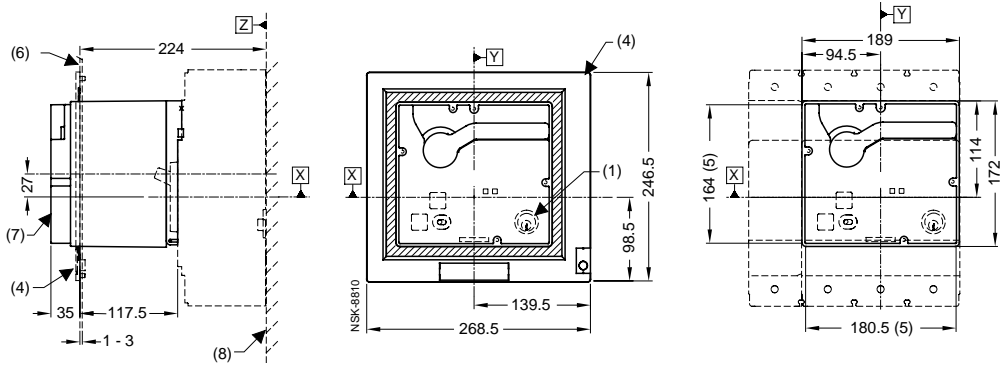
断路器安装详图  
Circuit-breaker mounting detail



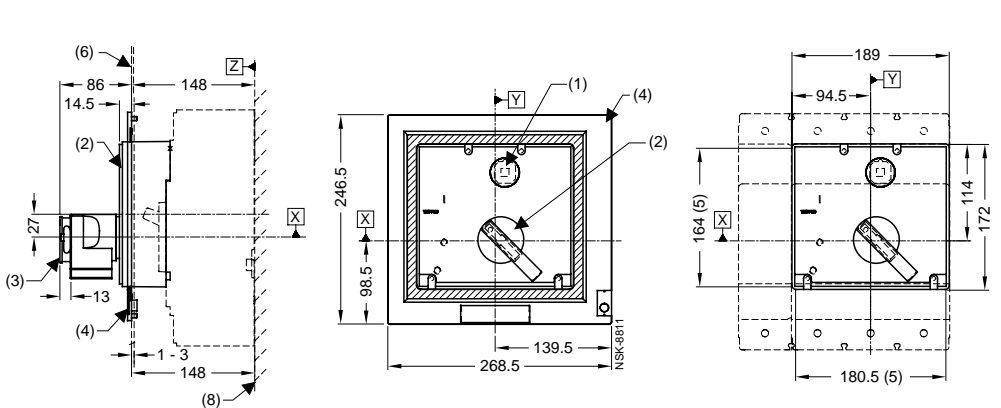
操作机构

Operators

储能操作机构  
Stored energy operator



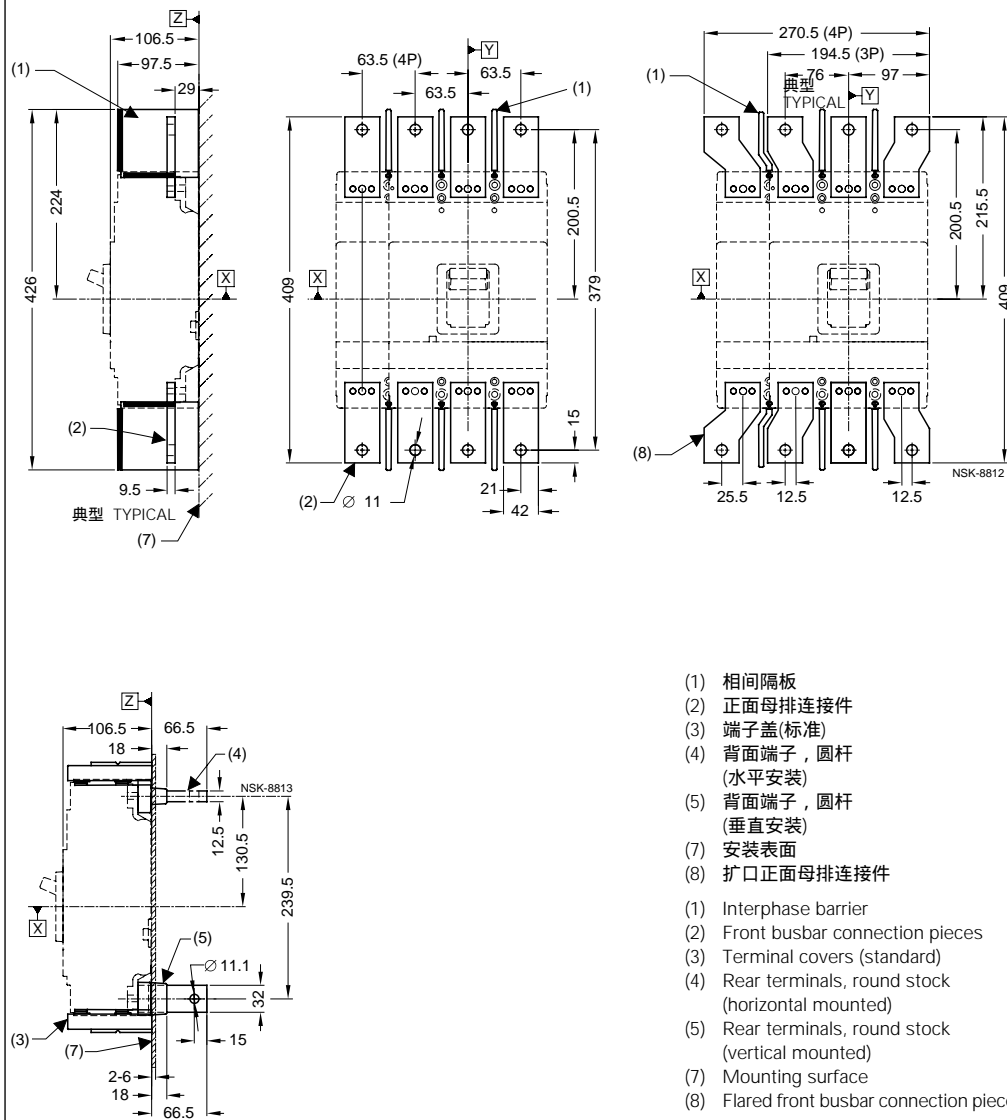
旋转手柄操作机构  
Rotary handle operator



- (1) 柱形锁
- (2) 旋转手柄
- (3) 挂锁钩
- (4) 柜门开孔面框  
(用于带操作机构的断路器)
- (5) 门接口凸缘
- (6) 柜门外表面
- (7) 储能操作机构
- (8) 安装表面
- (1) Cylinder locks
- (2) Rotary handle
- (3) Padlock hook
- (4) Cover frame for door cutout  
(for circuit-breaker with operator)
- (5) Door interface ledge
- (6) Outside surface of cabinet door
- (7) Stored energy operator
- (8) Mounting surface

连接件和相间隔板

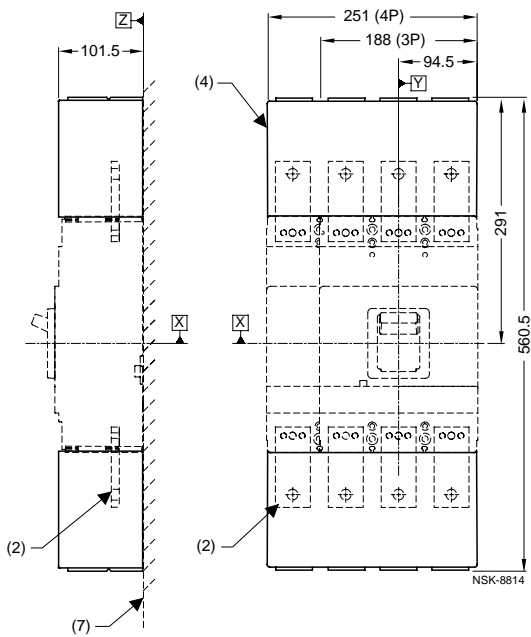
Connections and interphase barriers



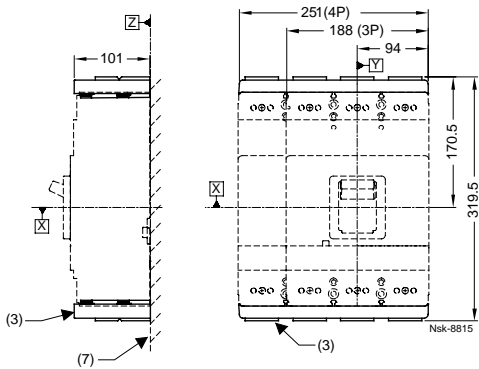
3VL630 断路器  
3VL630 Circuit-Breakers

端子盖

Terminal covers



NSK-8814



Nsk-8815

- (2) 正面母排连接件
- (3) 端子盖(标准)
- (4) 端子盖(加长)
- (7) 安装表面

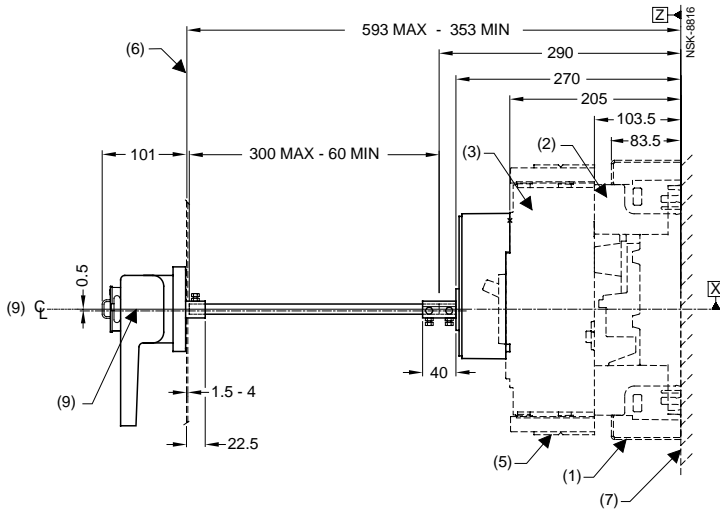
- (2) Front busbar connection pieces
- (3) Terminal covers (standard)
- (4) Terminal covers (extended)
- (7) Mounting surface

附件

Accessories

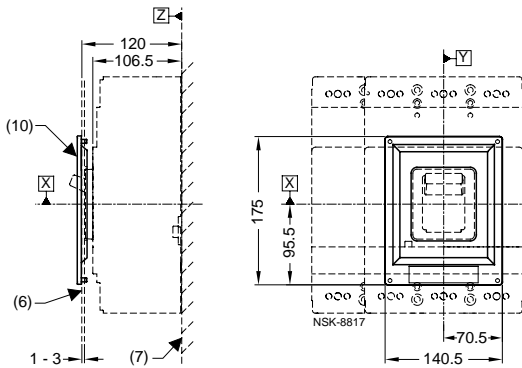
加长旋转操作机构

Extended rotary handle operator



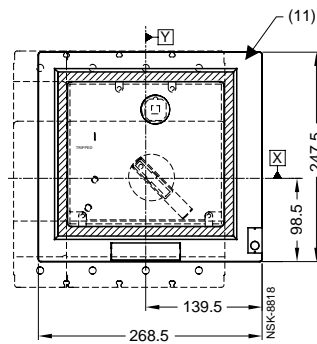
带扳动手柄及面框的断路器的柜门开孔

Cover frame for door cutout for circuit-breaker with toggle handle



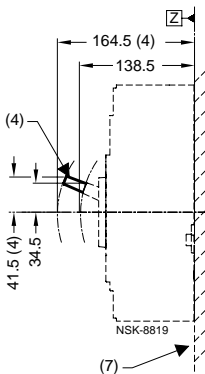
带操作机构及面框的断路器的柜门开孔

Cover frame for door cutout for circuit-breaker with operator



扳动手柄加长件

Toggle handle extension



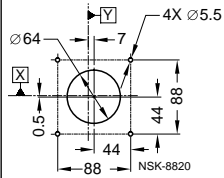
- (1) 带端子盖的插入式插座
  - (2) 插入式插座
  - (3) 断路器
  - (4) 扳动手柄加长件
  - (5) 端子盖(标准)
  - (6) 柜门外表面
  - (7) 安装表面
  - (9) 加长旋转手柄操作机构
  - (10) 柜门开孔面框  
(用于带扳动手柄的断路器)
  - (11) 柜门开孔面框  
(用于带操作机构的断路器)
- (1) Plug-in socket with terminal covers
  - (2) Plug-in socket
  - (3) Circuit-breaker
  - (4) Toggle handle extension
  - (5) Terminal covers (standard)
  - (6) Outside surface of cabinet door
  - (7) Mounting surface
  - (9) Extended rotary handle operator
  - (10) Cover frame for door cutout  
(for circuit-breaker with toggle handle)
  - (11) Cover frame for door cutout  
(for circuit-breaker with operator)

# 3VL630 断路器

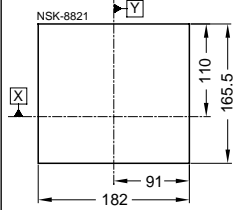
## 3VL630 Circuit-Breakers

### 面板开孔 Panel cutouts

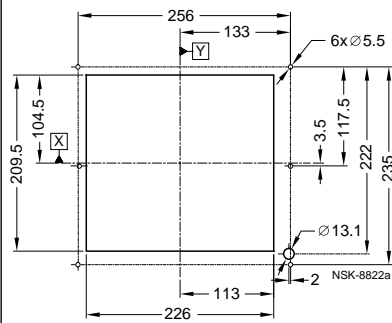
加长旋转操作机构的门开孔  
Door cutout extended handle rotary operator



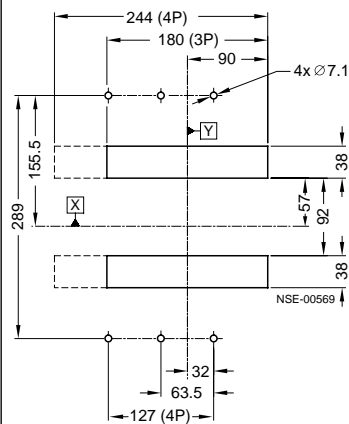
旋转操作机构、储能操作机构和加长框的门开孔 (不带面框)  
Door cutout rotary handle operator, stored energy operator and extended escutcheon (without cover frame)



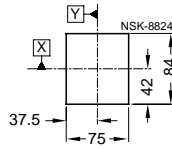
旋转操作机构、储能操作机构和加长框的门开孔 (带面框)  
Door cutout rotary handle operator, stored energy operator and extended escutcheon (with cover frame)



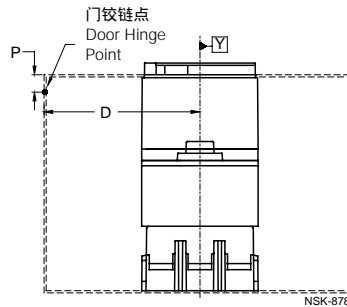
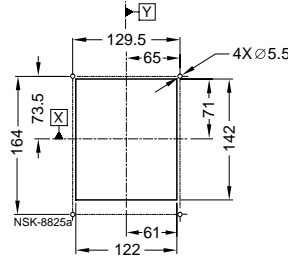
插入式插座的孔型和开孔 (带扁平母排后端子)  
Hole pattern and cutouts for plug-in socket (with rear terminal flat bus)



断路器的扳动手柄门开孔 (不带面框)  
Door cutout toggle operator (without cover frame)



断路器的扳动手柄门开孔 (带面框)  
Door cutout toggle operator (with cover frame)

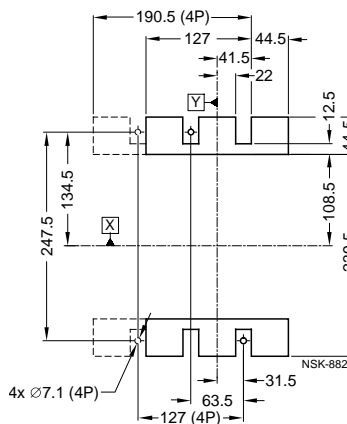


注：门开孔要求在基准轴Y和门铰链之间的最小间隔。  
Note: Door cutouts require a minimum distance between datum Y and the door hinge.

$D > \text{表中的 } A + (P \times 5)$   
 $D > A \text{ from table} + (P \times 5)$

	A
仅有断路器 Circuit-breaker only	150
断路器 + 插入式插座 + 储能操作机构 Circuit-breaker + Plug-in socket + Stored energy operator	150
断路器 + 插入式插座 + 旋转手柄 Circuit-breaker + Plug-in socket + Rotary handle	200
断路器 + 抽出式装置 Circuit-breaker + Withdraw device	200

断路器的孔型和开孔 (带扁平母排后端子)  
Hole pattern and cutouts for circuit-breaker (with rear terminal flat bus)

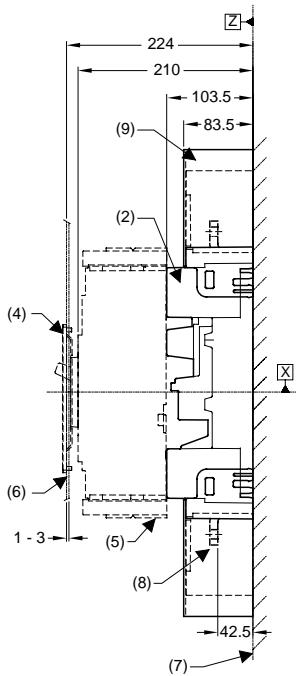


插入式插座和附件

Plug-in socket and accessories

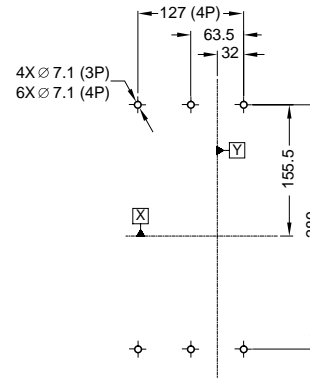
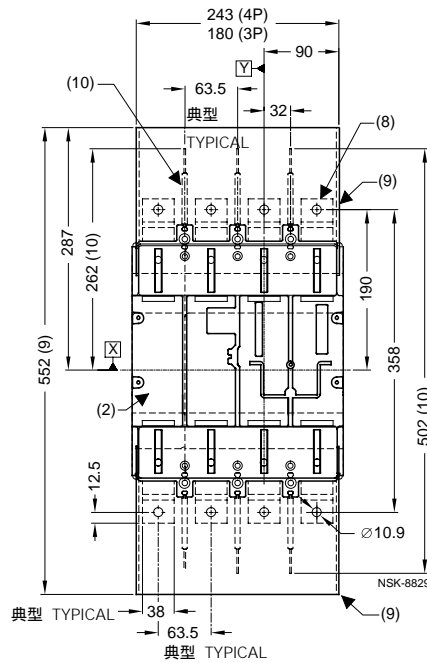
带正面接线端子盖的插入式插座

Plug-in socket with terminal covers in the front



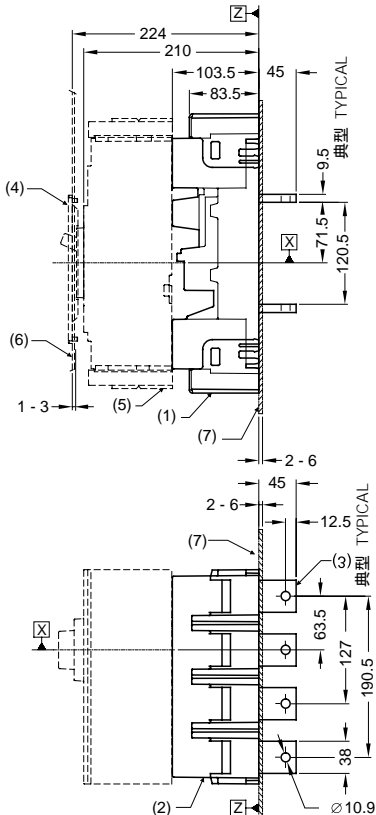
带正面母排连接件的插入式插座的孔型

Plug-in socket hole pattern front busbar connection pieces



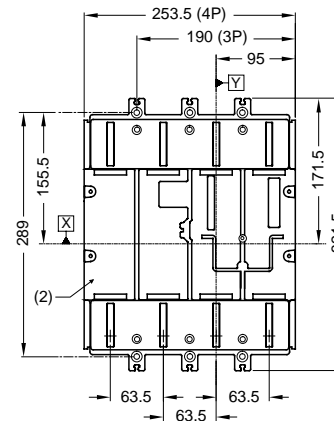
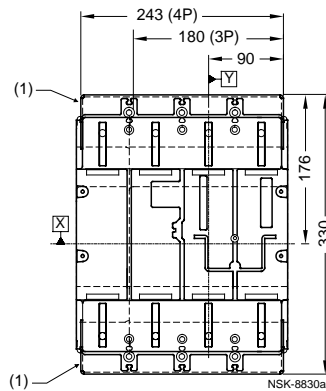
带背端子盖的插入式插座

Plug-in socket, rear terminal covers



插入式插座

Plug-in socket



- (1) 带背端子盖的插入式插座
- (2) 插入式插座
- (3) 带扁平母排背端子的插入式插座
- (4) 柜门开孔面框  
(用于带扳动手柄的断路器)
- (5) 端子盖(标准)
- (6) 柜门外表面
- (7) 安装表面
- (8) 带正面母排连接件的插入式插座
- (9) 带正面接线端子盖的插入式插座
- (10) 相间隔板
- (1) Plug-in socket with rear terminal covers
- (2) Plug-in socket
- (3) Plug-in socket with rear terminals flat bus
- (4) Cover frame for door cutout  
(for circuit-breaker with toggle handle)
- (5) Terminal covers (standard)
- (6) Outside surface of cabinet door
- (7) Mounting surface
- (8) Plug-in socket with front busbar connection pieces
- (9) Plug-in socket with terminal covers in the front
- (10) Interphase barrier



# 3VL630 断路器

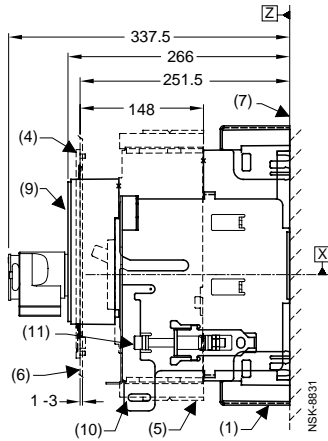
## 3VL630 Circuit-Breakers

### 抽屉型和附件

### Drawout version and accessories

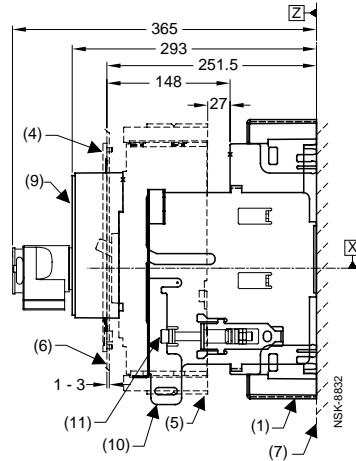
带有抽出式装置和旋转操作机构的 3VL630 断路器 (运行位置)

3VL630 circuit-breaker with rotary operator mounted in withdraw device (engaged position)



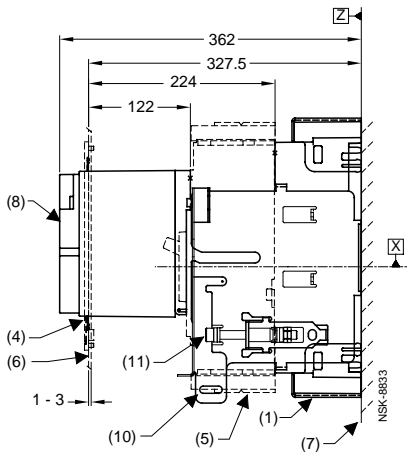
带有抽出式装置和旋转操作机构的 3VL630 断路器 (断开位置)

3VL630 circuit-breaker with rotary operator mounted in withdraw device (disengaged position)



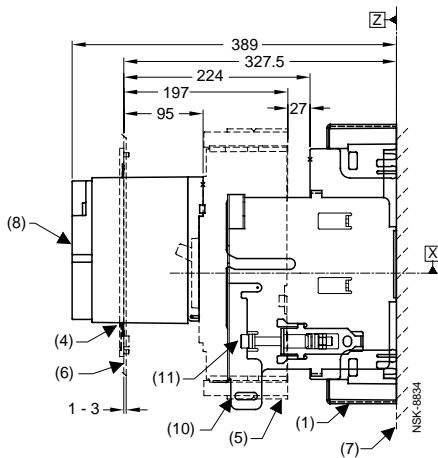
带有抽出式装置和储能操作机构的 3VL630 断路器 (运行位置)

3VL630 circuit-breaker with stored energy operator mounted in withdraw device (engaged position)



带有抽出式装置和储能操作机构的 3VL630 断路器 (断开位置)

3VL630 circuit-breaker with stored energy operator mounted in withdraw device (disengaged position)

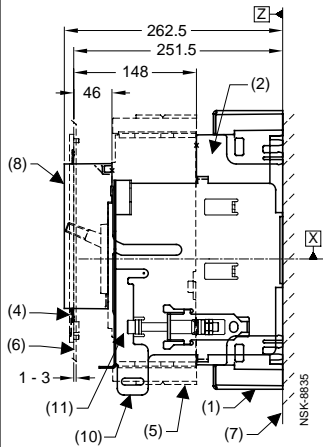


- |                             |  |
|-----------------------------|--|
| (1) 带端子盖的插入式插座              | (1) Plug-in socket with terminal covers                                |
| (4) 柜门开孔面框<br>(用于带操作机构的断路器) | (4) Cover frame for door cutout<br>(for circuit-breaker with operator) |
| (5) 端子盖(标准)                 | (5) Terminal covers (standard)   |
| (6) 柜门外表面                   | (6) Outside surface of cabinet door                                    |
| (7) 安装表面                    | (7) Mounting surface   |
| (8) 储能操作机构                  | (8) Stored energy operator   |
| (9) 旋转手柄操作机构                | (9) Rotary handle operator   |
| (10) 抽出式装置                  | (10) Withdraw device   |
| (11) 抽出式曲柄位置                | (11) Withdraw crank location   |

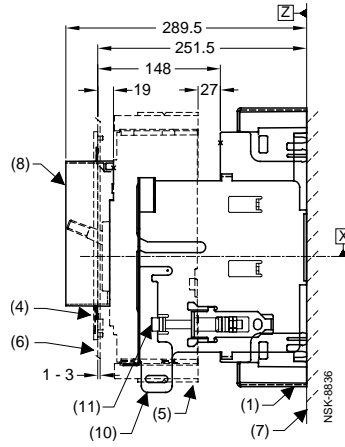
抽屉型和附件

Drawout version and accessories

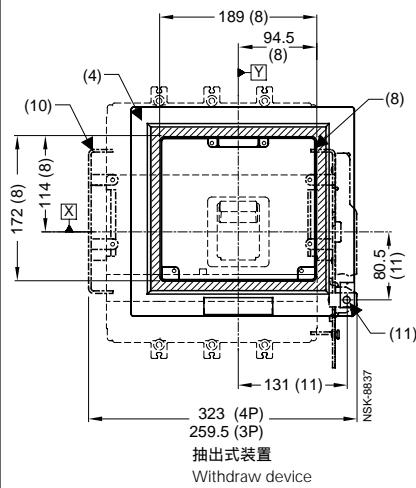
带有抽出式装置和加长框的 3VL630 断路器(运行位置)  
3VL630 circuit-breaker with extended escutcheon mounted in withdraw device (engaged position)



带有抽出式装置和加长框的 3VL630 断路器(断开位置)  
3VL630 circuit-breaker with extended escutcheon mounted in withdraw device (disengaged position)



带有抽出式装置和加长框的 3VL630 断路器  
3VL630 circuit-breaker with extended escutcheon mounted in withdraw device



- (1) 带端子盖的抽出式
  - (2) 插入式插座
  - (4) 柜门开孔面框  
(用于带操作机构的断路器)
  - (5) 端子盖(标准)
  - (6) 柜门外表面
  - (7) 安装表面
  - (8) 加长框
  - (10) 抽出式装置
  - (11) 抽出式曲柄位置
- (1) Drawout version with terminal covers
  - (2) Plug-in socket
  - (4) Cover frame for door cutout  
(for circuit-breaker with operator)
  - (5) Terminal covers (standard)
  - (6) Outside surface of cabinet door
  - (7) Mounting surface
  - (8) Extended escutcheon
  - (10) Withdraw device
  - (11) Withdraw crank location

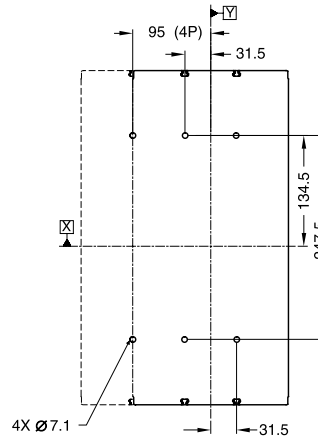
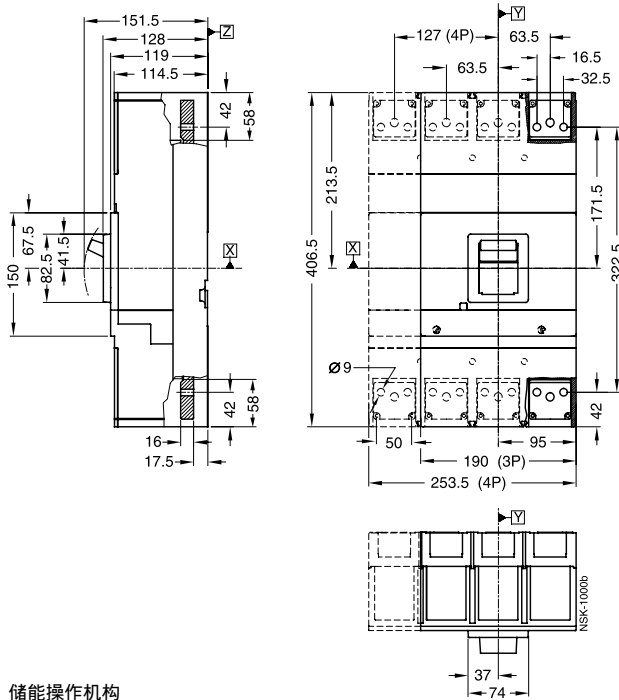
# 3VL800 断路器

## 3VL800 Circuit-Breakers

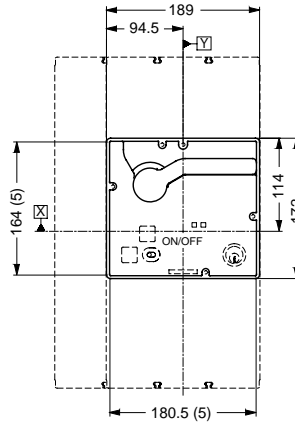
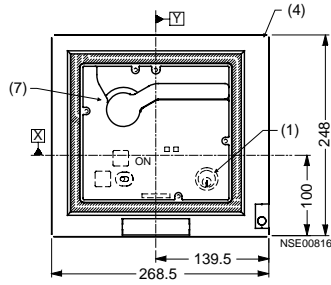
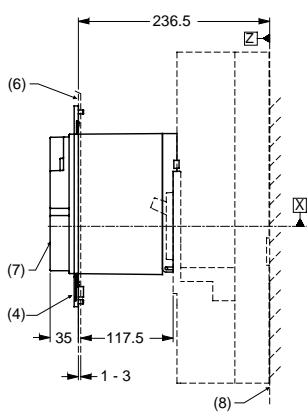
### 3极和4极断路器 Circuit-breakers, 3- and 4-pole

3VL800 断路器  
3VL800 Circuit-Breakers

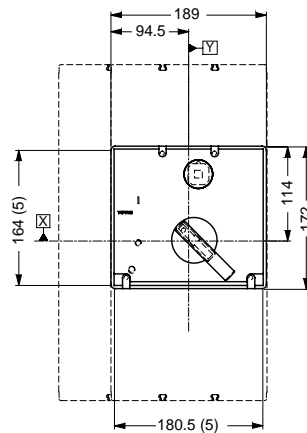
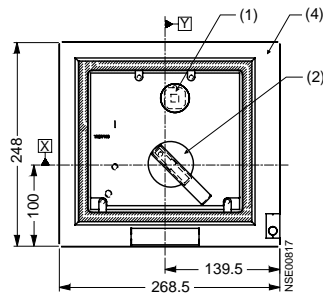
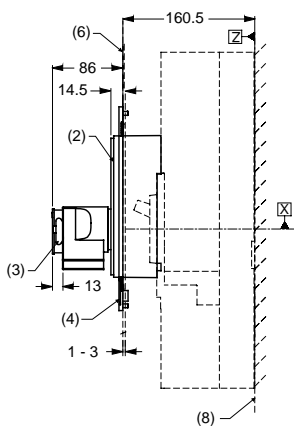
断路器安装详图  
Circuit-breaker mounting detail



储能操作机构  
Stored energy operator



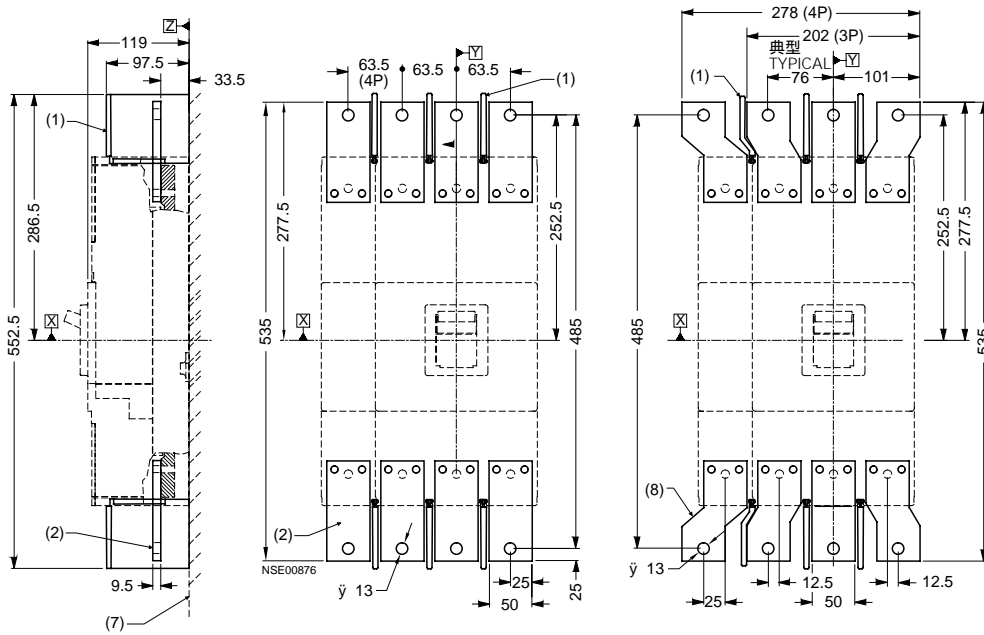
旋转操作机构  
Rotary handle operator



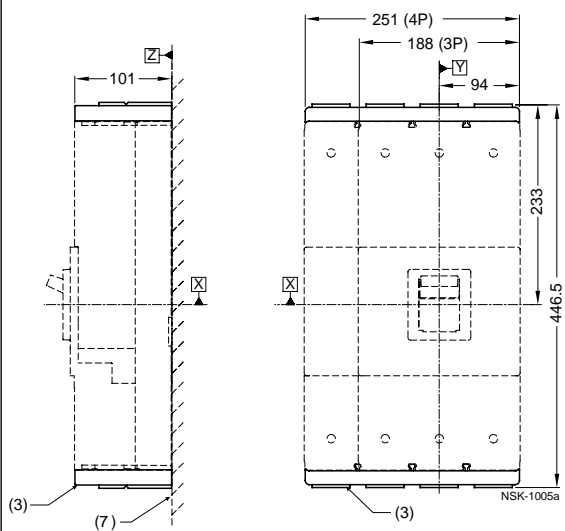
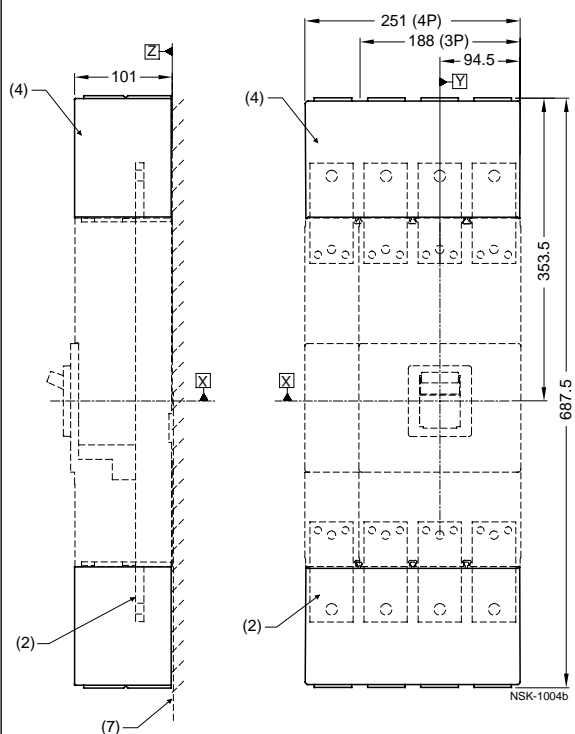
- (1) 柱形锁
  - (2) 旋转手柄
  - (3) 挂锁钩
  - (4) 柜门开孔面框  
(用于带操作机构的断路器)
  - (5) 门接口凸缘
  - (6) 柜门外表面
  - (7) 储能操作机构
  - (8) 安装表面
- (1) Cylinder lock
  - (2) Rotary handle
  - (3) Padlock hook
  - (4) Cover frame for door cutout  
(for circuit-breaker with operator)
  - (5) Door interface ledge
  - (6) Outside surface of cabinet door
  - (7) Stored energy operator
  - (8) Mounting surface

连接件和相间隔板

Connections and interphase barriers



- (1) 相间隔板
- (2) 正面母排连接件
- (7) 安装表面
- (8) 扩口正面母排连接件
- (1) Interphase barrier
- (2) Front busbar connection pieces
- (7) Mounting surface
- (8) Flared front busbar connection pieces



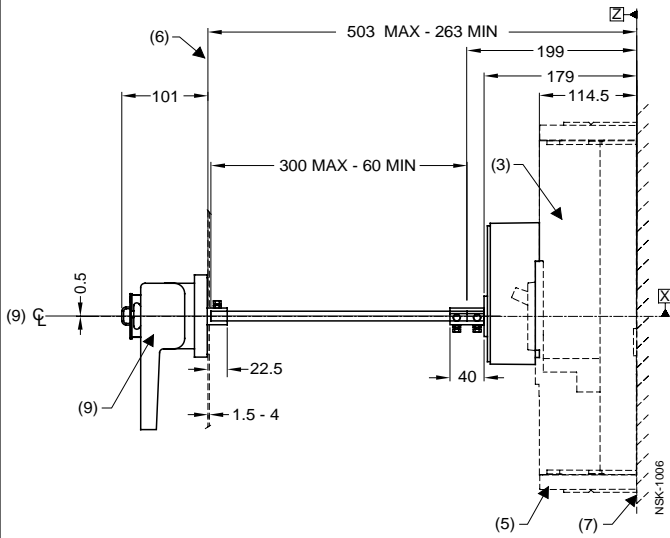
- (2) 正面母排连接件
- (3) 端子盖(标准)
- (4) 端子盖(加长)
- (7) 安装表面
- (2) Front busbar connection pieces
- (3) Terminal covers (standard)
- (4) Terminal covers (extended)
- (7) Mounting surface

附件

Accessories

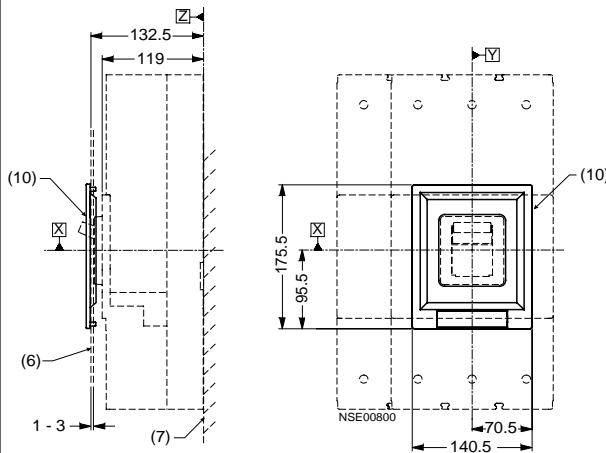
加长旋柄操作机构

Extended rotary handle operator



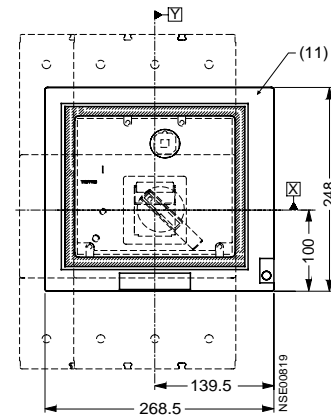
带扳动手柄及面框的断路器的柜门开孔

Cover frame for door cutout  
for circuit-breaker with toggle handle



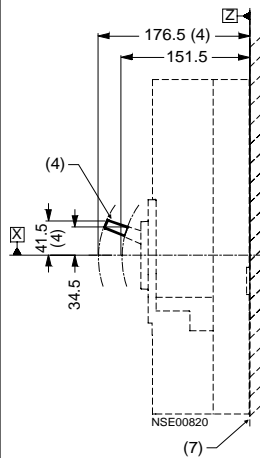
带操作机构及面框的断路器的柜门开孔

Cover frame for door cutout  
for circuit-breaker with operator



加长扳动手柄

Toggle handle extension



- (3) 断路器
- (4) 加长扳动手柄
- (5) 端子盖(标准)
- (6) 柜门外表面
- (7) 安装表面
- (9) 加长旋转手柄操作机构
- (10) 柜门开孔面框  
(用于带扳动手柄的断路器)
- (11) 柜门开孔面框  
(用于带操作机构的断路器)

- (3) Circuit-breaker
- (4) Toggle handle extension
- (5) Terminal covers (standard)
- (6) Outside surface of cabinet door
- (7) Mounting surface
- (9) Extended rotary handle operator
- (10) Cover frame for door cutout  
(for circuit-breaker with toggle handle)
- (11) Cover frame for door cutout  
(for circuit-breaker with operator)

# 3VL800 断路器

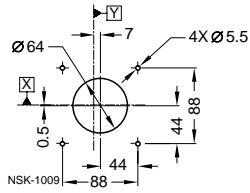
## 3VL800 Circuit-Breakers

### 面板开孔

### Panel cutouts

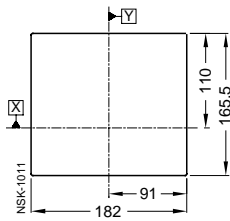
加长旋转操作机构的门开孔

Door cutout extended handle rotary operator



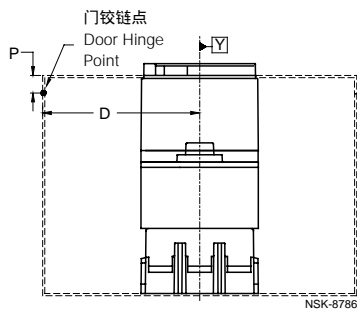
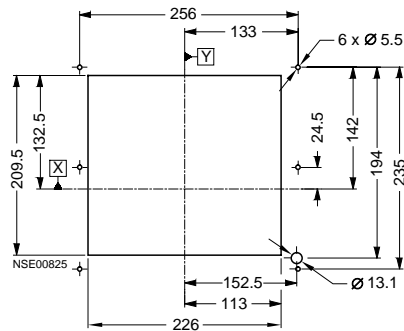
旋转操作机构、储能操作机构和加长框的门开孔 (不带面框)

Door cutout rotary handle operator, stored energy operator and extended escutcheon (without cover frame)



旋转操作机构、储能操作机构和加长框的门开孔(带面框)

Door cutout rotary handle operator, stored energy operator and extended escutcheon (with cover frame)



$D >$  表中的  $A + (P \times 5)$

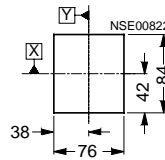
$D >$   $A$  from table +  $(P \times 5)$

注：门开孔要求在基准轴 Y 和门铰链之间的最小间隔。

Note: Door cutouts require a minimum distance between datum Y and the door hinge.

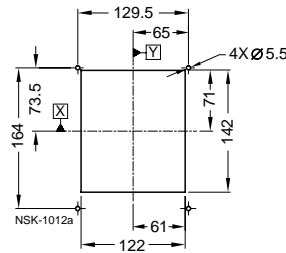
断路器的扳动手柄门开孔 (不带面框)

Door cutout toggle operator (without cover frame)



断路器的扳动手柄门开孔 (带面框)

Door cutout toggle operator (with cover frame)



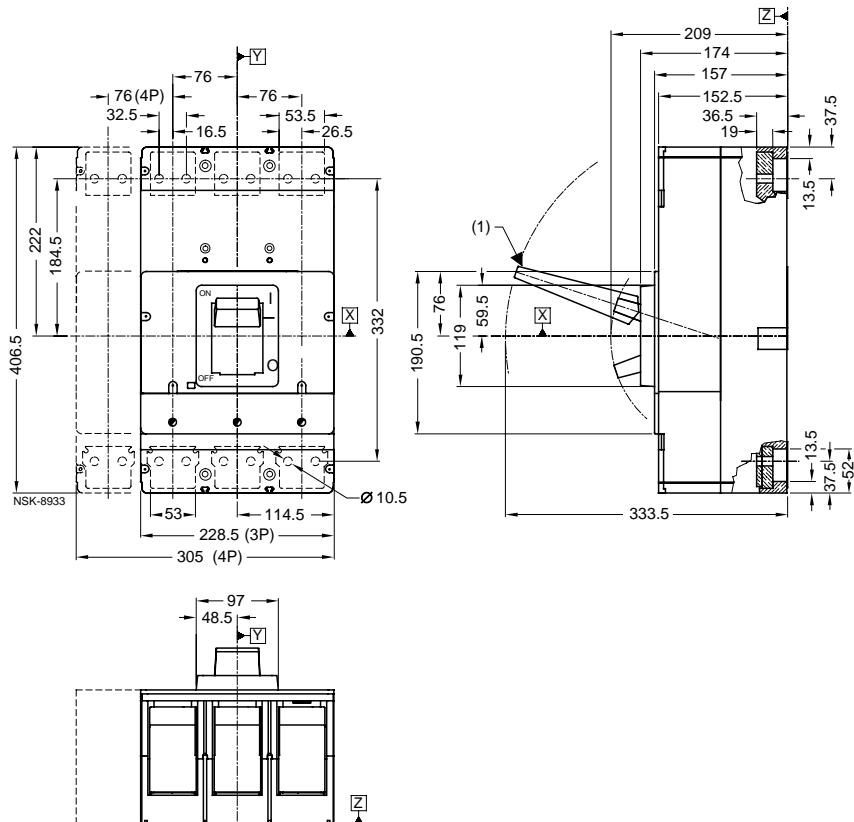
	A
仅有断路器 Circuit-breaker only	150
断路器 + 插入式插座 + 储能操作机构 Circuit-breaker + Plug-in socket + Stored energy operator	150
断路器 + 插入式插座 + 旋转手柄 Circuit-breaker + Plug-in socket + Rotary handle	200
断路器 + 抽出式装置 Circuit-breaker + Withdraw device	200

3 极和 4 极断路器

Circuit-breakers, 3- and 4-pole

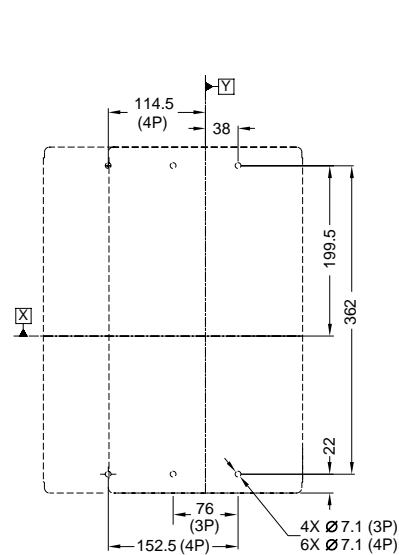
3VL1250 断路器

3VL1250 circuit-breaker



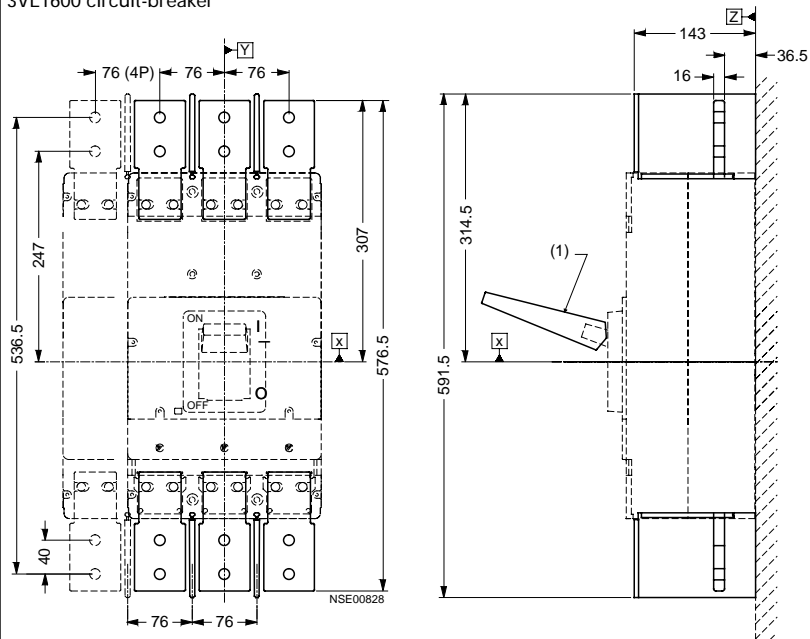
断路器安装详图

Circuit-breaker mounting detail



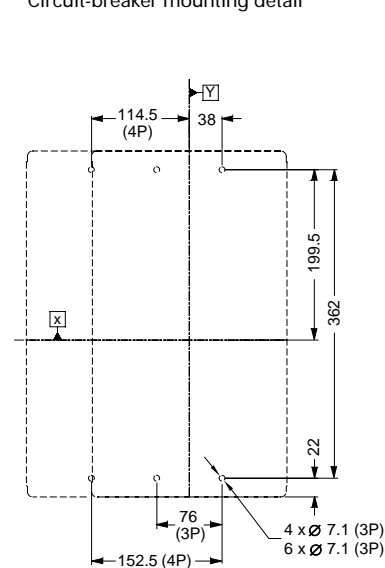
3VL1600 断路器

3VL1600 circuit-breaker



断路器安装详图

Circuit-breaker mounting detail



(1) 加长手柄

(1) Handle extension



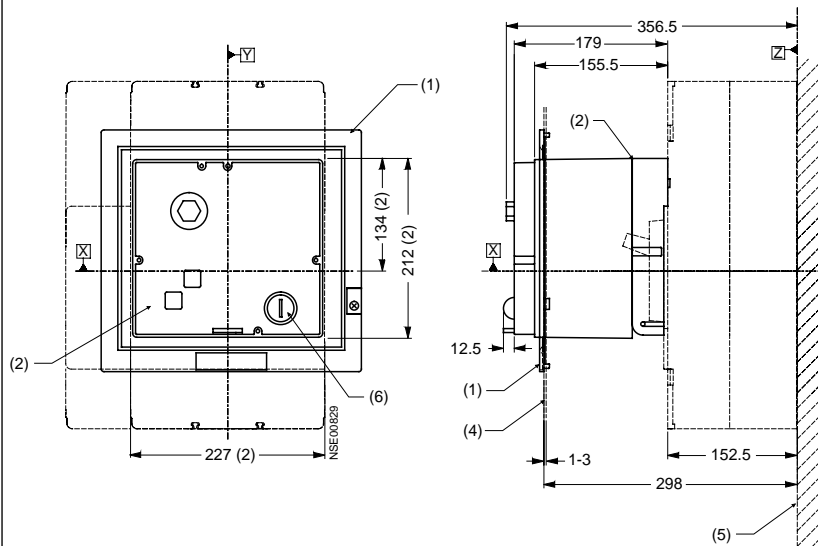
# 3VL1250 和 VL1600 断路器 3VL1250 and VL1600 Circuit-Breakers

## 操作机构

Operators

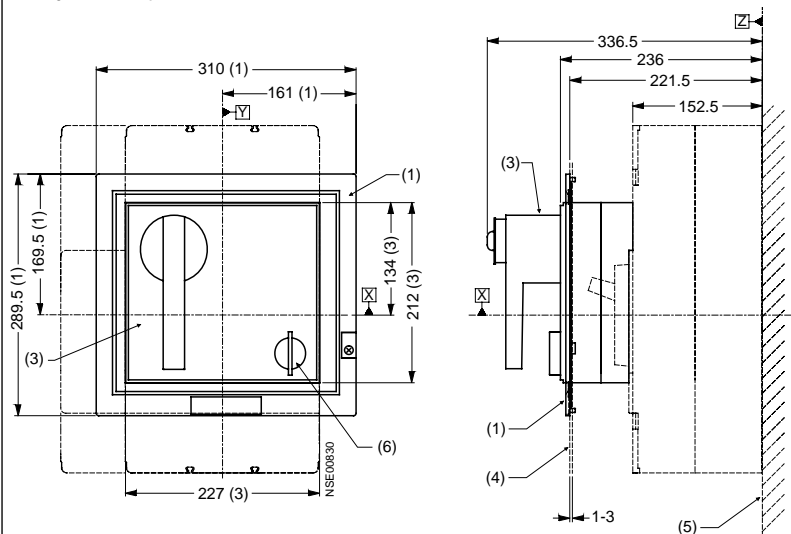
### 储能操作机构

Stored energy operator



### 旋转操作机构

Rotary handle operator



(1) 柜门开孔面框  
(用于带操作机构的断路器)

(2) 电动机操作机构

(3) 旋转操作机构

(4) 柜门外表面

(5) 安装表面

(6) 柱形锁

(1) Cover frame for door cutout  
(for circuit-breaker with operator)

(2) Motor operator

(3) Rotary handle operator

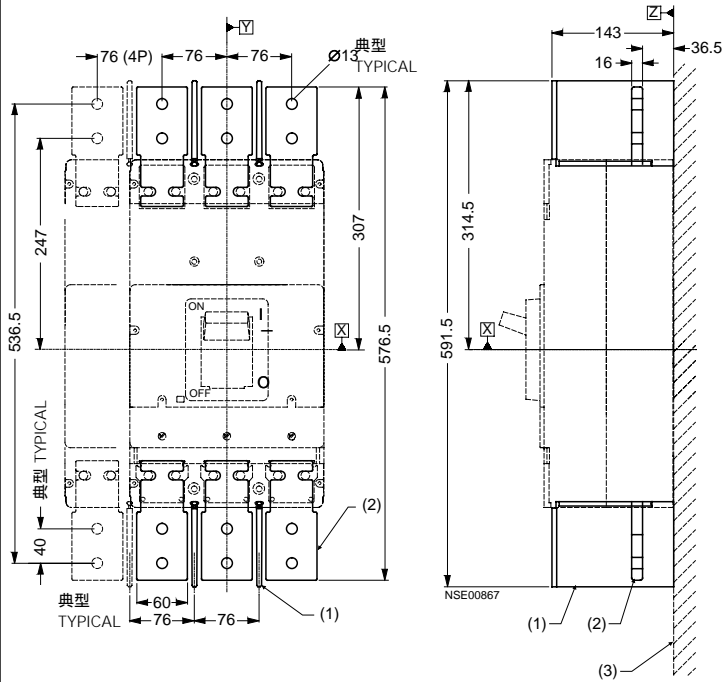
(4) Outside surface of cabinet door

(5) Mounting surface

(6) Cylinder lock

连接件和相间隔板

Connections and interphase barriers

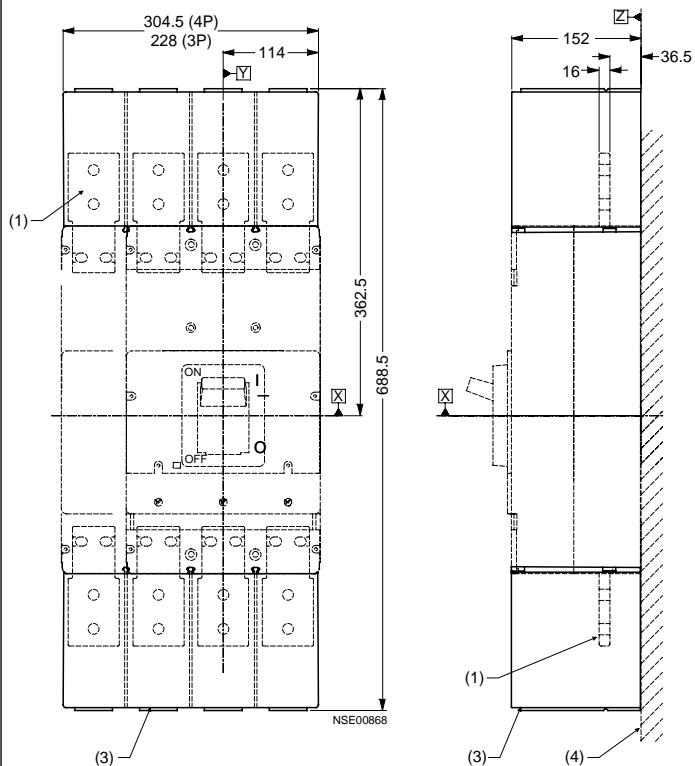


- (1) 相间隔板
- (2) 正面母排连接件
- (3) 安装表面
- (1) Interphase barrier
- (2) Front busbar connection pieces
- (3) Mounting surface

# 3VL1250 和 VL1600 断路器 3VL1250 and VL1600 Circuit-Breakers

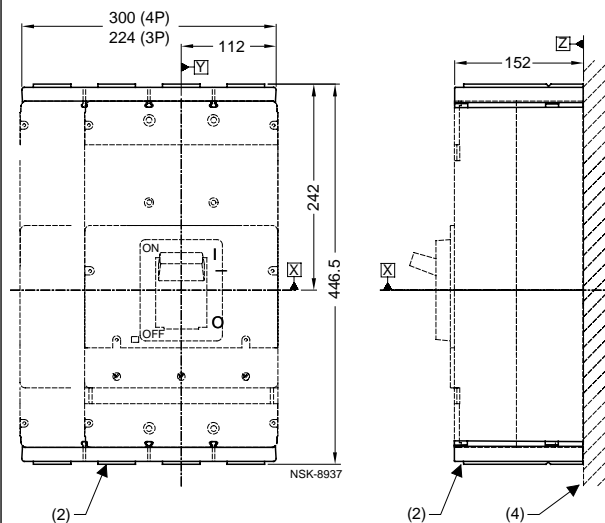
## 端子盖

## Terminal covers



仅限 3VL1250 断路器

3VL1250 circuit-breaker only



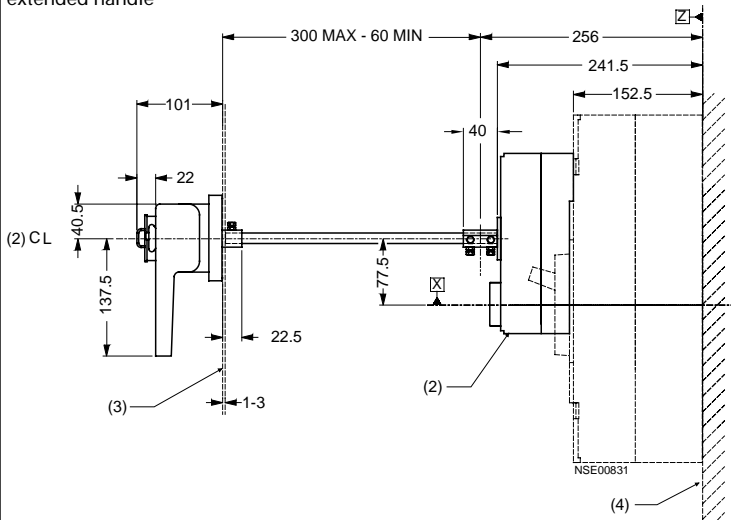
- (1) 正面母排连接件
  - (2) 端子盖(短) - 仅用于 3VL1250 断路器
  - (3) 端子盖(加长)
  - (4) 安装表面
- (1) Front busbar connection pieces
  - (2) Terminal covers (short) - only for 3VL1250 circuit-breaker
  - (3) Terminal covers (extended)
  - (4) Mounting surface

附件

Accessories

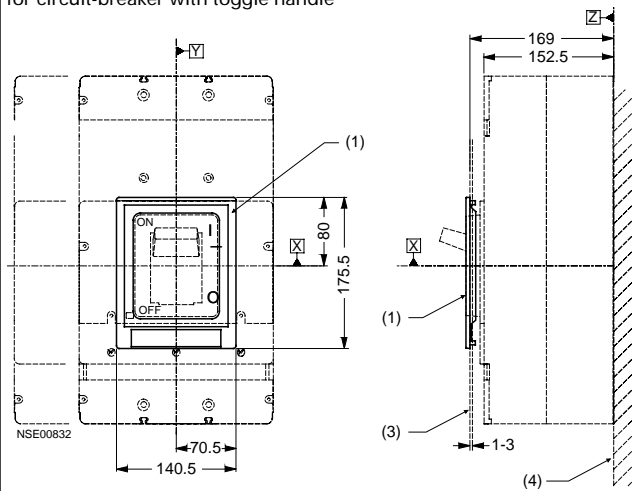
3VL1250 断路器加长旋转操作机构

3VL1250 circuit-breaker rotary handle operator  
extended handle



带扳动手柄及面框的断路器的柜门开孔

Cover frame for door cutout  
for circuit-breaker with toggle handle



- (1) 柜门开孔面框  
(用于带扳动手柄的断路器)
- (2) 加长旋转操作机构
- (3) 柜门外表面
- (4) 安装表面

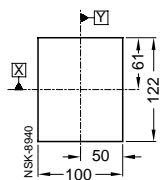
- (1) Cover frame for door cutout  
(for circuit-breaker with toggle handle)
- (2) Extended rotary handle operator
- (3) Outside surface of cabinet door
- (4) Mounting surface

# 3VL1250 和 VL1600 断路器 3VL1250 and VL1600 Circuit-Breakers

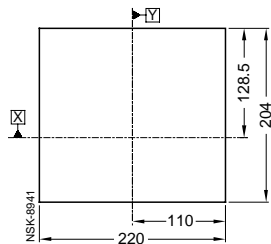
## 面板开孔

## Panel cutouts

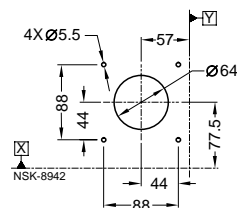
扳动操作机构的门开孔(不带面框)  
Door cutout toggle operator  
(without cover frame)



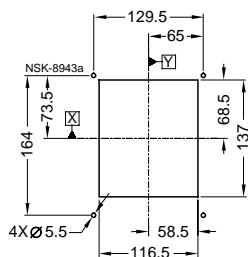
旋转操作机构和电动机操作机构的门开孔 (不带面框)  
Door cutout rotary handle operator and motor operator  
(without cover frame)



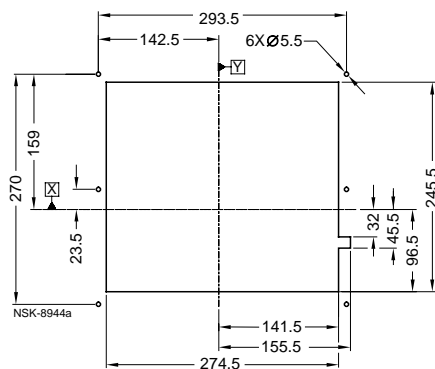
加长旋转操作机构的门开孔  
Extended handle rotary operator door cutout



扳动操作机构的门开孔(带面框)  
Door cutout toggle operator  
(with cover frame)



旋转操作机构、电动机操作机构和加长框的门开孔(带面框)  
Door cutout rotary handle operator, motor operator and  
extended escutcheon (with cover frame)



3 极和 4 极断路器

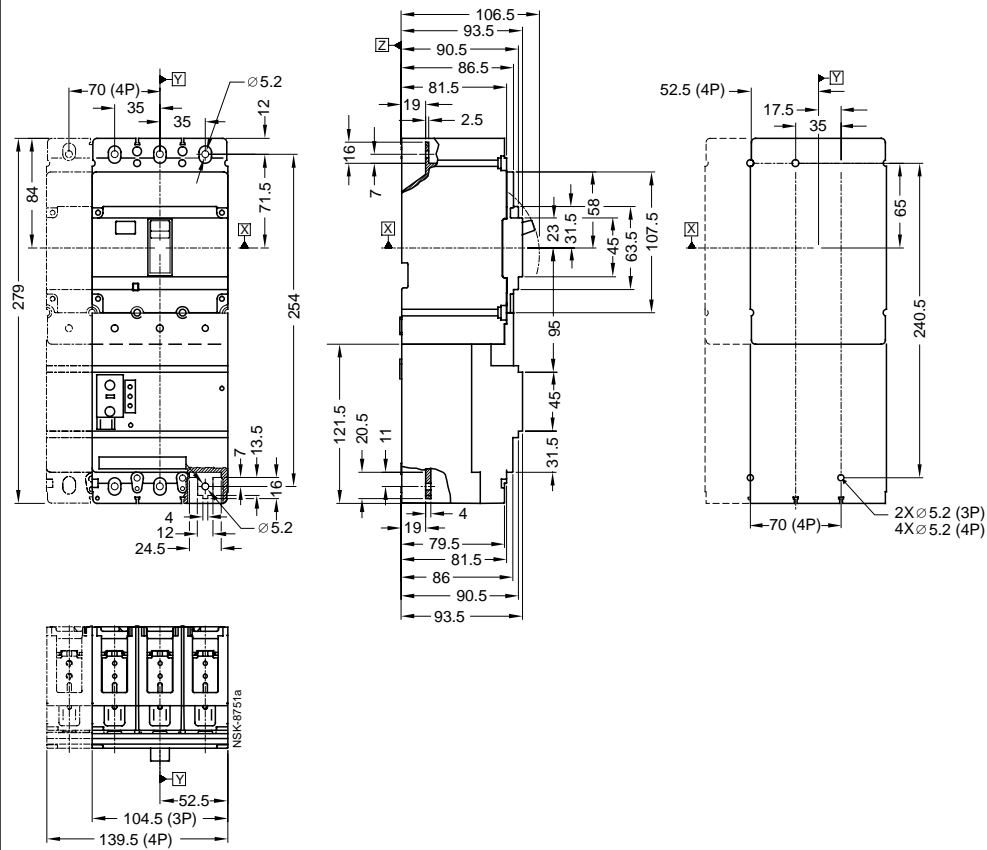
Circuit-breakers, 3- and 4-pole

带 RCD 的 3VL160X 断路器

3VL160X circuit-breaker with RCD

断路器安装详图

Circuit-breaker mounting detail

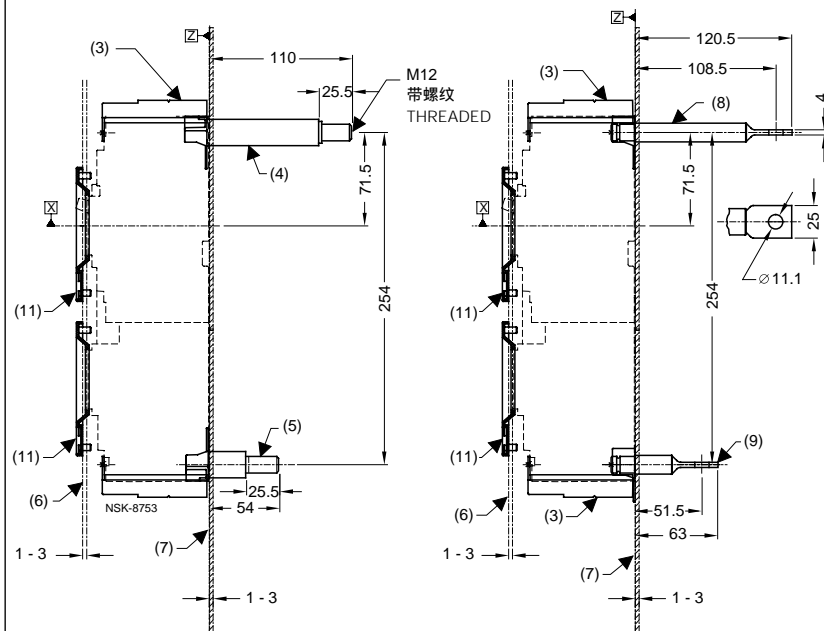
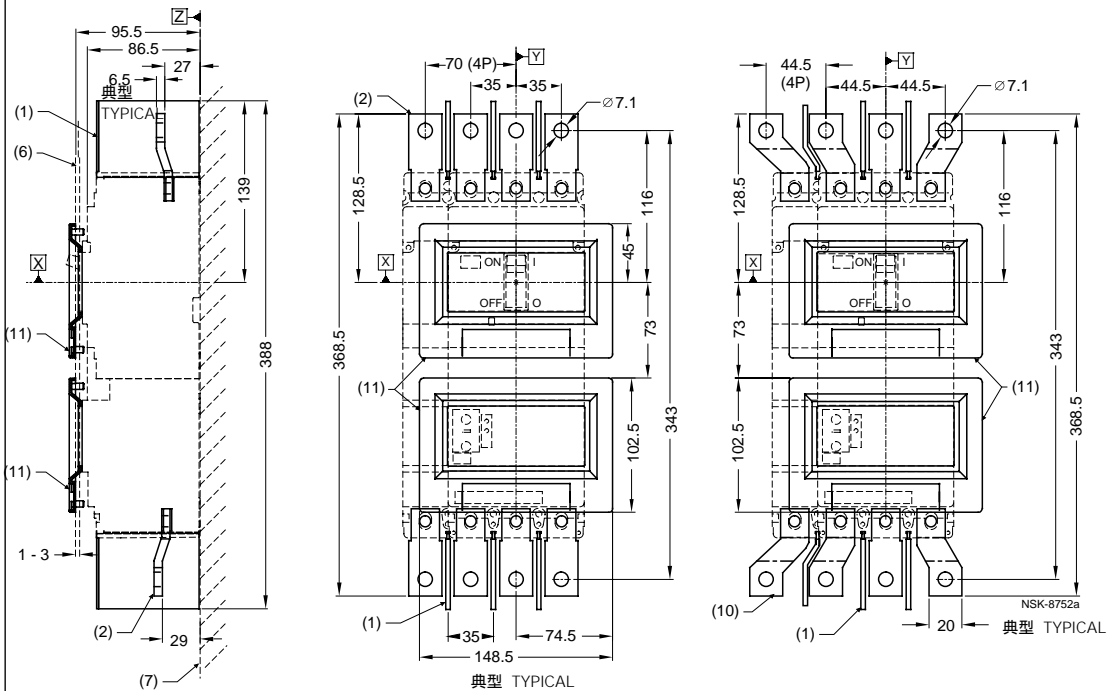


# 带 RCD 的 3VL160X 断路器

## 3VL160X Circuit-Breakers with RCD

### 连接件和相间隔板

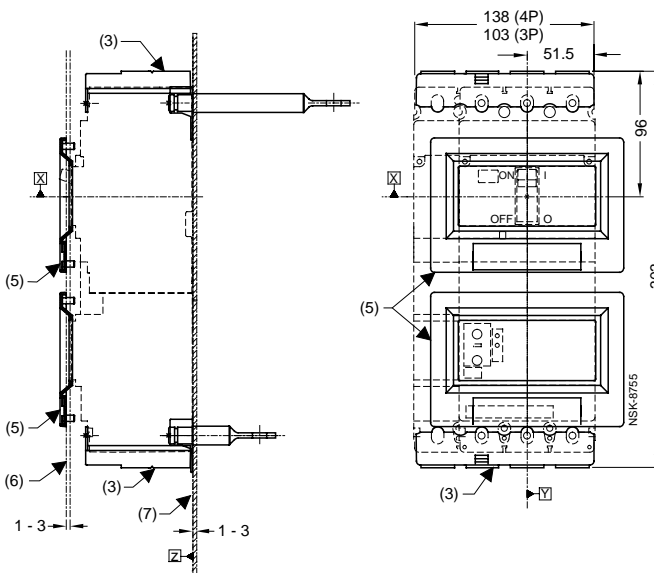
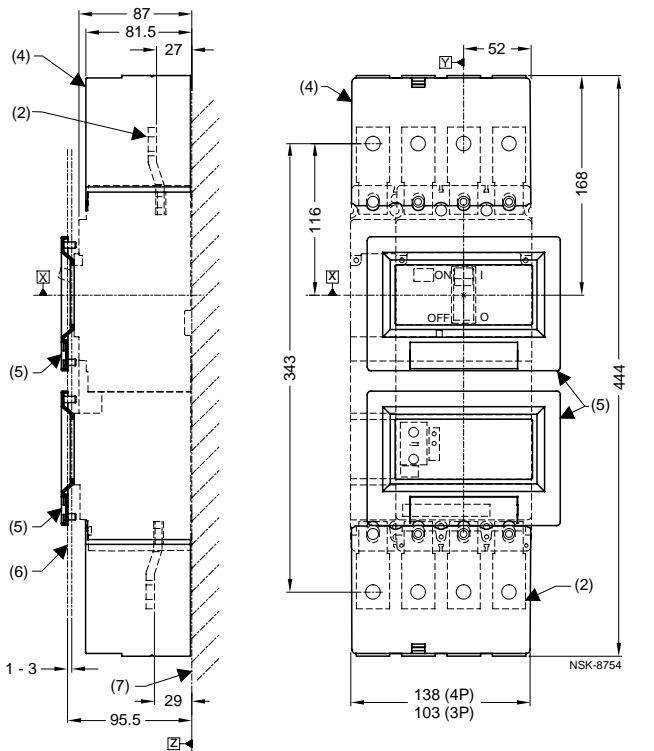
### Connections and interphase barriers



- (1) 相间隔板
  - (2) 正面母排连接件
  - (3) 端子盖(标准)
  - (4) 带螺纹的背面端子, 圆杆(长)
  - (5) 带螺纹的背面端子, 圆杆(短)
  - (6) 柜门外表面
  - (7) 安装表面
  - (8) 背面端子, 扁平圆杆(长)
  - (9) 背面端子, 扁平圆杆(短)
  - (10) 扩口正面母排连接件
  - (11) 柜门开孔面框  
(用于带 RCD 的断路器)
- (1) Interphase barrier
  - (2) Front busbar connection pieces
  - (3) Terminal covers (standard)
  - (4) Threaded rear terminals, round stock (long)
  - (5) Threaded rear terminals, round stock (short)
  - (6) Outside surface of cabinet door
  - (7) Mounting surface
  - (8) Rear terminals, round stock flat (long)
  - (9) Rear terminals, round stock flat (short)
  - (10) Flared front busbar connection pieces
  - (11) Cover frame for door cutout  
(for circuit-breaker with RCD)

端子盖

Terminal covers



- (2) 正面母排连接件
  - (3) 端子盖(标准)
  - (4) 端子盖(加长)
  - (5) 柜门开孔面框  
(用于带 RCD 的断路器)
  - (6) 柜门外表面
  - (7) 安装表面
- (2) Front busbar connection pieces
  - (3) Terminal covers (standard)
  - (4) Terminal covers (extended)
  - (5) Cover frame for door cutout  
(for circuit-breaker with RCD)
  - (6) Outside surface of cabinet door
  - (7) Mounting surface



# 带 RCD 的 3VL160X 断路器

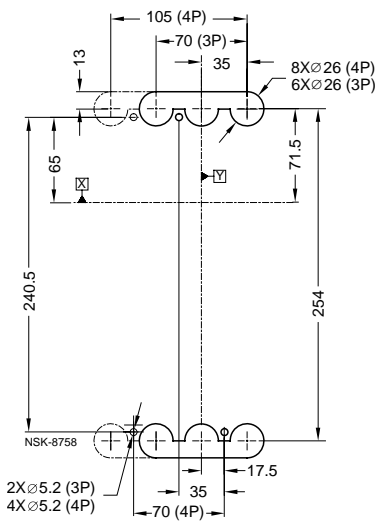
## 3VL160X Circuit-Breakers with RCD

### 面板开孔

### Panel cutouts

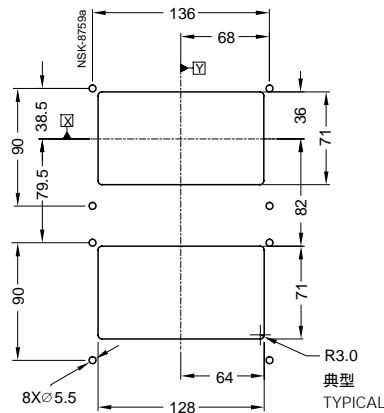
圆杆背面端子的孔型和开孔

Hole pattern cutout rear terminals, round stock



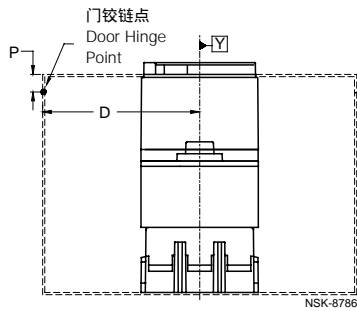
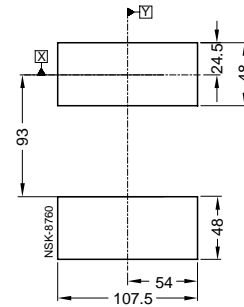
断路器的扳动手柄门开孔(带面框)

Door cutout toggle operator (with cover frame)



断路器的扳动手柄门开孔(不带面框)

Door cutout toggle operator (without cover frame)



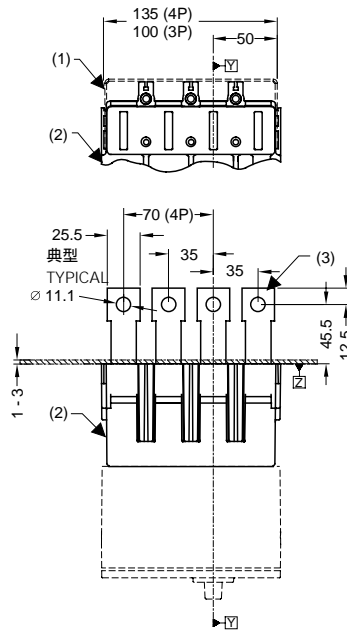
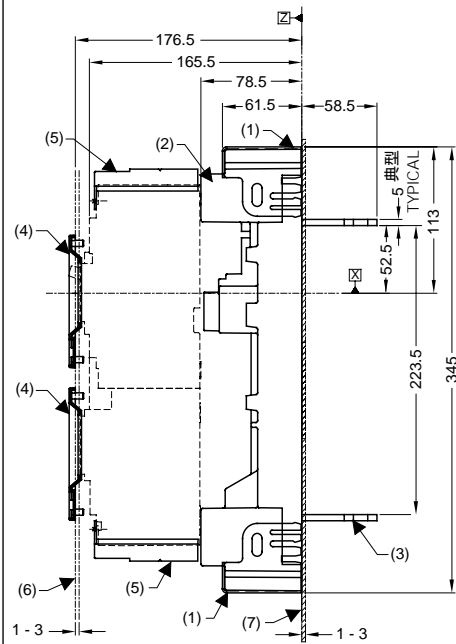
注: 门开孔要求在基准轴 Y 和门铰链之间的最小间隔。  
Note: Door cutouts require a minimum distance between datum Y and the door hinge.

$D > \text{表中的 } A + (P \times 5)$   
 $D > A \text{ from table} + (P \times 5)$

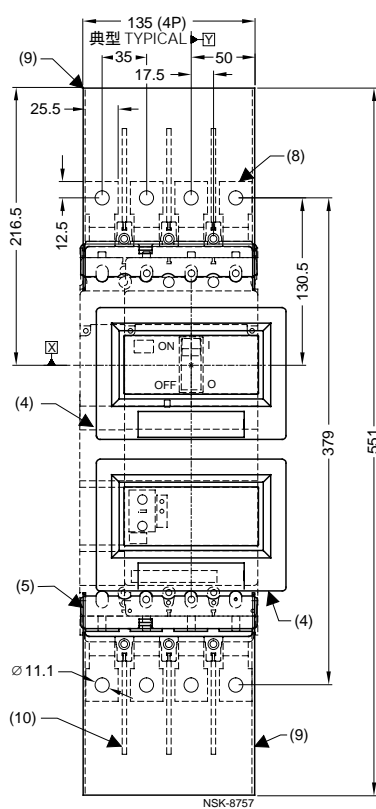
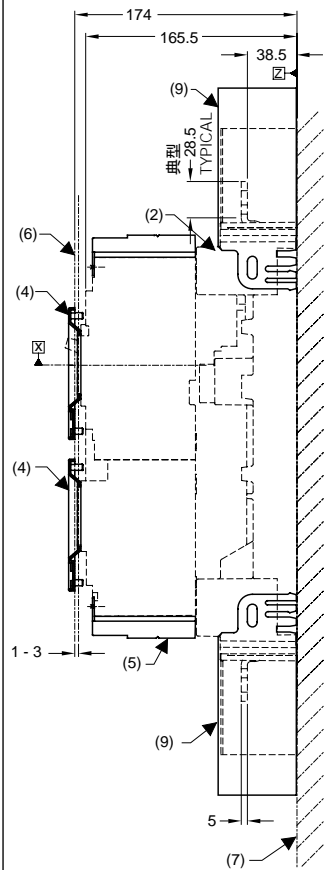
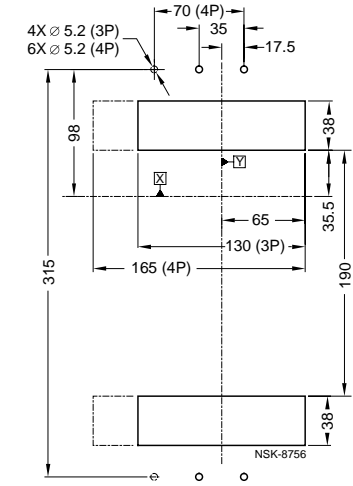
	A
仅有断路器 Circuit-breaker only	100
断路器 + 插入式插座 + 储能操作机构 Circuit-breaker + Plug-in socket + Stored energy operator	100
断路器 + 插入式插座 + 旋转手柄 Circuit-breaker + Plug-in socket + Rotary handle	200

插入式插座和附件

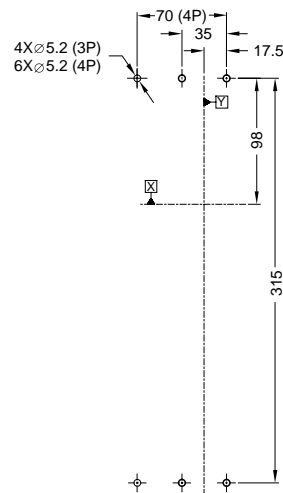
Plug-in socket and accessories



带扁平母排背后端子的插入式插座的孔型和开孔  
Hole pattern and cutout for plug-in socket with rear terminals flat bus



带正面母排连接件的插入式插座的孔型  
Hole pattern for plug-in socket with front busbar connection pieces



- (1) 带背后端子盖的插入式插座
- (2) 带 RCD 的断路器的插入式插座
- (3) 带扁平母排背后端子的插入式插座
- (4) 柜门开孔面框  
(用于带 RCD 的断路器)
- (5) 端子盖(标准)
- (6) 柜门外表面
- (7) 安装表面
- (8) 带正面母排连接件的插入式插座
- (9) 带正面连接端子盖的插入式插座

- (1) Plug-in socket with rear terminal covers
- (2) Plug-in socket for circuit-breaker with RCD
- (3) Plug-in socket with rear terminals flat bus
- (4) Cover frame for door cutout  
(for circuit-breaker with RCD)
- (5) Terminal cover (standard)
- (6) Outside surface of cabinet door
- (7) Mounting surface
- (8) Plug-in socket with front busbar connection pieces
- (9) Plug-in socket with terminal covers in the front

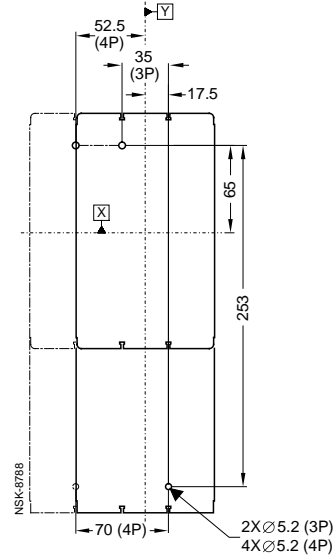
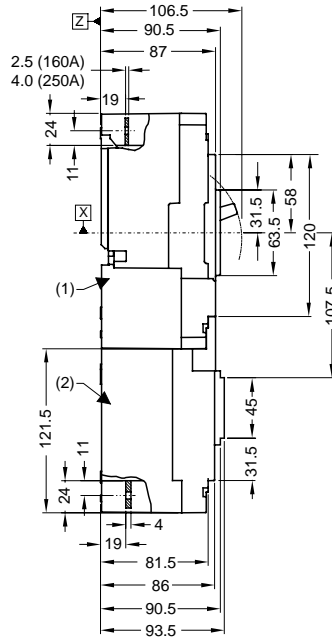
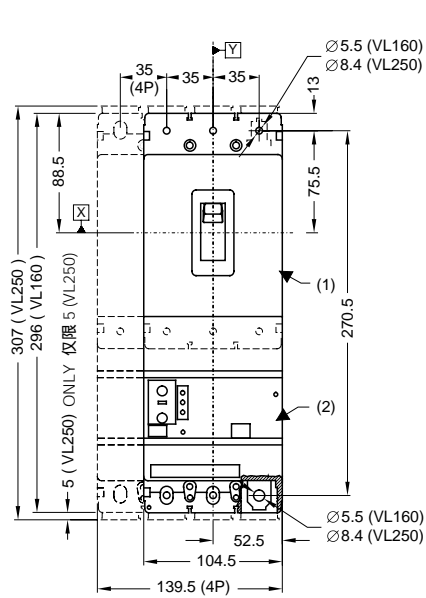
# 带RCD的3VL160和VL250断路器

## 3VL160 and VL250 Circuit-Breakers with RCD

### 3极和4极断路器 Circuit-breakers, 3- and 4-pole

带RCD的3VL160和VL250断路器  
3VL160 and VL250 circuit-breakers with RCD

断路器安装详图  
Circuit-breaker mounting detail



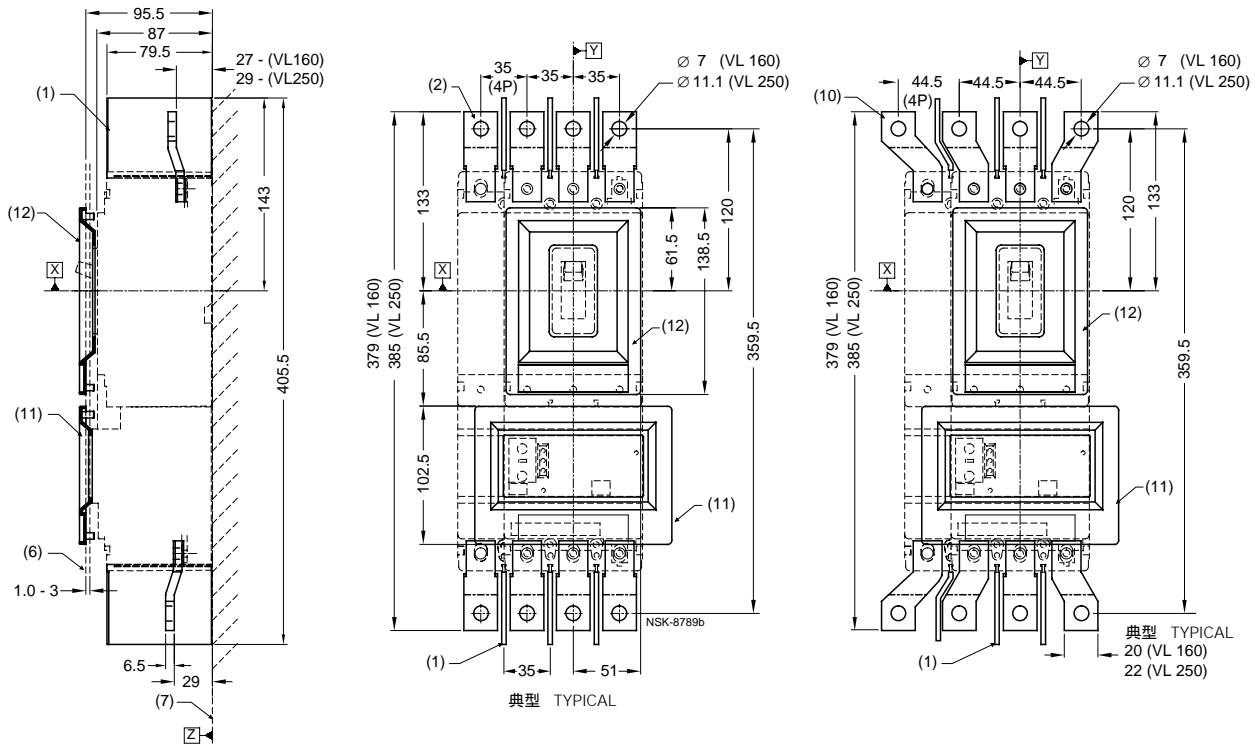
- (1) 断路器
- (2) RCD(剩余电流装置)
- (1) Circuit-breaker
- (2) RCD (residual current device)

3VL250 断路器注释：只有当使用铜或铝电缆端子时，才可在该型号断路器的任何一端增加5mm (总高度307mm)。

Note for 3VL250 circuit-breaker: The increase of 5 mm (total height 307 mm) to either end is only applicable when using terminals for copper or aluminium cable.

连接件和相间隔板

Connections and interphase barriers



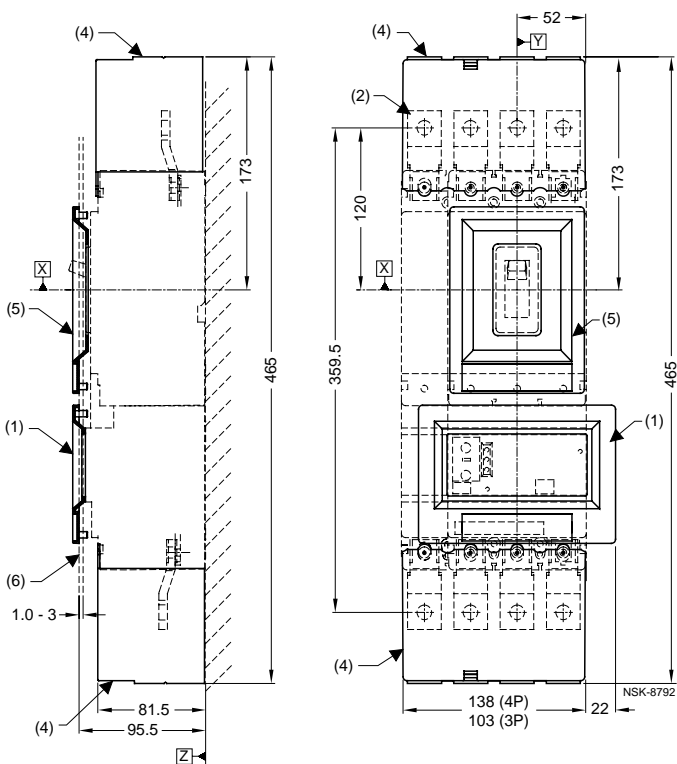
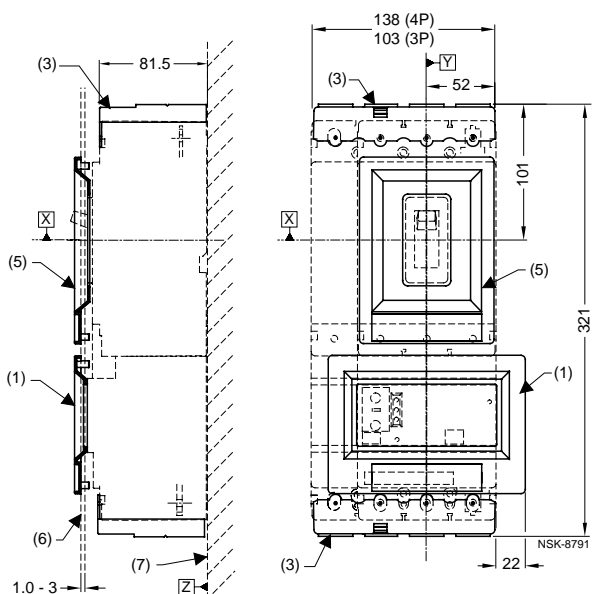
- (1) 相间隔板
- (2) 正面母排连接件
- (3) 端子盖(标准)
- (4) 背后端子, 圆杆(长)
- (5) 背后端子, 圆杆(短)
- (6) 柜门外表面
- (7) 安装表面
- (8) 背后端子, 扁平圆杆(长)
- (9) 背后端子, 扁平圆杆(短)
- (10) 扩口正面母排连接件
- (11) 柜门开孔面框  
(用于带 RCD 的断路器)
- (12) 柜门开孔面框  
(用于带扳动手柄的断路器)

- (1) Interphase barrier
- (2) Front busbar connection pieces
- (3) Terminal covers (standard)
- (4) Rear terminals, round stock (long)
- (5) Rear terminals, round stock (short)
- (6) Outside surface of cabinet door
- (7) Mounting surface
- (8) Rear terminals, round stock flat (long)
- (9) Rear terminals, round stock flat (short)
- (10) Flared front busbar connection pieces
- (11) Cover frame for door cutout  
(for circuit-breaker with RCD)
- (12) Cover frame for door cutout  
(for circuit-breaker with toggle handle)

# 带 RCD 的 3VL160 和 VL250 断路器 3VL160 and VL250 Circuit-Breakers with RCD

## 端子盖

## Terminal covers



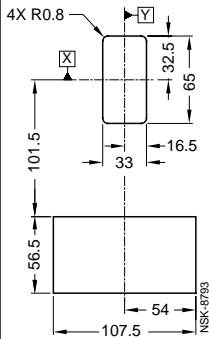
- (1) 柜门开孔面框  
(用于带 RCD 的断路器)
  - (2) 正面母排连接件
  - (3) 端子盖(标准)
  - (4) 端子盖(加长)
  - (5) 柜门开孔面框  
(用于带扳动手柄的断路器)
  - (6) 柜门外表面
  - (7) 安装表面
- (1) Cover frame for door cutout  
(for circuit-breaker with RCD)
  - (2) Front busbar connection pieces
  - (3) Terminal covers (standard)
  - (4) Terminal covers (extended)
  - (5) Cover frame for door cutout  
(for circuit-breaker with toggle handle)
  - (6) Outside surface of cabinet door
  - (7) Mounting surface

面板开孔

Panel cutouts

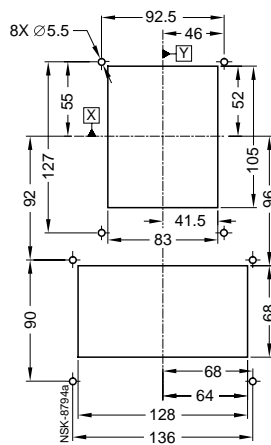
断路器的扳动手柄门开孔(不带面框)

Door cutout toggle operator (without cover frame)



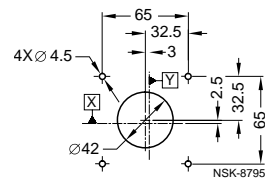
断路器的扳动手柄门开孔(带面框)

Door cutout toggle operator (with cover frame)



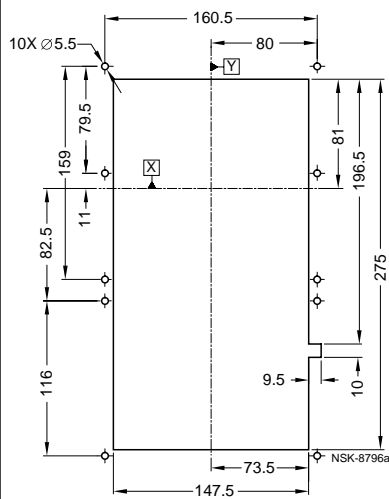
加长旋转操作机构的门开孔

Door cutout extended handle rotary operator



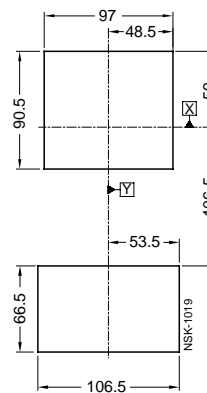
旋转操作机构和储能操作机构的门开孔(带面框)

Door cutout rotary handle and stored energy operators (with cover frame)



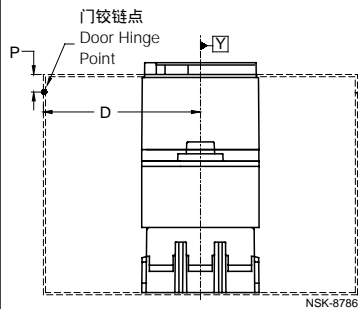
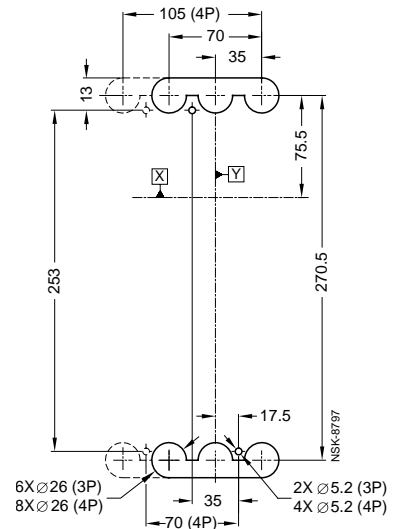
旋转操作机构的门开孔(不带面框)

Door cutout rotary handle operator (without cover frame)



背后连接柱螺栓的孔型和开孔

Hole pattern cutout rear connection studs



D > 表中的 A + (P x 5)

D > A from table + (P x 5)

注：门开孔要求在基准轴 Y 和门铰链之间的最小间隔。

Note: Door cutouts require a minimum distance between datum Y and the door hinge.

	A
	VL160X to VL250
仅有断路器 Circuit-breaker only	100
断路器 + 插入式插座 + 储能操作机构 Circuit-breaker + Plug-in socket + Stored energy operator	100
断路器 + 插入式插座 + 旋转手柄 Circuit-breaker + Plug-in socket + Rotary handle	200
断路器 + 抽出式装置 Circuit-breaker + Withdraw device	200

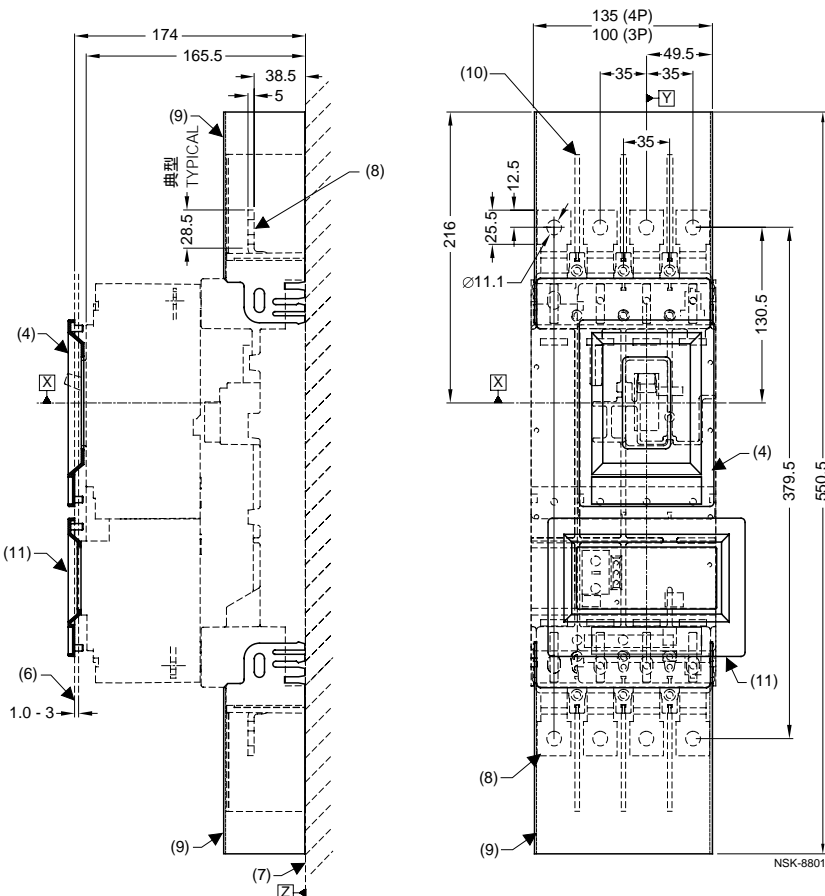
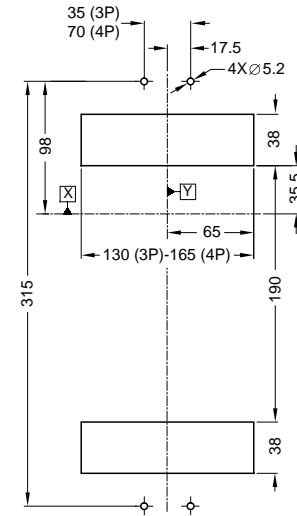
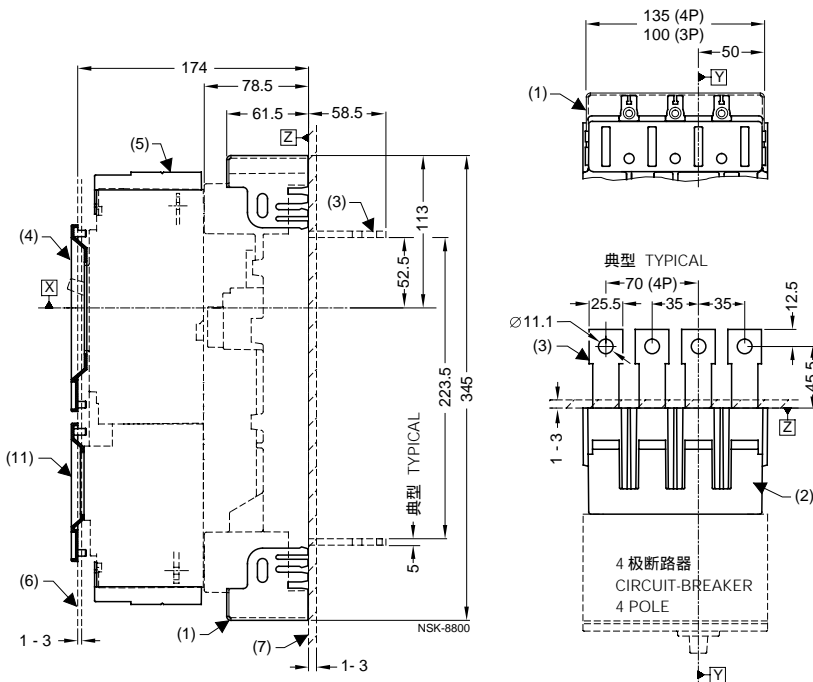
# 带 RCD 的 3VL160 和 VL250 断路器

## 3VL160 and VL250 Circuit-Breakers with RCD

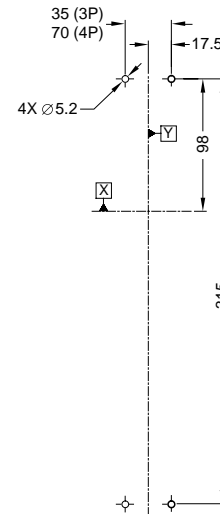
### 插入式插座和附件

### Plug-in socket and accessories

带扁平母排背后端子的插入式插座的孔型和开孔  
Hole pattern and cutout for plug-in socket with rear terminals flat bus



带正面母排连接件的插入式插座的孔型  
Hole pattern for plug-in socket with front busbar connection pieces



- (1) 带背后端子盖的插入式插座
- (2) 插入式插座
- (1) Plug-in socket with rear terminal covers
- (2) Plug-in socket

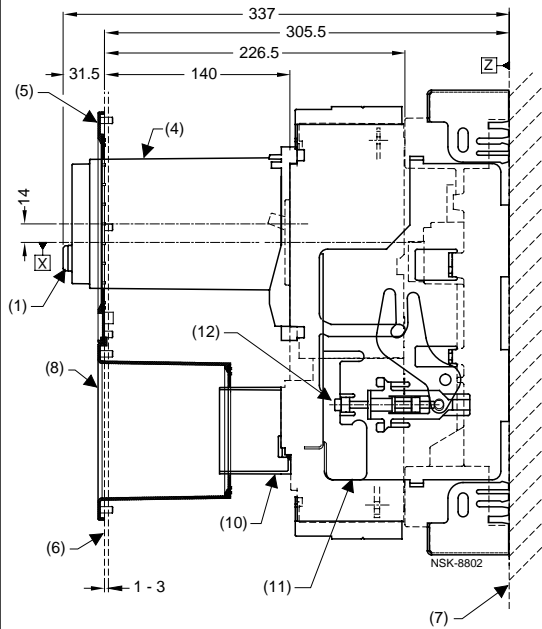
- (3) 带扁平母排背后端子的插入式插座
- (4) 柜门开孔面框 (用于带扳动手柄的断路器)
- (3) Plug-in socket with rear terminals flat bus
- (4) Cover frame for door cutout (for circuit-breaker with toggle handle)

- (5) 端子盖(标准)
- (6) 柜门外表面
- (7) 安装表面
- (8) 带正面母排连接件的插入式插座
- (9) 前部带端子盖的插入式插座
- (10) 相间隔板
- (11) 柜门开孔面框 (用于带 RCD 的断路器)
- (5) Terminal covers (standard)
- (6) Outside surface of cabinet door
- (7) Mounting surface
- (8) Plug-in socket with front busbar connection pieces
- (9) Plug-in socket with terminal covers in the front
- (10) Interphase barrier
- (11) Cover frame for door cutout (for circuit-breaker with RCD)

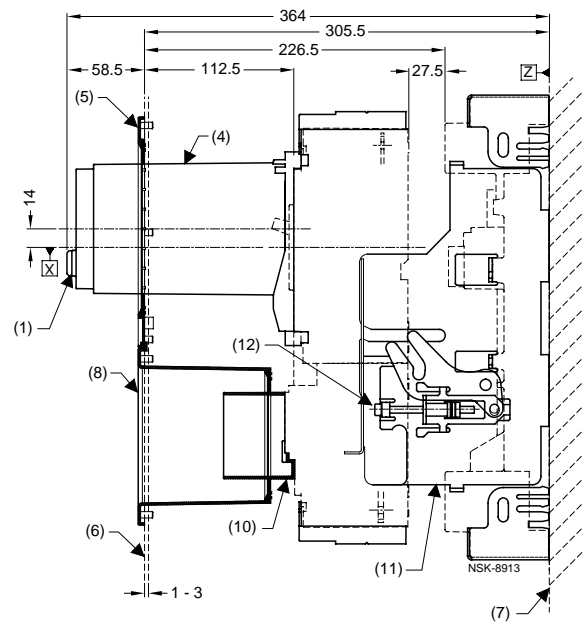
抽屉型和附件

Drawout version and accessories

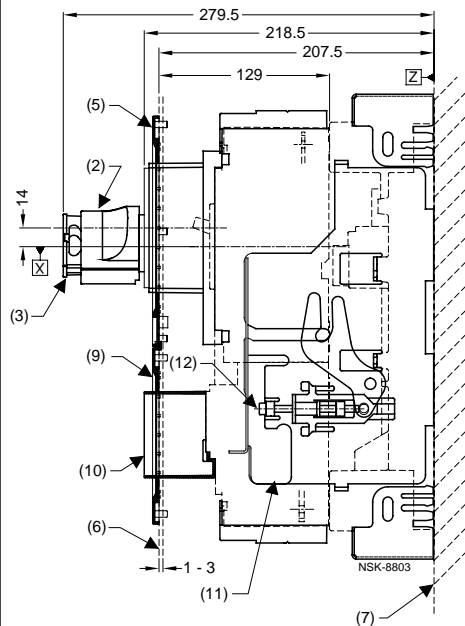
3VL160 和 VL250 断路器，带 RCD 和储能操作机构 (运行位置)  
3VL160 and VL250 circuit-breakers with RCD and stored energy operator (engaged position)



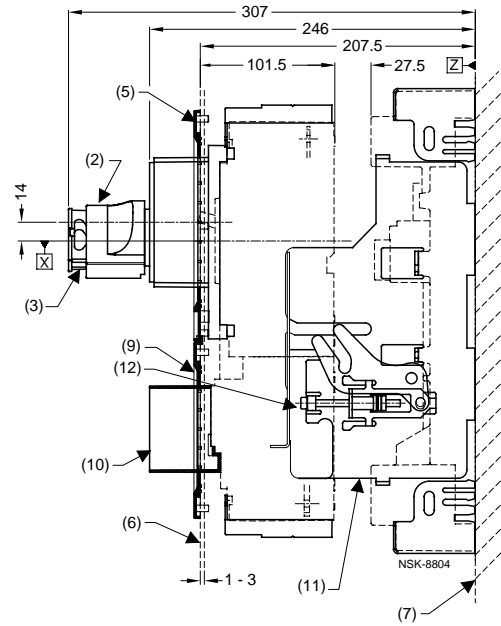
3VL160 和 VL250 断路器，带 RCD 和储能操作机构 (断开位置)  
3VL160 and VL250 circuit-breakers with RCD and stored energy operator (disengaged position)



3VL160 和 VL250 断路器，带 RCD 和旋转操作机构 (运行位置)  
3VL160 and VL250 circuit-breakers with RCD and rotary handle operator (engaged position)



3VL160 和 VL250 断路器，带 RCD 和旋转手柄操作机构 (断开位置)  
3VL160 and VL250 circuit-breakers with RCD and rotary handle operator (disengaged position)



- (1) 柱形锁
- (2) 旋转操作机构
- (3) 挂锁钩
- (4) 储能操作机构
- (5) 柜门开孔面框 (用于带操作机构的断路器)
- (6) 柜门外表面
- (7) 安装表面
- (8) 柜门开孔面框 (用于带 RCD 的断路器，电动机操作机构类型)
- (9) 柜门开孔面框 (用于带 RCD 的断路器，手柄操作机构类型)
- (10) RCD 加长框
- (11) 抽出式装置
- (12) 抽出式曲柄位置

- (1) Cylinder locks
- (2) Rotary handle operator
- (3) Padlock hook
- (4) Stored energy operator
- (5) Cover frame for door cutout (for circuit-breaker with operator)
- (6) Outside surface of cabinet door
- (7) Mounting surface
- (8) Cover frame for door cutout (for circuit-breaker with RCD, motor operator type)
- (9) Cover frame for door cutout (for circuit-breaker with RCD, handle operator type)
- (10) RCD extended escutcheon
- (11) Withdraw device
- (12) Withdraw crank location

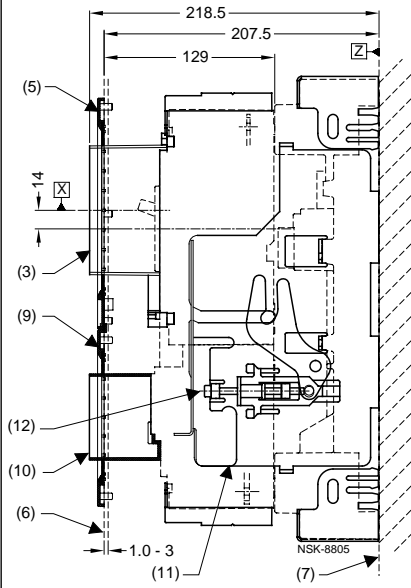


# 带 RCD 的 3VL160 和 VL250 断路器

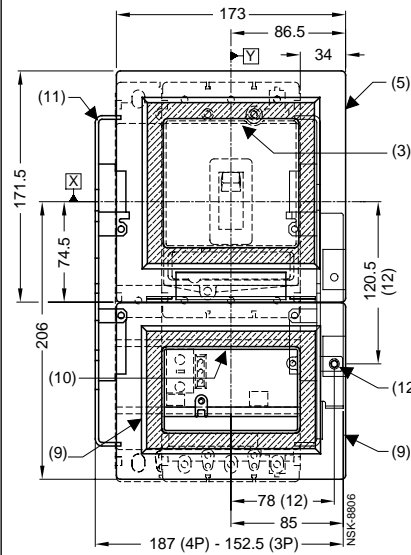
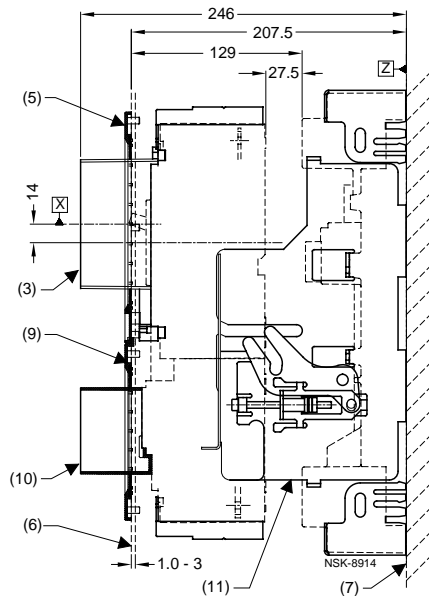
## 3VL160 and VL250 Circuit-Breakers with RCD

### 抽屉型和附件 Drawout version and accessories

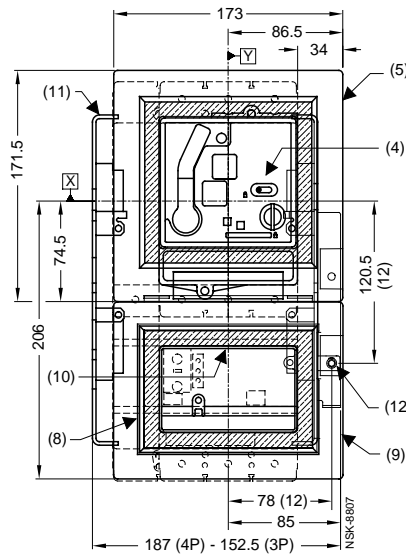
3VL160 和 VL250 断路器，带 RCD 和加长框(运行位置)  
 3VL160 and VL250 circuit-breakers with RCD and extended escutcheon (engaged position)



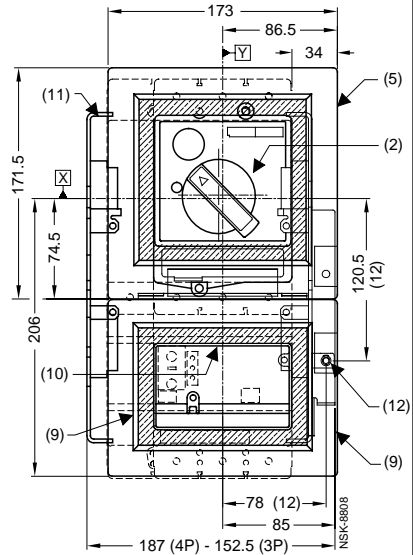
3VL160 和 VL250 断路器，带 RCD 和加长框(断开位置)  
 3VL160 and VL250 circuit-breakers with RCD and extended escutcheon (disengaged position)



抽出式装置  
WITHDRAW DEVICE



抽出式装置  
WITHDRAW DEVICE



抽出式装置  
WITHDRAW DEVICE

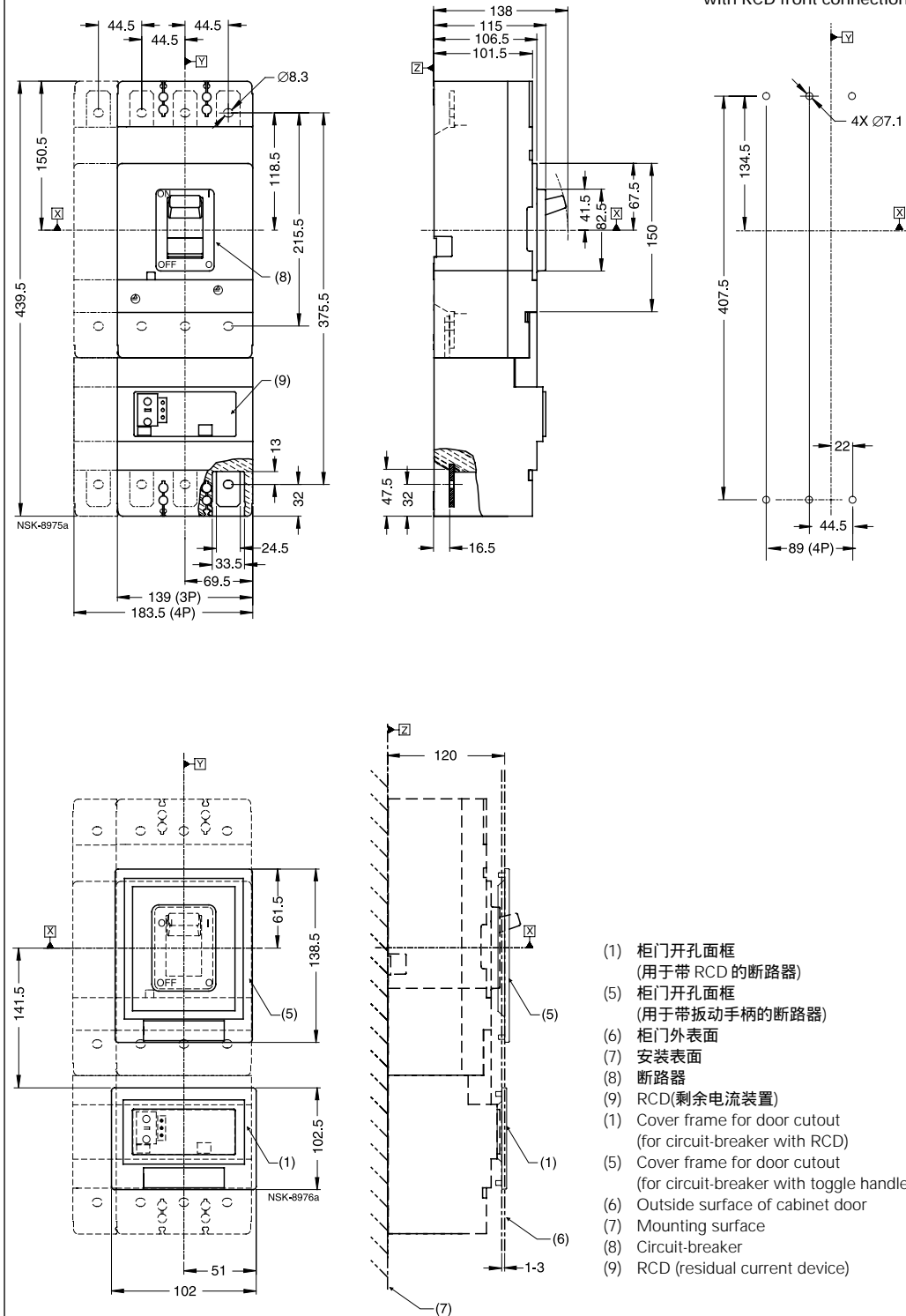
- (2) 旋转操作机构
- (3) 断路器加长框
- (4) 储能操作机构
- (5) 柜门开孔面框  
(用于带操作机构的断路器)
- (6) 柜门外表面
- (7) 安装表面
- (8) 柜门开孔面框  
(用于带 RCD 的断路器，电动机操作机构)
- (9) 柜门开孔面框  
(用于带 RCD 的断路器，旋转操作机构)
- (10) RCD 加长框
- (11) 抽出式装置
- (12) 抽出式手柄位置

- (2) Rotary handle operator
- (3) Circuit-breaker extended escutcheon
- (4) Stored energy operator
- (5) Cover frame for door cutout  
(for circuit-breaker with operator)
- (6) Outside surface of cabinet door
- (7) Mounting surface
- (8) Cover frame for door cutout  
(for circuit-breaker with RCD, motor operator type)
- (9) Cover frame for door cutout  
(for circuit-breaker with RCD, handle operator type)
- (10) RCD extended escutcheon
- (11) Withdraw device
- (12) Withdraw crank location

4 极断路器

Circuit-breakers, 4-pole

带 RCD 正面连接母排的 3VL400 断路器的安装孔型  
Mounting hole pattern 3VL400 circuit-breaker with RCD front connection bus

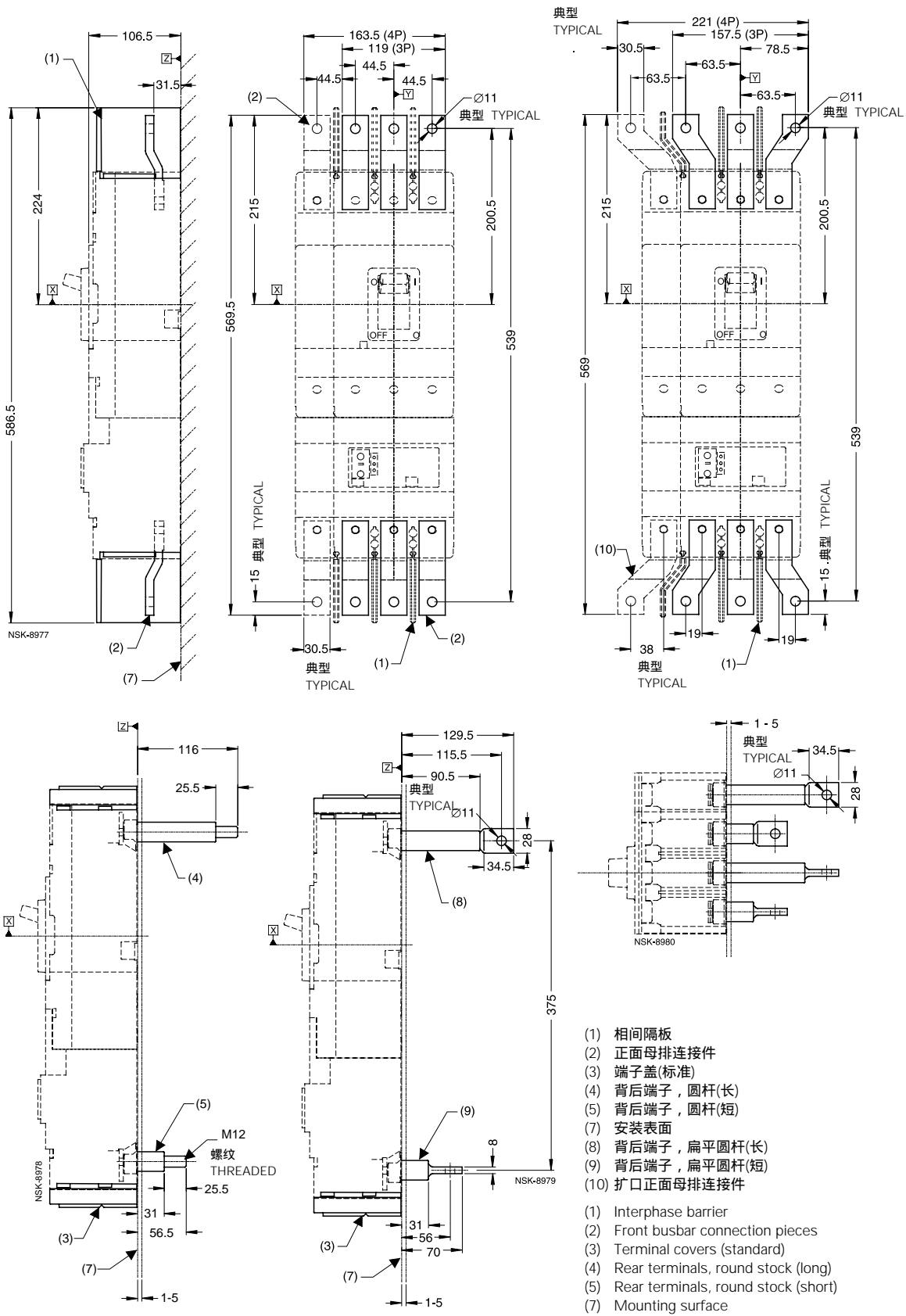


- (1) 柜门开孔面框  
(用于带 RCD 的断路器)
- (5) 柜门开孔面框  
(用于带扳动手柄的断路器)
- (6) 柜门外表面
- (7) 安装表面
- (8) 断路器
- (9) RCD(剩余电流装置)
- (1) Cover frame for door cutout  
(for circuit-breaker with RCD)
- (5) Cover frame for door cutout  
(for circuit-breaker with toggle handle)
- (6) Outside surface of cabinet door
- (7) Mounting surface
- (8) Circuit-breaker
- (9) RCD (residual current device)

带 RCD 的 3VL400 断路器  
3VL400 Circuit-Breakers with RCD

连接件和相间隔板

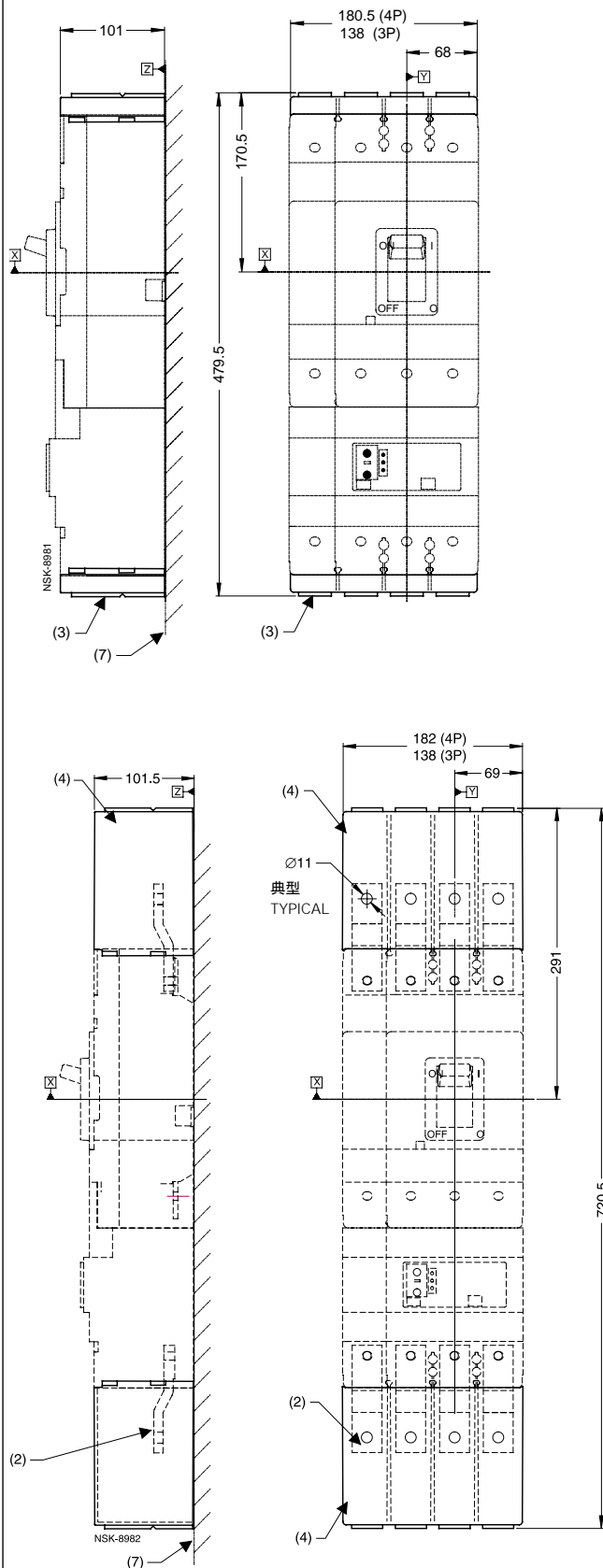
Connections and interphase barriers



- (1) 相间隔板
  - (2) 正面母排连接件
  - (3) 端子盖(标准)
  - (4) 背后端子, 圆杆(长)
  - (5) 背后端子, 圆杆(短)
  - (7) 安装表面
  - (8) 背后端子, 扁平圆杆(长)
  - (9) 背后端子, 扁平圆杆(短)
  - (10) 扩口正面母排连接件
- (1) Interphase barrier
  - (2) Front busbar connection pieces
  - (3) Terminal covers (standard)
  - (4) Rear terminals, round stock (long)
  - (5) Rear terminals, round stock (short)
  - (7) Mounting surface
  - (8) Rear terminals, round stock flat (long)
  - (9) Rear terminals, round stock flat (short)
  - (10) Flared front busbar connection pieces

端子盖

Terminal covers



- (2) 正面母排连接件
- (3) 端子盖(标准)
- (4) 端子盖(加长)
- (7) 安装表面
- (2) Front busbar connection pieces
- (3) Terminal covers (standard)
- (4) Terminal covers (extended)
- (7) Mounting surface

# 带 RCD 的 3VL400 断路器

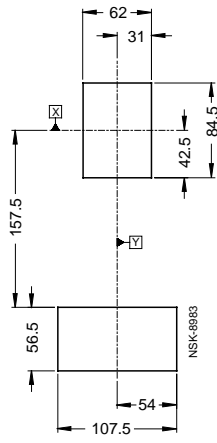
## 3VL400 Circuit-Breakers with RCD

### 面板开孔

### Panel cutouts

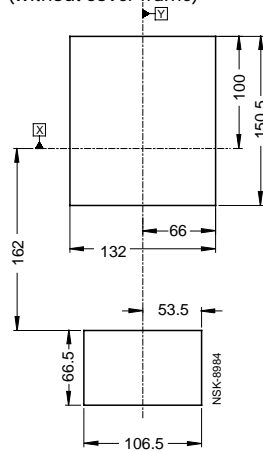
断路器的扳动手柄门开孔 (带面框)

Door cutout toggle operator (with cover frame)



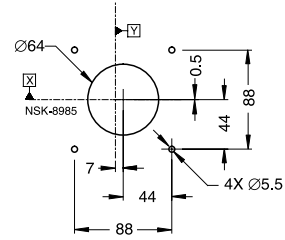
旋转操作机构的门开孔 (不带面框)

Door cutout rotary handle operator (without cover frame)



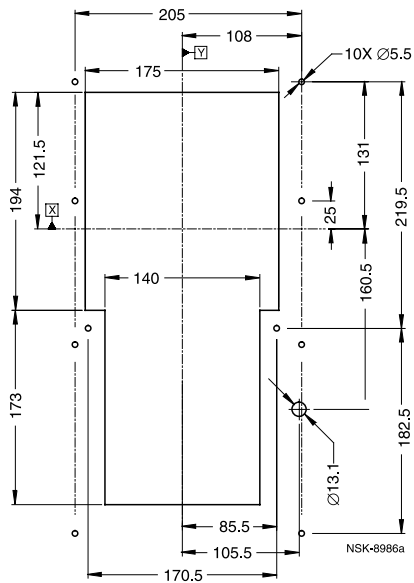
加长旋转操作机构的门开孔

Door cutout extended handle rotary operator



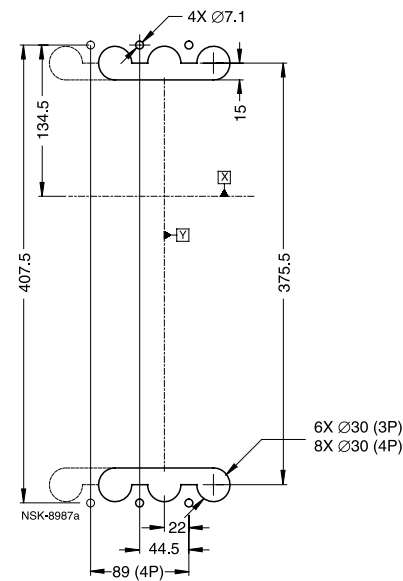
旋转操作机构、储能操作机构和加长框的门开孔 (带面框)

Door cutout rotary handle operator, stored energy operator and extended escutcheon (with cover frame)



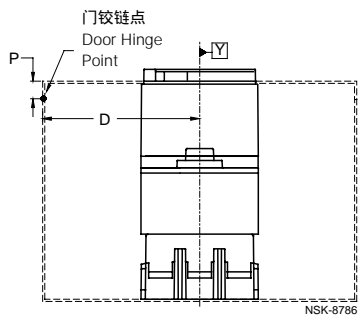
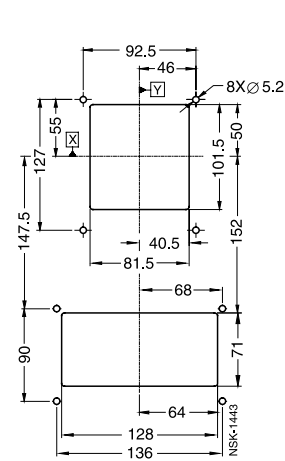
背后连接柱螺栓的孔型和开孔

Hole pattern and cutouts rear connecting studs



断路器的扳动手柄门开孔 (带面框)

Door cutout toggle operator (with cover frame)



注：门开孔要求在基准轴 Y 和门铰链之间的最小间隔。

Note: Door cutouts require a minimum distance between datum Y and the door hinge.

$D > \text{表中的 } A + (P \times 5)$

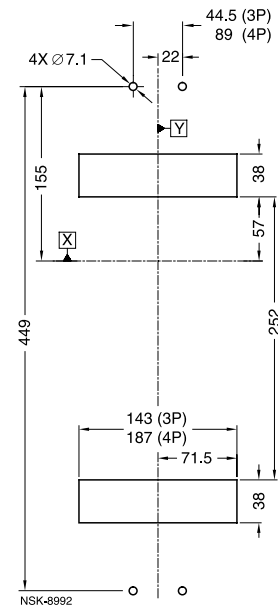
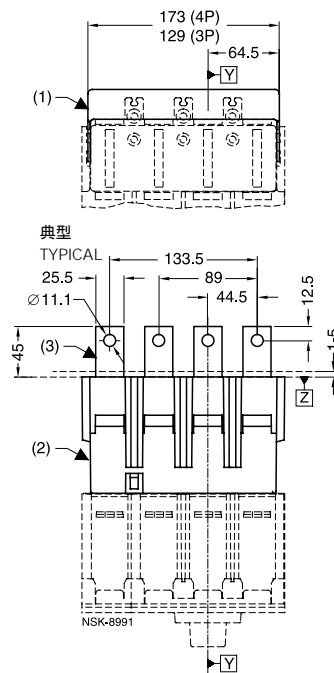
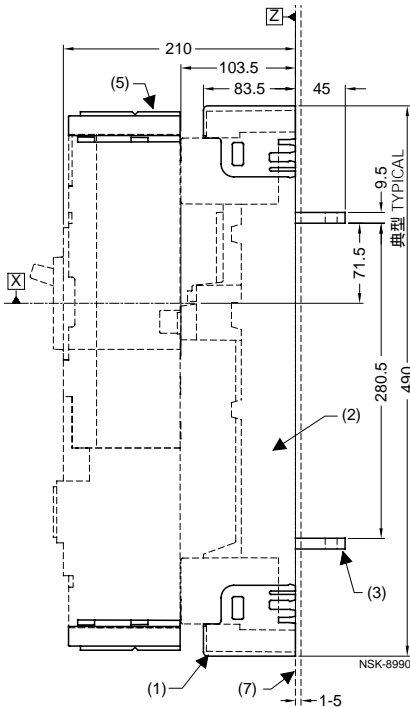
$D > A \text{ from table} + (P \times 5)$

	A
仅有断路器 Circuit-breaker only	150
断路器 + 插入式插座 + 储能操作机构 Circuit-breaker + Plug-in socket + Stored energy operator	150
断路器 + 插入式插座 + 旋转手柄 Circuit-breaker + Plug-in socket + Rotary handle	200
断路器 + 抽出式装置 Circuit-breaker + Withdraw device	200

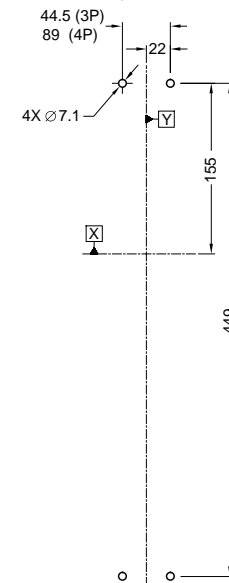
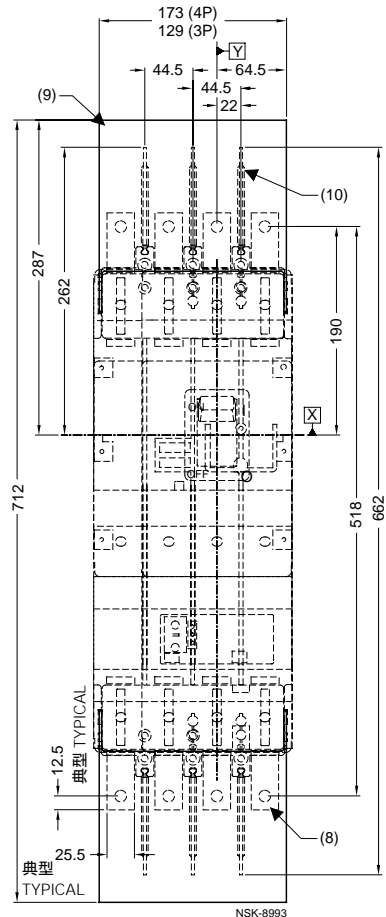
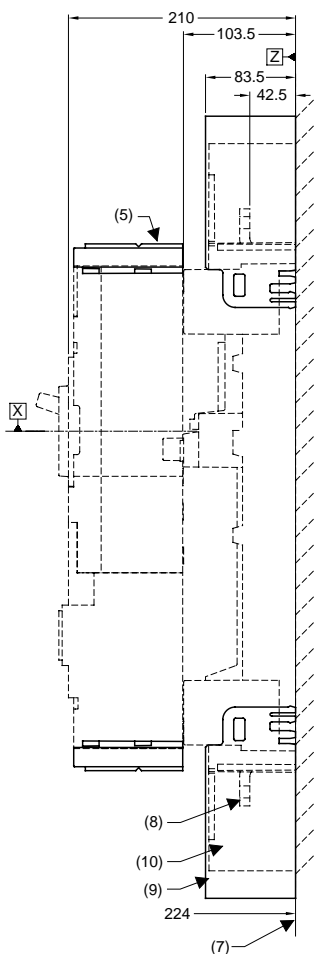
插入式插座和附件

Plug-in socket and accessories

带扁平母排背后端子的插入式插座的孔型和开孔  
Hole pattern and cutouts plug-in socket rear terminals flat bus



带正面母排连接件的插入式插座的孔型  
Hole pattern plug-in socket front busbar connection pieces



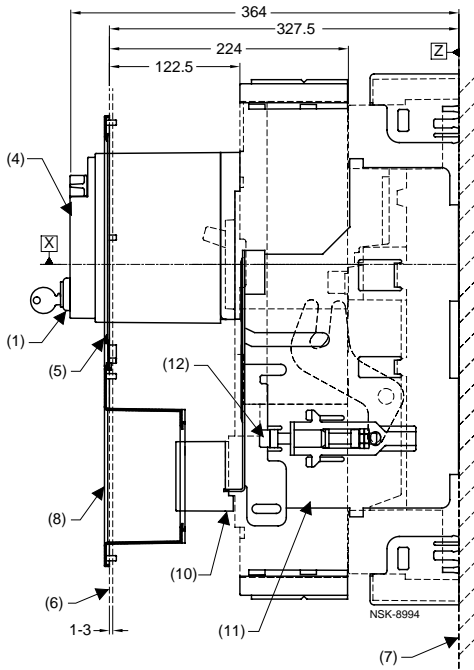
- (1) 带后端端子盖的插入式插座
  - (2) 插入式插座
  - (3) 带扁平母排背后端子的插入式插座
  - (5) 端子盖(标准)
  - (7) 安装表面
  - (8) 带正面母排连接件的插入式插座
  - (9) 带正面连接端子盖的插入式插座
  - (10) 相间隔板
- (1) Plug-in socket with rear terminal covers
  - (2) Plug-in socket
  - (3) Plug-in socket with rear terminals flat bus
  - (5) Terminal covers (standard)
  - (7) Mounting surface
  - (8) Plug-in socket with front busbar connection pieces
  - (9) Plug-in socket with terminal covers in the front
  - (10) Interphase barrier

# 带 RCD 的 3VL400 断路器

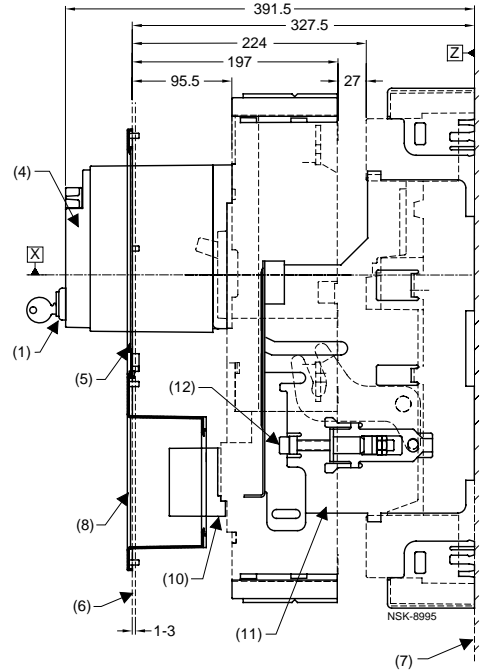
## 3VL400 Circuit-Breakers with RCD

### 抽屉型和附件 Drawout version and accessories

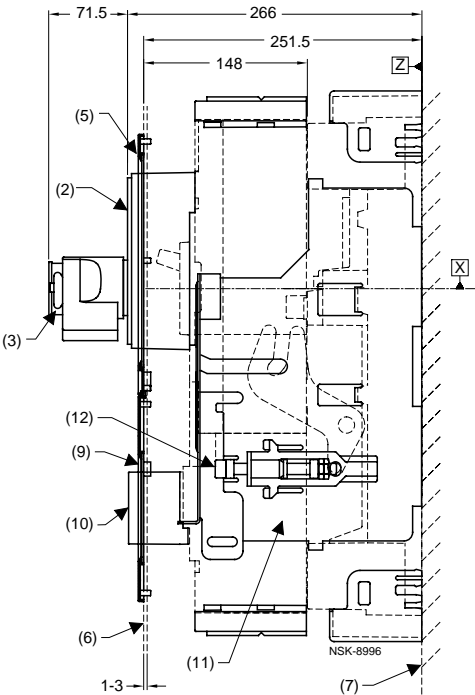
3VL400 断路器，带 RCD 和储能操作机构的抽出型断路器(运行位置)  
3VL400 circuit-breaker with RCD drawout version stored energy operator (engaged position)



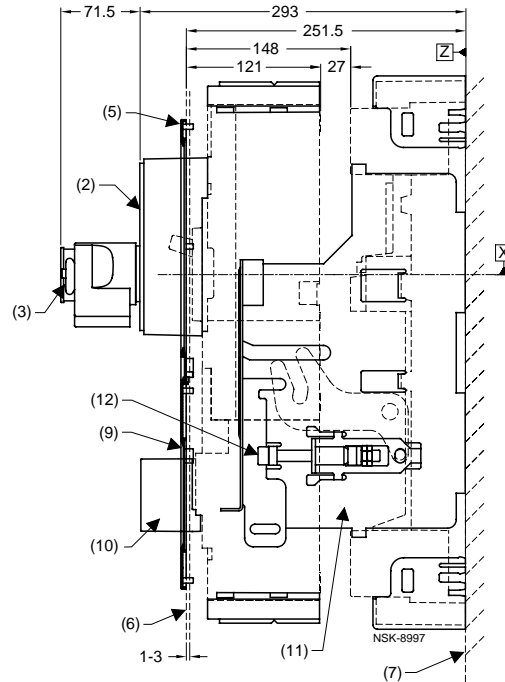
3VL400 断路器，带 RCD，储能操作机构的抽出型断路器(断开位置)  
3VL400 circuit-breaker with RCD drawout version stored energy operator (disengaged position)



3VL400 断路器，带 RCD，旋转操作机构的抽出型(运行位置)  
3VL400 circuit-breaker with RCD drawout version rotary handle operator (engaged position)



3VL400 断路器，带 RCD 和旋转操作机构的抽出型(断开位置)  
3VL400 circuit-breaker with RCD drawout version rotary handle operator (disengaged position)



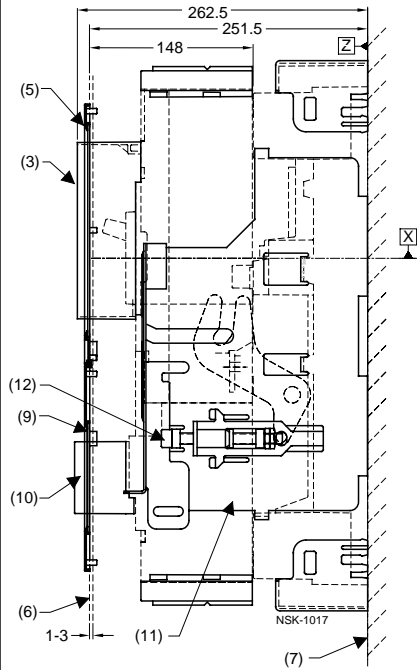
- (1) 柱形锁
- (2) 旋转操作机构
- (3) 挂锁钩
- (4) 储能操作机构
- (5) 柜门开孔面框  
(用于带操作机构的断路器)
- (6) 柜门外表面
- (7) 安装表面
- (1) Cylinder locks
- (2) Rotary handle operator
- (3) Padlock hook
- (4) Stored energy operator
- (5) Cover frame for door cutout  
(for circuit-breaker with operator)
- (6) Outside surface of cabinet door
- (7) Mounting surface

- (8) 柜门开孔面框  
(用于带 RCD 的断路器，电动机操  
作机构类型)
- (9) 柜门开孔面框  
(用于带 RCD 的断路器，操作机构  
类型)
- (10) RCD 加长框
- (11) 抽出式装置
- (12) 抽出式曲柄位置
- (8) Cover frame for door cutout  
(for circuit-breaker with RCD,  
motor operator type)
- (9) Cover frame for door cutout  
(for circuit-breaker with RCD,  
handle operator type)
- (10) RCD extended escutcheon
- (11) Withdraw device
- (12) Withdraw crank location

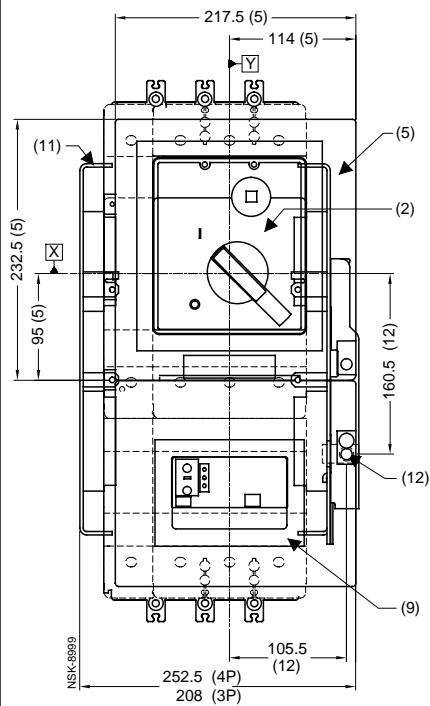
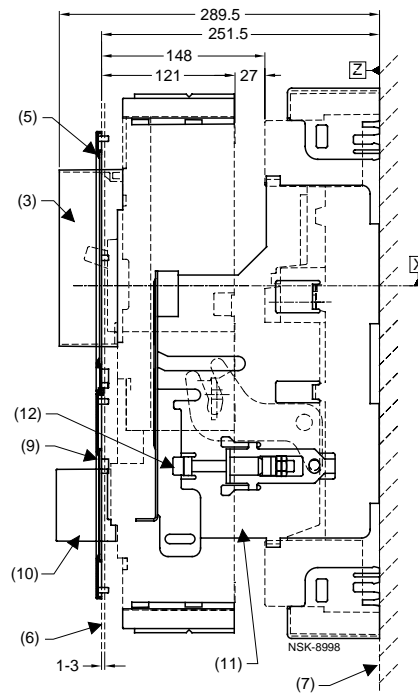
抽屉型和附件

Drawout version and accessories

3VL400 断路器, 带 RCD 和加长框的抽出型(运行位置)  
3VL400 circuit-breaker with RCD drawout version extended escutcheon (engaged position)



3VL400 断路器, 带 RCD 和加长框的抽出型(断开位置)  
3VL400 circuit-breaker with RCD drawout version extended escutcheon (disengaged position)



- (1) 柱形锁
  - (2) 旋转操作机构
  - (3) 断路器加长框
  - (4) 储能操作机构
  - (5) 柜门开孔面框  
(用于带操作机构的断路器)
  - (6) 柜门外表面
  - (7) 安装表面
  - (8) 柜门开孔面框  
(用于带 RCD 的断路器, 电动机操作机构类型)
  - (9) 柜门开孔面框  
(用于带 RCD 的断路器, 手柄操作机构类型)
  - (10) RCD 加长框
  - (11) 抽出式装置
  - (12) 抽出式曲柄位置
- (1) Cylinder locks
  - (2) Rotary handle operator
  - (3) Circuit-breaker extended escutcheon
  - (4) Stored energy operator
  - (5) Cover frame for door cutout  
(for circuit-breaker with operator)
  - (6) Outside surface of cabinet door
  - (7) Mounting surface
  - (8) Cover frame for door cutout  
(for circuit-breaker with RCD, motor operator type)
  - (9) Cover frame for door cutout  
(for circuit-breaker with RCD, handle operator type)
  - (10) RCD extended escutcheon
  - (11) Withdraw device
  - (12) Withdraw crank location



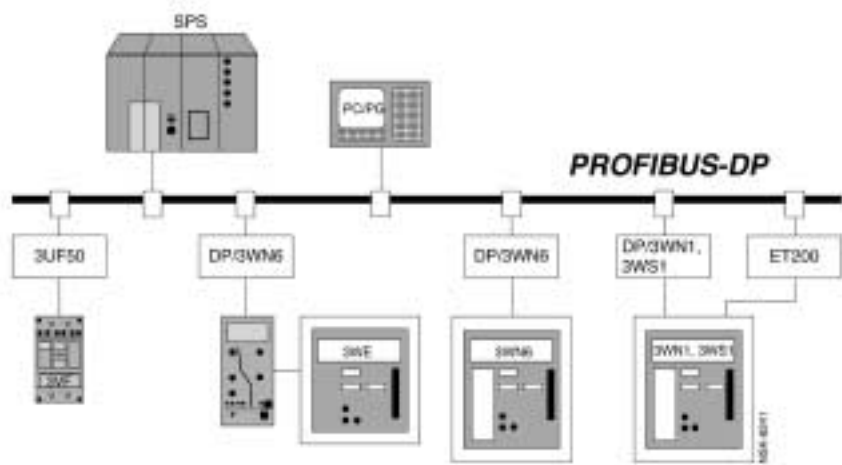
# 断路器最大至 3200A Circuit-Breakers up to 3200A

## 3WN6 交流断路器

## 3WN6 Circuit-Breakers for AC



	页号 Page		页号 Page
概览	2/2	Overview	2/2
分解图	2/3	Explode drawing	2/3
说明	2/4	Description	2/4
合闸准备就绪	2/6	Readiness to close	2/6
辅助开关和信号发送开关	2/6	Auxiliary switches and signalling switches	2/6
固定式和抽屉式断路器	2/7	Fixed-mounted and draw-out circuit-breakers	2/7
导向框架	2/8	Guide frame	2/8
过电流脱扣器系统	2/10	Overcurrent release system	2/10
手持式编程器	2/15	Hand-held control unit	2/15
过电流脱扣器功能一览表	2/16	Function overview of overcurrent release system	2/16
通讯模块	2/18	Communication module	2/18
测量模块	2/18	Measuring module	2/18
电流互感器的连接	2/19	Connection of the current transformer	2/19
分闸、合闸和锁定装置	2/20	Opening, closing and interlocking device	2/20
相互机械联锁	2/22	Mutual mechanical interlocking	2/22
电源转换装置	2/23	Network-switching control unit	2/23
选型和订货数据		Selection and ordering data	
断路器		Circuit-Breakers	
3 极, 固定式和抽屉式, 至 3200A	2/24	3-pole, fixed-mounted and draw-out version, up to 3200A	2/24
4 极, 固定式和抽屉式, 至 3200A	2/28	4-pole, fixed-mounted and draw-out version, up to 3200A	2/28
负荷隔离开关		Non-Automatic Circuit-Breakers	
3 极, 固定式和抽屉式, 至 3200A	2/32	3-pole, fixed-mounted and draw-out version, up to 3200A	2/32
4 极, 固定式和抽屉式, 至 3200A	2/36	4-pole, fixed-mounted and draw-out version, up to 3200A	2/36
用于 3WN6 的其他规格, 附件		Further versions and accessories for 3WN6	
用于 3WN6 的其他规格		Further versions for 3WN6	
用于固定式和抽屉式断路器的其他规格	2/40	Further versions for fixed-mounted and draw-out version 3WN6	2/40
用于抽屉式断路器和导向框架的其他规格	2/44	Further versions for draw-out version and guide frame	2/44
用于 3WN6 的附件和辅助装置		Accessories and supplementary devices for 3WN6	
用于固定式和抽屉式断路器的附件和辅助装置	2/46	Accessories and supplementary devices for fixed-mounted and draw-out version 3WN6	2/46
用于抽屉式断路器的附件 - 导向框架	2/50	Accessories for draw-out version - guide frame	2/50
用于改装的附件		Accessories for retrofitting	
用于 3WN6 固定式和抽屉式断路器可改装的附件	2/52	Accessories for retrofitting for fixed-mounted and draw-out version 3WN6	2/52
用于固定式和抽屉式断路器的备件	2/60	Spare parts for fixed-mounted and draw-out version 3WN6	2/60
技术数据	2/63	Technical data	2/63
脱扣特性曲线	2/70	Tripping characteristics	2/70
断路器电气原理图	2/71	Example of full circuit diagram	2/71
外形尺寸和安装尺寸	2/74	Dimensions	2/74



	页号 Page		页号 Page
<b>描述</b>		<b>附件</b>	
<b>Description</b>		<b>Accessories</b>	
具有通讯能力的 3VL, 3WN6, 3WN1, 3WS1 断路器	2/85	用于可通讯 3VL 的附件	2/92
Communication-Capable 3VL, 3WN6, 3WN1, 3WS1 Circuit-Breakers		Accessories for Communication-Capable 3VL	
具有通讯能力的 3WN6 断路器	2/87	用于可通讯 3WN6 的附件	2/93
Communication-Capable 3WN6 Circuit-Breakers		Accessories for Communication-Capable 3WN6	
<b>选型和订货数据</b>		用于可通讯 3WN1 和 / 或 3WS1 的附件	2/95
<b>Selection and ordering data</b>		Accessories for Communication-Capable 3WN1 and/or 3WS1	
具有通讯能力的 3VL 断路器 - 快速选型 至 800A, 固定式, 3 极	2/89		
Communication-Capable 3VL Circuit-Breakers, up to 800A , for Fixed Mounting, 3-pole			
具有通讯能力的 3WN6 断路器 - 快速选型 , 至 3200A, 用于固定式和抽屉式安装, 3 极	2/90		
Communication-Capable 3WN6 Circuit-Breakers, up to 3200A , 3-pole			
具有通讯能力的 3WN1 断路器 - 快速选型 , 至 6300A, 用于固定式和抽屉式安装, 3 极	2/91		
Communication-Capable 3WN1 Circuit-Breakers, up to 6300A , 3-pole			

## 3WN6- 经济型万能式断路器，最大至 3200A

## 3WN6 - The economical all-rounder, up to 3200A



3WN6 和 3VF 断路器已  
获得中国船级社认证  
3WN6 ACB and 3VF  
MCCB Approved by CCS

详见 3WN6 一章  
See Chapter 3WN6 for details

在建筑和工业应用领域中理想的配电保护产品。节省空间，维护方便，模块化的结构使得断路器适用于各种系统，对于各种系统不同的要求方便地进行改型。

额定电流：630 至 3200A

额定电压：至 690V AC

500V 时的短路分断能力：至 80kA

690V 时的短路分断能力：至 50kA

完全选择性分断至 65kA

Ideal for the distribution of energy in both buildings and industrial applications. Space saving and maintenance friendly. The modular construction allows the breaker to be easily adapted to suit the individual requirements of each system.

Rated current: 630 to 3200A

Rated voltage: to 690V AC

Switching capacity at 500V: up to 80kA

Switching capacity at 690V: 50kA

Full discrimination up to 65kA

## 3WN1 直流断路器

## 3WN1 DC circuit-breakers



适用于直流配电系统保护，可作为直流电动机、发电机及变频器或电力拖动设备的保护。

额定电流：DC800 至 5000A

额定电压：至 DC1000V

在直流 300V 时的短路分断能力：至 40kA

在直流 1000V 时的短路分断能力：至 15kA

3WN1 DC circuit-breakers suitable for service in DC installations, for such tasks as motor protection, generator protection, converter protection or traction equipment protection.

Rated current: 800 to 5000A DC

Rated voltage: up to 1000V DC

Short-circuit breaking capacity at 300V DC: up to 40kA

Short-circuit breaking capacity at 1000V DC: up to 15kA

## 3WV 直流快速断路器，至 8000A

## 3WV High speed DC circuit-breakers up to 8000A

3WV 直流快速断路器用于直流系统中的特殊场合，如炼钢行业中的晶闸管保护和拖动系统保护。

额定电流：至 DC8000A

额定电压：至 DC1500V

短路分断能力为无限，短路电流分断速率至：20kA/ms 或 10kA/ms

分闸时间仅为约 3ms

单极，固定安装式或抽屉式结构

3WV High speed DC circuit-breakers are suitable for special service in DC installations for such tasks as thyristor protection in steel industry and traction equipment protection.

Rated current: up to 8000A DC

Rated voltage: up to 1500V DC

Short-circuit breaking capacity unlimited up to rates of current-rise of 20kA/ms or 10kA/ms respectively

Opening delay only approx. 3 ms

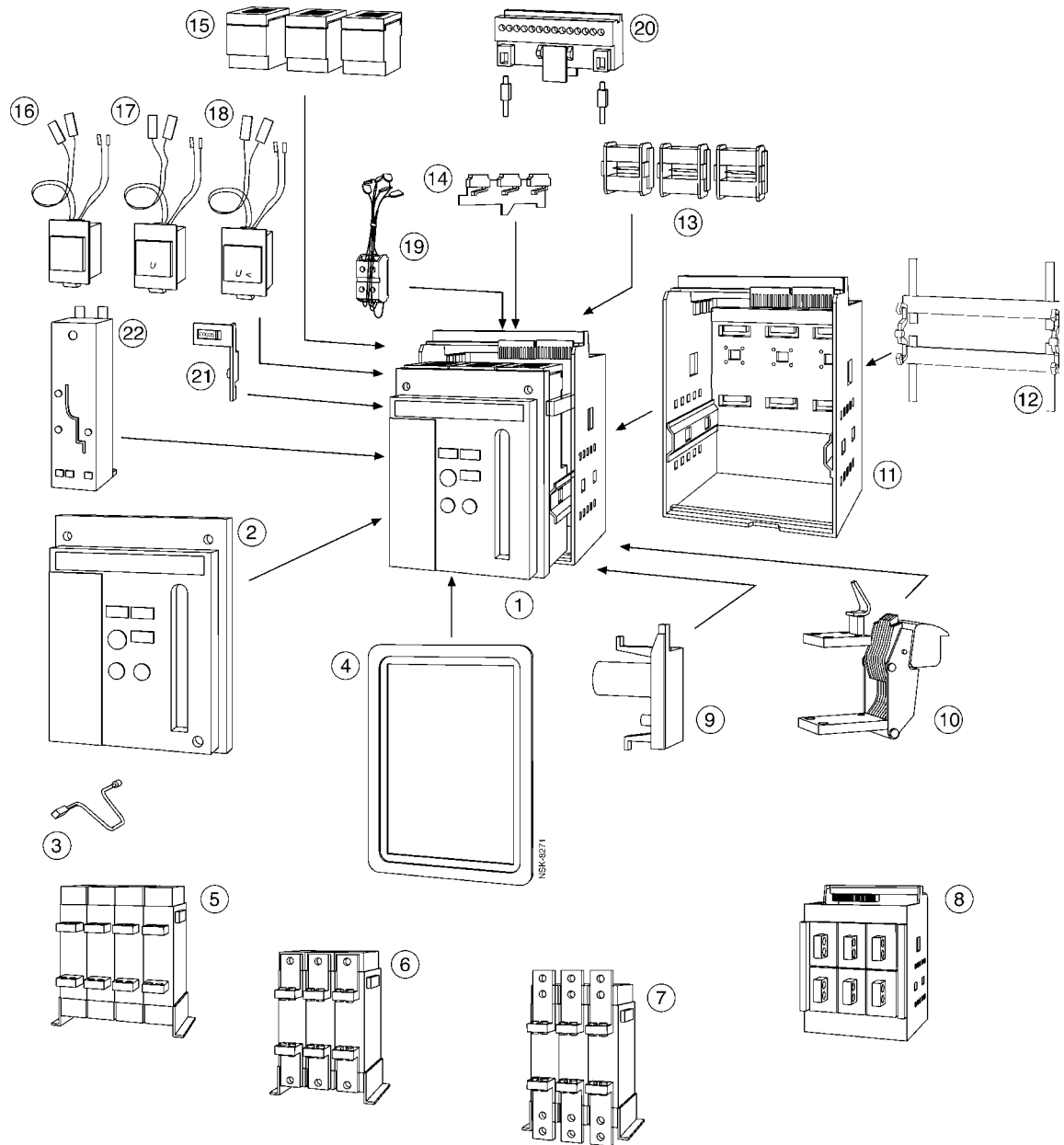
Single-pole, fixed-mounting or drawout versions are available

有关 3WN1, 3WS1, UL 和 3WV 断路器的细节，请与就近的西门子办事处联系。

Please contact your local Siemens office for details of 3WN1, 3WS1, UL and 3WV circuit-breakers.

分解图

Explode drawing



- |  |  |  |
|--|--|--|
| ① 断路器本体  | ⑨ 储能电动机                                  | ⑰ 分励线圈   |
| ② 控制面板   | ⑩ 主触头                                    | ⑱ 欠电压线圈  |
| ③ 曲柄   | ⑪ 导向框架                                   | ⑲ 辅助触头   |
| ④ 门密封框, 防护等级 IP54  | ⑫ 安全挡板                                   | ⑳ 辅助接线端子块  |
| ⑤ 主回路水平后置  | ⑬ 电流互感器                                  | ㉑ 操作计数器  |
| ⑥ 主回路连接前置, 单孔, 顶部和底部   | ⑭ 位置信号发送开关                               | ㉒ 带微处理器的电子式过电流脱扣器  |
| ⑦ 主回路连接前置, 双孔, 顶部和底部   | ⑮ 灭弧室                                    |  |
| ⑧ 主回路垂直后置  | ⑯ 电气合闸线圈                                 |  |
| ① Basic circuit-breaker  | ⑧ Main connections at the rear, vertical | ⑱ Undervoltage release                                       |
| ② Control panel  | ⑨ Motor for energy storage               | ⑲ Auxiliary contacts   |
| ③ Crank handle   | ⑩ Main contact sets                      | ⑳ Auxiliary connector  |
| ④ Door sealing frame, IP 54  | ⑪ Guide frame                            | ㉑ Operating cycle counter                                    |
| ⑤ Main connections at the rear, horizontal   | ⑫ Shutter                                | ㉒ Solid-state, microprocessor-controlled overcurrent release |
| ⑥ Main connections accessible from the front, top and bottom, single-hole bar ends | ⑬ Current transformer                    |  |
| ⑦ Main connections accessible from the front, top and bottom, double-hole bar ends | ⑭ Position signaling switches            |  |
|  | ⑮ Arc chute                              |  |
|  | ⑯ Closing solenoid                       |  |
|  | ⑰ Shunt release                          |  |

3WN6 断路器，至 3200A  
3WN6 Circuit-Breakers, up to 3200A

说明

Description

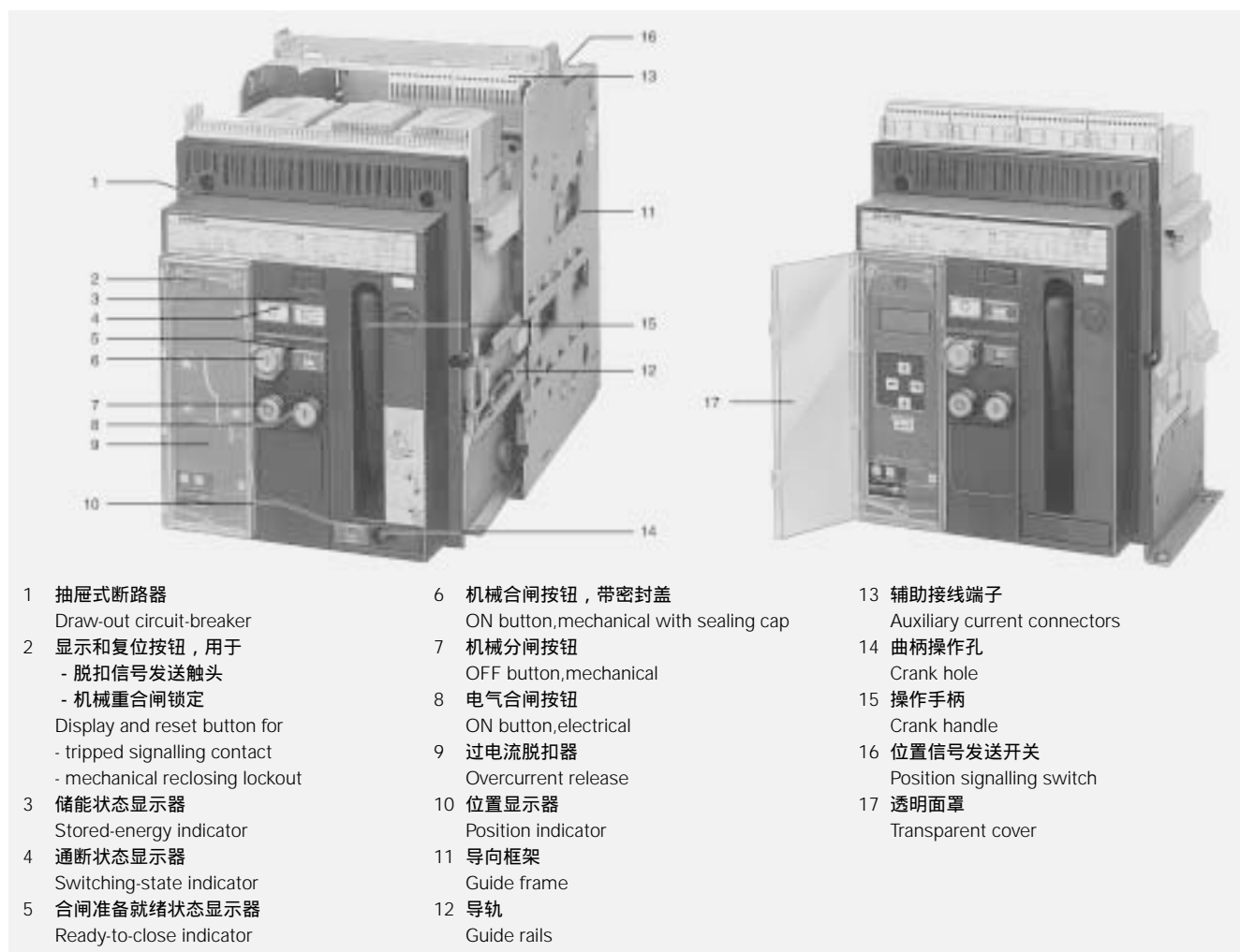


图1 左：3WN6 抽屉式断路器，尺寸等级 I，3 极  
右：3WN6 固定式断路器，尺寸等级 I，3 极

Fig. 2/1 Left: 3WN6 draw-out circuit-breaker, size I, 3-pole  
Right: 3WN6 fixed-mounted circuit breaker, size I, 3-pole



图2 电动机操作机构  
Fig. 2/2 Motorized operating mechanism

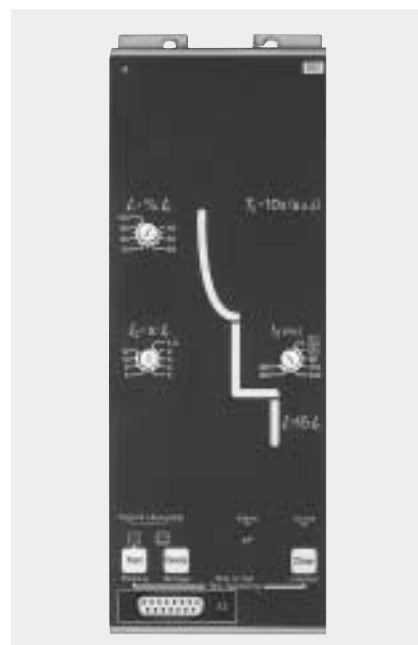


图3 过电流脱扣器  
Fig. 2/3 Overcurrent release

说明 Description

符合标准

IEC947-2, DIN VDE0660 第 101 部分, 气候等级符合 DIN IEC68 第 30-2 部分。

3WN6 还获得 ZS、ABS、GL、LRS、BV、DNV、RINA 和 PRS 等多国船级社认证。

工作条件

3WN6 断路器耐气候条件符合 DIN IEC68 第 30-2 部分。他们一般应用于非恶劣工作条件的密闭区域中。

设计

分断能力：65/80kA

额定电流：630 ~ 3200A

额定工作电压：AC690V

3WN6 断路器配有过电流脱扣器, 操作机构和辅助触头, 如果需要, 还可安装欠电压脱扣器和分励脱扣器。

负荷隔离开关不带过电流脱扣器。

安装方式

有固定式或抽屉式两种安装方式。

操作机构(见图 2):

可提供下述三种操作机构：

- 手动储能, 机械合闸式操作机构。
- 手动储能, 机械和电气合闸式操作机构。
- 手动 / 电动机储能, 机械和电气合闸式操作机构。

过电流脱扣器(见图 3)

微处理器控制的电子式过电流脱扣器系统不需要另外的电源供电, 可满足对配电系统、电动机、变压器和发电机等负载的各种保护要求。

对过电流脱扣器的介绍见第 2/10 页。

安全性和可靠性

- 门密封框使防护等级提高, 断路器能完全地就地操作；
- 可从断路器的顶部或底部进线；
- 抽屉式断路器可用标准锁锁定, 以防断路器被移动；
- 当断路器本体被取出后, 可用标准锁锁住导向框架；
- 过载和短路脱扣后的信号发送开关, 带有机械重合闸锁定。

使用简便

- 清楚的断路器位置指示器, 通过辅助触头可发送信号
- 合闸准备就绪显示器, 及其信号发送开关作为断路器的基本配置之一。

模块化

许多部件, 如辅助脱扣器, 电动机操作机构, 过电流脱扣器和电流互感器等, 可以很方便的就地更换, 因而断路器可方便的根据系统变化的要求而改型。

基本配置

- 用于过载和短路保护的电子式过电流脱扣器, 短路保护具有时间分段短延时功能, 带有发光二极管显示脱扣原因, 还有用作运行显示, 带有查询和试验按键。
- 机械重合闸锁定

- 脱扣信号发送开关
- 合闸准备就绪显示器及其信号发送开关
- 断路器上装有所需数量的接线端子
- 主回路连接水平后置

通讯能力(见图 4)

采用国际化的 PROFIBUS 来传输如下数据：电流值、运行状态、脱扣原因等至中央计算机。可方便地实现能源管理, 大大减少了电能支出。

极低的功耗

电气元件的低功耗减少了变压器的成本, 还适合于安装在通风较差的狭小空间内。

占用空间少

高性能的 3WN6 断路器只需占用很少的空间。尺寸等级 I 可装于 400mm 宽的柜子里。

Standards

IEC 947-2, DIN VDE 0660 Part 101.

climate-proof to DIN IEC 68 Part 30-2

Marine classification approvals: GL, LRS, BV,

DNV, RINA and PRS

Operating conditions

The 3WN6 circuit-breakers are climate-proof according to DIN IEC 68 Part 30-2.

They are intended for use in enclosed areas where excessive operating conditions do not occur.

Design

Breaking capacity: 65/80 kA

Rated current: 630 to 3200 A

Rated operational voltage: AC 690 V

The 3WN6 circuit-breakers are supplied fully equipped with overcurrent releases, operating mechanism and auxiliary contacts and if required, with undervoltage and shunt releases.

The non-automatic circuit-breakers are always supplied without overcurrent release.

Mounting

Fixed-mounted or draw-out version.

Operating mechanisms (see Fig. 2/2)

The circuit-breakers can be supplied with different operating mechanisms:

- Manual operating mechanism with stored-energy feature and mechanical closing.
- Manual operating mechanism with stored-energy feature and mechanical and electrical closing.
- Motorized operating mechanism (also with manual operation), with electrical and mechanical closing.

Overcurrent releases (see Fig. 2/3)

The solid-state, microprocessor-controlled overcurrent release system does not depend on a separate power supply and permits the various protection requirements of distribution

systems, motors, transformers and generators to be taken into account.

Safety and reliability

- High degree of protection with door sealing frame for full local operation of the circuit-breaker
- Feed-in to either top or bottom
- Standard locking of draw-out circuit-breaker to prevent it from being moved
- Standard locking of guide frame when the circuit-breaker is removed
- Signalling switch for overload and short circuit trip with mechanical reclosing lockout

Ease of use

- Clear position indicator with auxiliary switch for signalling
- Ready-to-close indicator with signalling switch as safety standard

Modularity

Many components, such as auxiliary releases, motorized operating mechanism, overcurrent releases and current transformers, can be easily exchanged later on, so that the circuit-breaker can meet future new requirements.

Basic scope of supply

- Solid state overcurrent releases for overload and short circuit protection, short circuit release also with delay for time grading with LEDs for tripping cause, LED operating display, query and test buttons
- Mechanical reclosing lockout
- Tripped signalling switch
- Ready-to-close indicator with signalling switch
- Auxiliary connectors: the circuit-breaker is equipped with the required number of connectors
- Main conductors connection horizontal at the rear

Communication capability (see Fig. 2/4)

The internationally standardized PROFIBUS is used to transfer such data as current values, operating states, tripping causes, etc, to central computers.

This makes energy management possible and helps reduce energy costs significantly.

Reduced energy consumption due to minimum dissipation

The low power requirement of the electrical components reduces the cost of control transformers. Suitable for limited spaces or for areas with reduced ventilation.

Limited space requirement

High performance with limited space requirement.

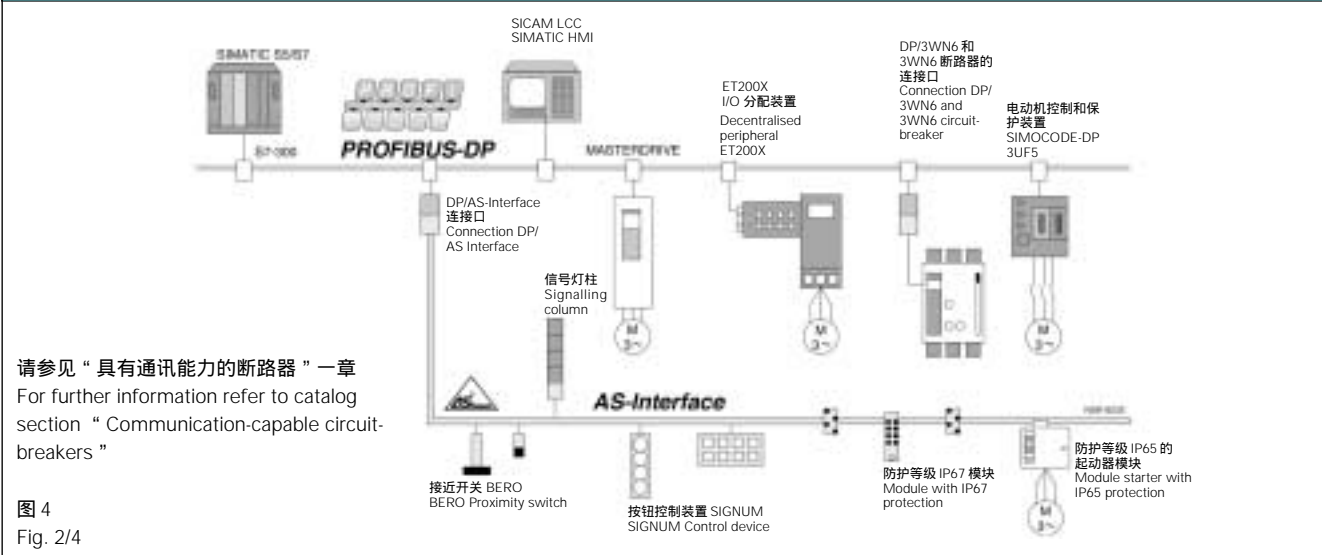
Size I even fits into 400 mm wide cabinets.



西门子 3WN6 系列万能式断路器和 3VL 系列塑壳式断路器已获得中国船级社颁发的船用产品型式认可证书。详情请与您就近的西门子办事处联系。 Siemens 3WN6 Air Circuit Breakers and 3VL Moulded Case Circuit Breakers have got certificates of type approval for marine product issued by China Classification Society. Please contact your local Siemens office for details of marine classification approvals.

3WN6 断路器，至 3200A  
3WN6 Circuit-Breakers, up to 3200A

说明 Description



合闸准备就绪 Readiness to close

当断路器满足下列条件后，合闸准备就绪状态才会出现：

- 断路器处于分闸状态
- 储能机构已储能
- 欠电压脱扣器已正常得电
- 分励脱扣器没有得电
- 合闸线圈没有得电
- 分闸按钮不能锁定在分闸位置
- 机械重合闸锁定必须已释放
- 相互机械联锁处于无效状态
- 各种联锁应处于无效状态
- 抽屉式断路器上的曲柄孔应合上(断路器处于运行、试验或退出位置)
- 过电流脱扣器已装好

合闸准备就绪显示器和信号发送开关S7将显示这些条件都已满足。只有这样才能允许合闸。

对于过电流脱扣器带有通讯模块的断路器，不具备信号发送开关S7。

合闸准备就绪显示器：

合闸没有准备就绪

**OK** 合闸准备就绪

A state of readiness to close exists when a circuit-breaker fulfils the following conditions;

- Circuit-breaker in OFF position
- Stored energy mechanism charged
- Undervoltage release active
- Shunt release must be inactive
- Closing solenoid must be inactive
- OFF button must not be locked in the OFF position
- Mechanical reclosing lockout must be released
- Mutual mechanical interlocking must not be active
- Interlockings must be inactive
- The crank hole of the draw-out circuit-breaker must be closed(circuit-breaker in connected, test or disconnected position)
- Overcurrent release fitted.

The ready-to-close indicator and a signalling switch S7 indicate that all of these conditions have been fulfilled. Only now is closing possible.

The signalling switch S7 is not available on circuit-breakers with a communication module for overcurrent release.

Ready-to-close indicator:

not ready to close

**OK** ready to close

图 5 合闸准备就绪显示器  
Fig. 2/5 Ready-to-close indicator

辅助开关和信号发送开关 Auxiliary switches and signalling switches

分、合闸位置有关的辅助开关  
断路器可配 2NO 和 2NC 或 2NO、2NC 和 2CO 两种类型的辅助触头。

脱扣信号发送开关和机械重合闸闭锁  
标准配置的断路器配有一个信号发送开关 S11 和机械重合闸闭锁，使得所有类型脱扣(过载、短路和与脱扣器设置和类型有关的接地故障脱扣)信号都可以一起发送出。

脱扣信号与标准的机械重合闸闭锁一直保持有效状态，直至按下断路器上的复位按钮。如果断路器发生脱扣，则红色复位按钮会凸出。如果断路器脱扣后必须立即处于合闸准备就绪状态，可选用“自动机械复位装置”，然而此装置不会把脱扣信号发送开关 S11 的电气信号也复位。

按下复位按钮可消除脱扣信号。

电子式过电流脱扣器还可显示脱扣原因。

Switching position-dependent auxiliary switches  
The circuit-breakers can be ordered with 2 NO and 2 NC or with 2 NO, 2NC an 2 changeover contacts.

Tripped signalling switches and mechanical reclosing lockout  
The circuit-breaker is equipped with an S11 signalling switch and a mechanical reclosing lockout as standard, so that all of the trips (overload, short circuit and depending on the release setting and version, earth fault releases) can be signalled together.

The tripped signal and the standard mechanical reclosing lockout remain active until the reset button on the circuit-breaker is

activated. If the circuit-breaker has tripped, this is shown by the protruding red reset button.

If the circuit-breaker must be ready to close again immediately after it has been tripped, an “automatic mechanical reset device” is available which, however, does not reset the electrical signal of the tripped signalling switch S11.

The tripped signal can be cancelled by pushing the reset button.

固定式和抽屉式断路器 Fixed-mounted and draw-out circuit-breakers

固定式和抽屉式断路器

防止飞弧的保护措施

对于额定电压至 AC415V 的 3WN6 断路器, 不需要对垂直母排采用防护措施。

对于额定电压至 AC690V 的 3WN6 断路器, 可选用消弧罩盖(可选件), 以防止飞弧。

安装于断路器侧面的电气装置也应进行保护。详见第 2/75 页。

控制面板

控制面板设计成可由柜门开孔中凸出, 这样当柜门关闭后, 所有控制装置和显示器仍显而易见, 可直接操作。

柜门密封框

密封框把凸出开关柜门上的控制面板四周密封住, 因此当柜门闭合后, 断路器的防护等级能达到 IP 54。

Fixed-mounted and draw-out circuit-breakers

Protection against switching gases

For 3WN6 circuit-breakers with voltages up to 415V AC no shielding of vertical bars is required.

For voltages up to 690V AC the arcing space cover (option) can be used for effective protection against arcing.

Electrical accessories placed at the side of the circuit-breaker should be protected additionally. See also note on page 2/75.

Control panel

The control panel is designed in such a way that it can project through a cutout in the door of the cubicle, so that all of the control devices and indicators remain accessible when the

固定式断路器

Fixed-mounted circuit-breakers



主回路连接水平后置(标准型)  
Main connections at the rear, horizontal (standard)



主回路连接前置, 单孔, 顶部和底部  
Main connections accessible from the front, single hole top and bottom



主回路连接前置, 双孔, 顶部和底部(孔洞按照 DIN43 673 标准)  
Main connections accessible from the front double-hole top and bottom (holes acc. to DIN 43 673)

抽屉式断路器

Draw-out circuit-breakers



主回路连接水平后置带导轨(标准型)  
Main connections at the rear, horizontal, with guide rails (standard)



主回路连接垂直后置, 顶部和底部  
Main connections at the rear, vertical, top and bottom



主回路连接前置, 双孔, 顶部和底部(孔洞按照 DIN43 673 标准) 较短母排的为单孔

图 6 主回路连接 / Fig. 2/6 Main connections

door is closed.

Door sealing frame

The door sealing frame seals the door of the

cubicle with the control panel. When the door of the cubicle is closed protection level IP 54 is thus obtained for the circuit-breaker.

固定式和抽屉式断路器 Fixed-mounted and draw-out circuit-breaker

固定式断路器

安装

固定式断路器可用支架水平安装或垂直安装。

辅助回路接线(见图 7)

辅助回路接线端子带有销子, 可防止接线错误。

主回路连接(见图 6)

在标准型中, 主回路连接水平后置。这使得断路器可水平连接至系统侧的母排。

其他连接方式:

- 前置单孔安装, 适于垂直母排连接
- 前置双孔安装(孔洞按照 DIN43 673 标准), 适于垂直连接
- 后置垂直连接, 用于母排安置在系统的侧面。

闭锁装置

为了保护操作人员和开关柜, 固定式断路器上可装配闭锁装置, 使得断路器合闸时不能打开开关柜门。

抽屉式断路器

抽屉式断路器由抽屉式断路器本体、导向框架和曲柄组成。标准型导向框架中已安装有导轨, 使得断路器本体进出方便。

Fixed-mounted circuit-breaker

Mounting

The fixed-mounted circuit-breakers are mounted horizontally, or vertically by means of

support brackets.

Auxiliary connections (see Fig. 2/7)

Connection is made by means of single connecting leads. The plug connectors have pins that prevent connections to the wrong locations.

Main connections (see Fig. 2/6)

The main connections are arranged horizontally on the rear side as standard. This enables the unit to be connected horizontally to busbars on the system side.

Other types of connection:

- Single-hole mounting accessible from the front for vertical busbars
- Double-hole mounting accessible from the front (holes acc. DIN 43 673) for vertical connection
- Vertical connection at the rear for busbars laid on edge on the system side

Blocking device

In order to protect the operating personnel and switchgear, the fixed-mounted circuit-breakers can be equipped with a blocking device which prevents the cubicle door from being opened when the circuit-breaker is closed.

Draw-out circuit breaker

The draw-out version comprises a draw-out circuit-breaker, guide frame and hand crank for

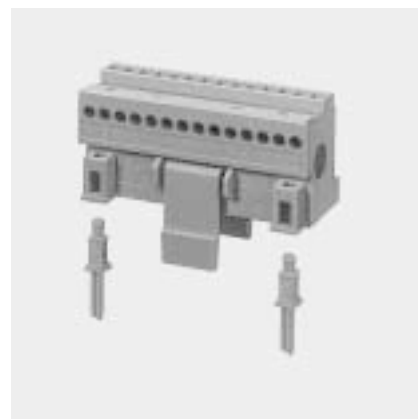


图 7 固定式断路器的辅助接线端子块  
Fig. 2/7 Auxiliary connections for fixed-mounted circuit-breaker

racking the circuit-breaker in and out. The guide frames are fitted with guide rails as standard to enable the draw-out circuit breakers to be handled easily.



**辅助回路接线**

当断路器移入导向框架时 (如从试验位置至运行位置) 辅助接线端子内的触头自动接通。

**主回路连接 (见图 6)**

在标准型中，主回路连接水平后置。

**其他连接方式：**

- 前置单孔安装，适于垂直母排连接
- 前置双孔安装 (孔洞按照 DIN 43 673 标准) 适于垂直连接
- 后置垂直连接，用于母排安置在系统的侧面。

**断路器在导向框架中的位置**

抽屉式断路器在柜门闭合的开关柜内有三个位置：

- 运行位置
- 试验位置
- 退出位置

在退出位置的断路器主回路和辅助回路符合“隔离器条件”(有可见的间隙)。

断路器在移动前必须处于分闸状态。因而要打开曲柄操作孔上的移门，必须同时按下“分闸按钮”。

**Auxiliary connections**

The auxiliary connections make contact automatically when the circuit-breaker is moved into the guide frame (i. e. from test position to connected position)

**Main connections (see Fig. 2/6)**

The main connections are mounted horizontally at the rear as standard

**Other types of connection:**

- Single-hole mounting accessible from the front for vertical busbars
- Double-hole mounting accessible from the front (holes acc. DIN 43 673) for vertical connection.
- Vertical connection at the rear for busbars laid on edge on the system side

**Circuit-breaker positions in the guide frame**

There are three positions behind the closed cubicle door for draw-out circuit-breakers in the cubicle:

- Connected position

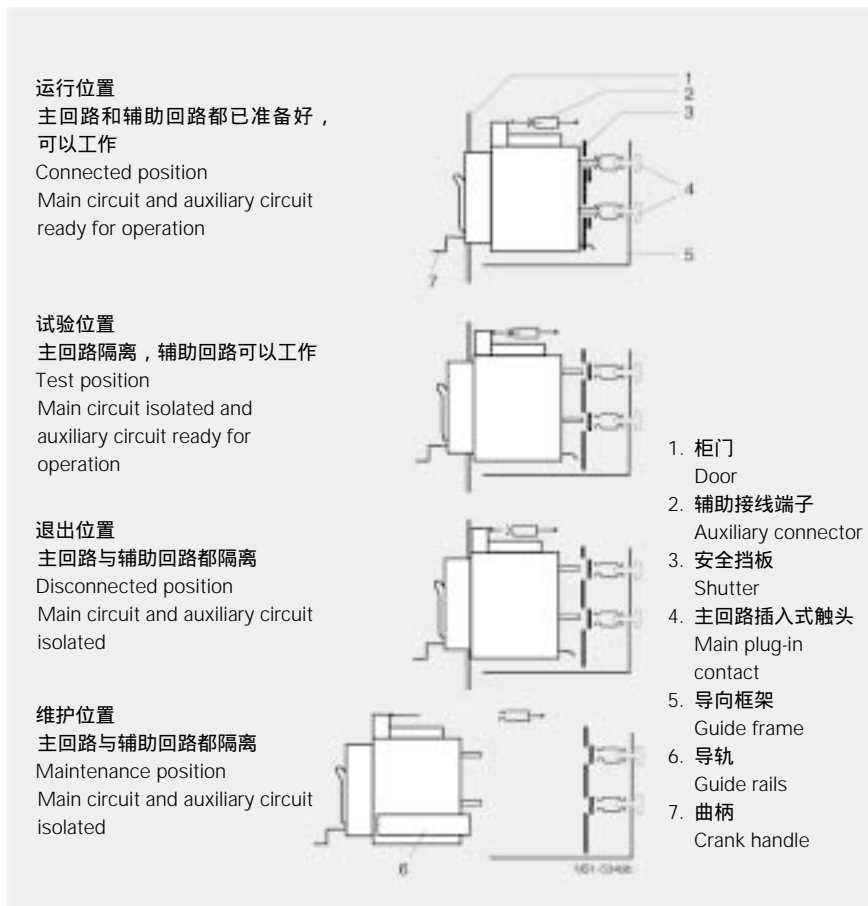


图 8 3WN6 抽屉式断路器位置示意图  
Fig. 2/8 Circuit-breaker positions in the guide frame

- Test position  
- Disconnected position  
The main and auxiliary circuits of the draw-out circuit-breaker in the disconnected position comply with the "Conditions for an isolator" (with visible contact gap).  
The circuit-breaker must be in the OFF position before it is moved. While the slide over the crank hole is opened the "OFF" switch must be kept pressed.

只有在断路器处于运行、试验或退出三个位置时才能合上曲柄操作孔。

断路器在导向框架内的移动借助于曲柄来完成。旋转曲柄可使断路器在运行位置和退出位置之间移动。

#### 位置信号发送开关

位置信号发送开关由抽屉式断路器借助于一个附加机构来驱动。断路器在导向框架内的位置和状态同时发送。这种开关适合于其他保护装置组成联锁电路。

#### 安全挡板

挡板可防止操作人员不小心触及带电的抽屉式触头或母排。挡板有两部分，使顶端和底部进出线侧可以分别打开。这两部分挡板可用两把挂锁锁定在开启或关闭位置。

#### 编码系统

为了防止开关柜内具有相同尺寸但所带装置不同的几个断路器互换，抽屉式断路器与导向框架上可配编码系统，此系统最多可防止 35 台断路器互换。

抽屉式断路器出厂前已由工厂根据额定电流进行了编码(标准配置)，以防止此断路器被放置到不同电流额定值的导向框架内。

#### 锁定装置

抽屉式断路器可配有下列锁定装置以保护操作人员和开关柜：

锁定装置用于断路器合闸后防止打开柜门。此联锁在运行位置有效。

锁定装置用于柜门打开时防止断路器合闸。此联锁在运行位置有效。

锁定装置用于柜门打开时防止移动断路器。这可防止当柜门打开时将曲柄插入曲柄操作孔。锁定装置用于防止抽屉式断路器被塞入导向框架中。每条导轨都可用一个滑块防护并用两个挂锁锁定。

锁定装置用于防止抽屉式断路器被移动。标准的锁定装置采用一个挂锁(锁环最大直径为 8mm；所有类型都具备)以防止曲柄孔被打开和插入曲柄。也可选用其他类型安全锁(见第 2/20 页)。

The crank hole can only be closed in the connected, test or disconnected positions. The position is shown by an indicator on the circuit-breaker.

The circuit-breaker is moved with a crank handle. The circuit-breaker is placed in the connected and disconnected positions by moving it as far as the end stop.

#### Position signalling switches

The position signalling switches are activated by the draw-out circuit-breaker via an additional mechanism. It signals not only the position but also the presence of the circuit-breaker in the

guide frame. This version is suitable for interlocking circuits with other protective devices.

#### Shutter

Inadvertent touching of current-carrying draw-out contacts or busbars is prevented by a shutter. The shutter has two parts and enables the top and bottom connection sides to be opened separately (for verifying dead state). The divided shutter can be locked in the open or closed position and can be fitted with two padlocks.

#### Coding system

In order to prevent interchanging of several circuit-breakers of the same size with different equipment inside a cubicle, the draw-out circuit-breakers and guide frames can be equipped with a coding system. This coding system provides mechanical coding for up to 35 circuit-breakers.

The draw-out circuit-breakers are factory-fitted (as standard) with a rated current coding. This prevents draw-out circuit-breakers being placed in a guide frame with different current rating.

#### Blocking devices

For the protection of the operating personnel and the switchgear installation, the draw-out version of the circuit-breakers can be equipped with the following blocking devices:

Blocking device to prevent opening of the cubicle door. This interlock takes effect in the connected position.

Blocking device to prevent the circuit breaker from being closed when the cubicle door is open. This interlock takes effect in the connected position.

Blocking device to prevent the circuit-breaker from being moved when the cubicle door is open. This prevents the crank handle for moving the circuit-breaker from being inserted while the cubicle door is opened.

Blocking device to prevent the draw-out circuit-breaker from being inserted. Each of the guide rails can be secured with a slide and locked with two padlocks.

Blocking device to prevent the draw-out circuit-breaker from being moved. The standard locking facility using a padlock (max. shackle diameter 8 mm; available for all versions) prevents the crank hole from being opened and the crank handle from being inserted. An additional safety lock (see page 2/20) is also available for this purpose.

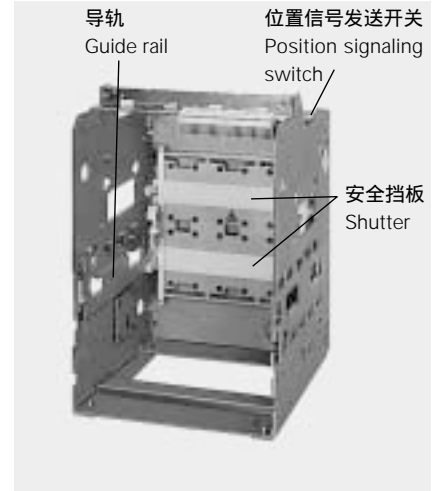


图 9 导向框架  
Fig. 2/9 Guide frame

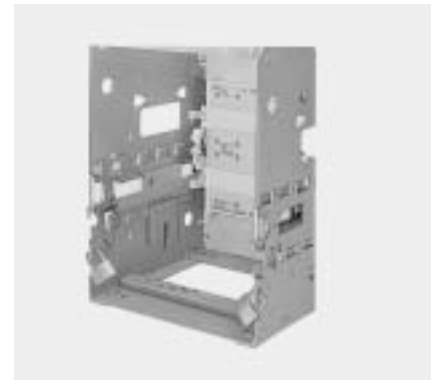


图 10 联锁以防止抽屉式断路器本体被塞入  
Fig. 2/10 Interlock against inserting the draw-out circuit-breaker

新一代的微处理器控制的电子式过电流脱扣器系统。

The new generation of solid-state, micro-processor-controlled overcurrent release systems.



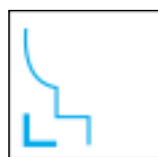
过载保护(“a”)  
Overload protection (“a”)



短路短延时保护(“z”)  
Short-time-delay short-circuit protection (“z”)



短路瞬时保护(“n”)  
Instantaneous short-circuit protection (“n”)



接地故障保护(“g”)  
Earth fault protection (“g”)



图 11 B 型和 N 型过电流脱扣器  
Fig. 2/11 Overcurrent release versions B and N

所有的过电流脱扣器系统都具有如下标准功能  
试验功能

按下试验按键，借助于脱扣器内部集成的自诊断功能，可以测试过电流脱扣器系统（测试脱扣器的电路，脱扣线圈和开关机构）。

发光二极管工作显示

过电流脱扣器在运行正常时，该发光二极管不停地闪烁绿光。如果运行电流超过过载保护的设定值，发光二极管会快速地闪烁。

脱扣原因显示

通过按下查询按键，可查询和显示脱扣原因。该功能为断路器的基本配置之一。

μP 故障

如果微处理器发生故障(μP 故障)，脱扣器上的发光二极管会显示报警信号。

过热

如果过电流脱扣器的温度超过85°C，发光二极管会显示报警信号。

All overcurrent release systems are provided with the following functions as standard

可选用的附加功能：

several additional functions are provided, depending on the version of the overcurrent release system, as for instance:



有关  $I_t$  延时的短路短延时脱扣器用于与下级熔断器实现最佳的选择性配合。带“短时分等控制”(ZSS)功能的短路保护，通过短延时分断来大大的减少配

Integral test function

Pressing the test button the overcurrent release system can be tested by means of an integral test function with or without trip of the circuit-breaker (testing the release electronics, the release solenoid and the switching mechanism).

Active LED

perfect functionality of the overcurrent release is indicated by a green pulsating LED. If the operating current exceeds the threshold value of the overload protection, the LED starts to flash rapidly.

Tripping cause

The tripping cause can be requested and displayed locally as standard (“Query” pushbutton).

μP fault

A fault in the microprocessor is indicated by a warning signal (an additional message can also be activated through an optical coupling).

电系统中的损害，实现区域选择性保护。  
负载脱落 / 负载再接入  
通过 PROFIBUS - DP 实现的通讯功能  
运行电流液晶显示

Short-time-delay short-circuit release with  $I_t$ -dependent delay for better discrimination to downstream fuses.  
Short-circuit protection with “short-time grading control” (ZSS) for considerable



图 12 N 型过电流脱扣器上的显示  
Fig. 2/12 Indicators on overcurrent release version N

Overheating

If the temperature in the overcurrent release exceeds 85°C, a LED signal is activated (an additional message can also be activated through an optical coupling).

reduction of load and damages in the distribution system using short delay times.  
load shedding/load take-up  
Communication possibility through PROFIBUS-DP  
LCD display for operational current

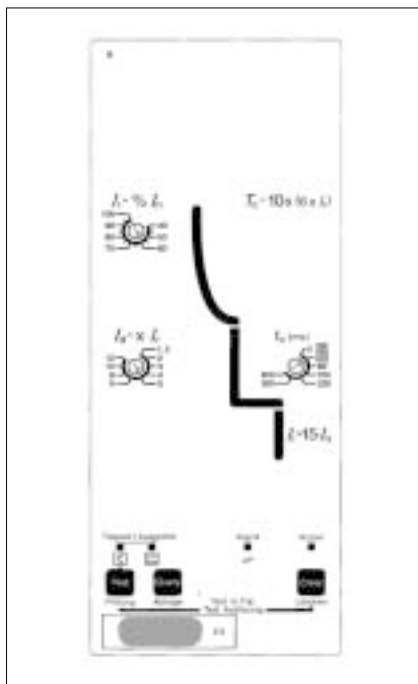


图 13 B 型“azn”过电流脱扣器  
Fig. 2/13 Overcurrent release version B“azn”

B, C/G 型 - 基本型的过电流脱扣器  
“a” 过载脱扣  
运行电流  $I_r$  可从  $40 \sim 100\% \times I_n$  按 5% 分档进行设置  
“z” 短路短延时脱扣  
动作电流可调  
 $I_d = 1.5 \cdot 2 \cdot 3 \cdot 4 \cdot 5 \cdot 6 \cdot 8 \cdot 10 \cdot 12 \times I_r$   
延时时间可调  
 $t_d = 0,20 (M) - 80 - 150 - 220 - 300 - 400 \text{ ms}$   
“n” 短路瞬时脱扣  
动作电流固定  
 $> 15 \times I_n (t_d = 0 \text{ ms})$   
C/G 型的其他功能(3 极和 4 极)  
“g” 接地故障脱扣动作电流  
 $I_g = 0.2 - 0.3 - 0.4 - 0.5 - 0.6 \times I_n$   
可选择脱扣和只报警  
延时时间  
 $t_g = 100 - 200 - 300 - 400 - 500 \text{ ms}$   
N 导线的过载保护 50% 或 100%  
V 型 - 发电机保护型(“zn”)  
无过载脱扣“a”  
短路短延时脱扣“z”同 B 型  
短路瞬时脱扣“n”同 B 型

Basic release version B, C/G  
Overload release “a”  
Operating current  $I_r$  can be set between 40 and  $100\% \times I_n$  in 5% steps  
Short-time-delay short-circuit release “z”

基本型的过电流脱扣器带有短路短延时脱扣功能和众多的其他功能  
Basic release system features short-time delay short-circuit release with extensive complements.

response current  
 $I_d = 1.5 \cdot 2 \cdot 3 \cdot 4 \cdot 5 \cdot 6 \cdot 8 \cdot 10 \cdot 12 \times I_r$   
Delay time  
 $t_d = 0,20 (M) - 80 - 150 - 220 - 300 - 400 \text{ ms}$   
Instantaneous short-circuit release “n”  
Response current fixed .  
 $> 15 \times I_n (t_d = 0 \text{ ms})$   
additionally for version C/G (3-and 4-pole)  
Earth fault release “g”  
Response current  
 $I_g = 0.2 - 0.3 - 0.4 - 0.5 - 0.6 \times I_n$   
selectable between tripping and alarm only  
Delay time  
 $t_g = 100 - 200 - 300 - 400 - 500 \text{ ms}$   
Overload protection for N conductor  
50 or 100%

Generator protection version V (“zn”)  
Without overload release “a”  
Short-time-delay short-circuit release “z” same as version B, see left  
Instantaneous short-circuit release “n” same as version B, see left

接地故障保护

Earth-fault protection

描述

接地故障脱扣器“g”能检测流过接地端的故障电流。通过可调的动作延迟时间，可对串联在一起的几台断路器实现时间分级鉴别。

可以设定“故障时只报警”(报警)或“故障时断路器脱扣”(脱扣)。按下查询键，发光二极管会显示脱扣原因。

测量方法

通过 N 导线上的电流互感器进行矢量求和

N 导线的电流被直接测量和估算，以实现对于 N 导线的过载保护。

过电流脱扣器通过对三相电流和 N 导线电流进行矢量求和的方式来计算接地故障电流。

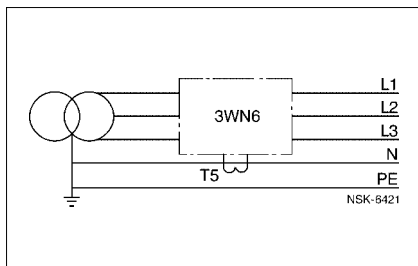


图 14 3 极断路器，电流互感器置于 N 导线上  
Fig. 2/14 3-pole circuit-breaker, current transformer in the N-conductor

对于 4 极断路器，用于 N 导线的第 4 个电流互感器已安装在断路器内部。但对于 E 型和 J 型过电流脱扣器，该电流互感器必须外部安装于进线侧或出线侧。

通过变压器星型接地点处的一个电流互感器来直接测量接地故障电流

电流互感器直接安装在变压器的星型接地点处。

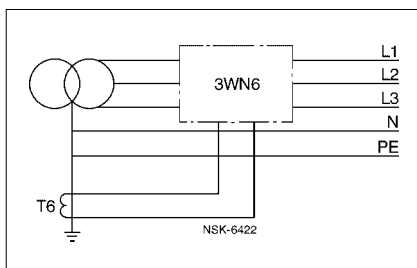


图 15 3 极断路器，电流互感器置于变压器的星型接地点上  
Fig. 2/15 3-pole circuit-breaker, current transformer at the earthed star point of the transformer

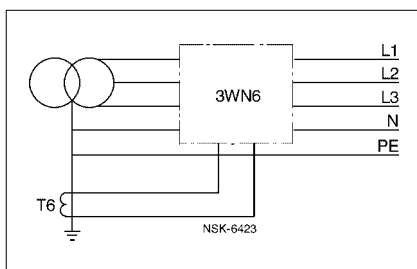


图 16 4 极断路器，电流互感器置于变压器的星型接地点上  
Fig. 2/16 4-pole circuit-breaker, current transformer at the earthed star point of the transformer

Description

The earth-fault release “g” detects fault currents which flow through earth and could cause fires in the system. Several circuit-breakers connected in series can be given time-graded discrimination by means of the adjustable operating delay time.

When setting the overcurrent release parameters it is possible to select between “Alarm only in case of response” (alarm) or “Circuit-breaker trip in case of response” (trip)  
By pushing the query button the tripping cause can be displayed on a LED.

Measuring methods

Vectorial summation with current transformer in the N conductor

The N-conductor current is measured directly and is evaluated for N-conductor over-load protection.

The overcurrent release calculates the earth-fault current by means of vectorial summation of the three phase currents and the N conductor current.

In the case of 4-pole circuit-breakers, the 4th current transformer for the N conductor is installed internally. For overcurrent releases E and J, it must be mounted externally at the feed in or outgoing side.

Direct detection of the earth-fault current via a current transformer at the earthed star point of the transformer

The current transformer is installed directly at the earthed star point of the transformer.

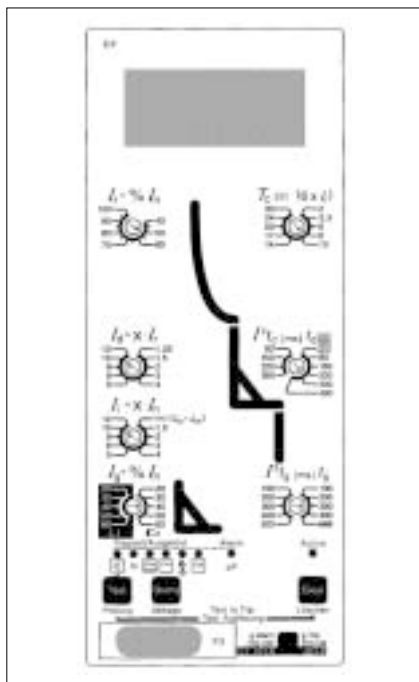


图 17 E/F 型“aznNg”过电流脱扣器  
Fig. 2/17 Overcurrent release version  
E/F “aznNg”

选择型的过电流脱扣器系统，带液晶显示和许多附加功能，可关断“n”-脱扣器  
Selective overcurrent release system, with “n”-release switch-off possibility, LCD-indicator for operating current and many additional functions

D, E/F 型 - 选择型的过电流脱扣器

“a” 过载脱扣

运行电流  $I_r$  可从 40 ~ 100%  $\times I_n$  按 5% 分档进行设置。

时滞等级

$T_c=2 - 3.5 - 6 - 8 - 10 - 14 - 17 - 20 - 24 - 30$  s

取决于电动机负载的机械惯性，可设定  $T_c$  对于慢起动(例如取  $T_c = 30$ s)或正常起动(例如取  $T_c=10$ s)均可设定。

“z” 短路短延时脱扣

动作电流  $I_d=1.25-1.5-2-3-4-5-6-8-10-12 \times I_r$

延时时间  $t_d=20(M)0-80-150-220-300-400$ ms

$I^2t_d$  有关延时(短路反时限延时)

$t_d=80 - 150 - 220 - 300$  ms

$I^2t$  特性用于与下级熔断器作选择性保护。

“n” 短路瞬时脱扣

动作电流  $I_i=\infty - 1.5 - 2 - 3 - 4 - 5 - 6 - 8 - 10 - 12 \times I_n$  ( $t_d=0$  ms)

$I_i=\infty$  用于完全的选择性保护

N 导线的过载保护

50% 或 100%

运行电流液晶显示(两行)

Selective overcurrent release

versions D,E/F

Overload release“a”

Operating current can be set between 40 and 100%  $\times I_n$  in 5% steps

Time-lag class

$T_c=2 - 3.5 - 6 - 8 - 10 - 14 - 17 - 20 - 24 - 30$  s

depending on the mechanical inertia of the motor load the characteristic can be set for slow start (e. g.  $T_c=30$  s) or normal start (e. g.  $T_c=10$  s)

Short-time-delay short-circuit release “z”

Response current

$I_d=1.25-1.5-2-3-4-5-6-8-10-12 \times I_r$

Delay time  $t_d=20(M)-80-150-220-300-400$ ms

$I^2t_d$ -dependent delay

$t_d=80 - 150 - 220 - 300$  ms

$I^2t$ -characteristic for selectivity to downstream fuses

Instantaneous short-circuit release “n”

Response current  $I_i=\infty - 1.5 - 2 - 3 - 4 - 5 - 6 - 8 - 10 - 12 \times I_n$  ( $t_d=0$  ms)

$I_i=\infty$  for full selectivity

Overload protection for N conductor 50 or 100%

LCD operational current display (two lines)

E/F 型的其他功能(3 极和 4 极)

“g” 接地故障脱扣

动作电流

$I_g=0.2 - 0.3 - 0.4 - 0.5 - 0.6 \times I_n$

可选择脱扣和只报警

延时时间

$t_g=100 - 200 - 300 - 400 - 500$  ms

$I^2t_g$  有关延时

$t_g=100 - 200 - 300 - 400 - 500$ ms

D, E/F 型的附加可选功能

通过 PROFIBUS-DP 实现通讯

附加功能 1 :

- 外部的 24V 直流电源
- 温升过高和  $\mu P$  故障的信号发送

附加功能 2 :

- 外部的 24V 直流电源
- 温升过高和  $\mu P$  故障的信号发送
- 过载脱扣的前导信号
- 负载监控
- ZSS

Additionally, for versions E/F (3- and 4-pole)

Earth-fault release “g”

Response current

$I_g=0.2 - 0.3 - 0.4 - 0.5 - 0.6 \times I_n$

selectable between tripping and alarm only

Delay time

$t_g=100 - 200 - 300 - 400 - 500$  ms

$I^2t_g$  dependent delay

$t_g=100 - 200 - 300 - 400 - 500$ ms

Additional options for versions D, E/F

Communication via PROFIBUS-DP

Additional functions 1 :

- External 24V DC supply
- Signals for temperature alarm and  $\mu P$  fault

Additional functions 2:

- External 24V DC supply
- Signals for temperature alarm and  $\mu P$  fault
- Leading overload signal
- Load monitoring
- ZSS

附加功能 1 和 2

Additional functions 1 and 2

附加功能 1

外部的 24V 直流电源

例如用于参数设置(如设置保护参数和附加功能), 当主回路不带电时, 使脱扣器显示电流(D, E/F, H, J/K, N/P 型脱扣器)。

μP 故障

当微处理器(μP 故障)发生故障时, 所有型式的过电流脱扣器都会由发光二极管显示故障信号。采用附加功能 1 或 2, 故障信号可由光电耦合器输出。微处理器发生故障时, 断路器不会脱扣, 但一个内部的支路可确保发生短路时短延时脱扣。

超温报警

如果过电流脱扣器的温度超过了限定值 85°C, 发光二极管会显示“超温”状况。采用附加功能 1 或 2, 故障信号可由光耦输出。

附加功能 2

外部的 24V 直流电源

(同附加功能 1)

μP 故障

(同附加功能 1)

超温报警

(同附加功能 1)

“a”脱扣先导信号

“过载脱扣之前 200 ms”的先导信号(经过光耦)可用于关断下级的晶闸管。此脱扣总是在

200ms 后发生。

负载监控

通过负载接入和负载脱落( $I_{AW1}$ ,  $I_{AW2}$ )两个可选的工作值和一个可调的延时时间( $t_{d, AW}$ )可实现负载监控。

“g”报警

如果出现接地故障, 可通过光耦发送信号。

短时分级控制(ZSS)

(详见第 2/14 页)

Additional functions 1

External 24V DC supply

For instance for parameterization (i. e. setting protection parameters and additional functions), activation of the operational current display (versions D, E/F, H J/K, N/P) when there is no power in the main connections.

μP fault

If a microprocessor fault (μP fault) occurs, in all versions an LED signal is displayed. With additional functions 1 or 2 a further signal can be output via an optocoupler. The circuit-breaker does not trip but protection is guaranteed by a redundant bypass circuit.

Overtemperature alarm

If the temperature of the overcurrent release

exceeds the limit value of 85°C a corresponding fault is indicated by an LED. With additional functions 1 and 2 a further signal can be output via the optocoupler.

Additional functions 2

External 24V DC supply

(see additional functions 1)

μP fault

(see additional functions 1)

Overtemperature alarm

(see additional functions 1)

Leading signal "a" release

The leading signal "200 ms before overload release" (via optocoupler) can be used to shut down downstream thyristor controllers. The trip occurs after 200ms.

Load monitoring

Load monitoring is possible by means of two selectable operating values for load input and shedding ( $I_{AW1}$ ,  $I_{AW2}$ ) and a common adjustable delay-time ( $t_{d, AW}$ ).

"g" alarm

Signal via optocoupler in case of earth-fault

Short-time grading control (ZSS)

(see page 2/14)



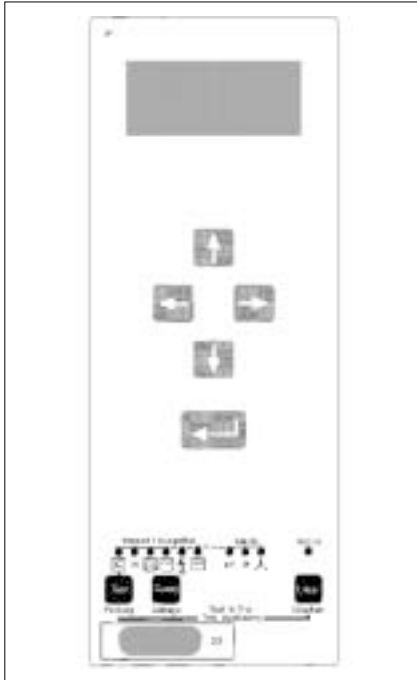


图 18 P 型“aznNg”过电流脱扣器；  
N 型“aznN”过电流脱扣器(无接地故障保护功能)  
Fig. 2/18 Overcurrent release version P “aznNg”;  
Overcurrent release version N “aznN”  
(without earth-fault protection)

**P 型过电流脱扣器的其他功能**

**“g” 接地故障脱扣**

动作电流  $I_g$  在  $20\% \times I_n$  至 1200A(最大值)之间  
可设定可选择脱扣和只报警  
延时时间  $t_g$  可从 100 ~ 500 ms 之间设定  
 $I^2t_g$  有关延迟时间  $t_g$  可在 100-500 ms 之间  
设定

**N 型和 P 型的其他功能：**

通过 PROFIBUS-DP 通讯  
能量管理(测量模块)

**附加功能 1：**

- 外部的 24V 直流电源
- 超温报警信号和  $\mu p$  故障信号发送

**附加功能 2**

- 外部的 24V 直流电源
- 超温报警信号和  $\mu p$  故障的信号发送
- 过载先导信号发送
- 负载监控
- ZSS 功能

**N 和 P 型 - 完全选择型的过电流脱扣器**

**“a” 过载脱扣**

运行电流  $I_r$  在  $40 \sim 100\% \times I_n$  之间可设置。  
时滞等级  $T_c$  在 2 ~ 30s 之间可设置

**“z” 短路短延时脱扣**

动作电流  $I_d$  在  $1.25 \times I_r \sim 40$  kA 之间可设置  
延时时间  $t_d$  在 20 ms-400 ms 之间可设置

$I^2t_d$  有关延时  $t_d$  在 80-300ms 之间可设置

**“n” 短路瞬时脱扣**

动作电流  $I_i$  可设定至 50 kA (尺寸等级 I)  
或 65 kA(尺寸等级 II) ( $t_d=0$  ms)

**N 导线的过载保护**

运行电流  $I_N$  在  $20 \sim 100\% \times I_n$  之间可设置

运行电流液晶显示(两行)

通过脱扣器面板上的键盘或手持式编程装置或  
通过通讯(远距离参数设置),可在用户友好的菜  
单界面上设置保护参数,可设置电流绝对值。

外部的 24V 直流电源

**Fully selective versions N and P**

**Overload release “a”**

Operating current  $I_r$  can be set between  
40 and  $100\% \times I_n$

Time-lag class  $T_c$  can be set between  
2 and 30 s

**Short-time-delay short-circuit release “z”**

Response current  $I_d$  can be set between 1.  
25  $\times I_r$  and 40 kA

Delay time  $t_d$  can be set between 20 and  
400 ms

$I^2t_d$ -dependent delay  $t_d$  can be set between 80  
and 300 ms

**Instantaneous short-circuit release “n”**

Response current  $I_i$  selectable 50 kA (size I)  
or 65 kA (size II) ( $t_d=0$  ms)

**Overload protection for N conductor**

Operating current  $I_N$  can be set between 20  
and  $100\% \times I_n$

LCD operational current display (two lines)

User-friendly menu-driven setting of  
protection parameters directly in absolute

完全选择型的过电流脱扣器,带可设定的电  
流至 40/50 kA 的短路脱扣器,带运行电流液  
晶显示和许多附加功能;可实现能源管理。  
Fully selective overcurrent release, with  
settable short-circuit release up to 40/50  
kA, with LCD operational current display  
and many additional functions; Energy  
management

$I^2t$  特性用于与下级熔断器作选择性保护。

至 50/60 kA 可实现完全的选择性保护

$I^2t$ -characteristic for selectivity to  
downstream fuses

Full selectivity up to 50/65 kA

Ampere values via release system keyboard  
or hand-held control unit or through  
communication (remote parameterization)  
External 24 V DC supply for activating the  
LCD display (parameterization)

**Additionally for version P**

**Earth-fault release “g”**

Response current  $I_g$  can be set from 20%  $\times$   
 $I_n$  up to 1200 A max.

Selectable between tripping and alarm only  
Delay time  $t_g$  can be set between  
100 and 500ms

$I^2t_g$ -dependent delay  $t_g$  can be set between  
100 and 500 ms

**Further options for versions N and P:**

Communication via PROFIBUS-DP  
Energy management (measuring module)

**Additional functions 1:**

- external 24 V DC supply (as standard)
- Signals for overtemperature alarm and  $\mu p$  fault

**Additional functions 2:**

- external 24V DC supply (as standard)
- Signals for overtemperature alarm and  $\mu p$  fault
- Leading overload signal
- Load monitoring
- ZSS

**带短时分级控制 “ZSS” 的短路保护**

**Short-circuit protection with “Short-time grading control” (“ZSS”)**

**描述**

ZSS 功能提供了完全的选择性保护,即在配  
电系统中,无论短路发生在何处,也无论分级的  
程度如何,只要发生短路故障,断路器会在极短  
的时间内  $t_{ZSS}=50ms$  脱扣。由于极短的脱扣时间,  
一旦发生短路后,影响系统的负载和损害可被显  
著的减少。

采用 ZSS 功能以后,受到短路电流影响的每  
台断路器会检测其下级的断路器,以找出短路是  
否还影响到其下级断路器。

**Description**

The ZSS function provides full selectivity with  
a very short delay time  $t_{ZSS}=50ms$ ,irrespective  
of the grading level and of where,in the  
distribution system,the short-circuit has  
occurred.

Due to the shorter breaking time,the loads and  
damage affecting the switching system in the  
event of a short-circuit can be significantly  
reduced.

If the ZSS function is engaged,each circuit-  
breaker affected by a short-circuit checks the  
directly downstream circuit breakers,to find  
out if the short-circuit has affected lower  
levels.

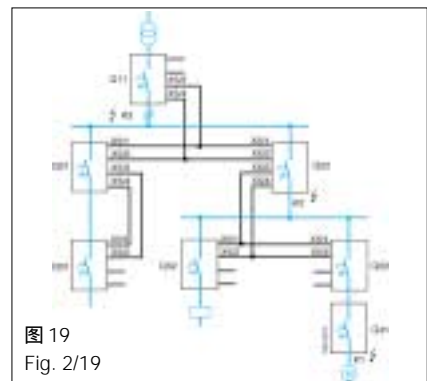


图 19  
Fig. 2/19

过电流脱扣器系统 - H, J/K 型 Overcurrent release systems-versions H, J/K

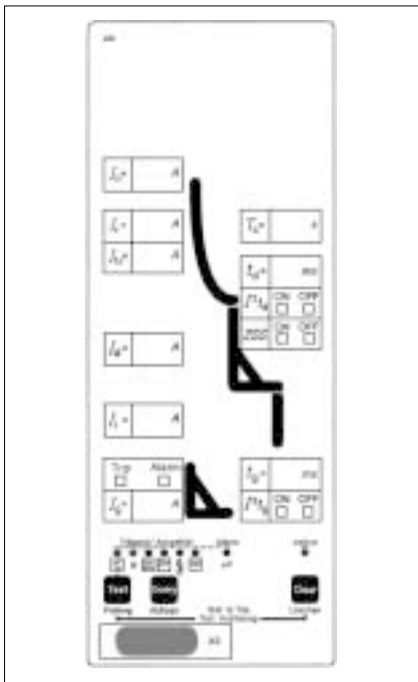


图 20 J/K 型 “aznNg” 过电流脱扣器。  
Fig. 2/20 Overcurrent release version J/K “aznNg”

J/K 型过电流脱扣器的其他功能  
(3 极和 4 极)

“g” 接地故障脱扣

动作电流  $I_g$  可在  $20\% \times I_n$  至 1200A(最大值)之间设置, 可选择脱扣和只报警  
延迟时间  $t_g$  可从 100 ~ 500 ms 之间设置

H, J/K 型脱扣器的其他可选项:

通过 PROFIBUS-DP 通讯

附加功能 1:

- 外部 24 V 直流电源(标准型)
- 超温报警信号和  $\mu P$  故障信号发送

附加功能 2

- 外部 24V 直流电源
- 超温报警信号和  $\mu P$  故障信号发送
- 过载脱扣先导信号发送
- 负载监控
- ZSS 功能

Additionally for version J/K (3 and 4-pole)  
Earth-fault release “g”

Response current  $I_g$  can be set from  $20\% \times I_n$  up to 1200 A max.

Selectable between tripping and alarm only

Delay time  $t_g$

can be set between 100 and 500 ms

Further options for versions H, J/K:

H, J/K 型 - “黑匣子式” 过电流脱扣器

“a” 过载脱扣

运行电流  $I_a$  可在  $40\% \sim 100\% \times I_n$  之间设置。

时滞等级  $T_c$  在 2 ~ 30s 之间设置

“z” 短路短延时脱扣

动作电流  $I_a$  可在  $0.5 \sim 12 \times I_n$  之间设置

延时时间  $t_d$  在 20-400 ms 之间可设置

$f_{td}$  有关延时时间  $t_d$  可在 80-300 ms 之间设置

“n” 短路瞬时脱扣

动作电流  $I_a$  可在  $0.5 \sim 12 \times I_n$  之间设置( $t_d=0$  ms)

还可选择  $I_a=\infty$

N 导线的过载保护

运行电流  $I_n$  可在  $20\% \sim 100\% \times I_n$  之间设置

脱扣器的设置及其安全(脱扣器上无旋钮)

采用手持式编程装置或采用通讯方式(远距离参数设置), 可在用户友好的菜单界面上设置保护参数。

Black-Box version H, J/K (“azn”, “azng”)

Overload release “a”

Operating current can be set between 40 and  $100\% \times I_n$

Time-lag class  $T_c$  can be set between 2 and 30 s

Short-time-delay short-circuit release “z”

Response current  $I_a$  can be set between 0.5 and  $12 \times I_n$

Delay time  $t_d$  can be set between

20 and 400 ms

$f_{td}$ -dependent delay  $t_d$  can be set between 80 and 300 ms

Instantaneous short-circuit release “n”

Response current  $I_a$  can be set between 0.5 and  $12 \times I_n$  and also turned-off i.e.  $I_a=\infty$  ( $t_d=0$  ms)

Overload protection for N conductor

Operating current  $I_n$  can be set between 20 and  $100\% \times I_n$

Safety oriented operating philosophy (no rotary selectors on the release unit)

User-friendly menu-driven setting of

Communication via PROFIBUS-DP

Additional functions 1:

- external 24V DC supply (as standard)
- Signals for overtemperature alarm and  $\mu P$ -fault

Additional functions 2:

选择型的黑匣子式过电流脱扣器带有可关断“n”脱扣器的功能, 并有许可附加功能可选择, 并且参数的设置和保存非常安全; 虽然功能齐全但价格却很适中。

Selective Black-Box overcurrent release with “n” release switch-off possibility, many additional functions and safety-oriented operating philosophy; full functionality at an affordable price

取决于电动机负载的机械惯性, 对于慢启动(例如取  $T_c=30s$ )或正常启动(例如取  $T_c=10s$ )均可设定  $T_c$ 。

$f_{td}$  特性用于与下级熔断器作选择性保护。

$I_a=\infty$  用于完全的选择性保护 ( $I_{cu}=I_{cs}=I_{cw}$ )

depending on the mechanical inertia of the motor load the characteristic can be set for slow start(e. g.  $T_c=30$  s) or normal start (e. g.  $T_c=10$  s)

$f_{td}$ -characteristic for selectivity to downstream fuses

$I_a=\infty$  for full selectivity ( $I_{cu}=I_{cs}=I_{cw}$ , smallest value counts)

protection parameters in absolute Ampere values via hand-held control unit or through communication (remote parameterization)

- external 24V DC supply
- Signals for overtemperature alarm and  $\mu P$ -fault
- Leading overload signal
- Load monitoring
- ZSS

手持式编程器

Hand-held control unit

描述

手持式编程器经由一根电缆和一个插入式适配器与过电流脱扣器相连。

外部的直流24V电源可接在适配器上以给过电流脱扣器供电。

功能

手持式编程器可将设置好的保护参数输入至 H, J/K, N 和 P 型脱扣器, 也可从过电流脱扣器中读取参数的设置值。

手持式编程器可从一台断路器中读出设置参数, 然后储存起来并输入至另一台断路器的过电流脱扣器中。

adapter.

An external 24V DC power supply can be connected to the adapter to activate the overcurrent release.

Functions

Checking and inputting the protection parameters for the overcurrent release versions H, J/K, N and P.

Activation and deactivation of response values for overcurrent release versions D, E/F, H/J/K, N and P.

The parameter values set for a given circuit-breaker can be read and stored in the hand-held control unit and subsequently be inputted into input for another overcurrent release.



图 21 手持式编程器  
Fig. 2/21 Hand-held control unit

Description

The hand-held control unit is connected to the overcurrent release via a cable and a plug-in



# 3WN6 断路器, 至 3200A

## 3WN6 Circuit-Breakers, up to 3200A

功能一览表		Function overview of overcurrent release system	
		功能 Function	
<b>基本功能 / Basic functions</b>			
过载保护 Overload protection 	过流反时限脱扣 "a" 用于三相保护 Inverse-time overload release "a" for the phases 	工作电流 $I_t$ 的设置: 40%-100% $I_n$ , 5% 分级 Grading freely programmable 时滞等级 $T_c=6 \times I_t$ 时的分闸时间; 固定设置 $T_c$ Time-lag class $T_c$ =opening time at $6 \times I_n$ fixed setting $T_c$	Setting of $I_t$ from 40% to 100% $I_n$ , 5% grading Grading freely programmable Time-lag class $T_c$ =opening time at $6 \times I_n$ fixed setting $T_c$
		热记忆 "Thermal" memory 断相灵敏(可开关) Phase failure sensitivity (switchable)	"Thermal" memory Phase failure sensitivity (switchable)
		用于 N 导线保护 for the N conductor <sup>1)</sup> 工作电流 $I_n$ 的设置 N 导线的时滞等级 $T_c$ 与三相保护时的 $T_c$ 相同 Setting of operating current $I_n$ Time-lag class $T_c$ of the N conductor same as for the phases	Setting of operating current $I_n$ Time-lag class $T_c$ of the N conductor same as for the phases
短路保护 Short-circuit protection 	短路短延时脱扣 "z" Short-time-delay short-circuit release "z" 	动作电流 $I_d$ 的设置 Setting of response current $I_d$	Setting of response current $I_d$
		延迟时间 $t_d$ 的设置 Setting of delay time $t_d$ 有关 $I^2 t_d$ 延时, 延迟时间 $t_d$ With $I^2 t_d$ dependent delay; delay time $t_d$	Setting of delay time $t_d$ With $I^2 t_d$ dependent delay; delay time $t_d$
		短路瞬时脱扣 "n" Instantaneous short- circuit release "n" 	动作电流 $I$ 的位置 Setting of response current $I$
接地 故障保护 Earth-fault protection 	接地故障脱扣 "g" <sup>1)</sup> Earth-fault release "g" <sup>1)</sup> 	动作电流 $I_g$ 的位置 Setting of response current $I_g$	Setting of response current $I_g$
		延迟时间 $t_g$ 的设置 Setting of delay time $t_g$ 带有关 $I^2 t_g$ 延时, 延迟时间 $t_g$ With $I^2 t_g$ dependent delay; delay time $t_g$	Setting of delay time $t_g$ With $I^2 t_g$ dependent delay; delay time $t_g$
由液晶显示器显示 / Display by LCD 由发光二极管显示 Display by LED	工作电流显示 / Operational current display 工作显示 Operating display	当过电流脱扣器得电时, 发光二极管闪烁 LED flashes when overcurrent release is activated	LED flashes when overcurrent release is activated
脱扣显示 Tripped display 	"a" 脱扣 "z/n" 脱扣 "z" 脱扣 "n" 脱扣 "N" 脱扣 "g" 脱扣 / 报警 	"a" 脱扣	"a" release
		"z/n" 脱扣	"z/n" release
		"z" 脱扣	"z" release
		"n" 脱扣	"n" release
		"N" 脱扣	"N" release
		"g" 脱扣 / 报警	"g" release/alarm
报警显示 Alarm display 	μP 故障 温度 > 85°C 三三相不平衡 > 50% <input type="checkbox"/> 随意可选信号	μP fault θ, temperature > 85°C Phase imbalance > 50% <input type="checkbox"/> 随意可选信号	μP fault θ, temperature > 85°C Phase imbalance > 50% <input type="checkbox"/> Freely selectable signal
测试 Testing	内部自身测试, 发光二极管显示 Internal self-test with LED display 从测试插座 X3 处接入测试设备 Connection of the testing device to the test socket X 3	Internal self-test with LED display Connection of the testing device to the test socket X 3	Internal self-test with LED display Connection of the testing device to the test socket X 3
<b>基本特性 / Basic features</b>			
信号发送触头(1NO) Signalling contacts (1NO)	合闸准备就绪 Readiness to close 断路器可以被安全合闸 Circuit-breaker can be safely switched on	断路器可以被安全合闸 Circuit-breaker can be safely switched on	Circuit-breaker can be safely switched on
脱扣信号发送开关 Tripped signalling switch	在带 / 不带机械重合闸闭锁的 "a" release with/without mechanical reclosing lockout "z", "n", "g" <sup>2)</sup> 型脱扣器发生脱扣后动作	在带 / 不带机械重合闸闭锁的 "a" release with/without mechanical reclosing lockout "z", "n", "g" <sup>2)</sup> 型脱扣器发生脱扣后动作	Latching: effective after "a", "z", "n", "g" <sup>2)</sup>
<b>附加功能 / Additional features</b>			
信号通过光耦输出 Signals via optocoupler outputs	附加功能 1 Additional functions 1	外部 24V 直流电源, 可用于参数预置 External 24V DC supply for parameterization	External 24V DC supply for parameterization
		μP 故障 温度 > 85°C 与三相不平衡组合在一起 μP fault θ, temperature > 85°C combined with phase imbalance	μP fault θ, temperature > 85°C combined with phase imbalance
	附加功能 2 Additional functions 2	外部 24V 直流电源, 可用于参数预置 External 24V DC supply for parameterization	External 24V DC supply for parameterization
		μP 故障 温度 > 85°C 与三相不平衡组合在一起 "a" 脱扣的前导信号(脱扣之前 200ms)/ 负载脱落 负载监控; 响应值 50-150%, 1-15s "g" 报警 3WN 与 3WS 之间的短时分级控制(ZSS)	μP fault θ, temperature > 85°C combined with phase imbalance Leading signal of "a" tripping (200 ms before release)/load shedding Load monitoring; response value 50 to 150%, 1 -15 "g" alarm Short-time grading control (ZSS) between 3WN and 3WS
<b>通过 PROFIBUS-DP 进行通讯 / Communicaton via PROFIBUS-DP</b>			
数据传送 Data transmission	通讯模块 Communication module	需带附加功能 2 的脱扣器和 DP/ 3WN6 接口装置(订货号 3RK10 00- OJC80-0BA1)	In combination with additional functions 2 and DP/ 3WN6 interface (Order NO.3RK 10 00-OJC80-0BA1).
数据传送和记录测量值 Data transm. and meas. values recording	测量模块 Measurement module	需带附加功能 2 的过电流脱扣器和 DP/ 3WN6 接口装置(订货号 3RK10 00- OJC80-0BA1)	In combination with additional functions 2 and DP/ 3WN6 interface (Order NO.3RK 10 00-OJC80-0BA1).

- 1) 对于带三相不平衡负载的 3 极断路器, 需要一个附加的电流互感器。对于 4 极断路器, 一个 N 线电流互感器已装于其内部。  
 2) "g" 脱扣当过电流脱扣器设定在 "脱扣" 位置时发生。
- 1) With 3-pole circuit-breakers with asymmetrical phase load, an additional current transformer is needed.  
 With 4-pole circuit-breakers, an N-conductor current transformer is built-in  
 2) "g" trip occurs in case of "trip" setting on overcurrent release.

功能一览表		Function overview of overcurrent release system							
过电流脱扣器类型 Overcurrent release version	V" zn"	B" azn"	C/G" aznNg"	D" aznN"	E/F" aznNg"	H" aznN"	J/K" aznNg"	N" aznN"	P" aznNg"
		10 s <sup>3)</sup>	10 s <sup>3)</sup>	2 to 30 s	2 to 30 s	2 to 30 s	2 to 30 s	2 to 30 s	2 to 30 s
		x	x	x	x				
			50 or 100%	50 or 100%	50 or 100%	20-100%	20-100%	20-100%	20-100%
	1.25-12 x I <sub>r</sub> I <sub>r</sub> =40-100%I <sub>n</sub>	1.5-12 x I <sub>r</sub>	1.25-12 x I <sub>r</sub>	1.25-12 x I <sub>r</sub>	1.25-12 x I <sub>r</sub>	0.5-12 x I <sub>r</sub>	0.5-12 x I <sub>r</sub>	1.25 x I <sub>r</sub> - 40kA	1.25 x I <sub>r</sub> - 40kA
	0; 20-500ms	0; 20-400ms	0; 20-400ms	20-400ms	20-400ms	20-400ms	20-400ms	20-400ms	20-400ms
				80-300ms	80-300ms	80-300ms	80-300ms	80-300ms	80-300ms
	> 15 x I <sub>n</sub>	> 15 x I <sub>n</sub>	> 15 x I <sub>n</sub>	> 1.5-12 x I <sub>n</sub> and I <sub>r</sub> =∞ with setting I <sub>r</sub> =∞ I <sub>cu</sub> =I <sub>cs</sub> =I <sub>cw</sub>	> 1.5-12 x I <sub>n</sub> and I <sub>r</sub> =∞ with setting I <sub>r</sub> =∞ I <sub>cu</sub> =I <sub>cs</sub> =I <sub>cw</sub>	> 1.5-12 x I <sub>n</sub> and I <sub>r</sub> =∞ with setting I <sub>r</sub> =∞ I <sub>cu</sub> =I <sub>cs</sub> =I <sub>cw</sub>	> 1.5-12 x I <sub>n</sub> and I <sub>r</sub> =∞ with setting I <sub>r</sub> =∞ I <sub>cu</sub> =I <sub>cs</sub> =I <sub>cw</sub>	Size I: up to 50kA Size II: up to 65kA	Size I: up to 50kA Size II: up to 65kA
			0.2-0.6 x I <sub>n</sub>		0.2-0.6 x I <sub>n</sub>			20%I <sub>n</sub> -1200A	20%I <sub>n</sub> -1200A
			100-500 ms		100-500 ms			100-500 ms	100-500 ms
					100-500 ms			100-500 ms	100-500 ms

3) 对于起动时间较长的电动机，Tc=10s 可能不够，应采用 D, E/F, H, J/K 或 P 型。  
For motors with slow start time setting Tc=10s may be insufficient; use version D, E/F, H, J/K or P.

标准配置功能  
Function as standard  
可选附加功能  
Function optional

由手持式编程装置选择 / 设置  
Function selectable/adjustable with hand held unit  
x 当 t<sub>d</sub> 设定为 20ms 时，该功能才有效  
Function active when t<sub>d</sub> is set to 20 ms



# 3WN6 断路器，至 3200A

## 3WN6 Circuit-Breakers, up to 3200A

### 通讯模块 Communication module

要通过 PROFIBUS - DP 通讯，过电流脱扣器要加装一个内部通讯模块(订货号后应加 Z = F01)。数据通过一根电缆连接线(3m 长，随 DP/3WN6 一起供货)传送至外部接口 DP/3WN6 (详见“具有通讯能力的断路器”一章)。

该接口将数据转换后传送至 PROFIBUS - DP。根据过电流脱扣器类型和断路器的配置，可通讯以下数据。

- 模拟检测量
- 相电流  $I_{L1}$ ,  $I_{L2}$ ,  $I_{L3}$ ,  $I_{max}$  和  $I_{min}$ ,
- N 导线电流  $I_N$ ,
- 接地故障电流  $I_g$
- 事故信号
- 上次脱扣类型(a,z,n,g,N),
- μP 故障
- 超温报警，
- 相不平衡
- 负载脱落、负载接入
- "a" 脱扣前导信号
- 运行状态
- 断路器处于合闸 / 分闸状态，
- 合闸准备就绪信号，
- 分励或欠电压脱扣器的状态，
- 储能机构已储能，
- 抽屉式断路器的位置(试验或运行)，
- 过电流脱扣器的测试。
- 远距离参数设置
- 读出配置数据：
- 保护功能的设置
- 断路器的额定电流，极数

- 断路器的识别号
- 诊断数据
- 前一刻钟的电流平均值
- 远距离控制
- 使断路器分闸和合闸(只对带有电气合闸和分励脱扣器的断路器而言)。
- 远距离参数设置
- 可通过数据总线远距离设定附加功能和保护功能。过电流脱扣器会检查保护参数值是否有效。

For communication via PROFIBUS-DP the overcurrent releases are additionally equipped with an internal communication module (for this the addition Z=F01 should be indicated in the Order No.). Data are transferred to an external interface DP/3WN6 via a cable link (3m long cable is supplied). This interface translates the data for PROFIBUS-DP, The following data are available, depending on the overcurrent release version and the configuration of the circuit-breaker:

- Analog measured values:
- Phase currents  $I_{L1}$ ,  $I_{L2}$ ,  $I_{L3}$ ,  $I_{max}$  and  $I_{min}$ ,
- N conductor current  $I_N$ ,
- Earth-fault current  $I_g$
- Event signals:
- Last trip (a,z,n,g,N),
- μP fault,
- Temperature alarm,

- Phase imbalance,
- Load shedding, load input, overload
- Operating states:
- Breaker closed/open,
- Ready-to-close signal,
- State of shunt or undervoltage release,
- Stored-energy mechanism charged,
- Position (test or connected) of draw-out circuit-breaker,
- overcurrent release test
- Remote parameterization
- Reading configuration data:
- Setting of protective functions
- Rated current of circuit-breaker,
- Number of poles,
- Circuit-breaker identification number
- Diagnostics data:
- Current mean over last quarter-hour
- Remote control:
- Opening and closing of circuit-breaker (only for circuit-breakers with electrical closing and shunt-trip)
- Remote parameterization
- Setting of additional functions and the protective functions can be effected via bus. The overcurrent release checks that the protection parameter values are permissible and valid.

### 测量模块 Measuring module

N 型和 P 型过电流脱扣器还可附加一个测量模块(订货号后 Z = F05 替代 Z = F01)。测量模块包括带测量功能的通讯模块和外接电压互感器。除了电流值外，还可获得电压和频率等数据，可获得下列参数：

- 电压  $U_{aktL}$ ,  $U_{maxL}$ ,  $U_{minL}$
- (每隔 15 分钟交替显示最大值和最小值)
- $U_{LL1}$ ,  $U_{LL2}$ ,  $U_{LL3}$  (线电压)
- 频率  $f_{akt}$ ,  $f_{max}$ ,  $f_{min}$
- (每隔 15 分钟交替显示最大值和最小值)
- 功率因数  $\cos \varphi$
- 有功功率  $P$
- 无功功率  $Q$
- 视在功率  $S$
- 有功能量  $W$
- 相序

上述值可用于能源管理，通过连接 / 分断负载可避免负载峰值。还可传输脱扣器的下述信号和保护功能：

- 电压和电流的相不平衡
- 欠电压 / 超电压
- 频率过低 / 频率过高
- 能量反流

上述数据还可在过电流脱扣器上显示出来。测量模块的电子互感器需外部安装在 35mm 导轨上。

- 电压互感器随测量模块一起提供。
- 测量模块不能改装。

Overcurrent release versions N and P can be additionally equipped with a measuring module (Order No. supplement Z=F05 instead of Z=F01). The measuring module consists of the communication module with additional measuring functions and external voltage transformers. In this way, beside current values, voltage and frequency data can also be obtained and following operational values become additionally available:

- Voltage  $U_{aktL}$ ,  $U_{maxL}$ ,  $U_{minL}$
- (max. and min. values over 15 minute interval)
- $U_{LL1}$ ,  $U_{LL2}$ ,  $U_{LL3}$
- (conductor-to-conductor voltage)
- Frequency  $f_{akt}$ ,  $f_{max}$ ,  $f_{min}$
- (max. and min. values over 15 minute interval)
- Power factor  $\cos \varphi$
- Active power  $P$
- Reactive power  $Q$
- Apparent power  $S$
- Active work  $W$
- Direction of phase rotation

These values can be used for energy management, as expensive load peaks can be avoided by connecting/disconnecting the loads.

The following signals and protection functions with release are also available:

- Phase imbalance of voltage and current
- Undervoltage/Overvoltage
- Underfrequency/Overfrequency
- Inverse energy flow
- The data can also be displayed locally on the overcurrent release unit.
- The voltage transformers of the measuring module are mounted externally. Installation is done on a 35mm top hat rail. The voltage transformers are included in the scope of supply of the measuring module. The measuring module cannot be retrofitted.

电流互感器的连接

Connection of the current transformer

N 导线和接地故障电流的测量

Measurement of the N conductor and earth-fault currents

方法 1

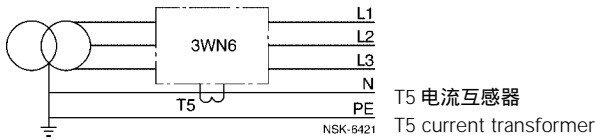
Measuring method No.1

通过 N 导线上的电流互感器进行矢量求和

Vectorial summation with current transformer in the N conductor

3 极断路器

3-pole circuit-breaker



4 极断路器

4-pole circuit-breaker

对于 4 极断路器，用于 N 导线的第 4 个电流互感器已安装于断路器的内部。  
In the case of 4-pole circuit-breakers, the 4th current transformer for the N conductor is installed internally.

例外：

Exception:

若采用 E 型过电流脱扣器，第 4 个电流互感器必须外部安装在 N 导线上。  
For E version overcurrent releases, the current transformer must be mounted externally in the N conductor.

过电流脱扣器类型 Overcurrent release version	连接电流互感器 T5 的辅助接线端子 T5 current transformer should be connected to auxiliary connector
C, D, E, H, J	400. 13 400. 14
N, P	300. 1 300. 2

过电流脱扣器类型 Overcurrent release version	连接电流互感器 T5 的辅助接线端子 T5 current transformer should be connected to auxiliary connector
E, J	400. 13 400. 14

方法 2

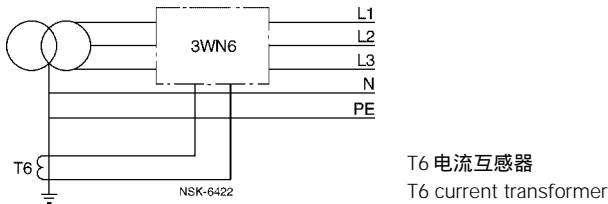
Measuring method No.2

通过变压器星型接地点处的电流互感器直接检测接地故障电流

Direct detection of the earth-fault current via a current transformer at the earthed star point of the transformer

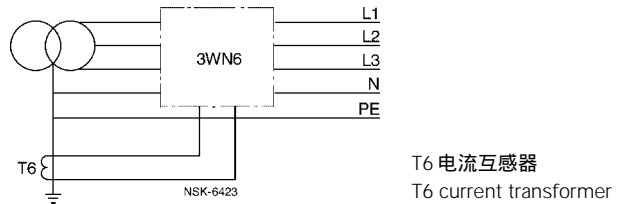
3 极断路器

3-pole circuit-breaker



4 极断路器

4-pole circuit-breaker



过电流脱扣器类型 Overcurrent release version	连接电流互感器 T6 的辅助接线端子 T6 current transformer should be connected to auxiliary connector
C, E, J, P	400. 13 400. 14

有关 T6 电流互感器的连接，请见 3 极断路器。

For connection of the T6 current transformer to auxiliary connector, see 3-pole.



## 3WN6 断路器，至 3200A 3WN6 Circuit-Breakers, up to 3200A

### 分闸、合闸与锁定装置

### Opening, closing and Interlocking device

#### 分闸和合闸开关

##### “机械合闸按钮”

在标准形式中，机械合闸开关是一个按钮。当带电气合闸功能时，此“机械合闸”开关上装有一个密封盖。也可用一个安全锁(CES、BKS、IKON)来代替此按钮。如果钥匙旋至“0”位置取出，断路器就无法再次机械合闸。

##### “电气合闸”按钮

使用“电气合闸”按钮可方便地安装外部电气锁定设备。此按钮上也可安装密封盖。

##### “机械分闸”按钮

在标准形式中，机械操作的分闸开关是一个按钮，上面可用一个附加的密封盖保护，以防无关人员操作。

##### 安全锁

如果钥匙旋至分闸位置取出后，断路器就无法再次合闸。然后，可用这把钥匙去打开另一个断路器的闭锁。

##### 急停按钮

使用此蘑菇头按钮锁定在分闸位置时，断路器就无法合闸，除非旋动蘑菇头使闭锁打开。

##### 防止合闸锁定装置

在锁定装置的折板上有一个突出物盖住“电气合闸”按钮，并把“机械分闸”按钮卡在分闸位置上。此锁定装置可用 4 把挂锁保护。

##### CASTELL, FORTRESS 或 KIRK-KEY 锁

对于这些锁定装置备有一个安装组件。此锁必须从生产厂家处获得。当此锁受激时，断路器即受阻无法合闸。

断路器在分闸位置满足“隔离器条件”。用于 CASTELL、FORTRESS 或 KIRK-KEY 锁的带折板的附加锁定装置可防止插入钥匙。此装置可用 4 把挂锁保护。

#### ON and OFF switches

##### “Mechanical ON” button

In its standard form, the mechanically operating ON switch is a pushbutton switch. When it is operated with electrical closing, the “mechanical ON” switch is fitted with a sealing cap. A safety lock (CES, BKS, IKON) is also available instead of the pushbutton switch. If the key is removed in the “0” position the circuit-breaker can no longer close mechanically.

##### “Electrical ON” button

The “Electrical operating ON” button is intended for operational closing. External electrical locking devices can be easily mounted using the “electrical ON” button. A sealing cap is also available for this pushbutton.

##### “Mechanical OFF” button

In its standard form, the mechanically operating OFF switch is a pushbutton switch. An additional sealing cap protects the switch from unauthorized use.

The followin can be supplied instead of this OFF switch:

##### Safety lock

If the key is removed in the OFF position, the circuit-breaker can no longer close. This key can then be used to unlock another circuit-breaker.

##### EMERGENCY-STOP pushbutton

This mushroom-shaped pushbutton latches in the OFF position when it is pushed. The circuit-breaker cannot be closed again until the pushbutton has been unlatched by rotating the mushroom head.

##### Locking facility against closing

A protrusion in the flap of the locking facility covers the “electrical ON” button and retains the “mechanical OFF” button in the OFF position. The locking facility can be secured with up to 4 padlocks.

##### CASTELL, FORTRESS or KIRK-KEY lock

These locking devices are prepared with an assembly kit. The lock must be obtained from the manufacturer. Then the lock is activated, the circuit-breaker is blocked and cannot close. The “conditions for an isolator” are fulfilled in the OFF position. An additionally available locking facility with a flap for a CASTELL, FORTRESS or KIRK-KEY lock prevents the insertion of a key. This device can be secured by up to 4 padlocks.



图 22 分闸、合闸和锁定装置  
Fig. 2/22 Opening, closing and interlocking devices

分闸、合闸与锁定装置 Opening, closing and interlocking device

防止抽屉式断路器移动的锁定装置

采用一个或多个挂锁可防止曲柄孔被打开或插入曲柄。也可采用其他类似安全锁把曲柄孔锁定在某一位置上(钥匙可取下)和防止导向框架内的断路器被移动。

柜门内的锁定装置

嵌在柜门内的安全锁可防止断路器合闸。对于抽屉式断路器，此锁定装置只在运行位置有效。信号通过钢缆传送。

过电流脱扣器的透明面罩

此透明面罩可加装密封铅条，这样参数设置很安全，有效的防止了未经许可触摸。留出的小孔使查询和测试按键可操作。一个可旋转的折页盖住了过电流脱扣器的整个操作面板。

电动机开关

通过一个附加(另订)的电动机开关，在一次合闸操作后，可中断自动储能。没必要为了维护而切断控制电压。

操作计数器

3WN6断路器可配备一个5位数的操作计数器。

辅助脱扣器

断路器最多能同时配备两个辅助脱扣器，有以下几种选择：

- 1 个分励脱扣器
  - 或 1 个欠电压脱扣器
  - 或两个分励脱扣器
  - 或 1 个分励脱扣器 + 1 个欠电压脱扣器
- 分励脱扣器“f”可持续通电，以确保断路器被锁住，防止断路器误合闸。
- 分励脱扣器储能装置可确保当控制电压消失后，仍可使断路器脱扣。
- 欠电压脱扣器“r”是瞬时动作的，也可调至延时 100 ms 动作。
- 延时型欠电压脱扣器“rc”可延时 0.2 ~ 0.3s。

Locking device to prevent movement of the draw-out circuit-breaker

Opening of the crank hole, and attachment of the crank, can be prevented by means of one or more padlocks. Additionally a safety lock to block the crank hole in Position can be supplied (key can be removed), to prevent the circuit-breaker from being moved in the guide frame.

Locking device in the cubicle-door

A safety lock, built into the cubicle door, secures the breaker against closing On draw-out circuit-breakers this lockout is effective only in the connected position. The signal is transmitted via a Bowden wire

Transparent cover for overcurrent release

A seal can be applied as standard to the transparent cover. The parameter setting areas are thus protected against unauthorized access. Apertures allow access to the query and test buttons. A swivelling flap covers the entire operating front of the overcurrent release.

Motor switch

By means of an additional motor switch, automatic charging of the energy store can be discontinued after a closing operation. It is not necessary to shut off the control voltage in order to do maintenance work.

Operating cycle counter

A 5-digit operating cycle counter is available for the 3WN6 circuit-breakers. The display is incremented by "1" as soon as the store is fully recharged

Auxiliary releases

Up to two auxiliary releases can be installed together. The following are available:



图 23 用于 3WN6 断路器的可延时欠电压脱扣器“rc”  
Fig. 2/23 Undervoltage release “rc” with delay for installation in 3WN6 circuit-breakers

- 1 shunt release
  - or 1 undervoltage release
  - or 2 shunt releases
  - or 1 shunt release + 1 undervoltage release
- The shunt release “f” is designed for continuous energization. This also ensures that the circuit-breaker is prevented from being closed inadvertently.
- A stored energy device for shunt releases ensures that the circuit-breaker still trips even if the control voltage has been interrupted.
- The undervoltage release “r” is set, as standard for instantaneous operation; users may change setting to 100 ms.
- A further version of undervoltage release “rc” with a delay of 0.2 to 3.2 s is also available.

# 3WN6 断路器，至 3200A 3WN6 Circuit-Breakers, up to 3200A

## 相互机械联锁 Mutual mechanical interlocking

相互机械联锁模块适用于两台或三台相互机械联锁的断路器。

固定式和抽屉式断路器可相互联锁，因而可安装于同一个系统中。

断路器可左右排列或上下排列；断路器之间的距离取决于钢缆的长度。钢缆的标准长度为2m，可提供长于2m的钢缆。联锁信号由钢缆传送。对于抽屉式断路器，联锁只有在断路器处于运行位置时才有效。

钢缆的机械寿命为10,000次。联锁模块安装于固定式断路器或导向框架的右侧。

The module for mutual mechanical interlocking is suitable for two or three 3WN6 circuit-breakers and can be easily adapted to each version.

The fixed-mounted and draw-out circuit-breakers are fully compatible and can therefore be used together in the same installation. The circuit-breakers can be mounted side-by-side or above each other; the distance between them is only determined by the length of the Bowden wire. The Bowden wires are supplied in 2m standard lengths. Interlocking signals are transferred via the wires. For draw out circuit-breakers interlocking is effective only in the connected position.

The mechanical endurance of the Bowden wires is 10,000 operating cycles. The interlocking module is mounted at the right-hand side of the fixed-mounted circuit-breaker (see Fig. 2/24) or guide frame.



图 24 3WN6 断路器，4 极，带联锁模块和联锁钢缆  
Fig. 2/24 3WN6 circuit-breaker, 4-pole, with interlocking module and Bowden wire



图 25 带联锁钢缆的联锁模块  
Fig. 2/25 Interlocking module with Bowden wire

例子 Example	型式 Version	开关状态 Switching state	描述 Description																								
	1	<table border="1"> <tr><td>A</td><td>B</td></tr> <tr><td>0</td><td>0</td></tr> <tr><td>1</td><td>0</td></tr> <tr><td>0</td><td>1</td></tr> </table>	A	B	0	0	1	0	0	1	<p>两台断路器之间相互联锁 一台断路器只有在另一台断路器分闸后才能合闸。 每台断路器需带一联锁模块和一根联锁钢缆。</p> <p>2 circuit-breakers back to back: One circuit-breaker can only be switched on if the other is switched off. Each circuit breaker features an interlocking module and a Bowden wire</p>																
A	B																										
0	0																										
1	0																										
0	1																										
	2	<table border="1"> <tr><td>A</td><td>B</td><td>C</td></tr> <tr><td>0</td><td>0</td><td>0</td></tr> <tr><td>1</td><td>0</td><td>0</td></tr> <tr><td>0</td><td>1</td><td>0</td></tr> <tr><td>0</td><td>0</td><td>1</td></tr> <tr><td>1</td><td>1</td><td>0</td></tr> <tr><td>0</td><td>1</td><td>1</td></tr> <tr><td>1</td><td>0</td><td>1</td></tr> </table>	A	B	C	0	0	0	1	0	0	0	1	0	0	0	1	1	1	0	0	1	1	1	0	1	<p>三台断路器之间相互联锁 当一台断路器分闸时，可任意合闸另外两台断路器。 每台断路器需带一联锁模块和两根联锁钢缆。</p> <p>3 stacked circuit-breakers: Any two circuit-breaker can be switched on when the third is locked. Each circuit breaker features an interlocking module and a Bowden wire. A further Bowden wire is additionally needed per circuit-breaker.</p>
A	B	C																									
0	0	0																									
1	0	0																									
0	1	0																									
0	0	1																									
1	1	0																									
0	1	1																									
1	0	1																									
	3	<table border="1"> <tr><td>A</td><td>B</td><td>C</td></tr> <tr><td>0</td><td>0</td><td>0</td></tr> <tr><td>1</td><td>0</td><td>0</td></tr> <tr><td>0</td><td>1</td><td>0</td></tr> <tr><td>0</td><td>0</td><td>1</td></tr> </table>	A	B	C	0	0	0	1	0	0	0	1	0	0	0	1	<p>三台断路器之间相互联锁 当一台断路器合闸后，另外两台断路器不能合闸。 每台断路器需带一联锁模块和两根联锁钢缆。</p> <p>3 stacked circuit-breakers: If one circuit-breaker is switched on, the other two can not be closed. Each circuit breaker features an interlocking module and a Bowden wire. A further Bowden wire is additionally needed per circuit-breaker.</p>									
A	B	C																									
0	0	0																									
1	0	0																									
0	1	0																									
0	0	1																									
	4	<table border="1"> <tr><td>A1</td><td>B</td><td>A2</td></tr> <tr><td>0</td><td>0</td><td>0</td></tr> <tr><td>1</td><td>0</td><td>0</td></tr> <tr><td>0</td><td>0</td><td>1</td></tr> <tr><td>1</td><td>0</td><td>1</td></tr> <tr><td>0</td><td>1</td><td>0</td></tr> </table>	A1	B	A2	0	0	0	1	0	0	0	0	1	1	0	1	0	1	0	<p>三台断路器之间相互联锁 两台断路器(A1, A2)可独立地分合闸，同时如果该两台断路器(A1, A2)分闸后，第三台(B)断路器才能合闸。如果该第三台断路器(B)合闸后，其他两台断路器(A1, A2)不能合闸。 两台断路器(A1, A2)需带一联锁模块和两根联锁钢缆。</p> <p>3 circuit-breakers back to back: Two circuit-breakers can be switched on or off independently of each other, whereas the third one can only be switched on if the others are switched off. If the third circuit-breaker is switched on the two others cannot be closed. The two circuit-breakers each feature one interlocking module and one Bowden wire. A further Bowden wire is additionally needed per circuit-breaker.</p>						
A1	B	A2																									
0	0	0																									
1	0	0																									
0	0	1																									
1	0	1																									
0	1	0																									

电源转换装置

Network-switching control unit

该电源切换装置 (3WX3 666-7JA00) 可用于在标准电网和后备应急电源之间实现自动转换。

标准电网和应急电源都应为 380/400V AC。

电源转换装置平时监控两台断路器的进线端。

如果标准电网发生断电，转换装置会自动转换至应急电源，使应急电网中的断路器自动合闸。当标准电网恢复供电时，转换装置会自动切换至标准电网。

与电源转换装置相连的两台断路器要求具有如下基本配置：

3WN6.....58-1kA.

(空着的位置表示可任意选择相应的配置)

电源转换装置可墙面安装，也可安装于开关柜内。

借助于电源转换装置，可实现电源自动转换，符合 IEC947-6-1 标准。

两台 3WN6 断路器必须相互机械连锁(有关选型和订货数据，见第 2/54 页)。



图 26 电源切换装置  
Fig. 2/26 Network-switching control-unit

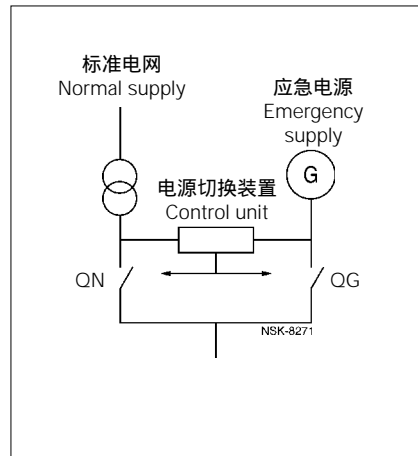


图 27  
Fig. 2/27

By means of the network-switching control unit it is possible to switch automatically between standard network infeed and emergency network infeed.

Both standard and emergency networks should be 380/400 V AC.

For the standard network, infeed is generally effected via a transformer. Emergency network infeed may be based on a generator or on a transformer.

The network-switching control unit monitors the input side of both circuit-breakers. In case

of failure of the standard network infeed, the unit switches automatically to the emergency network. When the standard network infeed is restored the control unit switches automatically switches back.

Two circuit-breakers with the following basic configuration are required for the switching: 3WN6.....58-1kA.

(empty positions can be selected freely).

The network-switching control unit is suitable

for wall-mounting as well as for installation inside the cubicle. Inside the cubicle it can be installed also without housing.

By means of the network-switching control unit it is possible to realize automatic network-switchings according to IEC 947-6-1.

Here the two 3WN6 circuit-breakers must be mutually interlocked mechanically. (For selection and ordering data, see Accessories, page 2/54).

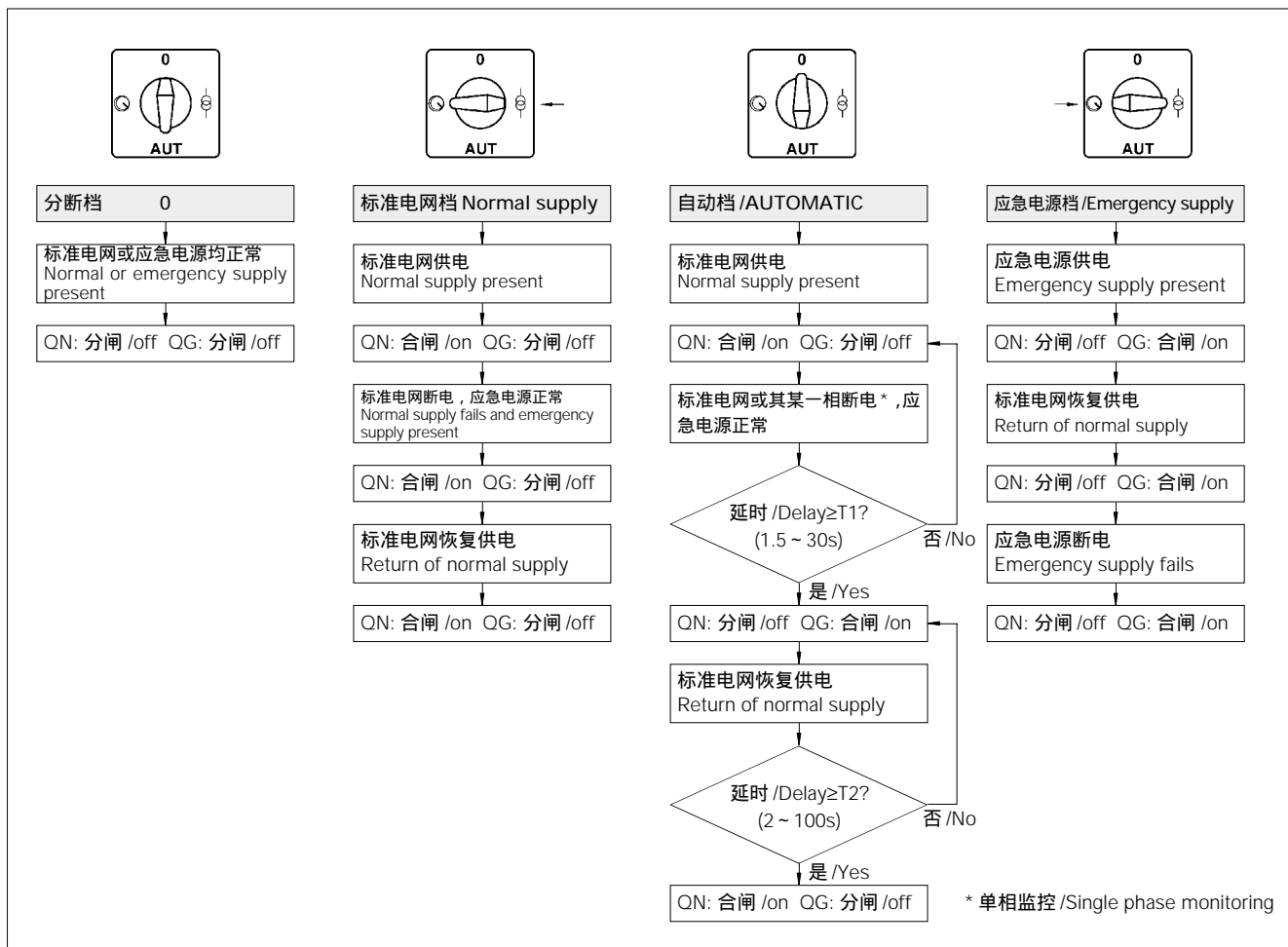


图 28 电源转换装置功能示意图 / Fig. 2/28 Functional block-diagram of the network-switching control-unit





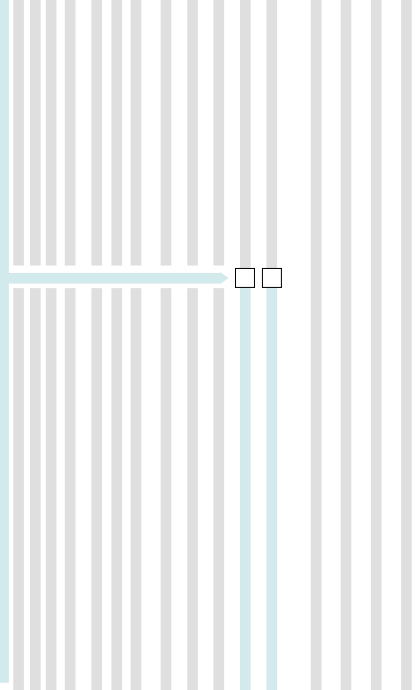



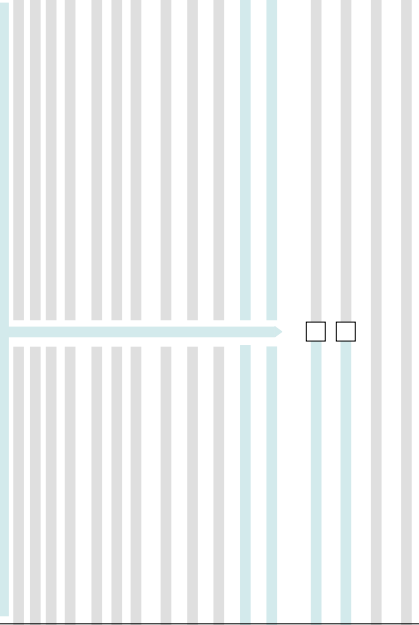


# 3WN6 断路器, 3 极, 至 3200A








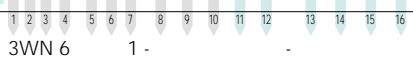
## 3WN6 Circuit-Breakers, 3-pole, up to 3200A

选型及订货数据			Selection and ordering data		
<b>类型</b> 额定工作电压 $U_n$ 至 AC 690V		<b>订货号的补充</b>		<b>订货号</b> 3WN 6 1 - -	
<b>尺寸等级 / 额定电流 <math>I_n</math></b>	<b>尺寸等级</b>	<b>额定电流 <math>I_n</math></b>	<b>脱扣电流 <math>I_t</math> 的设定范围</b>		
	I	630A	126-315A 160-400A 200-500A 252-630A	0 A 0 B 0 C 0 D	
		800A 1000A 1250A 1600A	320-800A 400-1000A 500-1250A 640-1600A	1 E 2 F 3 G 4 H	
	II	2000A	252-630A <sup>2)</sup> 500-1250A <sup>2)</sup> 640-1600A <sup>2)</sup> 800-2000A	5 D 5 G 5 H 5 J	
		2500A 3200A	1000-2500A 1280-3200A	6 K 7 M	
<b>安装方式</b> <b>固定式</b>	主回路连接说明见第 2/7 页 主回路连接母排水平后置(标准型) 主回路连接母排前置, 单孔, 顶部和底部			6 3	
	主回路连接母排前置, 双孔, 顶部和底部 (孔洞按照 DIN43673 标准)			2	
<b>抽屉式</b> 对其他型式 的导向框架 见第 2/9 页	抽屉式断路器本体, 不带导向框架 抽屉式断路器, 带导向框架 标准型: 主回路连接母排水平后置, 带导轨			7 8	
<b>过电流脱扣器</b> (功能介绍见 第 2/10 页)	<b>V 型 “zn”</b> <b>B 型 “azn”</b> <b>C 型 “aznNg”<sup>1)</sup></b> <b>D 型 “aznN”<sup>1)</sup></b> 基本功能, 带液晶显示 基本功能和附加功能 1, 带液晶显示 基本功能和附加功能 2, 带液晶显示 <b>E 型 “aznNg”<sup>1)</sup></b> 基本功能, 带液晶显示 基本功能和附加功能 1, 带液晶显示 基本功能和附加功能 2, 带液晶显示 <b>H 型 “aznN”<sup>1)</sup></b> 基本功能 基本功能和附加功能 1 基本功能和附加功能 2 <b>J 型 “aznNg”<sup>1)</sup></b> 基本功能 基本功能和附加功能 1 基本功能和附加功能 2 <b>N 型 “aznN”<sup>1)</sup></b> 基本功能 基本功能和附加功能 1 基本功能和附加功能 2 <b>P 型 “aznNg”<sup>1)</sup></b> 基本功能 基本功能和附加功能 1 基本功能和附加功能 2			0 V 0 B 0 C  1 D 3 D 7 D  1 E 3 E 7 E  1 H 3 H 7 H  1 J 3 J 7 J  1 N 3 N 7 N  1 P 3 P 7 P	
断路器还可具有额定短时耐受电流 $I_{cw}=50$ kA/1s, 见第 2/63 页				1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 3WN 6 1 - -	
<sup>1)</sup> 用于对 N 导体进行过载保护和用于接地故障保护的电流互感器必须另外订货, 见第 2/46 页。 <sup>2)</sup> 不适用于 N 型或 P 型过电流脱扣器。				订货号第 11- 第 16 个位置的说明, 见第 2/26 页	

选型及订货数据				Selection and ordering data			
Version		Order No.		Order No.			
Rated operational voltage $U_e$ up to AC 690V		supplement		3WN 6 1 - -			
<b>Size/Rated current <math>I_n</math></b>	<b>Size</b>	<b>Rated current <math>I_n</math></b>	<b>Setting range of the tripping current <math>I_t</math></b>				
	I	630A	126-315A	0	A		
			160-400A	0	B		
			200-500A	0	C		
			252-630A	0	D		
		800A	1	E			
	1000A	2	F				
	1250A	3	G				
	1600A	4	H				
	II	2000A	252-630A <sup>2)</sup>	5	D		
			500-1250A <sup>2)</sup>	5	G		
640-1600A <sup>2)</sup>			5	H			
800-2000A			5	J			
2500A		6	K				
3200A	7	M					
<b>Mounting version</b>	Main connections see page 2/7						
<b>Fixed mounted version</b>	Main connections accessible from the front, single hole top and bottom		6				
	Main connections accessible from the front, double hole top and bottom, according to DIN 43 673		3				
<b>Draw-out version</b>	Draw-out circuit-breaker without guide frame		2				
<b>Other versions of the guide-frame see page 2/9.</b>	Draw-out circuit-breaker with guide frame		7				
	Standard type: main connections at the rear, horizontal with guide rails		8				
<b>Overcurrent release (see function overview page 2/10)</b>	<u>Version V "zn"</u>		0	V			
	<u>Version B "azn"</u>		0	B			
	<u>Version C "aznNg" <sup>1)</sup></u>		0	C			
	<u>Version D "aznN" <sup>1)</sup></u>		1	D			
	Basic functions with LCD-display		3	D			
	Basic functions and additional functions 1 with LCD-display		7	D			
	Basic functions and additional functions 2 with LCD-display		7	D			
	<u>Version E "aznNg" <sup>1)</sup></u>		1	E			
	Basic functions with LCD-display		3	E			
	Basic functions and additional functions 1 with LCD-display		7	E			
	Basic functions and additional functions 2 with LCD-display		7	E			
	<u>Version H "aznN" <sup>1)</sup></u>		1	H			
	Basic functions		3	H			
	Basic functions and additional functions 1		7	H			
	Basic functions and additional functions 2		7	H			
	<u>Version J "aznNg" <sup>1)</sup></u>		1	J			
	Basic functions		3	J			
	Basic functions and additional functions 1		7	J			
	Basic functions and additional functions 2		7	J			
	<u>Version N "aznN" <sup>1)</sup></u>		1	N			
Basic functions		3	N				
Basic functions and additional functions 1		7	N				
Basic functions and additional functions 2		7	N				
<u>Version P "aznNg" <sup>1)</sup></u>		1	P				
Basic functions		3	P				
Basic functions and additional functions 1		7	P				
Basic functions and additional functions 2		7	P				
Circuit-breakers also available with rated short-time withstand current $I_{cw}=50$ kA/1s see page 2/63				1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 3WN 6 1 - -			
<sup>1)</sup> Transformer for overload protection in neutral conductor and transformer for earth fault must be ordered separately, see page 2/46.				positions 11 to 16 of the order No see page 2/27.			
<sup>2)</sup> Not possible with over-current release version N or P.							

3WN6 断路器, 3 极, 至 3200A  
3WN6 Circuit-Breakers, 3-pole, up to 3200A

选型及订货数据		Selection and ordering data	
类型	订货号的补充	订货号	
		3WN 6 1 - -	
<b>操作机构</b>  手动储能, 机械合闸 手动储能, 机械和电气合闸 电气合闸线圈 AC 50/60Hz V DC V - 24 - 48 - 60 110-127 110-125 220-240 220-250   手动 / 电动机储能, 机械和电气合闸 电动机 电气合闸线圈 AC 50/60Hz V DC V AC 50/60Hz V DC V - 24 - 24 - 48 - 48 - 60 - 60 110-127 110-125 - 24 110-127 110-125 - 48 110-127 110-125 - 60 110-127 110-125 110-127 110-125 110-127 110-125 220-240 220-250 220-240 220-250 - 24 220-240 220-250 - 48 220-240 220-250 - 60 220-240 220-250 110-127 110-125 220-240 220-250 220-240 220-250	0 5  1 1 1 4 1 5  1 6 1 8  5 1 5 4 5 5  7 1 7 4 7 5 5 6 7 8  8 1 8 4 8 5 8 6 5 8		
<b>第 1 辅助脱扣器</b>  不带第 1 辅助脱扣器 分励脱扣器“f”, F1 AC 50/60Hz V DC V - 24 - 30 - 48 - 60 110-127 110-125 220-240 220-250   欠电压脱扣器“r”, F3 (无延时 0 ms, 短延时可调为 100ms) AC 50/60Hz V DC V - 24 - 30 - 48 - 60 110-127 110-125 220-240 220-250 380-415 -   欠电压脱扣器“rc”, F8 (从 0.2~3.2s 延时可调) AC 50/60Hz V DC V 110-127 - 220-240 - 380-415 -	0 A  1 B 1 E 1 F 1 G  1 H 1 K  3 B 3 E 3 F 3 G  3 H 3 K 3 M  4 H 4 K 4 M		
<b>第 2 辅助脱扣器</b> 不带第 2 辅助脱扣器 分励脱扣器“f”, F2 AC 50/60Hz V DC V - 24 - 30 - 48 - 60 110-127 110-125 220-240 220-250	A  B E F G  H K		
<b>辅助触头</b> 第 1 个辅助触头块 2NO + 2NC 第 1 个 + 第 2 个辅助触头块 2NO+2NC+2CO	1  3		
订货号第 5~ 第 10 个位置的说明见第 2/24 页		1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 3WN 6 1 - -	


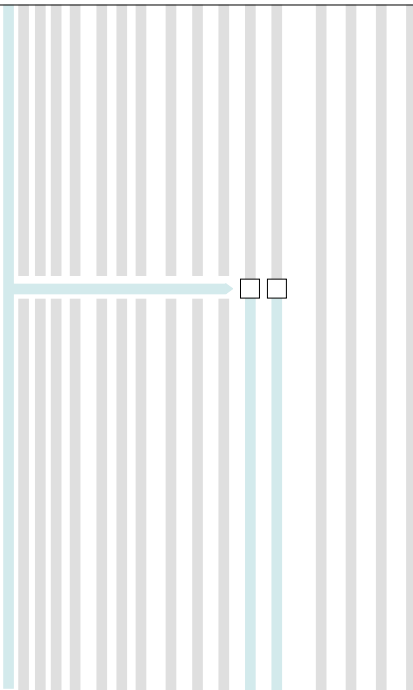



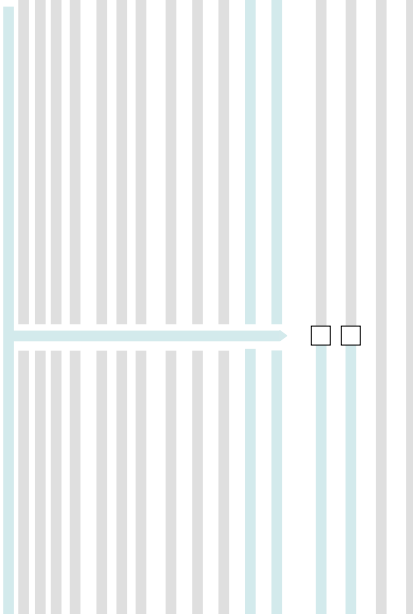


选型及订货数据		Selection and ordering data																	
Version	Order No. supplement	Order No.																	
		3WN 6 1 - -																	
Operating mechanism   	Manual operating mechanism with stored-energy feature with mechanical closing	0 5																	
	Manual operating mechanism with stored-energy feature with mechanical and electrical closing																		
	Closing solenoid																		
	AC 50/60Hz V DC V																		
	- 24		1 1																
	- 48		1 4																
	- 60		1 5																
	110-127 110-125		1 6																
	220-240 220-250		1 8																
	Manual/motorized mechanism with stored-energy with mechanical and electrical closing																		
Motor	Closing																		
AC 50/60Hz V DC V	AC 50/60Hz V DC V																		
- 24	- 24	5 1																	
- 48	- 48	5 4																	
- 60	- 60	5 5																	
110-127 110-125	- 24	7 1																	
110-127 110-125	- 48	7 4																	
110-127 110-125	- 60	7 5																	
110-127 110-125	110-127 110-125	5 6																	
110-127 110-125	220-240 220-250	7 8																	
220-240 220-250	- 24	8 1																	
220-240 220-250	- 48	8 4																	
220-240 220-250	- 60	8 5																	
220-240 220-250	110-127 110-125	8 6																	
220-240 220-250	220-240 220-250	5 8																	
1st auxiliary release     	without 1st. auxiliary release	0 A																	
	Shunt release "f", F1																		
	AC 50/60Hz V DC V																		
	- 24		1 B																
	- 30		1 E																
	- 48		1 F																
	- 60		1 G																
	110-127 110-125		1 H																
	220-240 220-250		1 K																
	Undervoltage release "r", F3 (undelayed 0 ms, adjustable for short delay 100 ms)																		
AC 50/60Hz V DC V																			
- 24		3 B																	
- 30		3 E																	
- 48		3 F																	
- 60		3 G																	
110-127 110-125		3 H																	
220-240 220-250		3 K																	
380-415 -		3 M																	
Undervoltage release "rc", F8 (delay adjustable from 0.2 to 3.2 s)																			
AC 50/60Hz V DC V																			
110-127 -		4 H																	
220-240 -		4 K																	
380-415 -		4 M																	
2nd auxiliary release 	without 2nd auxiliary release	A																	
	Shunt release "r", F2																		
	AC 50/60Hz V DC V																		
	- 24		B																
	- 30		E																
- 48		F																	
- 60		G																	
110-127 110-125		H																	
220-240 220-250		K																	
Auxiliary contacts 	1st auxiliary contact block	1																	
	2NO + 2NC																		
1st+2nd auxiliary contact block		3																	
2NO+2NC+2CO																			
position 5 to 10 of the order No. see page 2/25.																			



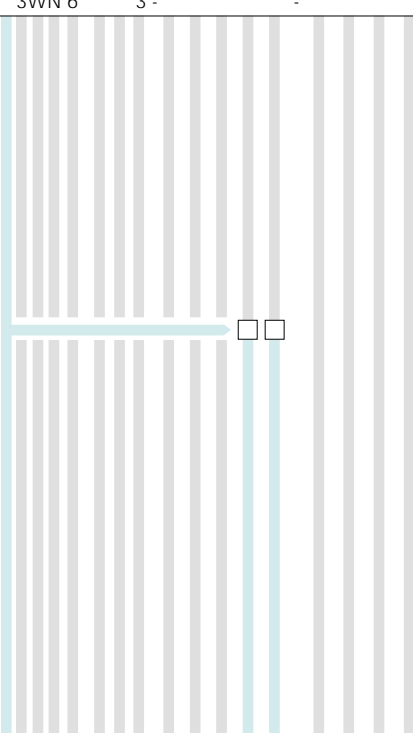



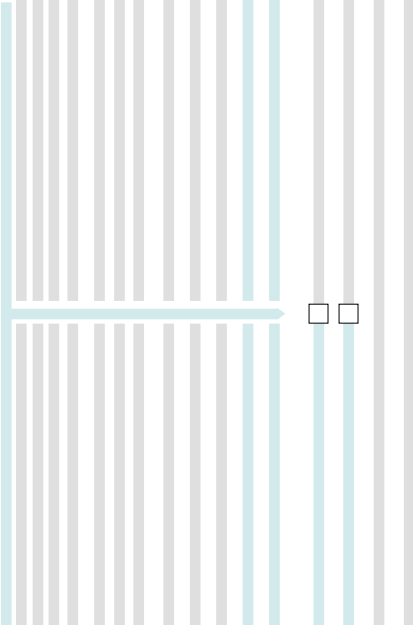




3WN6 断路器, 4 极, 至 3200A  
3WN6 Circuit-Breakers, 4-pole, up to 3200A

选型及订货数据		Selection and ordering data														
类型		订货号的补充		订货号												
额定工作电压 $U_e$ 至 AC 690V				3WN 6 3 - -												
尺寸等级 / 额定电流 $I_n$	尺寸等级	额定电流 $I_n$	脱扣电流 $I_t$ 的设定范围	0	A											
	I	630A	126-315A 160-400A 200-500A 252-630A	0	B											
		800A	320-800A	1	E											
		1000A	400-1000A	2	F											
		1250A	500-1250A	3	G											
		1600A	640-1600A	4	H											
	II	2000A	252-630A <sup>1)</sup> 500-1250A <sup>1)</sup> 640-1600A <sup>1)</sup> 800-2000A	5	D											
		2500A	1000-2500A	5	G											
		3200A	1280-3200A	5	H											
				5	J											
				6	K											
				7	M											
安装方式	固定式	主回路连接说明见第 2/7 页														
		主回路连接母排水平后置(标准型)		6												
		主回路连接母排前置, 单孔, 顶部和底部		3												
	抽屉式	主回路连接母排前置, 双孔, 顶部和底部 (孔洞按照 DIN43673 标准)		2												
		抽屜式断路器本体, 不带导向框架		7												
	对其他型式 的导向框架 见第 2/9 页		抽屜式断路器, 带导向框架 标准型: 主回路连接母排水平后置, 带导轨		8											
过电流脱扣器 (功能介绍见 第 2/10 页)	V 型 “zn”			0	V											
	B 型 “azn”			0	B											
	G 型 “aznNg” <sup>2)</sup>			0	G											
	D 型 “aznN” <sup>2)</sup>															
	基本功能, 带液晶显示			1	D											
	基本功能和附加功能 1, 带液晶显示			3	D											
	基本功能和附加功能 2, 带液晶显示			7	D											
	E 型 “aznNg” <sup>3)</sup>															
	基本功能, 带液晶显示			1	E											
	基本功能和附加功能 1, 带液晶显示			3	E											
	基本功能和附加功能 2, 带液晶显示			7	E											
	F 型 “aznNg” <sup>2)</sup>															
	基本功能, 带液晶显示			1	F											
	基本功能和附加功能 1, 带液晶显示			3	F											
	基本功能和附加功能 2, 带液晶显示			7	F											
	H 型 “aznN” <sup>2)</sup>															
	基本功能			1	H											
	基本功能和附加功能 1			3	H											
	基本功能和附加功能 2			7	H											
	J 型 “aznNg” <sup>3)</sup>															
	基本功能			1	J											
	基本功能和附加功能 1			3	J											
	基本功能和附加功能 2			3	J											
	K 型 “aznNg” <sup>2)</sup>															
	基本功能			1	K											
	基本功能和附加功能 1			3	K											
	基本功能和附加功能 2			3	K											
	N 型 “aznN” <sup>2)</sup>															
基本功能			1	N												
基本功能和附加功能 1			3	N												
基本功能和附加功能 2			7	N												
P 型 “aznNg” <sup>2)4)</sup>																
基本功能			1	P												
基本功能和附加功能 1			3	P												
基本功能和附加功能 2			7	P												
断路器还可具有额定短时耐受电流 $I_{cw} = 50 \text{ kA}/1\text{s}$ , 见第 2/63 页																
1) 不适用于 N 型或 P 型过电流脱扣器。																
2) 用于 N 导体的第 4 个电流互感器已安装在断路器内。																
3) 用于对 N 导体进行过载保护和用于接地故障保护的电流互感器必须另外订货, 见第 2/46 页																
4) 用于变压器星形接地点的电流互感器必须另外订货, 见第 2/46 页。																

选型及订货数据				Selection and ordering data												
Version		Order No.		Order No.												
Rated operational voltage $U_n$ up to AC 690V		supplement		3WN 6    3 -    -												
Size/Rated current $I_n$	Size	Rated current $I_n$	Setting range of the tripping current $I_r$													
I	630A	126-315A 160-400A 200-500A 252-630A	0	A												
			0	B												
			0	C												
			0	D												
			1	E												
	800A 1000A 1250A 1600A	320-800A 400-1000A 500-1250A 640-1600A	2	F												
			3	G												
			4	H												
			5	D												
			5	G												
II	2000A	252-630A <sup>1)</sup> 500-1250A <sup>1)</sup> 640-1600A <sup>1)</sup> 800-2000A	5	H												
			5	J												
			6	K												
			7	M												
	2500A 3200A	1000-2500A 1280-3200A	6													
			7													
<b>Mounting version</b>	Main connections see page 2/7		6													
<b>Fixed mounted version</b>	Main connections at the rear, horizontal (standard)		3													
	Main connections accessible from the front, single hole top and bottom		2													
	Main connections accessible from the front, double hole top and bottom, according to DIN 43 673		7													
<b>Draw-out version</b>	Draw-out circuit-breaker without guide frame		8													
	Draw-out circuit-breaker with guide frame															
<b>Other versions of the guide frame</b>	Standard type main connections at the rear, horizontal with guide rails															
	see page 2/9.															
<b>Overcurrent release</b> (see function overview page 2/10)	<u>Version V "zn"</u>		0	V												
	<u>Version B "azn"</u>		0	B												
	<u>Version G "aznNg" <sup>2)</sup></u>		0	G												
	<u>Version D "aznN" <sup>2)</sup></u>		1	D												
	Basic functions with LCD-display		3	D												
	Basic functions and additional functions 1 with LCD-display		7	D												
	<u>Version E "aznNg" <sup>3)</sup></u>		1	E												
	Basic functions with LCD-display		3	E												
	Basic functions and additional functions 1 with LCD-display		7	E												
	<u>Version F "aznNg" <sup>2)</sup></u>		1	F												
	Basic functions with LCD-display		3	F												
	Basic functions and additional functions 1 with LCD-display		7	F												
	<u>Version H "aznN" <sup>2)</sup></u>		1	H												
	Basic functions		3	H												
	Basic functions and additional functions 1		7	H												
	<u>version J "aznNg" <sup>3)</sup></u>		1	J												
	Basic functions		3	J												
	Basic functions and additional functions 1		7	J												
	<u>Version K "aznNg" <sup>2)</sup></u>		1	K												
	Basic functions		3	K												
	Basic functions and additional functions 1		7	K												
	<u>Version N "aznN" <sup>2)</sup></u>		1	N												
	Basic functions		3	N												
	Basic functions and additional functions 1		7	N												
	<u>Version P "aznNg" <sup>2) 4)</sup></u>		1	P												
	Basic functions		3	P												
	Basic functions and additional functions 1		7	P												
	Basic functions and additional functions 2															
	Circuit-breakers also available with rated short-time withstand current $I_{cw}=50$ kA/1s, see page 2/63				1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 3WN 6    3 -    -											
	1) Not possible with overcurrent release Version N or P.															
	2) The 4th current transformer is integrated in the N conductor of the circuit-breaker.															
	3) Current transformer for overload protection in N conductor and transformer for earth fault must be ordered separately, see page 2/46.				Positions 11 to 16 of Order No. see page 2/31.											
	4) Current transformer for the transformer star point to be ordered separately, see page 2/46.															

3WN6 断路器, 4 极, 至 3200A  
 3WN6 Circuit-Breakers, 4-pole, up to 3200A

选型及订货数据		Selection and ordering data	
类型	订货号的补充	订货号	
		3WN 6	3 - -
操作机构  手动储能, 机械合闸 手动储能, 机械和电气合闸 电气合闸线圈 AC 50/60Hz V DC V - 24 - 48 - 60 110-127 110-125 220-240 220-250 (M) 手动 / 电动机储能, 机械和电气合闸 电动机 电气合闸线圈 AC 50/60Hz V DC V AC 50/60Hz V DC V - 24 - 24 - 48 - 48 - 60 - 60 110-127 110-125 - 24 110-127 110-125 - 48 110-127 110-125 - 60 110-127 110-125 110-127 110-125 110-127 110-125 220-240 220-250 220-240 220-250 - 24 220-240 220-250 - 48 220-240 220-250 - 60 220-240 220-250 110-127 110-125 220-240 220-250 220-240 220-250	[0] [5] [1] [1] [1] [4] [1] [5] [1] [6] [1] [8] [5] [1] [5] [4] [5] [5] [7] [1] [7] [4] [7] [5] [5] [6] [7] [8] [8] [1] [8] [4] [8] [5] [8] [6] [5] [8]		
第 1 辅助脱扣器  不带第 1 辅助脱扣器 分励脱扣器“f”, F1 AC 50/60Hz V DC V - 24 - 30 - 48 - 60 110-127 110-125 220-240 220-250  欠电压脱扣器“r”, F3 (无延时 0 ms, 短延时可调为 100ms) AC 50/60Hz V DC V - 24 - 30 - 48 - 60 110-127 110-125 220-240 220-250 380-415 -  欠电压脱扣器“rc”, F8 (从 0.2~3.2s 延时可调) AC 50/60Hz V DC V 110-127 - 220-240 - 380-415 -	[0] [A] [1] [B] [1] [E] [1] [F] [1] [G] [1] [H] [1] [K] [3] [B] [3] [E] [3] [F] [3] [G] [3] [H] [3] [K] [3] [M] [4] [H] [4] [K] [4] [M]		
第 2 辅助脱扣器 不带第 2 辅助脱扣器 分励脱扣器“f”, F2 AC 50/60Hz V DC V - 24 - 30 - 48 - 60 110-127 110-125 220-240 220-250	[A] [B] [E] [F] [G] [H] [K]		
辅助触头 第 1 个辅助触头块 2NO + 2NC 第 1 个 + 第 2 个辅助触头块 2NO+2NC+2CO	[1] [3]		
订货号第 5~ 第 10 个位置的说明见第 2/28 页		1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	3WN 6 3 - -

选型及订货数据		Selection and ordering data																																																																				
Version	Order No. supplement	Order No.	Order No.																																																																			
		3WN 6	3 - -																																																																			
<p>Operating mechanism</p>  <p>Manual operating mechanism with stored-energy feature with mechanical closing</p> <p>Manual operating mechanism with stored-energy feature with mechanical and electrical closing</p> <p>Closing solenoid</p> <table border="1"> <thead> <tr> <th>AC 50/60Hz V</th> <th>DC V</th> </tr> </thead> <tbody> <tr><td>-</td><td>24</td></tr> <tr><td>-</td><td>48</td></tr> <tr><td>-</td><td>60</td></tr> <tr><td>110-127</td><td>110-125</td></tr> <tr><td>220-240</td><td>220-250</td></tr> </tbody> </table> <p>Motor</p> <table border="1"> <thead> <tr> <th>AC 50/60Hz V</th> <th>DC V</th> <th>Closing AC 50/60Hz V</th> <th>DC V</th> </tr> </thead> <tbody> <tr><td>-</td><td>24</td><td>-</td><td>24</td></tr> <tr><td>-</td><td>48</td><td>-</td><td>48</td></tr> <tr><td>-</td><td>60</td><td>-</td><td>60</td></tr> <tr><td>110-127</td><td>110-125</td><td>-</td><td>24</td></tr> <tr><td>110-127</td><td>110-125</td><td>-</td><td>48</td></tr> <tr><td>110-127</td><td>110-125</td><td>-</td><td>60</td></tr> <tr><td>110-127</td><td>110-125</td><td>110-127</td><td>110-125</td></tr> <tr><td>110-127</td><td>110-125</td><td>220-240</td><td>220-250</td></tr> <tr><td>220-240</td><td>220-250</td><td>-</td><td>24</td></tr> <tr><td>220-240</td><td>220-250</td><td>-</td><td>48</td></tr> <tr><td>220-240</td><td>220-250</td><td>-</td><td>60</td></tr> <tr><td>220-240</td><td>220-250</td><td>110-127</td><td>110-125</td></tr> <tr><td>220-240</td><td>220-250</td><td>220-240</td><td>220-250</td></tr> </tbody> </table> <p>Manual/motorized mechanism with stored-energy with mechanical and electrical closing</p> 	AC 50/60Hz V	DC V	-	24	-	48	-	60	110-127	110-125	220-240	220-250	AC 50/60Hz V	DC V	Closing AC 50/60Hz V	DC V	-	24	-	24	-	48	-	48	-	60	-	60	110-127	110-125	-	24	110-127	110-125	-	48	110-127	110-125	-	60	110-127	110-125	110-127	110-125	110-127	110-125	220-240	220-250	220-240	220-250	-	24	220-240	220-250	-	48	220-240	220-250	-	60	220-240	220-250	110-127	110-125	220-240	220-250	220-240	220-250	<p>0 5</p> <p>1 1</p> <p>1 4</p> <p>1 5</p> <p>1 6</p> <p>1 8</p> <p>5 1</p> <p>5 4</p> <p>5 5</p> <p>7 1</p> <p>7 4</p> <p>7 5</p> <p>5 6</p> <p>7 8</p> <p>8 1</p> <p>8 4</p> <p>8 5</p> <p>8 6</p> <p>5 8</p>	
AC 50/60Hz V	DC V																																																																					
-	24																																																																					
-	48																																																																					
-	60																																																																					
110-127	110-125																																																																					
220-240	220-250																																																																					
AC 50/60Hz V	DC V	Closing AC 50/60Hz V	DC V																																																																			
-	24	-	24																																																																			
-	48	-	48																																																																			
-	60	-	60																																																																			
110-127	110-125	-	24																																																																			
110-127	110-125	-	48																																																																			
110-127	110-125	-	60																																																																			
110-127	110-125	110-127	110-125																																																																			
110-127	110-125	220-240	220-250																																																																			
220-240	220-250	-	24																																																																			
220-240	220-250	-	48																																																																			
220-240	220-250	-	60																																																																			
220-240	220-250	110-127	110-125																																																																			
220-240	220-250	220-240	220-250																																																																			
<p>1st auxiliary release</p>  <p>without 1st. auxiliary release</p> <p>Shunt release "f", F1</p> <table border="1"> <thead> <tr> <th>AC 50/60Hz V</th> <th>DC V</th> </tr> </thead> <tbody> <tr><td>-</td><td>24</td></tr> <tr><td>-</td><td>30</td></tr> <tr><td>-</td><td>48</td></tr> <tr><td>-</td><td>60</td></tr> <tr><td>110-127</td><td>110-125</td></tr> <tr><td>220-240</td><td>220-250</td></tr> </tbody> </table> <p>Undervoltage release "r", F3 (undelayed 0 ms, adjustable for short delay 100 ms)</p> <table border="1"> <thead> <tr> <th>AC 50/60Hz V</th> <th>DC V</th> </tr> </thead> <tbody> <tr><td>-</td><td>24</td></tr> <tr><td>-</td><td>30</td></tr> <tr><td>-</td><td>48</td></tr> <tr><td>-</td><td>60</td></tr> <tr><td>110-127</td><td>110-125</td></tr> <tr><td>220-240</td><td>220-250</td></tr> <tr><td>380-415</td><td>-</td></tr> </tbody> </table> <p>Undervoltage release "rc", F8 (delay adjustable from 0.2 to 3.2 s)</p> <table border="1"> <thead> <tr> <th>AC 50/60Hz V</th> <th>DC V</th> </tr> </thead> <tbody> <tr><td>110-127</td><td>-</td></tr> <tr><td>220-240</td><td>-</td></tr> <tr><td>380-415</td><td>-</td></tr> </tbody> </table>  	AC 50/60Hz V	DC V	-	24	-	30	-	48	-	60	110-127	110-125	220-240	220-250	AC 50/60Hz V	DC V	-	24	-	30	-	48	-	60	110-127	110-125	220-240	220-250	380-415	-	AC 50/60Hz V	DC V	110-127	-	220-240	-	380-415	-	<p>0 A</p> <p>1 B</p> <p>1 E</p> <p>1 F</p> <p>1 G</p> <p>1 H</p> <p>1 K</p> <p>3 B</p> <p>3 E</p> <p>3 F</p> <p>3 G</p> <p>3 H</p> <p>3 K</p> <p>3 M</p> <p>4 H</p> <p>4 K</p> <p>4 M</p>																															
AC 50/60Hz V	DC V																																																																					
-	24																																																																					
-	30																																																																					
-	48																																																																					
-	60																																																																					
110-127	110-125																																																																					
220-240	220-250																																																																					
AC 50/60Hz V	DC V																																																																					
-	24																																																																					
-	30																																																																					
-	48																																																																					
-	60																																																																					
110-127	110-125																																																																					
220-240	220-250																																																																					
380-415	-																																																																					
AC 50/60Hz V	DC V																																																																					
110-127	-																																																																					
220-240	-																																																																					
380-415	-																																																																					
<p>2nd auxiliary release</p> <p>without 2nd auxiliary release</p> <p>Shunt release "f", F2</p> <table border="1"> <thead> <tr> <th>AC 50/60Hz V</th> <th>DC V</th> </tr> </thead> <tbody> <tr><td>-</td><td>24</td></tr> <tr><td>-</td><td>30</td></tr> <tr><td>-</td><td>48</td></tr> <tr><td>-</td><td>60</td></tr> <tr><td>110-127</td><td>110-125</td></tr> <tr><td>220-240</td><td>220-250</td></tr> </tbody> </table> 	AC 50/60Hz V	DC V	-	24	-	30	-	48	-	60	110-127	110-125	220-240	220-250	<p>A</p> <p>B</p> <p>E</p> <p>F</p> <p>G</p> <p>H</p> <p>K</p>																																																							
AC 50/60Hz V	DC V																																																																					
-	24																																																																					
-	30																																																																					
-	48																																																																					
-	60																																																																					
110-127	110-125																																																																					
220-240	220-250																																																																					
<p>Auxiliary contacts</p> <p>1st auxiliary contact block 2NO+2NC</p> <p>1st+2nd auxiliary contact block 2NO+2NC+2CO</p> 	<p>1</p> <p>3</p>																																																																					
position 5 to 10 of the order No. see page 2/29.		3WN 6	3 - -																																																																			


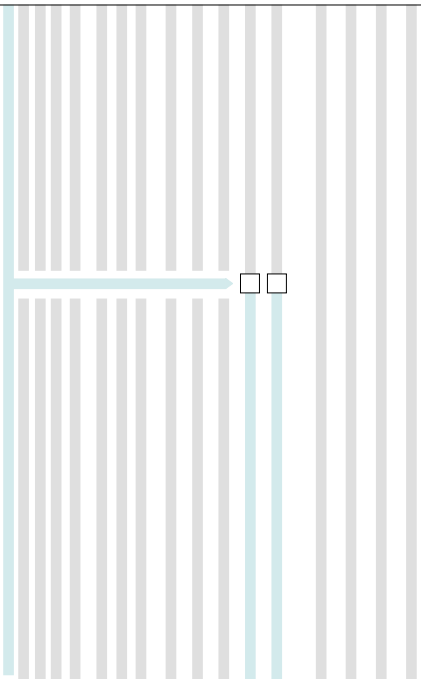



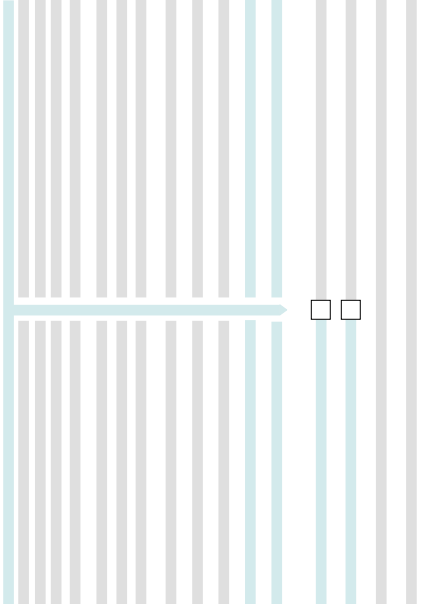
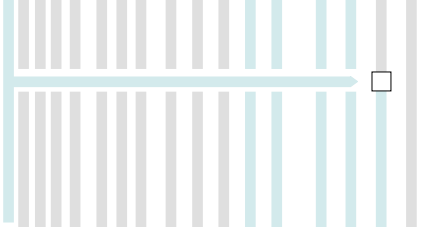
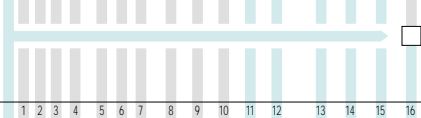


3WN6 负荷隔离开关, 3 极, 至 3200A  
 3WN6 Non-Automatic Circuit-Breakers, 3-pole, up to 3200A


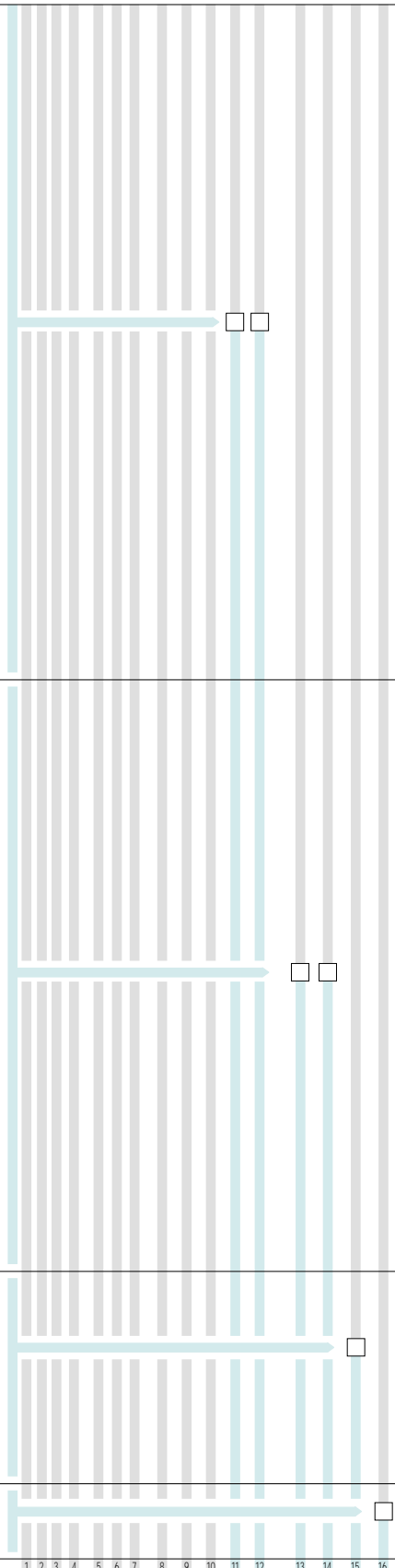






选型及订货数据			Selection and ordering data													
类型 额定工作电压 $U_n$ 至 AC 690V 不带电子式过电流脱扣器系统		订货号的补充 3WN 6	订货号 1 - 0 W A -													
尺寸等级 / 额定电流 $I_n$	尺寸等级 I II	额定电流 $I_n$ 630A 800A 1000A 1250A 1600A 2000A 2500A 3200A	0 1 2 3 4 5 6 7													
安装方式 固定式	主回路连接说明见第 2/7 页 主回路连接母排水平后置(标准型) 主回路连接母排前置, 单孔, 顶部和底部 主回路连接母排前置, 双孔, 顶部和底部 (孔洞按照 DIN43673 标准)		6 3 2													
抽屉式 其他型式 的导向框架 见第 2/9 页	抽屉式断路器本体, 不带导向框架 抽屉式断路器本体, 带导向框架 标准型: 主回路连接母排水平后置, 带导轨		7 8													
断路器还可具有额定短时耐受电流 $I_{cw}=50kA/1s$ ,见第 2/63 页				1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 3WN 6 1 - 0 W A -												
				订货号第 11~第 16 个位置 的说明, 见第 2/34 页												



3WN6 负荷隔离开关, 3 极, 至 3200A  
 3WN6 Non-Automatic Circuit-Breakers, 3-pole, up to 3200A

选型及订货数据		Selection and ordering data	
类型	订货号的补充	订货号	
不带电子式过电流脱扣器系统		3WN 6	1 - 0 W A -
操作机构  手动储能, 机械合闸 手动储能, 机械和电气合闸 电气合闸线圈 AC 50/60Hz V DC V - 24 - 48 - 60 110-127 110-125 220-240 220-250 手动 / 电动机储能, 机械和电气合闸 电动机 电气合闸线圈 AC 50/60Hz V DC V AC 50/60Hz V DC V - 24 - 24 - 48 - 48 - 60 - 60 110-127 110-125 - 24 110-127 110-125 - 48 110-127 110-125 - 60 110-127 110-125 110-127 110-125 110-127 110-125 220-240 220-250 220-240 220-250 - 24 220-240 220-250 - 48 220-240 220-250 - 60 220-240 220-250 110-127 110-125 220-240 220-250 220-240 220-250	[0] [5] [1] [1] [1] [4] [1] [5] [1] [6] [1] [8] [5] [1] [5] [4] [5] [5] [7] [1] [7] [4] [7] [5] [5] [6] [7] [8] [8] [1] [8] [4] [8] [5] [8] [6] [5] [8]		
第 1 辅助脱扣器  不带第 1 辅助脱扣器 分励脱扣器 "f", F1 AC 50/60Hz V DC V - 24 - 30 - 48 - 60 110-127 110-125 220-240 220-250 欠电压脱扣器 "r", F3 (无延时 0 ms, 短延时可调为 100ms) AC 50/60Hz V DC V - 24 - 30 - 48 - 60 110-127 110-125 220-240 220-250 380-415 - 欠电压脱扣器 "rc", F8 (从 0.2~3.2s 延时可调) AC 50/60Hz V DC V 110-127 - 220-240 - 380-415 -  	[0] [A] [1] [B] [1] [E] [1] [F] [1] [G] [1] [H] [1] [K] [3] [B] [3] [E] [3] [F] [3] [G] [3] [H] [3] [K] [3] [M] [4] [H] [4] [K] [4] [M]		
第 2 辅助脱扣器 不带第 2 辅助脱扣器 分励脱扣器 "f", F2 AC 50/60Hz V DC V - 24 - 30 - 48 - 60 110-127 110-125 220-240 220-250	[A] [B] [E] [F] [G] [H] [K]		
辅助触头 第 1 个辅助触头块 2NO + 2NC 第 1 个 + 第 2 个辅助触头块 2NO + 2NC + 2CO	[1] [3]		
		3WN 6	1 - 0 W A -
订货号第 5~ 第 6 个位置的说明见第 2/32 页			

3WN6 负荷隔离开关, 3极, 至 3200A  
3WN6 Non-Automatic Circuit-Breakers, 3-pole, up to 3200A

选型及订货数据		Selection and ordering data				
Version	without electronic overcurrent release system	Order No. supplement	Order No. 3WN 6 1 - 0 W A -			
Operating mechanism 	Manual operating mechanism with stored-energy feature with mechanical closing	<table border="1"><tr><td>0</td><td>5</td></tr></table>	0	5		
	0	5				
Manual operating mechanism with stored-energy feature with mechanical and electrical closing						
Closing solenoid 	AC 50/60Hz V DC V					
	- 24	<table border="1"><tr><td>1</td><td>1</td></tr></table>	1	1		
1	1					
- 48	<table border="1"><tr><td>1</td><td>4</td></tr></table>	1	4			
1	4					
- 60	<table border="1"><tr><td>1</td><td>5</td></tr></table>	1	5			
1	5					
110-127	110-125	<table border="1"><tr><td>1</td><td>6</td></tr></table>	1	6		
1	6					
220-240	220-250	<table border="1"><tr><td>1</td><td>8</td></tr></table>	1	8		
1	8					
Motor 	AC 50/60Hz V DC V	Closing AC 50/60Hz V DC V				
	- 24	- 24	<table border="1"><tr><td>5</td><td>1</td></tr></table>	5		1
	5	1				
	- 48	- 48	<table border="1"><tr><td>5</td><td>4</td></tr></table>	5		4
	5	4				
	- 60	- 60	<table border="1"><tr><td>5</td><td>5</td></tr></table>	5		5
	5	5				
	110-127	110-125	- 24	<table border="1"><tr><td>7</td><td>1</td></tr></table>	7	1
	7	1				
	110-127	110-125	- 48	<table border="1"><tr><td>7</td><td>4</td></tr></table>	7	4
	7	4				
	110-127	110-125	- 60	<table border="1"><tr><td>7</td><td>5</td></tr></table>	7	5
	7	5				
	110-127	110-125	110-127	110-125	<table border="1"><tr><td>5</td><td>6</td></tr></table>	5
5	6					
110-127	110-125	220-240	220-250	<table border="1"><tr><td>7</td><td>8</td></tr></table>	7	8
7	8					
220-240	220-250	- 24	<table border="1"><tr><td>8</td><td>1</td></tr></table>	8	1	
8	1					
220-240	220-250	- 48	<table border="1"><tr><td>8</td><td>5</td></tr></table>	8	5	
8	5					
220-240	220-250	- 60	<table border="1"><tr><td>8</td><td>6</td></tr></table>	8	6	
8	6					
220-240	220-250	110-127	110-125	<table border="1"><tr><td>8</td><td>7</td></tr></table>	8	7
8	7					
220-240	220-250	220-240	220-250	<table border="1"><tr><td>5</td><td>8</td></tr></table>	5	8
5	8					
1st auxiliary release 	without 1st. auxiliary release		<table border="1"><tr><td>0</td><td>A</td></tr></table>	0	A	
	0	A				
	Shunt release "f", F1					
	AC 50/60Hz V DC V					
	- 24	<table border="1"><tr><td>1</td><td>B</td></tr></table>	1	B		
	1	B				
	- 30	<table border="1"><tr><td>1</td><td>E</td></tr></table>	1	E		
	1	E				
	- 48	<table border="1"><tr><td>1</td><td>F</td></tr></table>	1	F		
	1	F				
- 60	<table border="1"><tr><td>1</td><td>G</td></tr></table>	1	G			
1	G					
110-127	110-125	<table border="1"><tr><td>1</td><td>H</td></tr></table>	1	H		
1	H					
220-240	220-250	<table border="1"><tr><td>1</td><td>K</td></tr></table>	1	K		
1	K					
	Undervoltage release "r", F3 (undelayed 0 ms, adjustable for short delay 100 ms)					
	AC 50/60Hz V DC V					
	- 24	<table border="1"><tr><td>3</td><td>B</td></tr></table>	3	B		
	3	B				
	- 30	<table border="1"><tr><td>3</td><td>E</td></tr></table>	3	E		
	3	E				
	- 48	<table border="1"><tr><td>3</td><td>F</td></tr></table>	3	F		
	3	F				
	- 60	<table border="1"><tr><td>3</td><td>G</td></tr></table>	3	G		
	3	G				
110-127	110-125	<table border="1"><tr><td>3</td><td>H</td></tr></table>	3	H		
3	H					
220-240	220-250	<table border="1"><tr><td>3</td><td>K</td></tr></table>	3	K		
3	K					
380-415	-	<table border="1"><tr><td>3</td><td>M</td></tr></table>	3	M		
3	M					
	Undervoltage release "rc", F8 (delay adjustable from 0.2 to 3.2 s)					
	AC 50/60Hz V DC V					
	110-127	-	<table border="1"><tr><td>4</td><td>H</td></tr></table>	4	H	
	4	H				
	220-240	-	<table border="1"><tr><td>4</td><td>K</td></tr></table>	4	K	
4	K					
380-415	-	<table border="1"><tr><td>4</td><td>M</td></tr></table>	4	M		
4	M					
2nd auxiliary release 	without 2nd auxiliary release		<table border="1"><tr><td>A</td></tr></table>	A		
	A					
	Shunt release "r", F2					
	AC 50/60Hz V DC V					
	- 24	<table border="1"><tr><td>B</td></tr></table>	B			
	B					
- 30	<table border="1"><tr><td>E</td></tr></table>	E				
E						
- 48	<table border="1"><tr><td>F</td></tr></table>	F				
F						
- 60	<table border="1"><tr><td>G</td></tr></table>	G				
G						
110-127	110-125	<table border="1"><tr><td>H</td></tr></table>	H			
H						
220-240	220-250	<table border="1"><tr><td>K</td></tr></table>	K			
K						
Auxiliary contacts	1st auxiliary contact block 2NO + 2NC	<table border="1"><tr><td>1</td></tr></table>	1			
	1					
1st+2nd auxiliary contact block 2NO+2NC+2CO	<table border="1"><tr><td>3</td></tr></table>	3				
3						
		1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 3WN 6 1 - 0 W A - positons 5 to 6 of the order No. see page 2/33.				




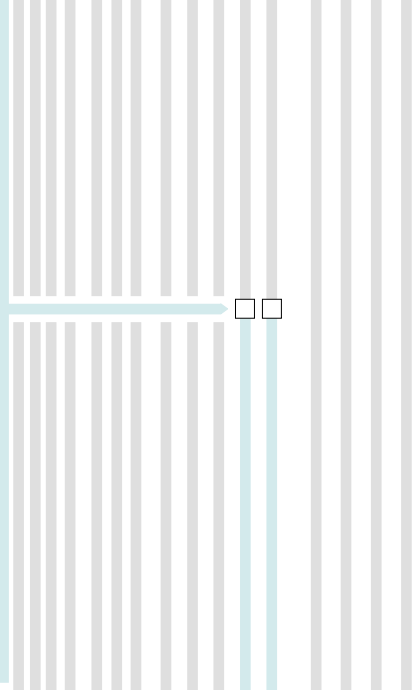



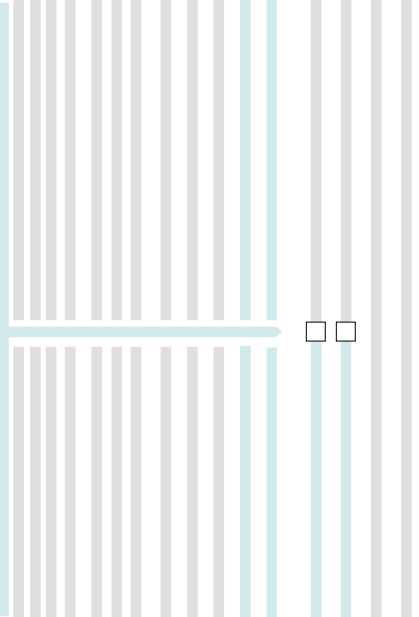


3WN6 负荷隔离开关, 4 极, 至 3200A  
 3WN6 Non-Automatic Circuit-Breakers, 4-pole, up to 3200A

选型及订货数据			Selection and ordering data												
类型 额定工作电压 $U_n$ 至 AC 690V 不带电子式过电流脱扣器系统		订货号的补充 3WN 6	订货号 3 - 0 W A -												
尺寸等级 / 额定电流 $I_n$	尺寸等级 I II	额定电流 $I_n$ 630A 800A 1000A 1250A 1600A 2000A 2500A 3200A	0 1 2 3 4 5 6 7												
安装方式 固定式 抽屉式 其他型式 的导向框架 见第 2/9 页	主回路连接说明见第 2/7 页 主回路连接母排水平后置(标准型) 主回路连接母排前置, 单孔, 顶部和底部 主回路连接母排前置, 双孔, 顶部和底部 (孔洞按照 DIN43673 标准) 抽屉式断路器本体, 不带导向框架 抽屉式断路器, 带导向框架 标准型: 主回路连接母排水平后置, 带导轨		6 3 2 7 8												
断路器还可具有额定短时耐受电流 $I_{cw}=50kA/1s$ ,见第 2/63 页															
				订货号第 11~第 16 个位置的说明, 见第 2/38 页											








3WN6 负荷隔离开关, 4 极, 至 3200A  
 3WN6 Non-Automatic Circuit-Breakers, 4-pole, up to 3200A

选型及订货数据			Selection and ordering data												
Version Rated operational voltage $U_n$ up to AC 690V without electronic overcurrent release system		Order No. supplement	Order No. 3WN 6    3 - 0 W A    -												
<b>Size/Rated current <math>I_n</math></b>	<b>Size</b>	<b>Rated current <math>I_n</math></b>													
	I	630A 800A 1000A 1250A 1600A													
	II	2000A 2500A 3200A													
<b>Mounting version</b>	<u>Main connections see page 2/7</u> Main connections at the rear, horizontal (standard)		6												
<b>Fixed mounted version</b>	Main connections accessible from the front, single hole top and bottom		3												
	Main connections accessible from the front, double hole top and bottom, according to DIN 43 673		2												
<b>Draw-out version</b>	Draw-out circuit-breaker without guide frame		7												
	Draw-out circuit-breaker with guide frame		8												
Other versions of the guide-frame see page 2/9.	Standard type: main connections at the rear, horizontal with guide rails														
Circuit-breaker also available with rated short-time withstand current $I_{cw}=50kA/1s$ , see page 2/63.															
			3WN 6    3 - 0 W A    -												
			positions 11 to 16 of the order No. see page 2/39.												

3WN6 负荷隔离开关, 4 极, 至 3200A  
 3WN6 Non-Automatic Circuit-Breakers, 4-pole, up to 3200A

选型及订货数据		Selection and ordering data	
类型	订货号的补充	订货号	
不带电子式过电流脱扣器系统		3WN 6	3 - 0 W A -
操作机构  手动储能, 机械合闸 手动储能, 机械和电气合闸 电气合闸线圈 AC 50/60Hz V    DC V -                    24 -                    48 -                    60 110-127            110-125 220-240            220-250 (M) 手动 / 电动机储能, 机械和电气合闸 电动机 电气合闸线圈 AC 50/60Hz V    DC V            AC 50/60Hz V    DC V -                    24                    -                    24 -                    48                    -                    48 -                    60                    -                    60 110-127            110-125            -                    24 110-127            110-125            -                    48 110-127            110-125            -                    60 110-127            110-125            110-127            110-125 110-127            110-125            220-240            220-250 220-240            220-250            -                    24 220-240            220-250            -                    48 220-240            220-250            -                    60 220-240            220-250            110-127            110-125 220-240            220-250            220-240            220-250	[0] [5] [1] [1] [1] [4] [1] [5] [1] [6] [1] [8] [5] [1] [5] [4] [5] [5] [7] [1] [7] [4] [7] [5] [5] [6] [7] [8] [8] [1] [8] [4] [8] [5] [8] [6] [5] [8]		
	第 1 辅助脱扣器  不带第 1 辅助脱扣器 分励脱扣器 "f", F1 AC 50/60Hz V    DC V -                    24 -                    30 -                    48 -                    60 110-127            110-125 220-240            220-250  欠电压脱扣器 "r", F3 (无延时 0 ms, 短延时可调为 100ms) AC 50/60Hz V    DC V -                    24 -                    30 -                    48 -                    60 110-127            110-125 220-240            220-250  欠电压脱扣器 "rc", F8 (从 0.2~3.2s 延时可调) AC 50/60Hz V    DC V 110-127            - 220-240            - 380-415            -	[0] [A] [1] [B] [1] [E] [1] [F] [1] [G] [1] [H] [1] [K] [3] [B] [3] [E] [3] [F] [3] [G] [3] [H] [3] [K] [3] [M] [4] [H] [4] [K] [4] [M]	
第 2 辅助脱扣器 不带第 2 辅助脱扣器 分励脱扣器 "f", F2 AC 50/60Hz V    DC V -                    24 -                    30 -                    48 -                    60 110-127            110-125 220-240            220-250	[A] [B] [E] [F] [G] [H] [K]		
辅助触头 第 1 个辅助触头块 2NO + 2NC 第 1 个 + 第 2 个辅助触头块 2NO+2NC+2CO	[1] [3]		
		1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	3WN 6    3 - 0 W A    -
订货号第 5 和第 6 个位置的说明见第 2/36 页			

3WN6 负荷隔离开关, 4 极, 至 3200A  
3WN6 Non-Automatic Circuit-Breakers, 4-pole, up to 3200A











选型及订货数据		Selection and ordering data	
Version	without electronic overcurrent release system	Order No. supplement	Order No. 3WN 6 3 - 0 W A -
Operating mechanism   	Manual operating mechanism with stored-energy feature with mechanical closing	0 5	
	Manual operating mechanism with stored-energy feature with mechanical and electrical closing		
	Closing solenoid		
	AC 50/60Hz V DC V		
	- 24	1 1	
	- 48	1 4	
	- 60	1 5	
	110-127 110-125	1 6	
	220-240 220-250	1 8	
	Manual/ motorized mechanism with stored-energy with mechanical and electrical closing		
Motor Closing			
AC 50/60Hz V DC V AC 50/60Hz V DC V			
- 24 - 24	5 1		
- 48 - 48	5 4		
- 60 - 60	5 5		
110-127 110-125 - 24	7 1		
110-127 110-125 - 48	7 4		
110-127 110-125 - 60	7 5		
110-127 110-125 110-127 110-125	5 6		
110-127 110-125 220-240 220-250	7 8		
220-240 220-250 - 24	8 1		
220-240 220-250 - 48	8 4		
220-240 220-250 - 60	8 5		
220-240 220-250 110-127 110-125	8 6		
220-240 220-250 220-240 220-250	5 8		
1st auxiliary release     	without 1st. auxiliary release	0 A	
	Shunt release "f", F1		
	AC 50/60Hz V DC V		
	- 24	1 B	
	- 30	1 E	
	- 48	1 F	
	- 60	1 G	
	110-127 110-125	1 H	
	220-240 220-250	1 K	
	Undervoltage release "r", F3 (undelayed 0 ms, adjustable for short delay 100 ms)		
AC 50/60Hz V DC V			
- 24	3 B		
- 30	3 E		
- 48	3 F		
- 60	3 G		
110-127 110-125	3 H		
220-240 220-250	3 K		
380-415 -	3 M		
Undervoltage release "rc", F8 (delay adjustable from 0.2 to 3.2 s)			
AC 50/60Hz V DC V			
110-127 -	4 H		
220-240 -	4 K		
380-415 -	4 M		
2nd auxiliary release 	without 2nd auxiliary release	A	
	Shunt release "f", F2		
	AC 50/60Hz V DC V		
	- 24	B	
	- 30	E	
- 48	F		
- 60	G		
110-127 110-125	H		
220-240 220-250	K		
Auxiliary contacts 	1st auxiliary contact block	1	
	2NO + 2NC		
1st+2nd auxiliary contact block	3		
2NO+2NC+2CO			
position 5 and 6 of the order No. see page 2/37.			3WN 6 3 - 0 W A -



3WN6 断路器, 3 极和 4 极, 至 3200A  
 3WN6 Circuit-Breakers, 3 and 4-pole, up to 3200A

附加功能随断路器同时订购		Accessories for first order-Further versions		
要选用以下附加规格, 只要在订货号的后面加上 "-Z", 和相应的订货码。				
		订货码	订货号, 带 "-Z" 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 3WN6 . . . . . -Z 和附加订货码 + . . . + . . .	
			带有附加规格的认识码 -Z	
用于固定式和抽屉式断路器				
	通讯模块	用于具有附加功能 2 的 D, E/F, H, J/K, N 和 P 型过电流脱扣器。需要另订 DP/3WN6 "3RK1000" 接口	F011  <input type="checkbox"/>	
	测量模块	用于具有附加功能 2 的 N 型和 P 型过电流脱扣器。测量模块由带测量功能的通讯模块和外部电压互感器组成。需要另订 DP/3WN6 "3RK1000" 接口	F015  <input type="checkbox"/>	
	过电流脱扣后自动机械复位		K011  <input type="checkbox"/>	
	额定短时耐受电流 I <sub>CW</sub> =50kA/1s (AC50/60Hz 时)	适用于 3 极和 4 极断路器, 额定电流 630A~1000A	K031  <input type="checkbox"/>	
	脱扣信号发送开关 1 转换代替 1 常开 (1 常开 = 标准型)		K071  <input type="checkbox"/>	
	带 5 位数的操作次数计数器		C011  <input type="checkbox"/>	
	在控制面板上的电动机开关	只用于具有手动 / 电动机储能操作机构的断路器	S113  <input type="checkbox"/>	
	带锁定装置, 防止未经许可合闸或带急停按钮。对于特殊锁具, 见第 2/54 页附件	带 3SB1 安全锁, 替代分闸按钮(钥匙可在分闸位置上取出)	CES 型 标准闭锁 No.SSG10 BKS 型 标准闭锁 No.S1 IKON 型 标准闭锁 No.360012K1	S011 
		带锁定装置, 最多可用 4 把挂锁 (4~8mm 钩环直径)		S210 
		用急停按钮(自锁型)替代分闸按钮		S112 
		带 3SBI 安全锁, 替代带密封盖的机械合闸按钮	CES 型 标准闭锁 No. SSG10 BKS 型 标准闭锁 No. S1 IKON 型 标准闭锁 No. 360012K1	S015 
				S016 
				S017 
				S018 
	用于 CASTELL 锁或 FORTRESS 锁 <sup>1)</sup> 的安装组件 从生产厂家处获得的锁: CASTELL 锁(FS2) 或 FORTRESS 锁(H31LH/65° 标准)		S114 	
	用于 KIRK - KEY 锁 <sup>1)</sup> 的安装组件		S115 	
	用于 CASTELL、FORTRESS 或 KIRK-KEY 锁的锁定装置, 当钥匙取出后, 钥匙孔被盖住; 最多可用 4 把挂锁锁住。		S116 	
	用密封盖罩住分闸按钮, 防止未经许可分闸	不可以与安全锁组合	S211 	
	用密封盖罩住合闸按钮, 防止未经许可合闸		S221 	

1) 锁可从锁具生产厂家获得。

附加功能随断路器同时订购		Accessories for first order-Further versions	
For ordering following circuit-breaker versions, add "-Z" to the complete Order No. and indicate the appropriate order code(s).			
		Order code	Order No. with "-Z" 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 3WN6 . . . . . -Z and additional order code (s) + . . . + . . .
			Identification code for further versions: -Z
<b>For fixed-mounting and draw-out designs</b>			
	Communication module	for overcurrent release versions D, E/F, H, J/K, N and P with additional functions 2. The DP/ 3WN6 " 3RK10 00" interface is additionally required (see page 2/48)	F011 <input type="checkbox"/>
	Measuring module	for overcurrent release versions N and P with additional functions 2. The measuring module consists of the communication module with additional measuring functions and external voltage transformers. The DP/3WN6 " 3RK10 00" interface is additionally required (see page 2/48)	F05 <input type="checkbox"/>
	Automatic mechanical reset after overcurrent release tripping		K011 <input type="checkbox"/>
	Rated short-time withstand current $I_{cw}$ (at AC 50/60Hz) 50kA/1 s	Rated current of the circuit-breaker 630 A, 800A, 1000A	K03 <input type="checkbox"/>
	Tripped signalling circuit-breaker 1 CO instead of 1NO (1NO=Standard)		K07 <input type="checkbox"/>
	With 5-digit operating cycle counter		C011 <input type="checkbox"/>
	Motor switch at control panel	only for circuit-breakers with manual/motorized operating mechanism with stored-energy feature (S9)	S13 <input type="checkbox"/>
	With locking device against unauthorized closing or with EMERGENCY STOP pushbutton	with 3SB1 safety lock instead of OFF pushbutton (key can be removed in OFF position)	S011 <input type="checkbox"/>
		CES type Standard closure No. SSG 10	S022 <input type="checkbox"/>
		BKS type Standard closure No. S1	S033 <input type="checkbox"/>
		IKON type Stand. closure No. 360012 K1	<input type="checkbox"/>
	For special locks see accessories on page 2/54	with locking facility for up to 4 padlocks (4 to 8 mm shackle diameter)	S210 <input type="checkbox"/>
		with EMERGENCY-STOP pushbutton (self-latching) instead of OFF pushbutton	S112 <input type="checkbox"/>
		with 3SB1 safety lock instead of mechanically acting ON pushbutton with sealing cap (key can be removed in activated position)	S055 <input type="checkbox"/>
		BKS type standard closure No. S1	S066 <input type="checkbox"/>
		IKON type standard closure No. 360012 K1	S077 <input type="checkbox"/>
	Mounting kit for CASTELL lock or FORTRESS lock <sup>1)</sup>	Locks to be obtained from the manufacturer CASTELL lock (FS2) or FORTRESS lock (H3 1LH/65°/Standard)	S114 <input type="checkbox"/>
	Mounting kit for KIRK-KEY lock <sup>1)</sup>		S115 <input type="checkbox"/>
	Access blocking device to CASTELL, FORTRESS or KIRK-KEY locks	When the key is removed the key hole is covered; lockable with maximum 4 padlocks	S116 <input type="checkbox"/>
	With sealing cap over OFF pushbutton against unauthorized opening	Not suitable in combination with safety lock	S211 <input type="checkbox"/>
	With sealing cap over electrical ON pushbutton against unauthorized closing		S222 <input type="checkbox"/>




1) Locks be obtained from the manufacturer



3WN6 断路器, 3 极和 4 极, 至 3200A  
 3WN6 Circuit-Breakers, 3 and 4-pole, up to 3200A

附加功能随断路器同时订购 Accessories for first order-Further versions

要选用以下附加规格, 只要在订货号的后面加上“-Z”, 和相应的订货码		订货码	订货号, 带“-Z”
			1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
			3WN6 . . . . . -Z
			和附加订货码
			+ . . . + . . .
			带有附加规格的认识码
			-Z
用于固定式断路器			
锁定装置	当断路器处于合闸状态时防止打开柜门	S215	□ □ □
	当柜门打开时防止断路器合闸	S24	□ □ □
用于 3WN6 断路器的相互机械联锁	联锁模块, 带一根钢缆(2m 长)。对于 3 台断路器联锁, 需要一根附加钢缆; 见第 2/44 页。	S53	□ □ □
锁定装置包括柜门上的锁和带钢缆(1.5m 长)的联锁模块。	带安全锁	CES 型	S61
		标准闭锁 No. SSG10	S62
		BKS 型	S63
		标准闭锁 No. S1	S64
防止断路器未经许可合闸		IKON 型	S67
		标准闭锁 No. 360012K1	S68
		O. M. R. 型	S69
	标准闭锁 No. 73034	S70	□ □ □
	用于 CASTELL 锁的安装组件。	S71	□ □ □
	从生产厂家处获得的锁: CASTELL 锁(FS2)	S72	□ □ □
	用于 FORTRESS 的安装组件。	S73	□ □ □
	从生产厂家处获得的锁: FORTRESS 锁(H31LH/AC65° 标准)	S74	□ □ □
消弧罩盖	用于额定电压 > 415V 时, 防止飞弧。对于主回路母排垂直前置, 不需要消弧罩盖	C35	□ □ □
用于抽屉式断路器			
锁定装置防止移动断路器(安全锁防止打开曲柄孔)	带安全锁	CES 型	S71
		标准闭锁 No. SSG10	S72
		BKS 型	S73
		标准闭锁 No. S1	S74
		IKON 型	S75
		标准闭锁 No. 360012K1	S76
		Profalux 型	S77
	Ronis 型	S78	
	O. M. R. 型	S79	
	标准闭锁 No. 73034	S80	□ □ □

附加功能随断路器同时订购		Accessories for first order-Further versions	
For ordering following circuit-breaker versions, add "-Z" to the complete Order No. and indicate the appropriate order code(s).			
		Order code	Order No. with "-Z"
			1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
			3 W N 6 . . . . . -Z
			and additional order code (s)
			+ . . . + . . .
			Identification code for further versions: -Z
<b>For fixed-mounted circuit-breakers</b>			
	Locking device	against opening of the cubicle door when the circuit-breaker is closed	S215
		against closing the circuit-breaker when the cubicle door is open	S214
	Mutual mechanical interlocking for 3WN6 Circuit-Breakers	Interlocking module with 1 Bowden wire (2 m in length), For interlocking of 3 circuit-breakers, an additional Bowden wire is required; see page 2/44.	S513
	Locking device consisting of lock in the cubicle door and interlocking module with Bowden wire (1,5 m in length)	with safety lock CES type standard closure No. SSG 10	S611
		BKS type standard closure No. S1	S612
		IKON type standard closure No. 360012 K1	S613
		O. M. R. type standard closure No. 73034	S617
	against unauthorized closing of the circuit-breaker	Mounting kit for CASTELL Lock. Locks to be obtained from the manufacturer CASTELL Lock (FS 2)	S615
		Mounting kit for FORTRESS Lock. Locks to be obtained from the manufacturer FORTRESS Lock (H31LH/AC65°/Standard)	S614
	Arc chute cover	Required for protection against arcing for voltages > 415V. Not required for vertical main connections accessible from the front.	C315
<b>For draw-out circuit-breakers</b>			
	Locking device against moving of the circuit-breaker (The safety lock prevents opening of the crank hole)	with safety lock CES type standard closure No. SSG 10	S711
		BKS type standard closure No. S1	S712
		IKON type standard closure No. 360012 K1	S713
		Profalux type	S715
		Ronis type	S716
		O.M.R. type standard closure No. 73034	S717

3WN6 断路器, 3 极和 4 极, 至 3200A  
3WN6 Circuit-Breakers, 3 and 4-pole, up to 3200A

附加功能随断路器同时订购		Accessories for first order-Further versions				
要选用以下附加规格, 只要在订货号的后面加上“-Z”, 和相应的订货码。						
带导向框架的抽屉式断路器	其他规格	订货码	订货号, 带“-Z” 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 3 W N 6 . 8 . . . . . -Z 和附加订货码 + . . . + . . . 导向框架的订货号, 带“-Z” 1 2 3 4 5 6 7 8 9 10 11 12 3 W X 3 6 8 3 - . . A . . . 0 -Z 和附加订货码 + . . . + . . . + . . .			
导向框架(如果导向框架另外单独订购)			带有附加规格的识别号 -Z			
用于带导向框架的抽屉式断路器 用于导向框架						
总线连接电缆, 用于通讯(如果导向框架另外单独订购, 需此项)	连接于导向框架和接口 DP/3WN6 之间, 包括信号发送开关(用于传递断路器本体是否在导向框架内)	R 3 9				
 2  1  0	额定电流的主回路连接 详见第 2/7 页	主回路连接前置, 顶部和底部, 双孔, 按照 DIN 43673 标准	R 0 2			
		主回路连接前置, 顶部和底部, 单孔	R 0 3			
		主回路连接后置, 顶部和底部, 垂直	R 0 7			
 13 14   	带位置信号发送开关(由抽屉式断路器操作)	运行位置 1NO + 1NC 3NO + 3NC	试验位置 1NO + 1NC 2NO + 2NC	退出位置 1NO + 1NC	R 1 3 R 1 4	
  	安全挡板, 两部分		R 2 0			
  	3WN6 断路器的相互机械联锁	联锁模块带一根钢缆(2m 长)。对于 3 台断路器联锁, 需要一根附加钢缆; 见第 2/22 页。	R 5 3			
 	锁定装置 包括柜门上的锁和带钢缆(1.5m 长)的联锁模块 防止断路器未经许可合闸, 在运行位置有效	带安全锁	CES 型 标准闭锁 No. SSG10	R 6 1		
			BKS 型 标准闭锁 No. S1	R 6 2		
			IKON 型 标准闭锁 No. 360012K1	R 6 3		
			O. M. R 型 标准闭锁 No. 73034	R 6 7		
	用于 CASTELL 锁的安装组件 从生产厂家处获得的锁: CASTELL 锁(FS2)		R 6 5			
	用于 FORTRESS 锁的安装组件 从生产厂家处获得的锁: FORTRESS 锁(H31LH/AC65° 标准)		R 6 4			
 	锁定装置 防止在退出位置移动断路器本体	带安全锁	CES 型 标准闭锁 No. SSG10	R 8 1		
			BKS 型 标准闭锁 No. S1	R 8 2		
			IKON 型 标准闭锁 No. 360012K1	R 8 3		
			Profalux 型	R 8 5		
			Ronis 型	R 8 6		
			O. M. R 型	R 8 7		
			标准闭锁 No. 73034			
 	锁定装置	当断路器在运行位置时防止打开柜门	R 3 0			
		当柜门打开时防止断路器合闸(只在运行位置有效)	R 4 0			
		当柜门打开时防止断路器被移动(在退出、试验和有效位置都有效)	R 5 0			
 	消弧罩盖	用于额定电压 > 415V 时, 防止飞弧。对于主回路母排垂直前置, 不需要此项。	R 3 5			



附加功能随断路器同时订购		Accessories for first order-Further versions	
For ordering following circuit-breaker versions, add "-Z" to the complete Order No. and indicate the appropriate order code(s).			
Draw-out circuit-breakers with guide frames	Further versions	Order code	Order No. with "-Z" 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 3 W N 6 . 8 . . . . . -Z and additional order code (s) +...+...+...
Guide frames			Order No. with "-Z" 1 2 3 4 5 6 7 8 9 10 11 12 3 W X 3 6 8 3 - . A . . . 0 -Z and additional order code (s) +...+...+...+...
			Identification code for further versions: -Z
<b>For draw-out circuit-breakers with guide frame</b>			
<b>For guide frames</b>			
Bus connecting cable for communication (only required with guide frame ordered separately)	between guide frame and connecting cable to interface DP/3WN6, including signalling switch for circuit-breaker presence	<b>R39</b>	<input type="checkbox"/>
Main connections for rated current For main connections see page 2/7.	Main connections accessible from the front, top and bottom, double-hole bar ends acc. to DIN 43 673	<b>R02</b>	<input type="checkbox"/>
	Main connections accessible from the front, top and bottom single-hole bar ends	<b>R03</b>	<input type="checkbox"/>
	Main connections at the rear, top and bottom vertical	<b>R07</b>	<input type="checkbox"/>
With position signalling switch (operated by draw-out circuit-breaker)	Connected position 1 NO + 1 NC	Test position 1 NO + 1 NC	Disconnected position 1 NO + 1 NC
	3 NO + 3 NC	2 NO + 2 NC	1 NO + 1 NC
		<b>R13</b>	<input type="checkbox"/>
		<b>R14</b>	<input type="checkbox"/>
With shutter, 2 parts		<b>R20</b>	<input type="checkbox"/>
Mutual mechanical interlocking for 3WN6 Circuit-Breakers	Interlocking module with 1 Bowden wire (2 m in length), For interlocking of 3 circuit-breakers, an additional Bowden wire is required; see page 2/22.	<b>R53</b>	<input type="checkbox"/>
Locking device consisting of lock in the cubicle door and interlocking module with Bowden wire (1.5m in length) against unauthorized closing of the circuit-breaker, effective in the connected position	with safety lock	CES type standard closure No. SSG 10	<b>R61</b>
		BKS type standard closure No. S1	<b>R62</b>
		IKON type standard closure No. 360012 K1	<b>R63</b>
		O. M. R. type standard closure No. 73034	<b>R67</b>
		Mounting kit for CASTELL Lock. Locks to be obtained from the manufacturer CASTELL Lock (FS 2)	<b>R65</b>
	Mounting kit for FORTRESS Lock. Locks to be obtained from the manufacturer FORTRESS Lock (H31LH/AC65°/Standard)	<b>R64</b>	<input type="checkbox"/>
Locking device against moving the draw-out circuit-breaker from the disconnected position	with safety lock	CES type standard closure No. SSG 10	<b>R81</b>
		BKS type standard closure No. S1	<b>R82</b>
		IKON type standard closure No. 360012 K1	<b>R83</b>
		Profalux type	<b>R85</b>
		Ronis type	<b>R86</b>
		O. M. R. type standard closure No. 73034	<b>R87</b>
Locking device against opening of the cubicle door, when the circuit-breaker is in the connected position against closing the circuit-breaker when the cubicle door is open (effective only in the connected position) against moving the circuit-breaker when the cubicle door is open (effective in disconnected, test and connected position)		<b>R30</b>	<input type="checkbox"/>
		<b>R40</b>	<input type="checkbox"/>
		<b>R50</b>	<input type="checkbox"/>
Arc chute cover	Required for protection against arcing for voltages 415V. Not required for vertical main connections accessible from the front.	<b>R35</b>	<input type="checkbox"/>



3WN6 断路器, 3 极和 4 极, 至 3200A  
3WN6 Circuit-Breakers, 3 and 4-pole, up to 3200A

用于改装的附件		Accessories for first order and retrofitting				
	用于固定式和抽屉式断路器 / For fixed-mounted and draw-out circuit-breakers					
	用于 N 导线过载保护和接地故障保护的电流互感器 Current transformers for overload protection of the N conductor and for earth-fault protection 两种测量方法中只可选用一种方法, 当电流互感器安装在 N 导线上时, 对 N 导线的过载保护才有效。 接地故障电流经相电流和 N 导线电流矢量求和得出。对于 P 型过电流脱扣器, 两种测量方法可同时使用。 Only one of the two measuring methods is feasible in conjunction with the overcurrent release. The overload protection of the N conductor is effective as soon as the current transformer is mounted on the N conductor. The earth-fault current is calculated via a summation of the phase and N-conductor currents. With the release version P, both the methods can be used at the same time.					
	测量方法(见第 2/19 页) Measuring method (see page 2/19) 项目 Item	过电流 脱扣器类型 Overcurrent release version	电流互感器 原边额定电流 Transformer primary rated current	断路器订货号第 5 位和 第 9 位的代号 3WN6 ... .. 5 <sup>th</sup> and 9 <sup>th</sup> position of circuit- breaker Order No. 3WN6 ... ..	每台断路器 所需数量 Quantity required per circuit-breaker	每 1 件 Per item 订货号 Order No.
	在 N 导线上用电流互感器进行矢量求和 Vectorial summation with current transformer on the N conductor	C, D, E	315A 400A 500A 630A	0 A 0 B 0 C 0 D	1 件 1 item	3WX36 43-1CA00 -1CB00 -1CC00 -1CD00
	用于 3 极断路器的 电流互感器 Current transformers for 3-pole circuit-breakers 对于 4 极断路器, 已内装有 第 4 个电流互感器。如果 4 极断路器配置 E 型过电流 脱扣器, 则应从右表中选 择第 4 个电流互感器, 该电 流互感器必须装在断路器 外部。 With 4-pole circuit- breakers, the 4th current transformer is built-in. If the overcurrent release version E is selected with a 4-pole circuit-breaker, the 4th current transfor- mer has to be mounted externally and be chosen from the adjacent table.	N, P	800A 1000A 1250A 1600A  1250A 1600A 2000A 2500A 3200A	1 E 2 F 3 G 4 H  5 G 5 H 5 J 6 K 7 M	1 件 1 item    1 件 1 item	3WX36 43-1CE00 -1CF00 -1CG00 -1CH00  3WX36 43-1FG00 -1FH00 -1FJ00 -1FK00 -1FM00
在变压器星型接地点处用 电流互感器直接测量接地 故障电流 Direct measurement of the earth-fault current by means of a current transformer at the earthed star point of the transformer	C, E, P (3 极) (3-pole); E, P (4 极) (4-pole)	315A 400A 500A 630A  800A 1000A 1250A 1600A	0 A 0 B 0 C 0 D  1 E 2 F 3 G 4 H	1 件 1 item    1 件 1 item	3WX36 43-1CA00 -1CB00 -1CC00 -1CD00  3WX36 43-1CE00 -1CF00 -1CG00 -1CH00	
用于 3 极和 4 极断路器的 电流互感器 Current transformers for 3- and 4-pole circuit-breakers		1250A 1600A 2000A 2500A 3200A	5 G 5 H 5 J 6 K 7 M	1 件 1 item	3WX36 43-1FG00 -1FH00 -1FJ00 -1FK00 -1FM00	

3WN6 断路器, 3 极和 4 极, 至 3200A  
3WN6 Circuit-Breakers, 3 and 4-pole, up to 3200A

用于改装的附件		Accessories for first order and retrofitting			
 	项目 / Item	额定控制电压 /Rated control supply voltage 额定工作电压 /Rated operational voltage	所需数量 Quantity required	每一台或一套的订货号 Per 1 set or 1 item Order No.	
		AC 50/60Hz	DC		
	储能装置 用于分励脱扣器 额定控制电压必须与分励脱扣器的 额定控制电压一致 Storage device for shunt release Rated control supply voltage must correspond to the rated control supply voltage of the shunt release	110-127 V 220-240 V	110-115 V 220-250 V	1 件 1 item	3WX31 56-1JG01 3WX31 56-1JJ01
	过电流脱扣器的功能测试仪 Function tester for overcurrent release 适用于 B, C, D, E, F, G, V, N, P 型脱扣 器也适用于 3WN1 和 3WS1 断路器的 过电流脱扣器 for release versions B, C, D, E, F, G, V, N, P also suitable for overcurrent releases of 3WN1 and 3WS1 circuit-breakers	110-127/220-240 V	-	1 台 1 item	3WX36 47-5JA01
	电源转换装置 Network-switching control unit 用于两台固定式断路器或抽屉式断路器的自动电源转换 for automatic switching of two fixed-mounted or draw-out circuit-breakers			1 台 1 item	3WX36 66-7JA00
	门密封框 Door sealing frame	防护等级 IP 54 for degree of protection IP 54		1 件 1 item	3WX36 86-0JA00
	自动复位装置 Automatic mechanical resetting device			1 件 1 item	3WX36 46-2JA00





3WN6 断路器，3 极和 4 极，至 3200A  
 3WN6 Circuit-Breakers, 3 and 4-pole, up to 3200A

用于改装的附件		Accessories for first orders and retrofitting		
	描述 / Description (参见“具有通讯能力的断路器”一章)/(see also "Communication-capable circuit-breaker" in catalog)	所需数量 order Quantity	订货号 Per unit Order No.	
<b>用于固定式和抽屉式断路器 / For fixed-mounting and draw-out circuit-breakers</b>				
	DP/3WN6 接口 Interface connection DP/3WN6	每台具有通讯能力的 3WN6 断路器需一个 Required once for each communication capable circuit-breaker	1 个 1 item	3RK10 00-0JC80-0BA2
	PROFIBUS 连接器 PROFIBUS connector	将接口联接至 PROFIBUS For connecting the interface to the PROFIBUS	1 根 1 item	6ES7 972-0BB20-0XA0
	DC 24 V 电源 Power supply DC 24 V	用于接口 DP/3WN6 的供电 For interface DP/3WN6	1 台 1 item	4AV2 系列 for instance 4AV2.
	系统手册 System manual	将 3VL, 3WN6, 3WN1/3WS1 连接至 PROFIBUS-DP 实现通讯的方法 Connection of circuit-breakers 3VL, 3WN6, 3WN1/3WS1 to the PROFIBUS-DP for communication	1 册 1 item	E20001-P285-A644-V1
	软件 Software module	推荐用于 SIMATIC S5 和 S7 实现通讯的编程工具, 3.5" 软盘 Recommended for SIMATIC S5 and S7; programming help for the development of communication, 3.5" diskettes	1 套 1 item	3RK18 00-0AA00-0AA00
  	手持式控制单元 Hand-held control unit	用于 3WN6 断路器的参数设置, 运行监控, 适用于带 D、E/F、H、J/K、N/P 型过电流脱扣器和具有通讯能力的电动机保护和控制装置 SIMOCODE-DP 3UF50 For parameterization operation and monitoring of 3WN6 circuit-breakers with overcurrent releases D, E/F, H, J/K, N/P and communication-capable motor protection and control unit SIMOCODE-DP 3UF50	1 台 1 item	3WX36 47-6JA00
		适配器用于手持式控制单元 3WX3647-6JA00 Adapter for hand-held control unit 3WX3647-6JA00	1 件 1 item	3WX36 47-6JA01
		电源当 3WN6 断路器不另外提供直流 24V 电源时需此项 Power supply required when the 3WN6 circuit breaker is not additionally supplied with 24 V DC	1 台 1 item	3WX36 47-6JA02




3WN6 断路器, 3 极和 4 极, 至 3200A  
3WN6 Circuit-Breakers, 3 and 4-pole, up to 3200A

用于改装的附件		Accessories for first orders and retrofitting				
项目 Item	额定电流 Rated current	尺寸等级 Size	极数 Number of poles	所需数量 Quantity required	订货号 Per 1 set Order No.	
用于固定式断路器 /For fixed-mounted circuit-breakers						
支持托架 包括断路器固定螺栓 Supporting brackets including screws for the fixed-mounted circuit-breaker				1 套 1 set	3WX36 81-OJA00	
连接母排 用于垂直连接 Connecting bars for vertical connection	至 1000 A up to 1000 A	I	3 极 3-pole	1 套 1set <sup>1)</sup>	3WX36 21-7AA00	
			4 极 4-pole	1 套 1set <sup>2)</sup>	3WX36 21-7AB00	
	1250 和 1600 A 1250 and 1600 A	I	3 极 3-pole	1 套 1set <sup>1)</sup>	3WX36 21-7BA00	
			4 极 4-pole	1 套 1set <sup>2)</sup>	3WX36 21-7BB00	
	2000 A	II	3 极 3-pole	1 套 1set <sup>1)</sup>	3WX36 21-7DA00	
			4 极 4-pole	1 套 1set <sup>2)</sup>	3WX36 21-7DB00	
	2500 和 3200 A 2500 and 3200 A	II	3 极 3-pole	1 套 1set <sup>1)</sup>	3WX36 21-7FA00	
			4 极 4-pole	1 套 1set <sup>2)</sup>	3WX36 21-7FB00	
用于抽屉式断路器 /For draw-out circuit-breakers						
连接母排 用于垂直连接 Connecting bars for vertical connection	至 1000 A up to 1000 A	I	3 极 3-pole	1 套 1set <sup>1)</sup>	3WX36 21-7AA00	
			4 极 4-pole	1 套 1set <sup>2)</sup>	3WX36 21-7AB00	
	1250 和 1600 A 1250 and 1600 A	I	3 极 3-pole	1 套 1set <sup>1)</sup>	3WX36 21-7BA00	
			4 极 4-pole	1 套 1set <sup>2)</sup>	3WX36 21-7BB00	
	2000 A	II	3 极 3-pole	1 套 1set <sup>1)</sup>	3WX36 21-7DA00	
			4 极 4-pole	1 套 1set <sup>2)</sup>	3WX36 21-7DB00	
	2500 和 3200 A 2500 and 3200 A	II	3 极 3-pole	1 套 1set <sup>1)</sup>	3WX36 21-7FA00	
			4 极 4-pole	1 套 1set <sup>2)</sup>	3WX36 21-7FB00	

- 1) 1 套 = 3 件  
1 set = 3 pcs.  
2) 1 套 = 4 件  
1 set = 4 pcs.

# 3WN6 断路器, 3 极和 4 极, 至 3200A

## 3WN6 Circuit-Breakers, 3 and 4-pole, up to 3200A



用于改装的附件		Accessories for first orders and retrofits			
	<b>类型</b> Version <b>导向框架, 标准型</b> Guide frames, standard versions	<b>订货号的补充</b> Order No. supplement	<b>订货号</b> Order No. 3WX 3 6 8 3 - A 0		
	<b>抽屉式断路器的额定电流 <math>I_n</math></b> Rated current of the draw-out circuit-breaker	630A, 尺寸等级 I size I 800A, 尺寸等级 I size I 1000A, 尺寸等级 I size I 1250A, 尺寸等级 I size I 1600A, 尺寸等级 I size I 2000A, 尺寸等级 II size II 2500A, 尺寸等级 II size II 3200A, 尺寸等级 II size II	[0] [1] [2] [3] [4] [5] [6] [7]		
	<b>抽屉式辅助接线端子块</b> (所需数量见下页) Auxiliary draw-out connectors connectors (For the number needed see next page)	1 个辅助接线端子块 1 auxiliary draw-out connector 2 个辅助接线端子块 2 auxiliary draw-out connectors 3 个辅助接线端子块 3 auxiliary draw-out connectors 4 个辅助接线端子块 4 auxiliary draw-out connectors	[B] [C] [D] [E]		
	<b>极数</b> Number of poles	3 极 3-pole 4 极 4-pole	1 3		
	<b>对于其他型式的导向框架, 如: 主回路前置连接、位置信号发送开关、安全挡板, 见第 2/9 页</b> For further versions e.g. front connections, position signalling switches, shutters, see page 2/9.				1 2 3 4 5 6 7 8 9 10 11 12 3WX 3 6 8 3 - A 0
	<b>描述</b> Description		<b>每台断路器所需数量</b> Quantity required per circuit-breaker		<b>每一套订货号</b> Per 1 set Order No.
<b>用于导向框架的附件 / Accessories for guide frames</b>					
 <b>编码装置</b> Coding device <b>防止同一个开关柜内的相同尺寸的断路器混淆</b> against confusing circuit-breakers of equal size in a cubicle		1 套 1 set	3WX3662 - 1JC00		

用于改装的附件		Accessories for first orders and retrofits
	抽屉式辅助接线端子块 数量取决于：	操作机构类型 过电流脱扣器有 / 无附加功能 辅助脱扣器的类型和数量 辅助触头块的数量
	The required number of auxiliary draw-out connectors depends on:	Type of operating mechanism Overcurrent releases with/without additional functions, with/without current transformers Type and number of auxiliary releases Number of auxiliary contact blocks
a	用于标准信号的第一个辅助接线端子块, 总是需要的 1 st auxiliary connector, for standard signals, always required	1
b	操作机构 Operating mechanisms	
b1	手动储能, 机械合闸 manual operating mechanism with stored-energy feature with mechanical closing	+0
b2	手动储能, 机械合闸和电气合闸 manual oper. mechanism with stored-energy feature with mechanical and electrical closing	+1
b3	手动 / 电动机储能, 机械合闸和电气合闸 manual/motorized oper. mech. with stored-energy feature with mech. and electr. closing	+1
c	过电流脱扣器 Overcurrent releases	
c1	带基本功能 with basic functions	+0
c2	带附加功能 1 或 2 with additional functions 1 or 2	+2
c3	N 导线上的电流互感器(如未选择 c2, 则带 N 导线保护的 3 极断路器需计此项) current transformer on N conductor (needed for 3-pole circuit-breakers if c2 is not selected)	+1
c4	变压器星型接点处的电流互感器(如未选择 c2, 需计此项) current transformer at the star point of the transformer (needed if c2 is not selected)	+1
d	辅助脱扣器 Auxiliary releases	
d1	带 / 不带第一辅助脱扣器(分励脱扣器 "f", F1; 欠压脱扣器 "r", F3) with/without 1st auxiliary release (shunt release "f", F1; undervoltage release "r", F3)	+0
d2	带第一辅助脱扣器(延时型欠电压脱扣器 "rc", F8) (如没选 b2 或 b3, 需计此项) 1st auxiliary release (delayed undervoltage release "rc", F8) (needed if b2 or b3 is not selected)	+1
d3	带第二辅助脱扣器(分励脱扣器 "f", F2; 如没选 b2 或 b3, 需计此项) 2nd auxiliary release (shunt release "f", F2, needed if b2 or b3 are not selected)	+1
e	辅助触头 Auxiliary releases	
e1	第一辅助触头块 2NO + 2NC 1st auxiliary contact block 2 NO + 2NC	+0
e2	第一和第二辅助触头块 2NO + 2NC + 2CO(如没选 b2 或 b3 或 d3, 需计此项) 1st and 2nd auxiliary contact blocks 2 NO + 2NC + 2 CO (needed if b2 or b3 or d3 are not selected)	+1
f	通讯模块或测量模块 Communication module or measuring module	
f1	不带通讯模块或测量模块 without communication or measuring module	+0
f2	带有通讯模块或测量模块(如没选 c2 或 c3 或 c4, 需计此项) with communication or measuring module (needed if c2 or c3 or c4 are not selected)	+2
g	辅助接线端子的总数量(最多为 4) Total number of auxiliary connectors (maximum of 4)	



3WN6 断路器, 3 极和 4 极, 至 3200A  
3WN6 Circuit-Breakers, 3 and 4-pole, up to 3200A

用于改装的附件		Accessories for first orders and retrofits				
<p>当改装断路器时, 断路器侧面和铭牌上的订货号应按照安装说明相应更改。 When retrofitting these circuit-breakers, the Order No. of the circuit-breaker on the name plate on the control console and the circuit-breaker side should be supplemented according to the mounting instructions.</p>						
描述 Description		每台断路器 所需数量 Quantity required per circuit-breaker	每一套或每一件 订货号 Per 1 set or 1 item Order No.			
用于固定式和抽屉式断路器 /For fixed-mounted and draw-out circuit-breakers						
罩住分闸或合闸按钮的密封盖, 防止未经许可分闸或合闸 Sealing cap over OFF or ON pushbutton against unauthorized opening or closing		1 个 1 item	3WX36 63-1JK00			
00035	带 5 位数的操作次数计数器 5-digit operating cycle counter		1 个 1 item	3WX36 64-0CA00		
辅助脱扣器 <sup>1)</sup> Auxiliary releases <sup>1)</sup>		额定控制电压 Rated control supply voltage				
		AC 50/60Hz	DC			
		V	V			
	分励脱扣器“f”用作第 1 和第 2 辅助脱扣器(F1, F2)及合闸线圈(Y1) Shunt release "f" for 1st and 2nd aux. releases (F1, F2) and closing solenoid (Y1)	-	24	1 个 1 item	3WX36 51-1JB00	
		-	30		-1JE00	
		-	48		-1JF00	
		-	60		-1JG00	
		110-127	110-125		-1JH00	
		220-240	220-250		-1JK00	
	欠电压脱扣器“r”(F3) 瞬时 0ms, 短延时 100ms Undervoltage release "r" (F3) instantaneous 0 ms, short-time-delay 100 ms	-	24	1 个 1 item	3WX36 53-1JB00	
		-	30		-1JE00	
		-	48		-1JF00	
		-	60		-1JG00	
		110-127	110-125		-1JH00	
	220-240	220-250		-1JK00		
	380-415	-		-1JM00		
	欠电压脱扣器“rc”(F8)延时可调: 0.2 ~ 3.2s Undervoltage release "rc" (F8) delay adjustable from 0.2 to 3.2s	110-127	-	1 个 1 item	3WX36 54-1JH00	
		220-240	-		-1JK00	
		380-415	-		-1JM00	
辅助触头 <sup>1)</sup> 2 转换 Auxiliary switch <sup>1)</sup> 2 CO		1 件 1 set	3WX36 16-1CE00			
	电动机操作机构和电气合闸 <sup>1)</sup> (如果订货号的第 11 位为 0, 则可以改装) Motorized operating mechanism and electrical closing <sup>1)</sup> (Retrofitting is possible if the 11th position of the Order No. is "0")	包括电动机、合闸线圈(Y1)、电气合闸按钮和连接线 consisting of motor, closing solenoid (Y1), electrical ON pushbutton and wiring				
		额定控制电压 Rated control supply voltage				
		电动机 Motor	合闸线圈 Closing solenoid			
		AC 50/60Hz	DC	AC 50/60 Hz	DC	
		V	V	V	V	
		-	24	-	24	1 套 1 set
		-	48	-	48	-1JF00
		-	60	-	60	-1JG00
		110-127	110-125	-	24	1 套 1 set
		110-127	110-125	-	48	-1JF10
		110-127	110-125	-	60	-1JG10
		110-127	110-125	110-127	110-125	-1JH00
		110-127	110-125	220-240	220-250	-1JK10
		220-240	220-250	-	24	1 套 1 set
		220-240	220-250	-	48	-1JF20
	220-240	220-250	-	60	-1JG20	
	220-240	220-250	110-127	110-125	-1JH20	
	220-240	220-250	220-240	220-250	-1JK00	

用于改装的附件		Accessories for first orders and retrofits				
 <p>电动机操作机构<sup>1)</sup> (关于改装可能性, 见右表) Motoried operating mechanism<sup>1)</sup> (Retrofitting is possible. For conditions see adjacent table)</p>	适用条件: 断路器订货号中的第 11 和 12 位如下: Precondition: 11th + 12th positions of the Order No. of the circuit-breaker 3WN6...-... -...	包括电动机和连接线 电动机的额定控制电压 consisting of motor and wiring rated control supply voltage of the motor				
	1 1	-	AC 50/60 Hz V	DC V	1 套	3WX36 32-1JB00
	1 4	-		24	1 set	-1JF00
	1 5	-		48		-1JG00
		110-127		60	1 套	3WX36 32-1JH00
	1 1		110-127	110-125	1 set	
	1 4					
	1 5					
	1 6	220-240		220-250	1 套	3WX36 32-1JK00
	1 8				1 set	
 <p>电气合闸<sup>1)</sup> (如果订货号的第 11 位为“0”, 则可以改装) Electrical closing<sup>1)</sup> (Retrofitting is possible if the 11th position of the Order No. of the circuit-breaker is "0")</p>	包括合闸线圈(Y1)、电气合闸按钮和连接线 合闸线圈(Y1)的额定控制电压 consisting of closing solenoid (Y1), electrical ON pushbutton and wiring; rated control supply voltage of the closing solenoid (Y1)					
	AC 50/60 Hz V	DC V				
	-		24		1 套	3WX36 33-1JB00
	-		48		1 set	-1JF00
	-		60			-1JG00
	110-127		110-125		1 套	3WX36 33-1JH00
220-240		220-250		1 set	-1JK00	



1) 若要改装, 应对辅助接线端子块的数量(见第 2/51 页)。订购额外接线端子块, 见第 2/57 和 2/59 页。

1) In case of retrofitting the number of auxiliary connectors should be checked (see page 2/51). For ordering additional auxiliary connectors, see pages 2/57 and 2/59.

3WN6 断路器, 3 极和 4 极, 至 3200A  
3WN6 Circuit-Breakers, 3 and 4-pole, up to 3200A

用于改装的附件		Accessories for retrofits			
<p>当改装断路器时, 断路器侧面和铭牌上的订货号应按照安装说明相应更改。 When retrofitting these circuit-breakers, the Order No. the circuit-breaker on the name plate on the control console and on the circuit-breaker side should be supplemented according to the mounting instructions.</p>					
描述 Description		每台断路器 所需数量 Quantity required per circuit-breaker	每一套或每一件 订货号 Per 1 set or 1 item Order No.		
用于固定式和抽屉式断路器 /For fixed-mounted and draw-out circuit-breakers					
 <p>用于 3WN6 断路器的 相互机械联锁 Mutual mechanical interlocking for 3WN6 circuit-breakers</p>	1 个联锁模块和 1 根钢缆(2m 长) 1 interlocking module with 1 Bowden wire (2 m in length)	1 套 1 item	3WX36 66-1JA00		
	用于固定式断路器 For a fixed-mounted circuit-breaker	1 套 1 item	-2JA00		
	用于抽屉式断路器 For a draw-out circuit-breaker	1 套 1 item			
	三台断路器的联锁, 每台断路器需一根附加的钢缆。 For interlocking of 3 circuit-breakers, an additional Bowden wire per circuit-breaker is required.	1 件 1 item	3WX36 66-8JA00		
	钢缆(2m 长) Bowden wire (2 m in length)	1 件 1 item	3WX36 66-8JA01		
	钢缆(3m 长) Bowden wire (3 m in length)	1 件 1 item	-8JA02		
	钢缆(4.5m 长) Bowden wire (4.5 m in length)	1 件 1 item	-8JA03		
	钢缆(6m 长) Bowden wire (6 m in length)				
 <p>由安全锁或挂锁组成的 锁定装置防止未经许可 合闸断路器 Locking device consisting of safety locks or padlocks against unauthorized closing of the circuit-breaker</p>	带 3SB1 安全锁代 替分闸按钮 <sup>2)</sup> either 3SB1 safety lock instead of OFF push- button <sup>2)</sup>	CES 型 标准闭锁 No. SSG 10 CES type standard closure No. SSG 10	1 件 1 item	3WX36 63-1JA00	
		BKS 型 标准闭锁 No. S1 BKS type standard closure No. S1	1 件 1 item	3WX36 63-1JB00	
		IKON 型 标准闭锁 No. 3600 12 K1 IKON type standard closure No. 3600 12 K1	1 件 1 item	3WX36 63-1JC00	
	或带	锁定装置, 最多可用 4 把挂锁(4~8mm 钩环直径) <sup>2)</sup> or Locking facility for max. 4 padlocks (4 to 8mm shackle diameter) <sup>2)</sup>		1 件 1 item	3WX36 63-1JG00
		用急停按钮(自锁型)替代分闸按钮 with EMERGENCY-STOP pushbutton (self- latching) instead of OFF pushbutton		1 件 1 item	3WX36 61-0JA00
		带 3SB1 安全锁 替代机械合闸 按钮 3SB1 safety lock instead mechanical ON pushbutton	CES 型 标准闭锁 No. SSG 10 CES type standard closure No. SSG 10	1 件 1 item	3WX36 63-2JA00
	BKS 型 标准闭锁 No. S1 BKS type standard closure No. S1	1 件 1 item	3WX36 63-2JB00		
	IKON 型 标准闭锁 No. 3600 12 K1 IKON type standard closure No. 3600 12 K1	1 件 1 item	3WX36 63-2JC00		

用于改装的附件		Accessories for retrofits	
	用于 CASTELL 锁或 FORTRESS 锁 <sup>1)</sup> 的安装组件 从生产厂家处获得的锁(FS2)或 FORTRESS 锁 (H31LH/65 <sup>o</sup> / 标准) Mounting kit for CASTELL lock or FORTRESS lock <sup>1)</sup> Locks to be obtained from the manufacturer: CASTELL Lock (FS2) or FORTRESS lock (H31LH/65 <sup>o</sup> /Standard)	1 套 1 item	3WX36 63-6JE00
	用于 KIRK-KEY 锁 <sup>1)</sup> 的安装组件 Mounting kit for KIRK-KEY lock <sup>1)</sup>	1 套 1 item	3WX36 63-6JE30
	用于 CASTELL、FORTRESS 或 KIRK-KEY 锁 <sup>1)</sup> 的锁定装置；当钥匙取出后，钥匙孔被盖住，最多 可用 4 把挂锁锁住。 Locking facility for CASTELL,FORTRESS or KIRK- KEY lock <sup>1)</sup> ; keyhole is covered after removing the key, lockable with up to 4 padlocks	1 套 1 item	3WX36 63-6JE10



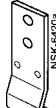
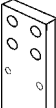





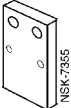

1) 锁可从锁具生产厂家直接获得。  
 2) 用于挂锁的锁定装置不能与替代分闸按钮的安全锁组合。

1) Locks to obtained directly from the manufacturer.  
 2) The locking facility for padlocks cannot be used in combination with a safety lock instead of the OFF pushbutton.



3WN6 断路器, 3 极和 4 极, 至 3200A  
3WN6 Circuit-Breakers, 3 and 4-pole, up to 3200A

用于改装的附件		Accessories for retrofits				
描述	额定电流 $I_n$	尺寸等级	极数	每台断路器所需数量	每一套订货号	
Description	Rated current $I_n$	Size	Number of poles	Quant. required per circuit-breaker	per 1 set Order No.	
<b>用于固定式断路器</b> For fixed-mounted circuit-breakers		当改装断路器时, 断路器侧面和铭牌上的订货号应按照安装说明相应更改。 When retrofitting these parts the Order No. of the circuit-breaker on the nameplate on the control-panel and on the breaker side should be changed according to instructions.				
 NSK-6419A   NSK-7365   NSK-6420A   NSK-7356  	主回路连接母排 前置, 单孔, 垂直 Connecting bars for main terminals accessible from the front single-hole bar, vertical	至 1000 A up to 1000 A	I	3 极 3-pole	1 套 = 3 件 1 set = 3 items 1 套 = 6 件 1 set = 6 items	3WX36 21-1AB00 -1AD00
				4 极 4-pole	1 套 = 4 件 1 set = 4 items 1 套 = 8 件 1 set = 8 items	3WX36 21-1AC00 -1AE00
		1250 和 1600 A 1250 and 1600 A	I	3 极 3-pole	1 套 = 3 件 1 set = 3 items 1 套 = 6 件 1 set = 6 items	3WX36 21-1BB00 -1BD00
				4 极 4-pole	1 套 = 4 件 1 set = 4 items 1 套 = 8 件 1 set = 8 items	3WX36 21-1BC00 -1BE00
		2000 A	II	3 极 3-pole	1 套 = 3 件 1 set = 3 items 1 套 = 6 件 1 set = 6 items	3WX36 21-1DB00 -1DD00
				4 极 4-pole	1 套 = 4 件 1 set = 4 items 1 套 = 8 件 1 set = 8 items	3WX36 21-1DC00 -1DE00
		2500 和 3200 A 2500 and 3200 A	II	3 极 3-pole	1 套 = 3 件 1 set = 3 items 1 套 = 6 件 1 set = 6 items	3WX36 21-1FB00 -1FD00
				4 极 4-pole	1 套 = 4 件 1 set = 4 items 1 套 = 8 件 1 set = 8 items	3WX36 21-1FC00 -1FE00
	双孔, 垂直(孔洞 符合 DIN43673 标准) Double-hole bar vertical (holes acc. to DIN 43 673)	至 1000A up to 1000A	I	3 极 /3-pole	1 套 = 3 件 1 set = 3 items 1 套 = 6 件 1 set = 6 items	3WX36 21-1AB01 -1AD01
				4 极 /4-pole	1 套 = 4 件 1 set = 4 items 1 套 = 8 件 1 set = 8 items	3WX36 21-1AC01 -1AE01
		1250A 和 1600A 1250A and 1600A	I	3 极 /3-pole	1 套 = 3 件 1 set = 3 items 1 套 = 6 件 1 set = 6 items	3WX36 21-1BB01 -1BD01
				4 极 /4-pole	1 套 = 4 件 1 set = 4 items 1 套 = 8 件 1 set = 8 items	3WX36 21-1BC01 -1BE01
锁定装置 由柜门上的锁和带钢缆 (1.5m 长)的联锁模块组成 防止未经许可合闸断路器 Locking device consisting of lock in the cubicle door and interlocking module with Bowden wire (1.5m in length) against unauthorized closing of the circuit- breaker	2000A	II	3 极 /3-pole	1 套 = 3 件 1 set = 3 items 1 套 = 6 件 1 set = 6 items	3WX36 21-1DB01 -1DD01	
			4 极 /4-pole	1 套 = 4 件 1 set = 4 items 1 套 = 8 件 1 set = 8 items	3WX36 21-1DC01 -1DE01	
	2500A 和 3200A 2500A and 3200A	II	3 极 /3-pole	1 套 = 3 件 1 set = 3 items 1 套 = 6 件 1 set = 6 items	3WX36 21-1FB01 -1FD01	
			4 极 /4-pole	1 套 = 4 件 1 set = 4 items 1 套 = 8 件 1 set = 8 items	3WX36 21-1FC01 -1FE01	
带安全锁 with safety lock	CES 型 标准闭锁 No. SSG 10 CES type standard closure No. SSG 10			1 套 1 item	3WX36 68-1JA00	
	BKS 型 标准闭锁 No. S1 BKS type standard closure No. S1			1 套 1 item	3WX36 68-1JB00	
用于 CASTELL 锁或 FORTRESS 锁的安装组件 从生产厂家处获得的锁(FS2)或 FORTRESS 锁 (H31LH/65° 标准) Mounting kit for CASTELL or FORTRESS. Locks to be obtained from manufacturer CASTELL Lock (FS2) or FORTRESS Lock (H31LH/65°/Standard)	IKON 型 标准闭锁 No. 360012 K1 IKON type standard closure No. 360012 K1			1 套 1 item	3WX36 68-1JC00	
	O. M. R. 型 标准闭锁 No. 73034 O. M. R. type standard closure No. 73034			1 套 1 item	3WX36 68-1JD00	

用于改装的附件		Accessories for retrofits				
	辅助接线端子 / Auxiliary connector			1 件 1 item	3WX36 25-1JC00	
	锁定装置 Auxiliary connector	当断路器合闸后防止打开柜门 / Against opening of the cubicle door when the circuit-breaker is closed		1 件 1 item	3WX36 67-2JA00	
		当柜门打开时, 防止断路器合闸 / Against closing the circuit-breaker when the cubicle door is open		1 件 1 item	3WX36 67-1JA00	
	消弧罩盖 <sup>1)</sup> Arc chute cover <sup>1)</sup>	至 1600 A up to 1600 A	I	3 极 3-pole 4 极 4-pole	1 件 1 item 1 件 1 item	3WX36 14-0GA00 -0HA00
2000-3200 A		II	3 极 3-pole 4 极 4-pole	1 件 1 item 1 件 1 item	3WX36 14-0KA00 -0LA00	
用于导向框架 / For guide frames						
	消弧罩盖 <sup>1)</sup> Arc chute cover <sup>1)</sup>	至 1600A up to 1600A	I	3 极 3-pole 4 极 4 - pole	1 件 1 item 1 件 1 item	3WX36 14-0GB00 -0HB00
		2000-3200A	II	3 极 3-pole 4 极 4-pole	1 件 1 item 1 件 1 item	3WX36 14-0KB00 -0LB00
	主回路连接母排前置 单孔, 垂直 Connecting bars for main terminals accessible from the front Single-hole bar vertical	至 1000A up to 1000A	I	3 极 3-pole 4 极 4-pole	1 套 = 3 件 1 set = 3 items 1 套 = 4 件 1 set = 4 items	3WX36 23-1AB00 -1AC00
		1250 和 1600A 1250 and 1600A	I	3 极 3-pole 4 极 4-pole	1 套 = 3 件 1 set = 3 items 1 套 = 4 件 1 set = 4 items	3WX36 23-1BB00 -1BC00
	双孔, 垂直(孔洞符合 DIN 43673 标准) Double-hole bar, vertical (holes acc.to DIN 43673)	至 1000A up to 1000A	I	3 极 3-pole 4 极 4-pole	1 套 = 3 件 1 set = 3 items 1 套 = 4 件 1 set = 4 items	3WX36 23-1AB01 -1AC01
		1250 和 1600A 1250 and 1600A	I	3 极 3-pole 4 极 4-pole	1 套 = 3 件 1 set = 3 items 1 套 = 4 件 1 set = 4 items	3WX36 23-1BB01 -1BC01
	主回路连接母排 垂直后置 Connecting bars for main terminals at the rear, vertical	至 1000A up to 1000A	I	3 极 3-pole 4 极 4-pole	1 套 = 3 件 1 set = 3 items 1 套 = 4 件 1 set = 4 items	3WX36 23-3AB00 -3AC00
		1250 和 1600A 1250 and 1600A	I	3 极 3-pole 4 极 4-pole	1 套 = 3 件 1 set = 3 items 1 套 = 4 件 1 set = 4 items	3WX36 23-3BB00 -3BC00

1) 用于额定电压>415V时,防止飞弧,对于主回路母排垂直前置,不需要消弧罩盖。

1) Required for protection against flash-over for voltages >415V. Not required for vertical main connections accessible from the front.

3WN6 断路器, 3 极和 4 极, 至 3200A  
 3WN6 Circuit-Breakers, 3 and 4-pole, up to 3200A

用于改装的附件		Accessories for retrofits				
描述	额定电流 $I_n$	尺寸等级	极数	每台断路器所需数量	每一套订货号	
Description	Rated current $I_n$	Size	Number of poles	Quant. required per circuit-breaker	per 1 set Order No.	
用于导向框架 / For guide frames						
<p>主回路连接母排 前置 单孔, 垂直 Connecting bars for main terminals accessible from the front single-hole bar, vertical</p>	至 2000A up to 2000A	II	3 极 3-pole	1 套 = 3 件 1 set = 3 items	3WX36 23-1DB00	
			4 极 4-pole	1 套 = 6 件 1 set = 6 items	-1DD00	
				1 套 = 4 件 1 set = 4 items	3WX36 23-1DC00	
				1 套 = 4 件 1 set = 4 items	-1DE00	
	2500 和 3200A 2500 and 3200A	II	3 极 3-pole	1 套 = 8 件 1 set = 8 items	3WX36 23-1EB00	
			4 极 4-pole	1 套 = 6 件 1 set = 6 items	-1ED00	
<p>双孔, 垂直(孔洞符合 DIN43 673 标准) Double-hole bar vertical (holes acc. to DIN 43 673)</p>	2000A	II	3 极 3-pole	1 套 = 3 件 1 set = 3 items	3WX36 23-1DB01	
			4 极 4-pole	1 套 = 6 件 1 set = 6 items	-1DD01	
				1 套 = 4 件 1 set = 4 items	3WX36 23-1DC01	
				1 套 = 4 件 1 set = 4 items	-1DE01	
	2500 和 3200A 2500 and 3200A	I	3 极 3-pole	1 套 = 8 件 1 set = 8 items	3WX36 23-1EB01	
			4 极 4-pole	1 套 = 6 件 1 set = 6 items	-1ED01	
<p>位置信号发送开关 (由抽屉式断路器本体操作) Position signalling switches (actuated by draw-out circuit-breaker)</p>	运行位置 Connected position	试验位置 Test position	退出位置 Disconnected position	先决条件 Precondition		
	1NO+1NC	1NO+1NC	1NO+1NC	如果位置开关还未安装, 则可以采用 possible if a position switch is not yet fitted	1 套 = 1 件 1 set = 1 items	3WX36 84-1JA10
	3NO+3NC	2NO+2NC	1NO+1NC	如果位置开关还未安装, 则可以采用 possible if a position switch is not yet fitted	1 套 = 1 件 1 set = 1 items	3WX36 84-1JC10
2NO+2NC	1NO+1NC	-	如果导向框架内每个位置已安装 1NO + 1NC 位置开关 则可以采用 possible if a position switch 1NO+1NC per position is fitted in the guide frame	1 套 = 1 件 1 set = 1 items	3WX36 84-1JB10	

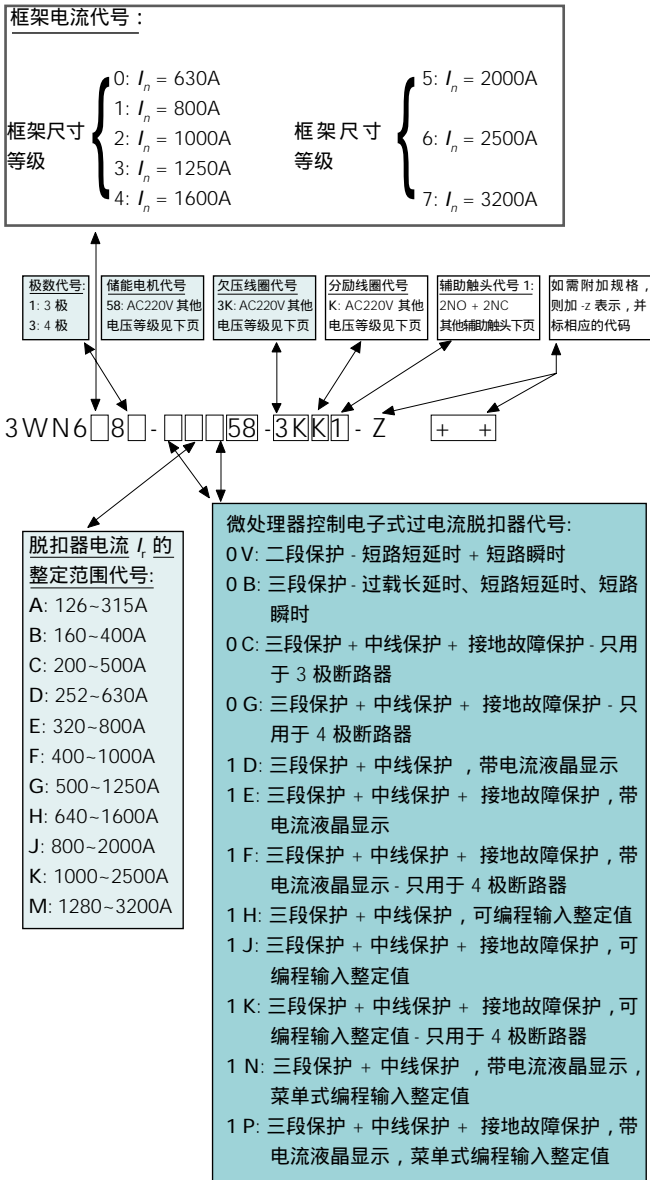
用于改装的附件		Accessories for retrofits			
	安全挡板 Shutter	防止接触到主回路 Protection against touching the main connection 用于 3 极导向框架 for 3-pole guide frames	用于额定电流 for rated current ~1600 A	1 件 1 item	3WX36 84-3CA00  -3DA00
		用于 4 极导向框架 for 4-pole guide frames	用于额定电流 for rated current ~1600 A	1 件 1 item	3WX36 84-3CB00  -3DB00
	辅助接线端子块 Auxiliary draw-out connectors	用于导向框架 - 用作替换和改装 for guide frames-for replacement and retrofit		1 件 1 item	3WX36 27-1JA00
	用于抽屉式断路器 / for draw-out circuit-breakers				
	锁定装置 Locking device	当断路器在运行位置防止打开柜门 against opening of the cubicle door with the circuit-breaker in connected position 当柜门打开时, 防止断路器合闸(只在运行位置有效) against closing with open door (only in connected position) 当柜门打开时, 防止移动断路器本体 against moving with open door		1 件 1 item	3WX36 67-1JC00  -1JB00  -3JA00
	锁定装置防止未经许可合 闸断路器(由柜门上的锁 和联锁模块组成) Locking device against unauthorized closing of the circuit-breaker (lock in the cubicle door and interlocking module)	带安全锁 with safety lock 锁具在运行位置有效 Locking device effective in connected position	CES 型 标准闭锁 No. SSG 10 CES type standard closure No. SSG 10 BKS 型 标准闭锁 No. S1 BKS type standard closure No. S1 IKON 型 标准闭锁 No. 3600 12 K1 IKON type standard closure No. 3600 12 K1 O.M.R. 型 标准闭锁 No. 73034 O.M.R.type standard closure No. 73034	1 套 1 set	3WX36 68-2JA00  3WX36 68-2JB00  3WX36 68-2JC00  3WX36 68-2JD00
		用于 CASTELL 锁或 FORTRESS 锁的安装组件 从生产厂家处获得的锁 CASTELL 锁(FS2) 或 FORTRESS 锁(H31LH/AC65° 标准) Mounting kit for CASTELL lock or FORTRESS lock Locks to be procured from the manufacturer: CASTELL Lock (FS2) or FORTRESS lock (H31LH/AC65°/Standard)		1 套 1 set	3WX36 68-2JE00
	锁定装置防止在退出位置 移动断路器本体 Locking device against moving of the circuit- breaker from the disconnected position	带安全锁 with safety lock	CES 型 CES type  BKS 型 BKS type IKON 型 IKON type O. M. R 型 O. M. R type Profalux 型 Profalux type Ronis 型 Ronis type	1 件 1 item	3WX36 67-4JA10  3WX36 67-4JB10 3WX36 67-4JC10 3WX36 67-4JD10 3WX36 67-4JF10 3WX36 67-4JG10
	锁定装置防止移动断路器 本体(安全锁防止打开曲 柄孔) Locking device against moving of the circuit-breaker (the safety lock prevents opening of the crank hole)	带安全锁 with safety lock	CES 型 标准闭锁 No. SSG 10 CES type standard closure No. SSG 10 BKS 型 标准闭锁 No. S1 BKS type standard closure No. S1 IKON 型 标准闭锁 No. 3600 12 K1 IKON type standard closure No. 3600 12 K1 O. M. R 型 标准闭锁 No. 73034 O. M. R type standard closure No. 73034 Profalux 型 Profalux type Ronis 型 Ronis type	1 件 1 item	3WX36 67-4JA00  3WX36 67-4JB00  3WX36 67-4JC00  3WX36 67-4JD00  3WX36 67-4JF00  3WX36 67-4JG00

3WN6 断路器, 3 极和 4 极, 至 3200A  
3WN6 Circuit-Breakers, 3 and 4-pole, up to 3200A

备件							Spare parts		
描述	适用的断路器型号	额定电流	尺寸等级	极数	每台断路器所需数量	每一套或一件订货号			
Description	For circuit-breaker Type	Rated current	Size	Number of poles	Quant. required per circuit-breaker	per 1 set or 1 item	Order No.		
用于固定式和抽屉式断路器 / For fixed-mounted and draw-out circuit-breakers									
主触头组 Main contact set	3WN6 0.1 to 3WN6 2.1	~1000 A	I	3 极 3-pole	3 套 3 sets	3WY36 21-0AA00			
	3WN6 0.1-.....-Z K03 to 3WN6 2.1-.....-Z K03	~1000 A	I	3 极 3-pole	3 套 3 sets	3WY36 21-0AA10			
	3WN6 0.3 to 3WN6 2.3	~1000 A	I	4 极 4-pole	4 套 4 sets	3WY36 21-0AA00			
	3WN6 0.3-.....-Z K03 to 3WN6 2.3-.....-Z K03	~1000 A	I	4 极 4-pole	4 套 4 sets	3WY36 21-0AA10			
	3WN6 3.1 to 3WN6 4.1	1250 and 1600 A	I	3 极 3-pole	3 套 3 sets	3WY36 21-0BA00			
	3WN6 3.3 to 3WN6 4.3	1250 and 1600 A	I	4 极 4-pole	4 套 4 sets	3WY36 21-0BA00			
	3WN6 5.1	2000A	II	3 极 3-pole	3 套 3 sets	3WY36 21-0DA00			
	3WN6 5.3	2000A	II	4 极 4-pole	4 套 4 sets	-0DA00			
	3WN6 6.1	2500A	II	3 极 3-pole	3 套 3 sets	3WY36 21-0EA00			
	3WN6 6.3	2500A	II	4 极 4-pole	4 套 4 sets	-0EA00			
	3WN6 7.1	3200A	II	3 极 3-pole	3 套 3 sets	3WY36 21-0FA00			
	3WN6 7.3	3200A	II	4 极 4-pole	4 套 4 sets	-0FA00			
	灭弧室 Arc chute	3WN6 0.1 to 3WN6 4.1	~1600A	I	3 极 3-pole	3 件 3 items	3WY36 11-0CA00		
		3WN6 0.3 to 3WN6 4.3	~1600A	I	4 极 4-pole	4 件 4 items	-0CA00		
3WN6 5.1 to 3WN6 7.1		2000A ~3200A	II	3 极 3-pole	3 件 3 items	3WY36 11-0FA00			
3WN6 5.3 to 3WN6 7.3		2000A ~3200A	II	4 极 4-pole	4 件 4 items	-0FA00			
曲柄 Crank	用于抽屉式断路器 for draw-out circuit-breaker				1 件 1 item	3WX36 84--0JA00			



图 29 主触头组  
Fig. 2/29 Main contact set



重要说明：

- 上述型号为抽屉式断路器。固定式断路器参照样本。对于抽屉式断路器，如需其他方式的主回路连接方式，则可在断路器订货号的最后加 -Z，标上相应规格代码。
- 储能电机的其他电压等级及其代码举例 - 51: DC24V; 54: DC45V; 56: AC110V。如需其他电压等级，请参照有关样本。
- 欠压线圈其他电压等级及其代码举例 - 3B: DC24V; 3E: DC30V; 3F: DC48V; 3G: DC60V; 3H: AC110V; 3M: AC380V。  
如需可延时 (0.2~3.2s) 欠压线圈，则其电压等级和代码如下 - 4H: AC110V; 4K: AC220V; 4M: AC380V。
- 分励线圈其他电压等级及其代码举例 - B: DC24V; F: DC48V; G: DC56V; H: AC110V/DC110V; K: AC220V/DC220V。  
如需两个分励线圈，则可用如下代码取代原欠压线圈代码 - 1B: DC24V; 1F: DC48V; 1H: AC110V/DC110V; 1K: AC220V/DC220V。
- 辅助触头其他型式代码 - 3: 2NO+2NC+2CO。
- 过电流脱扣器 1D-1P 如需增加附加功能 1，则脱扣器代码应相应改为 3D-3P；过电流脱扣器 1D-1P 如需增加附加功能 2，则脱扣器代码应相应改为 7D-7P。如需使断路器具有通讯功能，则应选 7D-7P 相应的脱扣器，并增加通讯模式 Z=F01 或 F05，详细描述请参见有关样本。
- 如需其他规格，例如：计数器、钥匙锁、电动机开关、机械连锁、各种锁定装置、位置信号发送开关等附件，则可在断路器订货号的最后加 -Z，标上相应规格代码，例如需三锁两钥匙，则完整断路器的型号为 3WN6.....-Z S01，详细描述请参见有关样本。
- 用于对 N 导线进行保护或需要接地故障保护的 3 极断路器，或采用 E 型或 J 型脱扣器的 4 极断路器用于 N 导线保护或接地故障保护，均应另外订购用于 N 导线的电流互感器，详细订货号请参见有关样本。
- 柜门密封框、过电流脱扣器功能测试仪等辅助装置的订货号请参见有关样本。

订货号示例：3WN6281-3FD58-4KK3-Z R20+C01+R07+R30 该订货号表明：三极抽屉式断路器，框架电流 1000A，整定电流范围 400~1000A，带 3D 型脱扣器（三段保护 + 中线保护，带液晶显示，具有附加功能 1），电操机构为 AC220V，欠压线圈带延时 AC220V，分励线圈 AC220V，带辅助 2NO+2NC+2CO 辅助触头；导向框架装有安全挡板，断路器面板带计数器，主回路连接垂直后置，断路器合闸时开关柜门不能打开。

说明

断路器供货时均提供如下基本配置而不必另加说明：

- 电子式过电流脱扣器本体均带有脱扣原因 LED 显示，断路器运行状态 LED 显示，查询和自诊断按键。
- 脱扣信号发送触头 S11 (在接线端子 X200.12 和 X200.13 之间)。
- 合闸准备就绪显示器，合闸准备就绪信号发送触头 S7 (在接线端子 X200.13 和 X200.14 之间)。
- 机械重合闸锁定；主回路连接水平后置。

# 3WN6 万能式断路器(抽屉式断路器的常用规格) 3WN6 Circuit Breaker (Draw-out version)

## 快速选型表 Selection chart

**Code of Rated current:**

Size I $\left\{ \begin{array}{l} 0: I_n = 630A \\ 1: I_n = 800A \\ 2: I_n = 1000A \\ 3: I_n = 1250A \\ 4: I_n = 1600A \end{array} \right.$	Size I $\left\{ \begin{array}{l} 5: I_n = 2000A \\ 6: I_n = 2500A \\ 7: I_n = 3200A \end{array} \right.$
--	--

**Code of Pole Number**  
1: 3-pole  
3: 4-pole

**Code of charging motor**  
Example  
58: AC220V

**Code of Undervoltage Release**  
Example  
3K: AC220V

**Code of Shunt trip release**  
Example  
K: AC220V

**Code of Auxswitch**  
Example  
1: 2NO + 2NC

For ordering additional versions, and -Z to the complete order number and indicate the appropriate order code(s)

3WN6 8 - 58 - 3 K K 1 - Z + +

**Codes of solid-state, microprocessor-controlled overcurrent releases**

0 V: Version V: zn  
0 B: Version B: azn  
0 C: Version C: aznNg - only for 3-pole  
0 G: Version G: aznNg - only for 4-pole  
1 D: Version D: aznN, Basic functions with LCD display  
1 E: Version E: aznNg, Basic functions with LCD display  
1 F: Version F: aznNg, Basic functions with LCD display - **only for 4-pole**  
1 H: Version H: aznN, Basic functions, setting via hand-held control unit or through communication (**remote parameterization**)  
1 J: Version J: aznNg, Basic functions, setting via hand-held control unit or through communication (**remote parameterization**)  
1 K: Version K: aznNg, Basic functions, setting via hand-held control unit or through communication (**remote parameterization**) - **only for 4-pole**  
1 N: Version N: aznN, Basic functions with LCD display, menu-driven setting of protection parameters directly via keyboard or hand-held control unit or through communication (**remote parameterization**)  
1 P: Version P: aznNg, Basic functions with LCD display, menu-driven setting of protection parameters directly via keyboard or hand-held control unit or through communication (**remote parameterization**)

**Notes**

Basic Scope of Supply:

- (1) All versions of solid state overturned releases have LED for tripping cause, LED operating display, query and test buttons.
- (2) Tripped signaling switch S11 (position of auxiliary contact connections in the terminal blocks X200.12 and X200.13)
- (3) Ready-to-close indicators, its signaling switch S7 (in the terminal blocks X200.13 and X200.14)
- (4) Mechanical reclosing lockout; main conductor connections (horizontal) on the rear.

- Important Notes:**
1. If fixed mounted version is needed, please refer to the catalog. For draw-out version, if other form of main connections other than standard version is needed, -Z shall be added after the complete order No. of 3WN6 and then indicate appropriate order code, which is listed in this catalog.
  2. The voltage ratings of charging motors and related order number supplement-51: DC24V; 54: DC45V; 56: AC110V. For other voltage ratings, please refer to this catalog.
  3. The voltage ratings of under voltage releases and related order number supplement-3B: DC24V; 3E: DC30V; 3F: DC48V; 3G: DC60V; 3H: AC110V; 3M: AC380V.  
If need delay adjustable (0.2~3.2s) UVR, the voltage ratings and related order number supplement-4H: AC110V; 4K: AC220V; 4M: AC380V.
  4. The voltage ratings of shunt release and related order number supplement-B: DC24V; F: DC48V; G: DC56V; H: AC110V/DC110V; K: AC220V/DC220V.  
If need two shunt releases, add this supplement on position 13, 14 of 3WN6 order number-1B: DC24V; 1F: DC48V; 1H: AC110V/DC110V; 1K: AC220V/DC220V
  5. Add this code on position 16 for two more CO auxiliary contacts-3: 2NO+2NC+2CO
  6. If need additional function 1 for OCR 1D to 1P, its code shall be 3D to 3P; If need addition 2 for OCR 1D to 1P, its code shall become 7D to 7P. If need communication function, 7D-7P OCR shall be selected, and add additional communication module Z = F01 or measuring module F05, Please refer to this catalog for details
  7. If further versions are needed, such as: counter, various locking device, motor switch, mechanical interlocking, position signaling switch and so on, please add -Z and related order codes after complete 3WN6 order number. **A example: if three locks with two keys version is needed, the complete order No. shall be 3WN6.....-.....-Z S01**, for details please refer to the catalog
  8. For 3-pole breakers with N-conduct overload protection or earth-fault protection function, or 4-pole breakers with E or J type OCR which has N-conductor protection or earth-fault protection function, the 4th CT must be ordered separately.
  9. Please refer to the catalog about the order No. for door sealing frame, OCR function testing unit and so on

**An example of order No.:** 3WN6281-3FD58-4KK3-Z R20+C01+R07+R30  
It means: 3-pole draw-out version, rated current 1000A, current setting range 400~1000A, with 3D type OCR (aznN protection, LCD display, with additional function 1), charging motor AC220V(58), delay adjustable undervoltage release (AC 220V) shunt release (AC 220V), with shutter, 2NO + 2NC + 2CO connections at the rear(R07), top and bottom vertical, against opening of the cubicle door when the breaker is in the connected position (R30).

3WN6 断路器, 3 极和 4 极, 至 3200A  
3WN6 Circuit-Breakers, 3 and 4-pole, up to 3200A

技术数据				Technical data							
尺寸等级 Size				I				II			
型号 Type				3WN6 0	3WN6 1	3WN6 2	3WN6 3	3WN6 4	3WN6 5	3WN6 6	3WN6 7
额定电流 $I_n$ (55°C, 50/60Hz) Rated current $I_n$ at 55°C, 50/60Hz	主回路 Main conductors	A	630	800	1000	1250	1600	2000	2500	3200	
	N 导线回路(只对于四极) N conductors (4-pole only)	A	630	800	1000	1250	1600	2000	2500	3200	
额定工作电压 $U_e$ (50/60Hz) Rated operational voltage $U_e$ at 50/60Hz	AC V		up to 690								
额定冲击耐受电压 $U_{imp}$ Rated impulse withstand voltage $U_{imp}$	主回路 Main conducting path <sup>7)</sup>	kV	8								
	辅助回路 Auxiliary circuits	kV	4								
使用类别 Utilization category				B							
额定短路接通能力 $I_{cm}$ (峰值) Rated short-circuit making capacity (peak value) $I_{cm}$	up to AC 415V	kA	143				176				
	up to AC 500V	kA	143				176				
	up to AC 690V	kA	110				110				
额定运行短路分断能力 $I_{cs}$ (有效值) Rated service short-circuit breaking capacity (rms value) $I_{cs}$	up to AC 415V	kA	65				80				
	up to AC 500V	kA	65				80				
	up to AC 690V	kA	50				50				
额定极限短路分断能力 $I_{cu}$ (有效值) Rated ultimate short-circuit breaking capacity $I_{cu}$ (rms value)	up to AC 415V	kA	65				80				
	up to AC 500V	kA	65				80				
	up to AC 690V	kA	50				50				
允许环境温度 Permissible ambient temperature	工作 Operation	°C	-20...+70								
	储存 Storage	°C	-40...+80								
额定短时耐受电流 $I_{cw}$ (50/60Hz) Rated short-time withstand current $I_{cw}$ at 50/60Hz	0.5s	kA	50				50		65		
	1s	kA	35/50 <sup>1)</sup>				50		65		
	2s	kA	25/30 <sup>1)</sup>				30		60		
	3s	kA	20/25 <sup>1)</sup>				25		50		
柜内温度为以下值时, 固定安装式与抽屉式断路器的允许负载 permissible Loading of fixed-mounted and draw-out circuit-breakers with internal cubicle temperature <sup>2)3)4)</sup>	up to 55°C	A	630	800	1000	1250	1600	2000	2500	3200	
	at 60°C	A	630	800	1000	1250	1550	2000	2270	3050	
	at 70°C	A	630	800	1000	1250	1450	2000	2030	2850	
滑环电动机转子额定工作电压 $U_{er}$ Rotor rated operational voltage $U_{er}$	V		2000								
在三相平衡负载(没有导体排和金属元件)下对应于 $I_n$ 的功率损耗 Power loss at $I_n$ with 3-phase balanced load (without conductor bars and metal components) <sup>2)4)</sup>	固定安装式断路器 Fixed-mounted circuit-breakers	W	40	60	90	90	140	170	260	420	
	抽屉式断路器(包括导向框架) Draw-out circuit-breakers incl. guide frame	W	80	130	205	205	310	310	510	760	
寿命 Endurance 有维修 with maintenance <sup>5)</sup>	机械寿命 mechanical/ 电气寿命 electrical <sup>6)</sup>	操作次数 Operating Cycles	20 000				20 000				
			20 000				20 000				
	机械寿命 mechanical/ 电气寿命 electrical <sup>6)</sup>	操作次数 Operating Cycles	10 000				10 000				
			6 000				2 000				
操作频率 Switching frequency	1/min		1								
从过电流脱扣器使断路器发生脱扣到发出下个合闸指令之间的最小时间间隔(只对于重合闸闭锁具有自动机械复位而言) Minimum interval between circuit-breaker tripping by over-current release and the next closing command (only with automatic mechanical reset of the closing lockout)	ms		80								





# 3WN6 断路器, 3 极和 4 极, 至 3200A

## 3WN6 Circuit-Breakers, 3 and 4-pole, up to 3200A

技术数据				Technical data							
尺寸等级 Size	I						II				
型号 Type	3WN60	3WN61	3WN62	3WN63	3WN64	3WN65	3WN66	3WN67			
安装位置 Mounting position											
防护等级 Degree of protection	安装于柜内和框架内的断路器: IP 20 控制面板上带有密封框: IP 54 Circuit-breaker: IP 20, for cubicle or frame mounting; control panel with sealing frame: IP 54										
主回路导体的最小截面 Min. cross-sections of main conductors	铜排 裸露 Copper bars, bare	Qty mm <sup>2</sup>	1 × 50 × 10	1 × 60 × 10	2 × 40 × 10	2 × 50 × 10	2 × 60 × 10	2 × 100 × 10	3 × 100 × 10	3 × 100 × 10	
	铜排 涂黑 Copper bars, painted black	Qty mm <sup>2</sup>	1 × 40 × 10	1 × 50 × 10	1 × 60 × 10	2 × 40 × 10	2 × 50 × 10	2 × 80 × 10	2 × 100 × 10	3 × 100 × 10	
辅助回路连接导线(铜) Auxiliary connecting leads (copper)	辅助导体的最大数目 × 截面 Max. number of aux. conn. leads x cross-section	实心线、带端子的细绞线 solid and finely stranded with end sleeves	1 × 0.5...2.5mm <sup>2</sup> ; 1 × AWG14 2 × 1.0mm <sup>2</sup>								
重量 Weights	三极断路器 3-pole circuit-breakers	固定安装式 Fixed-mounted circuit-breaker	约 kg approx.kg	34	34	34	36	36	57	59	61
		抽屉式 Draw-out circuit-breaker	约 kg approx.kg	36	36	36	38	38	59	61	63
		导向框架 Guide frame	约 kg approx. kg	22	22	22	23	23	35	37	37
	四极断路器 4-pole circuit-breakers	固定安装式 Fixed-mounted circuit-breaker	约 kg approx. kg	47	47	47	49	49	70	72	74
		抽屉式 Draw-out circuit-breaker	约 kg approx. kg	49	49	49	51	51	72	74	76
		导向框架 Guide frame	约 kg approx.kg	27	27	27	28	28	46	48	48

- 断路器订货号后有 -Z 和订货码 K03 时, 此值有效, 详见第 2/40 页。  
Values are for circuit-breakers with -Z and order code K03, see "further versions" on page 2/40.
- 固定安装式为主回路水平连接, 抽屉式为主回路垂直连接。  
Horizontal connection with fixed-mounted version, vertical connection with draw-out version.
- 指断路器上方约 1/3 处的空间温度。  
The temperatures refer to the air space around the upper one-third of the circuit-breaker.
- 根据环境温度, 以 50/60Hz 时正弦电流为基准。谐波和更高的频率将导致热量与损耗上升。  
According to the ambient temperature, with sinusoidal current at 50/60Hz. Heating and losses will rise due to harmonics and higher frequencies.
- 维修: 更换触头组。  
Maintenance: exchange of the contact set.
- 每组触头。在  $\cos\phi=0.8$  时分断额定电流  $I_n$ 。  
Per set of contacts. Breaking the rated current  $I_n$  with p.f.=0.8.
- 额定绝缘电压  $U_i=AC 1000V$ 。  
Rated insulation voltage  $U_i=AC 1000V$ .

技术数据		Technical data	
操作机构 Operating mechanisms			
手动储能、机械合闸式操作机构 Manual operating mechanism with stored-energy feature with mechanical closing			
合闸 / 储能机构 Closing/charging stored-energy mechanism	扳动手柄所需的最大操作力 Max. operating force required to move the handle 储能所需的手柄扳动次数 Number of handle strokes required for charging	N	210 5
手动储能、机械与电气合闸式操作机构 Manual operating mechanism with stored-energy feature with mechanical and electrical closing			
给储能机构储能 Charging stored-energy mechanism		参见“手动储能、机械合闸式操作机构” See “Manual operating mechanism with stored-energy feature with mechanical closing”	
合闸线圈 Closing solenoid (Y1)	线圈电压工作范围 Coil voltage tolerance 电池操作的电压范围 <sup>1)</sup> extended tolerance for battery operation <sup>1)</sup>	at DC 24V, DC48V, DC 60V, DC110V, DC220V	0.7 to 1.1 × U <sub>s</sub> 0.7 to 1.26 × U <sub>s</sub>
	功率消耗 Power consumption	AC/DC	VA/W
	电压为 U <sub>s</sub> 时，施加在合闸线圈上的指令的最小持续时间 Min. command duration at U <sub>s</sub> for the closing solenoid	ms	60
	电压为 U <sub>s</sub> 时的总合闸时间 (从对合闸线圈开始施加指令信号的一瞬间算起，适用于同步操作) Total closing time at U <sub>s</sub> after start of the command signal for the closing solenoid, suitable for synchronizing tasks	ms	80
	短路保护 至少需要 DIAZED 熔断器 (等级 gL) / 具有 C 特性的小型断路器 Short-circuit protection smallest permissible DIAZED fuse (Class gL)/ m.c.b. with C characteristics		1A TDz(时滞 / time-lag) / 1A
手动 / 电动机储能、机械与电气合闸式操作机构 Manual/motorized operating mechanism with stored-energy feature with mechanical and electrical closing			
手动操作机构 Manual operating mechanism		参见“手动储能、机械与电气合闸式操作机构” See “Manual operating mechanism with stored-energy feature with mechanical and electrical closing”	
电动机 Motor	线圈电压工作范围 Coil voltage tolerance 电池操作的电压范围 <sup>1)</sup> extended tolerance for battery operation <sup>1)</sup>	at DC 24V, DC48V, DC 60V, DC110V, DC220V	0.7 to 1.1 × U <sub>s</sub> 0.7 to 1.26 × U <sub>s</sub>
	电动机的功率消耗 Power consumption of the motor	AC/DC	VA/W
	电压为 100% U <sub>s</sub> 时给储能机构储能所需的时间 Time required for charging the stored-energy mechanism at 100% U <sub>s</sub>	s	20
合闸线圈 Closing solenoid			参见“手动储能、机械与电气合闸式操作机构” See “Manual operating mechanism with stored-energy feature with mechanical and electrical closing”
对于电动机和合闸线圈 For motor and closing solenoid	短路保护 电动机与合闸线圈具有相同额定控制电压 Short-circuit protection Motor and closing solenoid for <i>equal</i> rated control supply voltage		
	至少需要 DIAZED 熔断器 (等级 gL) / 具有 C 特性的小型断路器 smallest permissible DIAZED fuse (Class gL)/ m.c.b. with C characteristics	at U <sub>s</sub> =24V at U <sub>s</sub> =110-127V at U <sub>s</sub> =220-250V	2 ATDz (时滞 / time lag) / 2A 1A TDz (时滞 / time lag) / 1A 1A TDz (时滞 / time lag) / 1A



3WN6 断路器，3 极和 4 极，至 3200A  
3WN6 Circuit-Breakers, 3 and 4-pole, up to 3200A

技术数据				Technical data
辅助脱扣器 Auxiliary releases				
分励脱扣器 Shunt releases "f" (F1, F2)	可连续通电 (100% 接通), 适用于微动保 险锁定 For continuous command (100% ON) suitable for jog-safe blocking (fd)	操作值 Operating values	吸合 pick up	(断路器脱扣) 0.7 × U <sub>s</sub> (circuit-breaker trips)
		线圈电压工作范围 Coil voltage tolerance		0.7 to 1.1 × U <sub>s</sub>
		电池操作时的电压范围 extended tolerance for battery operation <sup>1)</sup> )	at DC24V, DC 30V, DC48V, DC 60V, DC 110V, DC 220V	0.7 to 1.26 × U <sub>s</sub>
		额定控制电压 U <sub>s</sub> Rated control supply voltage U <sub>s</sub>	AC 50/60Hz V DC V	110-127, 220-240 24, 48, 60, 110-125, 220-250
		功率消耗 Power consumption	AC/DC VA/W	15
		电压为 U <sub>s</sub> 时最小 指令持续时间 Min.command duration at U <sub>s</sub>	ms	60
		电压为 100%U <sub>s</sub> 时断 路器分闸时间 Break-time of the circuit-breaker at 100% U <sub>s</sub>	at AC/DC ms	80
		短路保护 至少需要 DIAZE 熔断器 (等级 gL) / 具有 C 特性的小型断路器 Short-circuit protection smallest permissible DIAZED fuse (Class gL)/ m.c.b. with C characteristics		1A TDz (时滞 / time-lag) / 1A
	具有储能特性 由 f 脱扣器与 3WX3156-1J.01 型储能装置组成 With stored- energy feature consisting of "f" release and 3WX31 56-1J.01 storage device	额定控制电压 U <sub>s</sub> Rated control supply voltage U <sub>s</sub>	AC 50/60 Hz V DC V	110-127, 220-240 110-125, 220-250
		线圈电压工作范围 Coil voltage tolerance		0.85 to 1.1 × U <sub>s</sub>
功率消耗 Power consumption		AC/DC VA/W	1	
电压为 U <sub>s</sub> 时的存储时间 <sup>2)</sup> ) / 重储能时间 <sup>3)</sup> Storage time <sup>2)</sup> at U <sub>s</sub> / recharging time <sup>3)</sup> at U <sub>s</sub>			max. 5min/min.5 s	
断路器分闸时间, 短路保护 Break-time of the circuit-breaker, short-circuit protection			参见上面的 "可连续通电" See "For continuous command" (above)	

- 1) 此线圈电压容限只在所示额定电压下适用, 并且与电池电压相对应。
- 2) 存储时间 = 辅助电压消失后, 由分励脱扣器执行的安全脱扣仍能实现的最长时间。
- 3) 重储能时间 = 分励脱扣器脱扣后, 重新给储能装置储能所需的最短时间

- 1) The coil voltage tolerance is only applicable for the rated voltages indicated and corresponds to the battery voltage.
- 2) Storage time=maximum time after failure of the auxiliary power supply for which safe tripping by the shunt release is still assured. Thereby it is assumed that the stored-energy mechanism was fully charged.
- 3) Recharging time=minimum time for recharging the stored-energy mechanism after tripping by the shunt release.

技术数据		Technical data					
辅助脱扣器 Auxiliary releases							
欠电压脱扣器 "r" (F3)与"rc" (F8) Undervoltage releases "r" (F3) and"rc" (F8)	操作值 Operating values	吸合 pickup	(断路器合闸准备就绪) $0.85 \times U_s$ (circuit-breaker can be closed)				
		释放 dropout	(断路器脱扣) $(0.35-0.7) \times U_s$ (circuit-breaker trips)				
	线圈电压工作范围 Coil voltage tolerance		$0.85-1.1 \times U_s$				
	电池操作时的电压范围 extended tolerance for battery operation <sup>1)</sup>	at DC24V, DC 30V, DC 48V, DC 60V, DC 110V, DC 220V	$0.7-1.26 \times U_s$				
	额定控制电源电压 $U_s$ Rated control supply voltage $U_s$	AC 50/60Hz DC	V V	110~127, 220~240, 380~415 24, 48, 60, 110~125, 220~250			
	功率消耗 Power consumption	AC DC	VA W	15 15			
	$U_s=0$ 时断路器的分闸时间 Break-time of the circuit-breaker at $U_s=0$						
	"r" 型(F3) Version "r" (F3)						
	无延时 Without delay		ms	100			
	延时 100 ms with 100 ms delay		ms	200			
	"rc" 型(F8) Version "rc" (F8)						
	有延时 With delay, $t_d=0.2-3.2$ s		s	0.2~3.2			
	通过附加的常闭触头来直接分闸 Reset with additional NC contact for direct opening		ms	100			
	短路保护 至少需要 DIAZED 熔断器 (等级 gL) / 具有 C 特性的 小型断路器 Short-circuit protection smallest permissible DIAZED fuse (Class gL)/ m.c.b. with C characteristics			1 A TDZ(时滞 / time-lag) / 1A			
辅助触头(S1, S2, S3, S4) Contact-position driven auxiliary contacts (S1, S2, S3, S4)							
额定绝缘电压 $U_i$ Rated insulation voltage $U_i$			AC/DC V	400 (415)			
额定工作电压 $U_e$ Rated operational voltage $U_e$			AC/DC V	400 (415)			
通断能力 Switching capacity	AC 50/60 Hz	额定工作电压 $U_e$ Rated operational voltage $U_e$	V	up to 240	400 (415)		
		额定工作电流 Rated operational current	$I_e/AC-12$ $I_e/AC-15$	A A	10 4	10 3	
DC		额定工作电压 $U_e$ Rated operational voltage $U_e$	V	24	48	110	220
		额定工作电流 Rated operational current	$I_e/DC-12$ $I_e/DC-13$	A A	10 8	8 4	3.5 1.2
短路保护 <sup>2)</sup> Short-circuit protection <sup>2)</sup>		最大允许 DIAZED 熔断器 (等级 gL) Largest permissible DIAZED fuse (Class gL) 最大允许具有 C 特性的小型断路器 Largest permissible m.c.b. with C characteristics		10ATDz (时滞 / time-lag) 10A			



3WN6 断路器, 3 极和 4 极, 至 3200A  
3WN6 Circuit-Breakers, 3 and 4-pole, up to 3200A

技术数据		Technical data	
合闸准备就绪信号发送触头(S7)与脱扣信号发送触头(S11), 符合 DIN VDE 0630 标准 Ready-to-close signalling contact (S7) and tripped signalling contact (S11), acc. to DIN VDE 0630			
通断能力 Switching capacity	AC 50/60Hz	额定工作电压 $U_e$ Rated operational voltage $U_e$	V 110 220
		额定工作电流 $I_e$ Rated operational current $I_e$	A 0.14 0.1
	DC	额定工作电压 $U_e$ Rated operational voltage $U_e$	V 24 220
		额定工作电流 $I_e$ Rated operational current $I_e$	A 0.2 0.1
短路保护 <sup>2)</sup> Short-circuit protection <sup>2)</sup>	最大允许 DIAZED 熔断器(等级 gL) Largest permissible DIAZED fuse (Class gL)		2A Dz(快速响应) 2A Dz (quick-response)
脱扣信号发送触头(S11) Tripped-signalling contact (S11)	脱扣后信号持续输出 Signalling duration after tripping		复位以前持续 continuous, till reset
过电流脱扣器的信号发送 Signalling of the overcurrent release			
过电流脱扣器通过光耦进行信号发送 Signalling of the overcurrent release <i>via optocoupler</i>	$\mu$ P 故障、 $\theta$ 报警、“a”脱扣先导信号发送、“g”报警、短时分级控制(ZSS)、负载监控 过电流脱扣器被激活后借助于光耦进行无触点信号发送 $\mu$ P fault, $\theta$ alarm, “a” leading tripped signalling, “g” alarm, short-time grading control (ZSS), load monitoring. Contactless signalling via opto-coupler after activation of the overcurrent release. 最大额定工作电压 $U_e$ Max. rated operational voltage $U_e$ 最大额定工作电流 $I_e$ Max. rated operational current $I_e$	DC V DC mA	24 20
过电流脱扣器的测量精度 /Measuring accuracy of overcurrent release			保护功能符合 EN60947 标准 ; 电流显示和通讯功能(F01): $\pm 5\%$ ; 测量功能 : (F05): $\pm 3\%$ Protection functions acc. to EN 60 947; Current display and communication function (F01): $\pm 5\%$ ; Measuring function (F05): $\pm 3\%$
导向框架内的位置信号发送触头 Position signalling contact on the guide frame			
触头类型 Contact version	信号发送 : Signalling:	“断路器处于运行位置” “Circuit-breaker in connected position” “断路器处于试验位置” “Circuit-breaker in test position” “断路器处于退出位置” “Circuit-breaker in disconnected position”	3 NO+3 NC 1 NO+1 NC 2 NO+2 NC 或 or: 1 NO+1 NC 1 NO+1 NC 1 NO+1 NC
额定绝缘电压 $U_i$ Rated insulation voltage $U_i$		AC/DC V	400 (415)
额定工作电压 $U_e$ Rated operational voltage $U_e$		V	AC 240/DC 230
通断能力 Switching capacity	额定工作电流 $I_e$ Rated operational current $I_e$ /AC-1 $I_e$ /AC-15 $I_e$ /DC-13	A	8 (至 AC 240V) 3 (至 AC 240V) 10/DC 24V; 5/DC 48V; 1.5/DC 115V; 0.6/DC 230V
短路保护 <sup>2)</sup> Short-circuit protection <sup>2)</sup>	最大允许 DIAZED 熔断器(等级 gL) Largest permissible DIAZED fuse (Class gL) 最大允许具有 C 特性的小型断路器 Largest permissible m.c.b.with C characteristics		8A TDz (时滞 /time-lag) 8A

技术数据		Technical data
电源转换装置 / Network-switching control unit		
防护等级 Degree of protection	IP 40	
重量 Weight	约 10 kg	
电压偏移 Voltage deviation	0-0.55 × U <sub>e</sub>	
频率偏移 Frequency deviation	不监控 not monitored	
触头转换时间 Contact switching time	200 ms +T1 (1.5s ~ 30 s)可设置 settable	
转换时间 switching time	200 ms	
开关返回转换时间 switch-back time	200 ms +T2 (5s ~ 100s)可设置 settable	
分断时间 switch-off time	65 ms	
环境温度 Environment temperature	-25 ~ +55°C	
贮存温度 Storage temperature	-50 ~ +80°C	



1) 此线圈电压容限只在所示额定电压下适用, 并且与电池加载电压相适应。  
 2) 根据 DIN VDE 0660 第 200 部分, 只有当  $I_{short} > 1\text{kA}$  时触头才绝对不会发生熔焊。

1) The coil voltage tolerance is only applicable for the rated voltages indicated and corresponds to the battery charger voltage.  
 2) Absolutely weld-free contacts only at  $I_{short} > 1\text{kA}$  acc.to DIN VDE 0660, Part200.

# 3WN6 断路器, 至 3200A

## 3WN6 Circuit-Breakers, up to 3200A

### 脱扣特性

### Tripping characteristics

这些脱扣特性曲线表示了过电流脱扣器受到电流激励时的动作特性。如果断路器合闸后立即发生过电流脱扣, 由于此时过电流脱扣器还未受到激励, 故分闸时间会延长(根据过电流情况延长约 3~10ms)。为了确定断路器的总分闸时间, 应在如图所示的分闸时间基础上再加 15 ms 左右(考虑到电弧持续时间)。容限符合 DIN IEC 947 标准。

These characteristic curves show the behaviour of the overcurrent release, when it is activated by a current, that is already flowing before the circuit-breaker trips. If overcurrent tripping occurs immediately after closing the circuit-breaker, when the overcurrent release has not yet been activated,

the opening time will be longer (by approx. 3 to 10 ms, depending on the overcurrent) In order to determine the total breaking time of the circuit breaker, about 15 ms (for arc duration) should be added to the the opening times shown. Tolerances according to DIN IEC 947.

“a” 和 “z” 的脱扣特性: “z” 为定时限延迟(无关电流延迟)  
Tripping characteristics "a" and "z": "z" is current-independent delayed

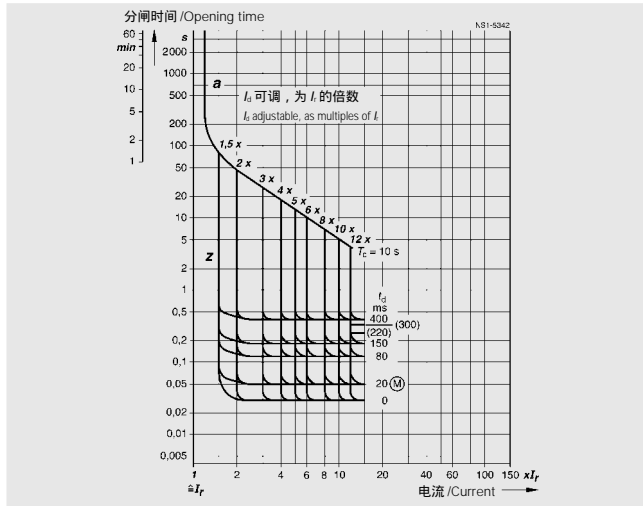


图 30 B 型过电流脱扣器的脱扣特性  
Fig. 2/30 Tripping characteristics of overcurrent release version B

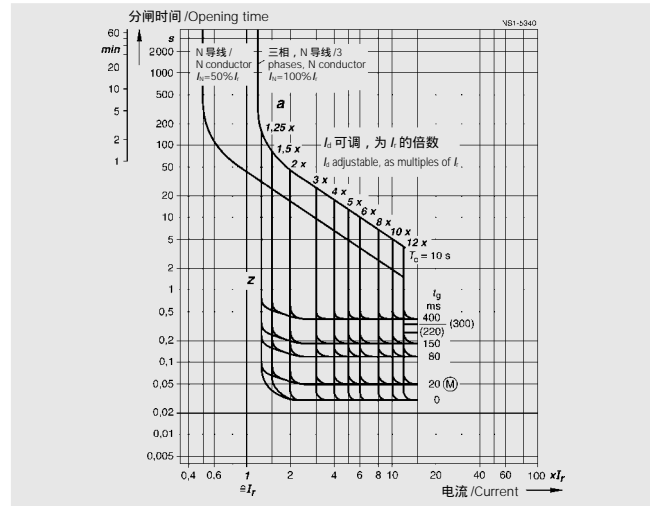


图 31 C/G 型过电流脱扣器的脱扣特性  
Fig. 2/31 Tripping characteristics of overcurrent release version C/G

图 30 和 31:  
To Figs. 2/30 and 2/31:  
过载反时限脱扣: “a”  
Inverse-time overload release “a”  
 $I_r$  运行电流(可设定)/Operational current (settable)  
 $I_N$  N 线的运行电流 (50 或 100%  $I_r$ )  
Operational current of the N conductor (50 or 100%  $I_r$ )  
 $T_c$  时滞等级(固定于 10s)/Time-lag class (fixed at 10 s)

短路短延时脱扣 “z”  
Short-time-delay short-circuit release “z”  
 $I_a$  动作电流(可设定)  
Response current (settable)  
 $t_d$  延迟时间(可设定)  
Delay time(settable)

“n” 的脱扣特性  
Tripping characteristics “n”

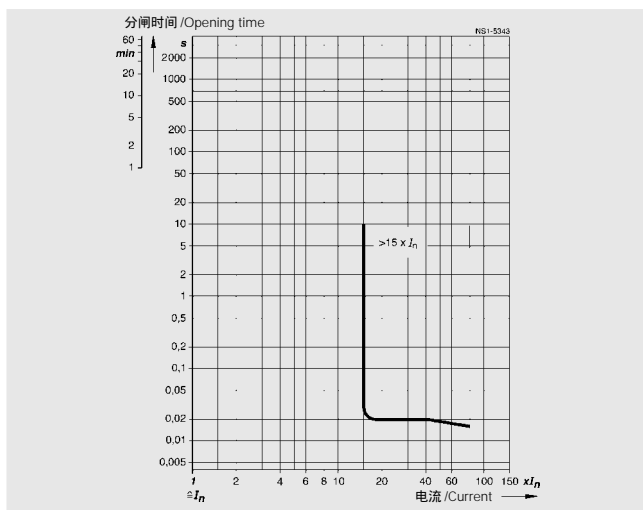


图 32 B 型和 C/G 型过电流脱扣器的脱扣特性  
Fig. 2/32 Tripping characteristics of overcurrent release versions B and C/G

“g” 的脱扣特性: 为定时限延迟(无关电流延迟)  
Tripping characteristics “g”: current-independent delayed

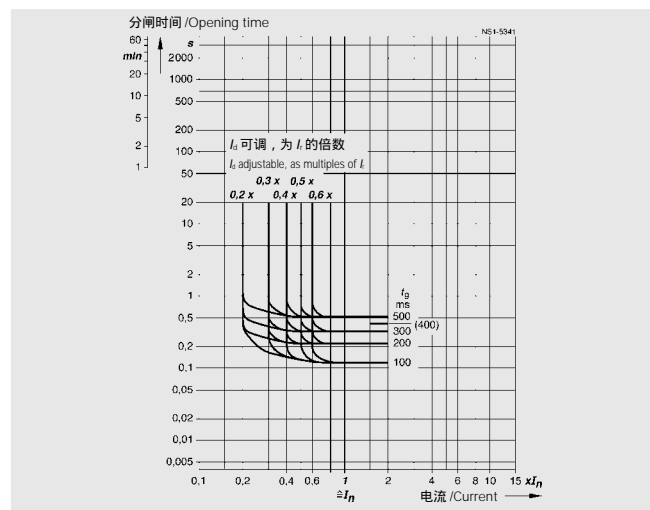


图 33 C/G 型过电流脱扣器的脱扣特性  
Fig. 2/33 Tripping characteristics of overcurrent release versions C/G

$I_n$  电流互感器原边额定电流瞬时短路脱扣 “n”  
Transformer primary rated current instantaneous short-circuit release “n”  
 $I_i$  动作电流(固定) / Response current (fixed)

$I_n$  电流互感器原边额定电流接地故障脱扣 “g”  
Transformer primary rated current earth-fault release “g”  
 $I_g$  动作电流(可设定) / Response current (settable)  
 $t_g$  延迟时间(可设定) / Delay time (settable)

断路器电气原理图

Example of full circuit diagram

带微处理器的电子式过电流脱扣器

Solid-state overcurrent release

第 1 辅助触头块

1st aux. contact block

第 2 辅助触头块

2nd aux. contact block

合闸准备就绪信号发送触头

Ready-to-close signalling switch

储能触头

Stored-energy contact

电动机开关

Motor switch

电气合闸按钮

Electrical ON pushbutton

脱扣信号发送触头

Tripped signalling contact

第 1 分励脱扣器 "f"

1st shunt release "f"

第 2 分励脱扣器 "f"

2nd shunt release "f"

欠电压脱扣器 "r"

Undervoltage release "r"

脱扣线圈

Release solenoid

储能电动机

Motor for charging "stored-energy mechanism"

弹簧储能机构

Spring energy mechanism

用于储能的操作手柄

Operating handle for charging "stored-energy mechanism"

主触头

Main contacts

电流互感器

Current transformers

辅助回路接线端子

Terminals

电气合闸线圈

Closing solenoid

机械合闸锁定复位按钮

Display and reset pushbutton for overcurrent release

A1

S1/S2

S3/S4

S7

S8

S9

S10

S11

F1

F2

F3

F5

M

P

Q01

Q1

T1/T2/T3

X100/X200

Y1

R

手动 / 电动机储能操作机构

带合闸准备就绪信号发送触头, 带 B 型 "azn" 过电流脱扣器

带欠电压脱扣器 "r" (F3) 或分励脱扣器 "f" (F1).

带分励脱扣器 "f" (F2), 带脱扣信号发送触头.

带辅助触头 2NO + 2NC + 2CO, 带电动机开关.

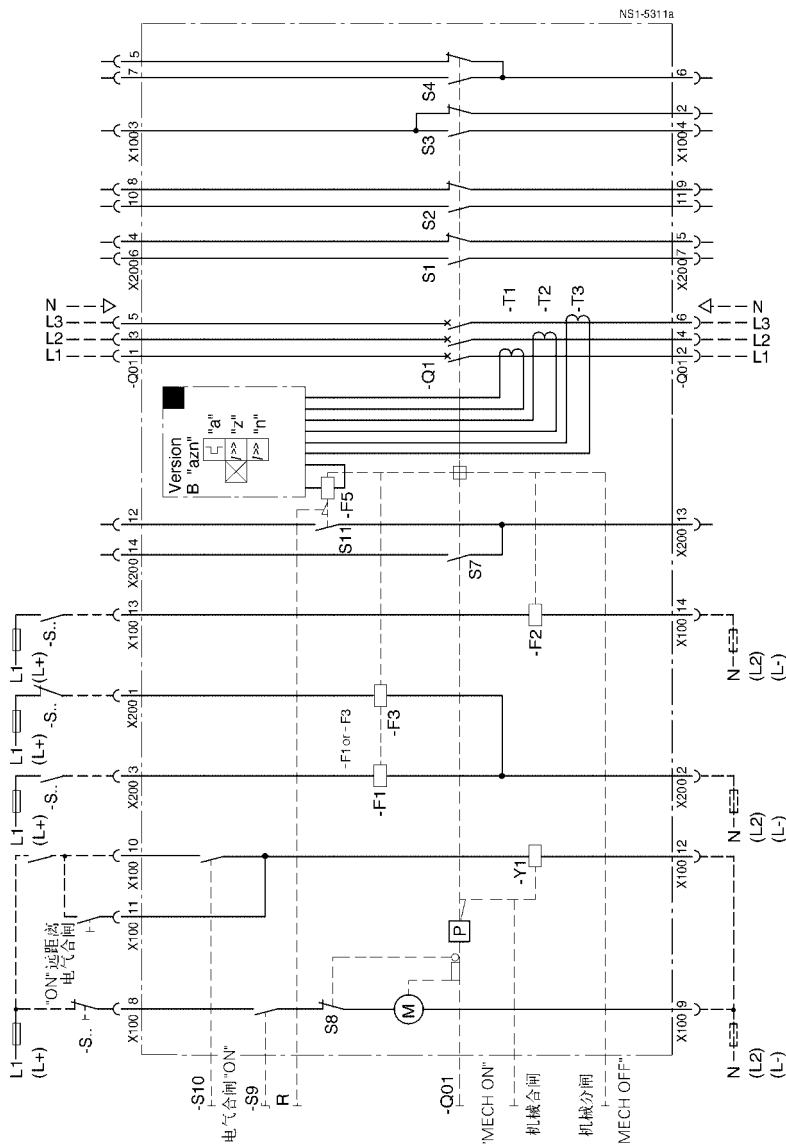
Manual/motorized operating mechanism with stored-energy feature

with ready-to-close signalling switch, with overcurrent release version B "azn"

with undervoltage release "r" (F3) or shunt release "f" (F1).

with shunt release "f" (F2) with tripped signalling switch.

with auxiliary contacts 2 NO+2NC+2CO, with motor switch





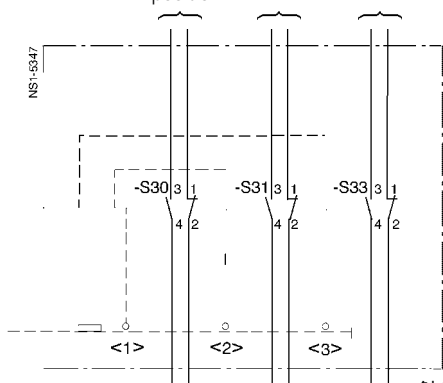
# 3WN6 断路器, 3 极和 4 极, 至 3200A 3WN6 Circuit-Breakers, 3 and 4-pole, up to 3200A

## 导向框架断路器位置的信号发送开关

## Signalling devices for circuit-breaker positions in the guide frame

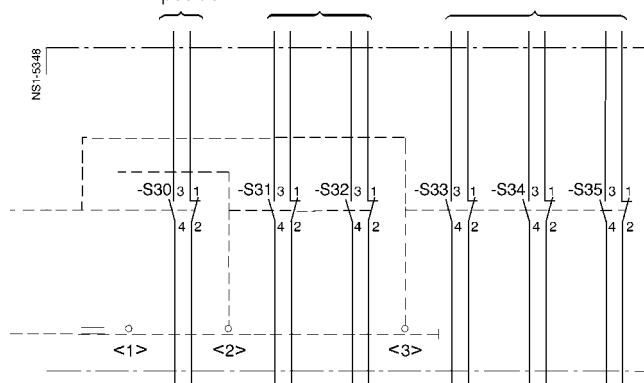
订货码 "R13"  
Order code "R13"  
3WX36 84-1JA10

退出位置 试验位置 运行位置  
Dis-connected position Test position Connected position



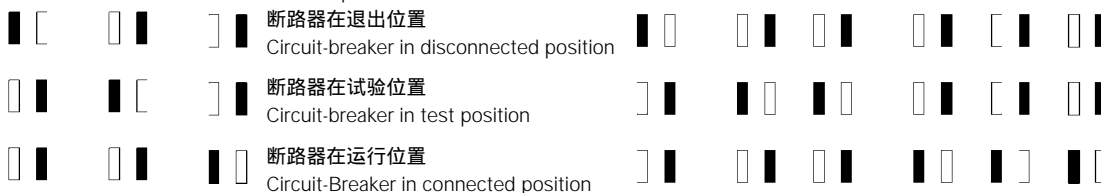
订货码 "R14"  
Order code "R14"  
3WX36 84-1JC10

退出位置 试验位置 运行位置  
Dis-connected position Test position Connected position



触头状态表示:

Contact position for:

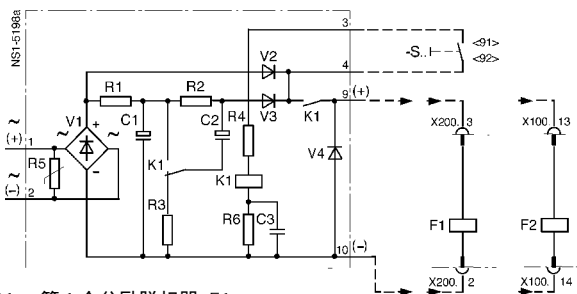


- 触头已闭合  
Contact closed
- 触头已打开  
Contact open

## 辅助装置电气原理图

## Circuit diagram for supplementary devices

-F1A  
用于第 1 个或第 2 个分励脱扣器的储能装置(-F1 或 -F2)  
-F1A  
Storage device for 1st or 2nd shunt release (-F1 or -F2)



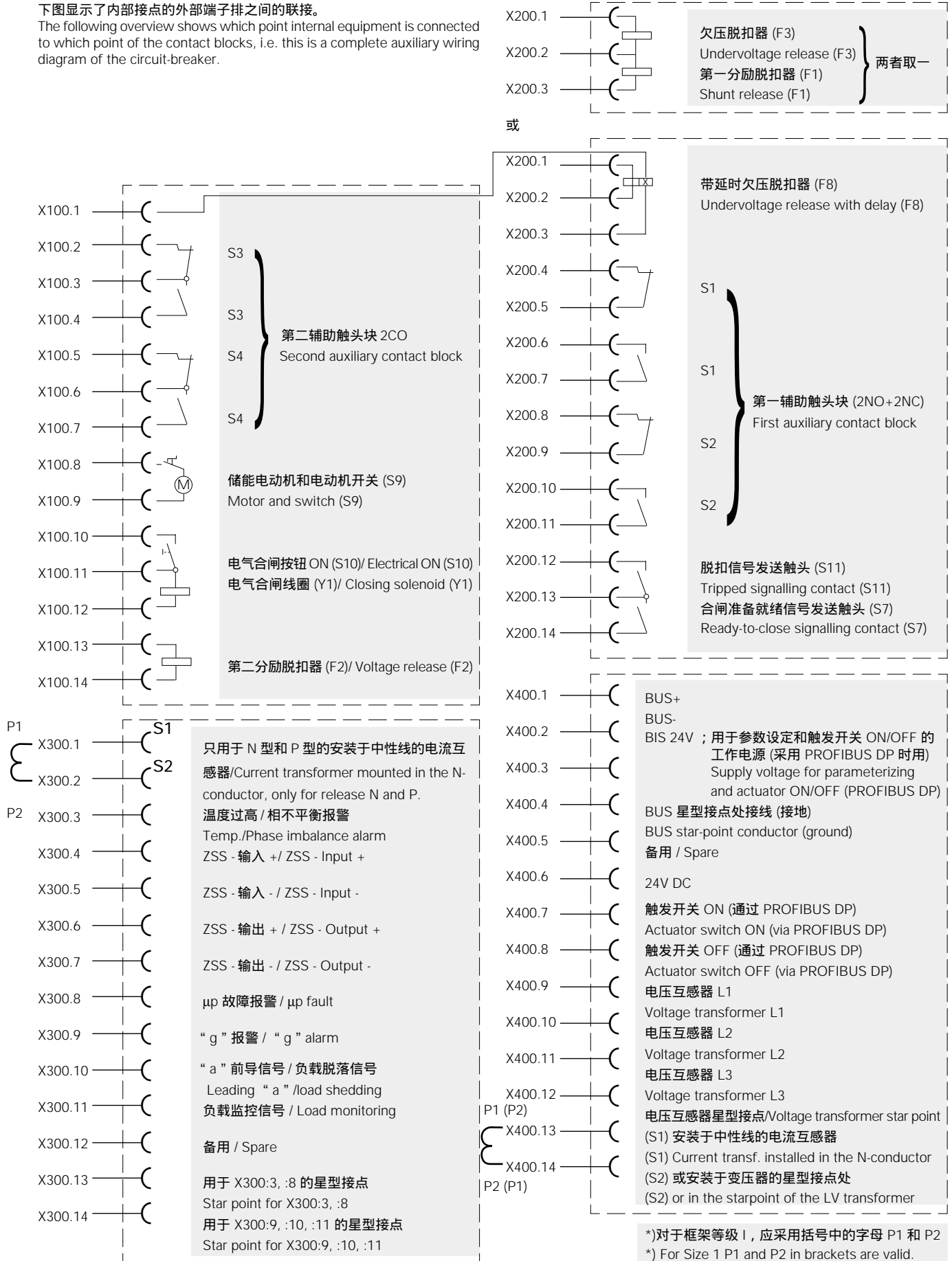
- <21> 第 1 个分励脱扣器 -F1  
1st shunt release -F1
- <22> 用于<21>的辅助触头  
Auxiliary contact for <21>
- <27> 第 2 个分励脱扣器 -F2  
2nd shunt release -F2
- <28> 用于<27>的辅助触头  
Auxiliary contact for <27>
- <91>或<92>用于 -F1 或 -F2 的外部 "电气分闸" 按钮  
<91> or <92> External "electrical OFF" by -F1 or -F2 pushbutton only

用于带储能特征分励脱扣器的 3WX3156-1JG01 和 3WX3156-1JJ01 储能装置  
3WX31 56-1JG01 and 3WX31 56-1JJ01 storage devices for shunt release with stored energy feature.

端子图

Terminal diagrams

下图显示了内部接点的外部端子排之间的联接。  
The following overview shows which point internal equipment is connected to which point of the contact blocks, i.e. this is a complete auxiliary wiring diagram of the circuit-breaker.

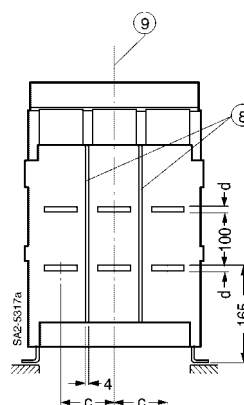
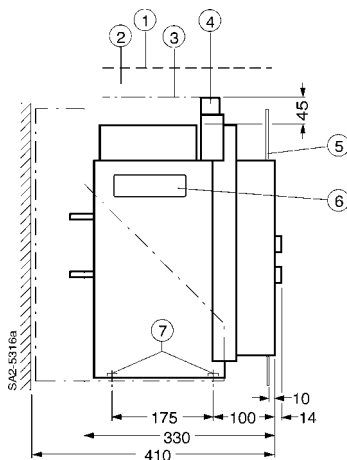
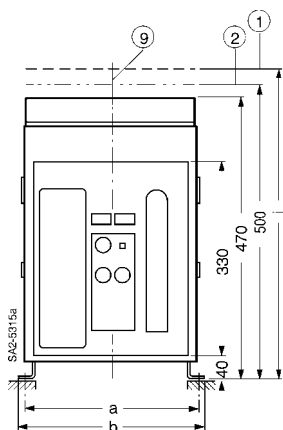


3WN6 断路器，3 极和 4 极，至 3200A  
 3WN6 Circuit-Breakers, 3 and 4-pole, up to 3200A

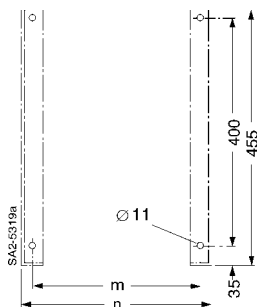
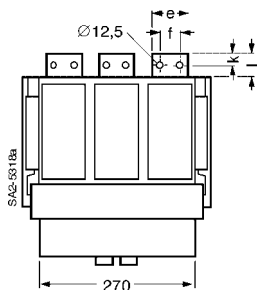
3WN6 固定式断路器，3 极

3WN6 fixed-mounted circuit-breakers, 3-pole

主回路水平连接  
 Horizontal connection



支持托架的安装孔  
 Mounting holes for the supporting brackets



- 取出灭弧室所需的空间
- Clearance for removing the arc chute
- 辅助接线端子所需的空间
- Clearance for auxiliary connector
- 灭弧空间 / Arcing space
- 辅助接线端子 / Auxiliary connector
- 开关柜门 / Cubicle door
- 凹柄 / Recessed grip
- M8 螺母 / M 8 nut
- 狭槽(4mm 深)用于安装相间隔板(不供货)
- Slots (4 mm deep) for phase separating barriers (not supplied)
- 断路器中心线 / Circuit-breaker centre-line

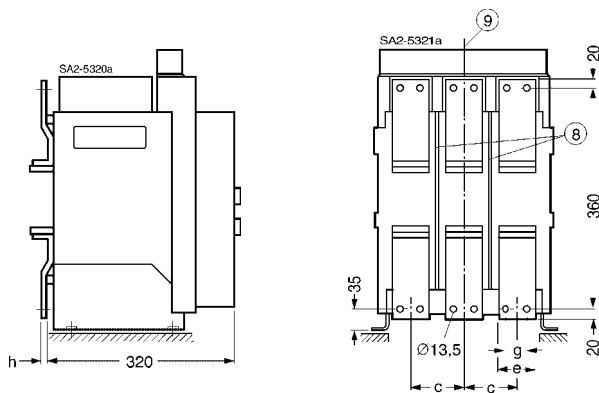
安全间隙  
 断路器上方与邻近接地部件之间不需留出额外的安全间隙(固定式断路器中标号 )。  
 连接位置和母排支持件之间的距离不应超过 250mm。

Safety clearances  
 For adjacent earthed parts above the circuit-breaker (designated for fixed-mounted breakers), no additional safety clearance is needed.  
 The distance between connections and bar supports should not exceed 250 mm.

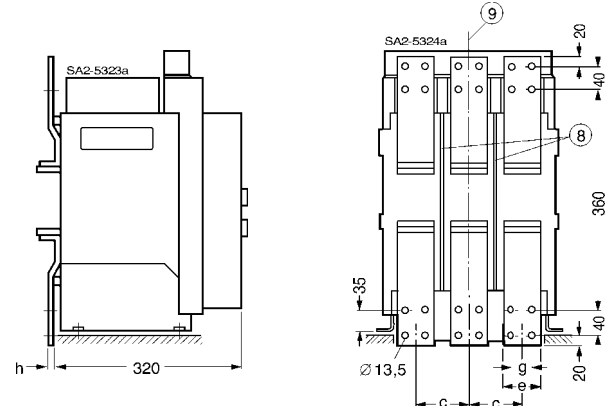
3WN6 固定式断路器, 3 极

3WN6 fixed-mounted circuit-breakers, 3-pole

主回路前置连接 / Connection accessible from the front



单孔  
Single-hole



双孔 / Double-hole  
母排末端孔洞符合 DIN 43 673 标准  
Holes in bar ends acc. to DIN 43 673

额定电流 Rated current A	a	b	c	d	e	f	g	h	i	k	l	m	n
630 to 1000	300	320	90	8	60	30	-	8	530	18	40	300	338
1250 to 1600	300	320	90	15	60	30	-	20	530	18	40	300	338
2000	400	420	120	15	80	40	40	20	560	22	44	400	438
2500 to 3200	400	420	120	30	80	40	40	20	560	22	44	400	438

主回路连接  
Main conductor connections

螺钉接线端子, 带压紧垫圈 Screw-type terminal with clamping spacers (内径 = 12mm, 按照 DIN 6769-Fst 标准) (Inner diameter = 12mm acc. to DIN 6769-Fst)	M12
推荐的拧紧力矩 Recommended tightening torque	Nm 70
所需的螺钉强度 Required screw strength	8.8 按照 DIN 267 标准 8.8 acc. to DIN 267

如果母排系统不是放置于断路器上方, 则在额定工作电压至 AC415V 时, 垂直母排(例如母排前置)不需要任何防护措施。

如果电压高于 AC415V, 断路器上方的裸露的带电导体或上进线的导体必须借助于相间隔板, 母排罩或消弧罩盖(附件)加以绝缘, 以防止飞弧。

如果电气辅助装置直接安装在断路器顶上(若没采用消弧罩盖)或断路器的侧面, 应采用消弧罩盖加以保护。

同时, 附加的罩盖和相间隔板不应妨碍断路器的散热。

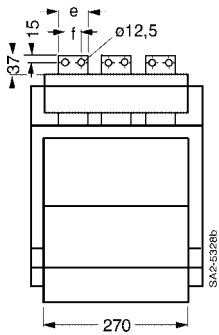
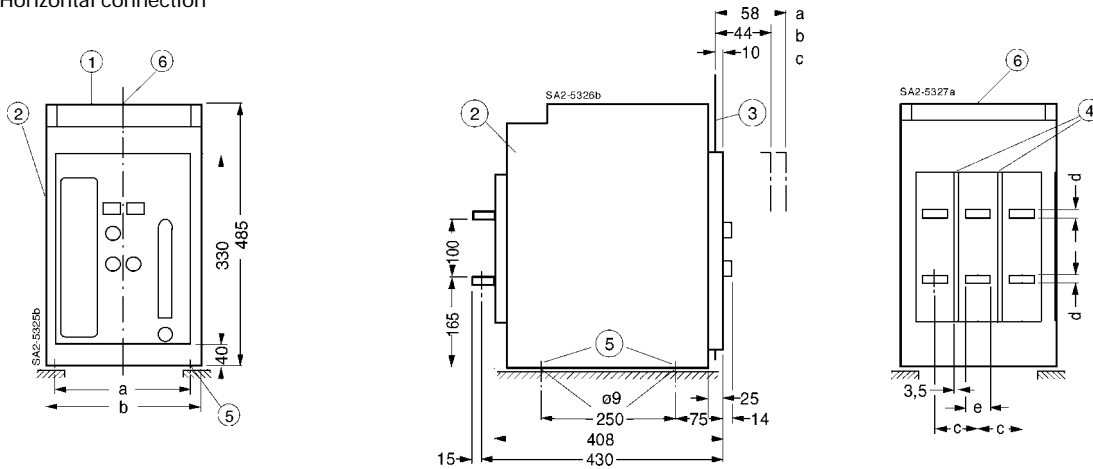
If the bar system is not placed over the circuit-breaker, vertical bars (as for instance in the case of connection accessible from the front) do not require any shielding up to a rated operational voltage of 415V AC. Note that, for voltages above 415V AC, live blank conductors and bars placed over the circuit-breaker or with feed-in from above must be insulated against flashovers by means of phase-separating barriers, bar covers or the arc chute cover (Accessories). Supplementary electrical devices mounted directly above the circuit-breaker (if no arc chute cover is used) or on its side should be protected with a cover. Furthermore it should be ensured that additional covers and separating barriers do not hinder the elimination of heat from the circuit-breaker.

3WN6 断路器  
3WN6 Circuit-Breakers

3WN6 抽屉式断路器，3 极

3WN6 draw-out circuit-breakers, 3-pole

主回路水平连接  
Horizontal connection

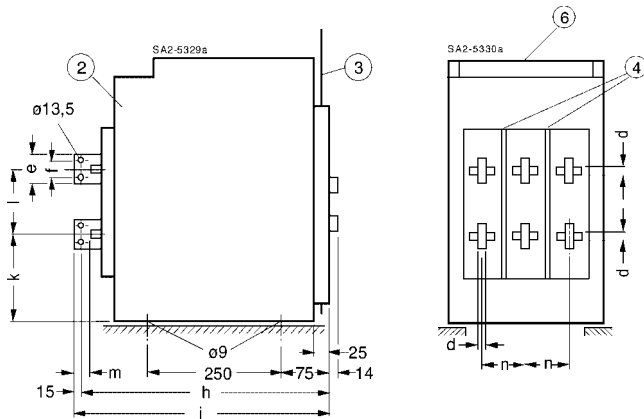


- a. 退出位置  
Disconnected position
- b. 试验位置  
Test position
- c. 运行位置  
Connected position

- 辅助导线的插入式接线端子  
Plug-in terminals for auxiliary connecting leads
- 导向框架  
Guide frame
- 开关柜门  
Cubicle door
- 狭槽(6mm 深)用于安装相间隔板(不供货)  
Slots (6mm deep) for phase-separating barriers (not supplied)
- 固定导向框架的孔  
Holes for fixing the guide frame
- 断路器的中心线  
Circuit-breaker centre-line

有关安全间隙的描述，见第 2/74 页  
For safety clearances, see page 2/74

主回路垂直连接  
Vertical connection

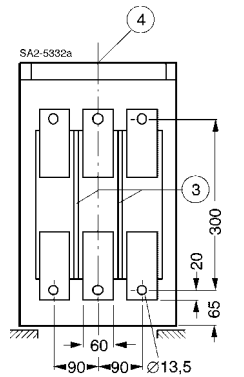
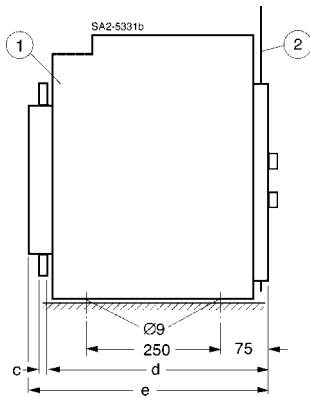


额定电流 Rated current A	a	b	c	d	e	f	h	i	k	l	m	n
630 to 1000	280	320	90	8	60	30	455	470	157,5	115	37	90
1250 to 1600	280	320	90	15	60	30	455	470	157,5	115	37	90
2000	380	420	120	15	80	40	465	480	157,5	115	40	140
2500 to 3200	380	420	120	30	100	50	465	480	150	130	40	140

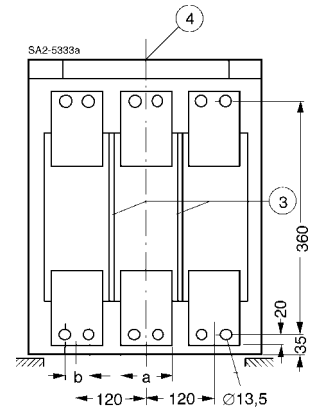
3WN6 抽屉式断路器，3 极

3WN6 draw-out circuit-breakers, 3-pole

主回路前置连接  
connection accessible from the front



单孔，630 ~ 1600 A  
Single-hole, 630 to 1600 A



单孔，2000 ~ 3200 A  
Single-hole, 2000 to 3200 A

额定电流 Rated current A	a	b	c	d	e
630 to 1000	60	-	8	390	408
1250 to 1600	60	-	15	390	408
2000	80	40	20	420	445
2500 to 3200	100	50	20	420	445

导向框架

Guide frame

开关柜门

Cubicle door

狭槽(6mm 深，3.5mm 宽)

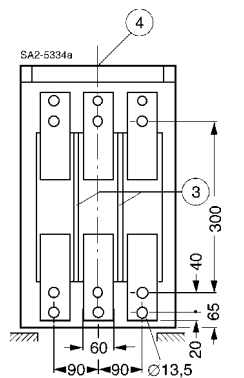
用于安装相间隔板(不供货)

Slots (6mm deep, 3.5mm wide) for

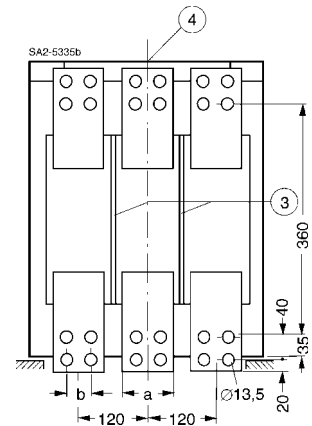
phase-separating barriers (not supplied)

断路器的中心线

Circuit-breaker center-line



双孔，630 ~ 1600 A  
孔洞符合 DIN 43 673 标准  
Double-hole, 630 to 1600 A  
Holes in bar ends acc. to DIN 43 673



双孔，2000 ~ 3200 A  
孔洞符合 DIN 43 673 标准  
Double-hole, 2000 to 3200 A  
Holes in bar ends acc. to DIN 43673

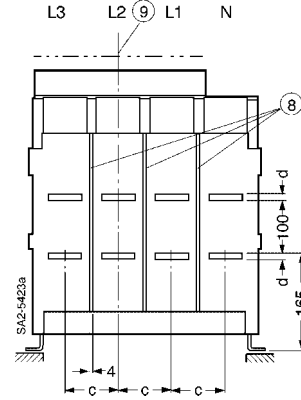
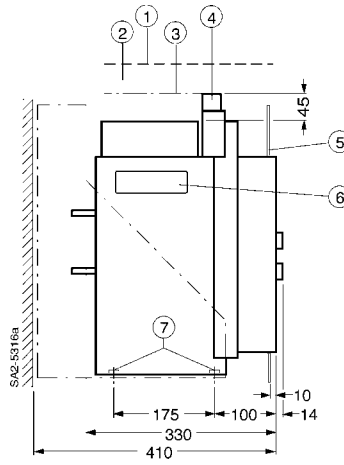
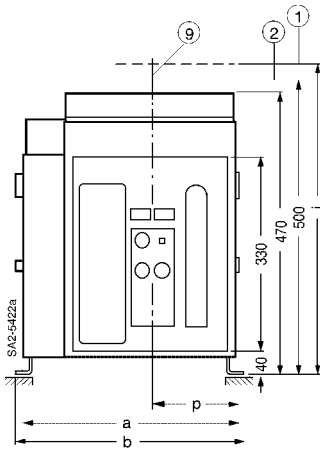
有关安全间隙的描述，见第 2/74 页  
For safety clearances, see page 2/74

3WN6 断路器  
3WN6 Circuit-Breakers

3WN6 固定式断路器，4 极

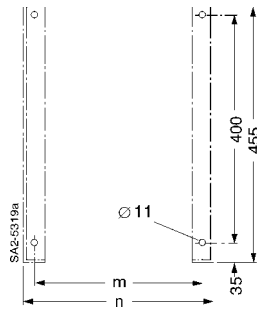
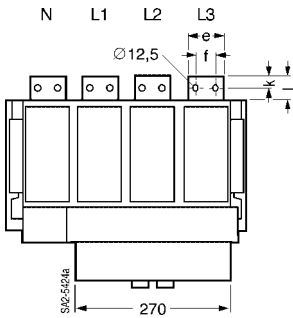
3WN6 fixed-mounted circuit-breakers, 4-pole

主回路水平连接  
Horizontal connection



支持托架的安装孔

Mounting holes for the supporting brackets



取出灭弧室所需的空间

Clearance for removing the arc chute

辅助接线端子所需的空间

Clearance for auxiliary connector

灭弧空间 / Arcing space

辅助接线端子 / Auxiliary connector

开关柜门 / Cubicle door

凹柄 / Recessed grip

M8 螺母 / M 8 nut

狭槽(4mm 深),用于安装相间隔板(不供货)

Slots (4mm deep) for phase-separating barriers (not supplied)

控制面板中心线

Control-panel centre-line

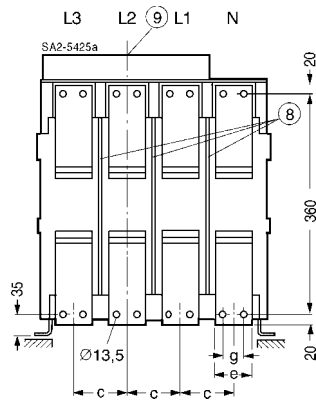
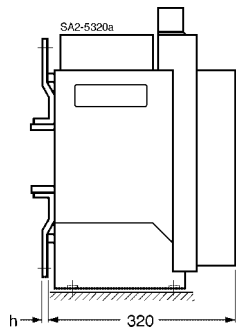
有关安全间隙的描述，见第 2/74 页

For safety clearances, see page 2/74

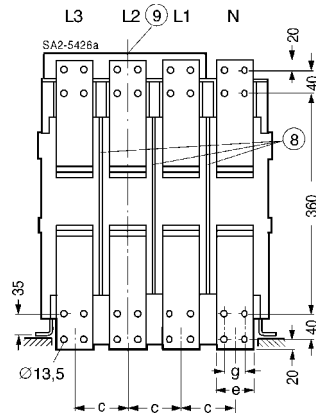
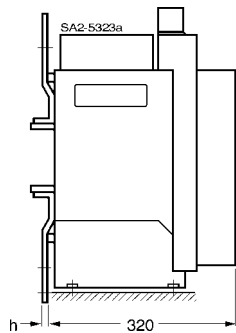
3WN6 固定式断路器，4 极

3WN6 fixed-mounted circuit-breakers, 4-pole

主回路前置连接  
connection accessible from the front



单孔  
Single-hole



双孔  
孔洞符合 DIN 43 673 标准  
Double-hole  
Holes in bar ends acc. to DIN 43 673

额定电流 Rated current														
A	a	b	c	d	e	f	g	h	i	k	l	m	n	p
630 to 1000	390	410	90	8	60	30	-	8	530	18	40	390	428	150
1250 to 1600	390	410	90	15	60	30	-	15	530	18	40	390	428	150
2000	520	540	120	15	80	40	40	20	560	22	44	520	558	200
2500 to 3200	520	540	120	30	80	40	40	20	560	22	44	520	558	200

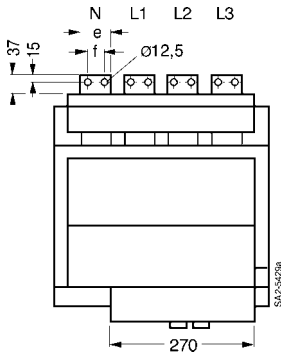
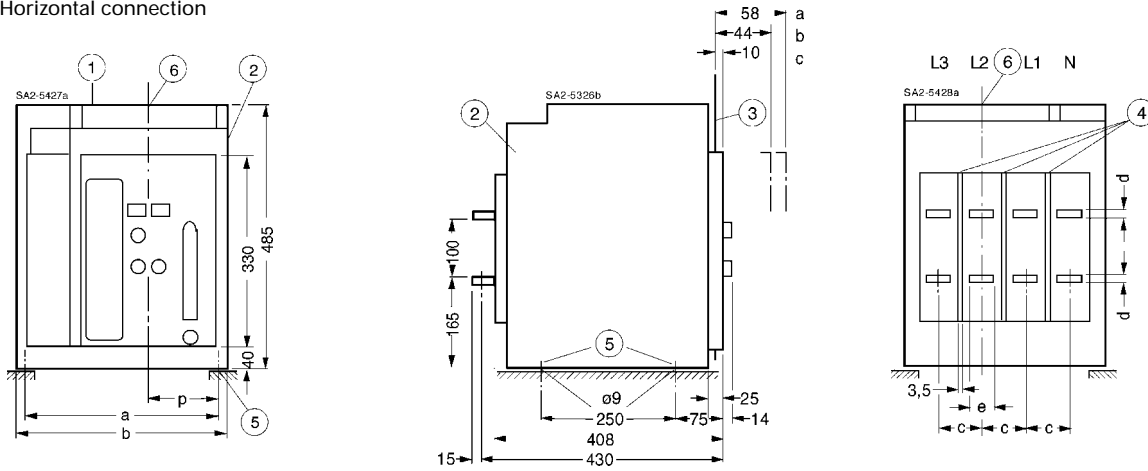


3WN6 断路器  
3WN6 Circuit-Breakers

3WN6 抽屉式断路器, 4 极

3WN6 draw-out circuit-breakers, 4-pole

主回路水平连接  
Horizontal connection

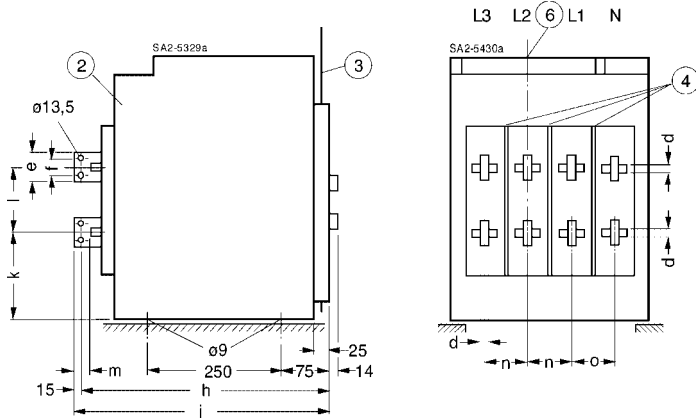


- a. 退出位置  
Disconnected position
- b. 试验位置  
Test position
- c. 运行位置  
Connected position

- 辅助导线的插入式接线端子  
Plug-in terminals for auxiliary connecting leads
- 导向框架  
Guide frame
- 开关柜门  
Cubicle door
- 狭槽(6mm 深)用于安装相间隔板(不供货)  
Slots (6 mm deep) for phase-separating barriers (not supplied)
- 固定导向框架的孔  
holes for fixing the guide frame
- 控制面板的中心线  
Control-panel centre-line

有关安全间隙的描述, 见第 2/74 页  
For safety clearances, see page 2/74

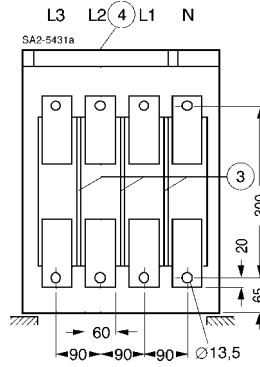
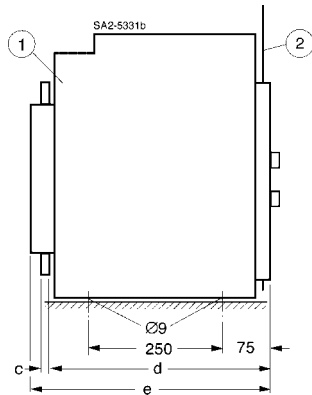
主回路垂直连接  
Vertical connection



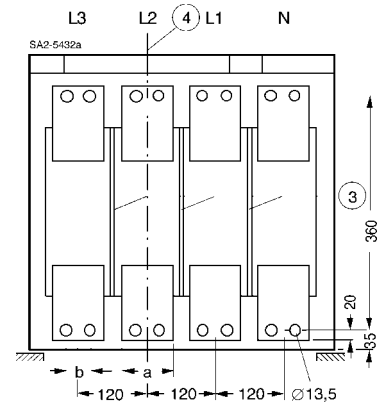
额定电流 Rated current	a	b	c	d	e	f	h	i	k	l	m	n	o	p
630 to 1000	370	410	90	8	60	30	455	470	157.5	115	37	90	90	140
1250 to 1600	370	410	90	15	60	30	455	470	157.5	115	37	90	90	140
2000	500	540	120	15	80	40	465	480	157.5	115	40	140	120	190
2500 to 3200	500	540	120	30	100	50	465	480	150	130	40	140	120	190

3WN6 抽屉式断路器, 4 极 / 3WN6 draw-out circuit-breakers, 4-pole

主回路前置连接  
connection accessible from the front



单孔, 630 ~ 1600 A  
Single-hole, 630 to 1600 A

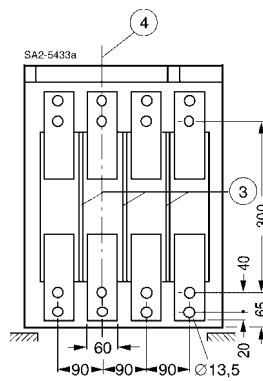


单孔, 2000 ~ 3200 A  
Single-hole, 2000 to 3200 A

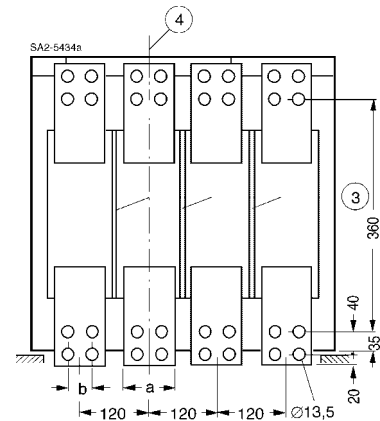
额定电流 Rated current A	a	b	c	d	e
630 to 1000	60	-	8	390	408
1250 to 1600	60	-	15	390	408
2000	80	40	20	420	445
2500 to 3200	100	50	20	420	445

- 导向框架  
Guide frame
- 开关柜门  
Cubicle door
- 狭槽(6mm 深, 3.5mm 宽)  
Slots (6 mm deep, 3.5mm wide) for phase-separating barriers (hot supplied)
- 用于安装相间隔板(不供货)
- 控制面板的中心线  
Control-panel centreline

有关安全间隙的描述, 见第 2/74 页  
For safety clearances, see page 2/74



双孔, 630 ~ 1600 A  
孔洞符合 DIN 43 673 标准  
Double-hole, 630 to 1600 A  
Holes in bar ends acc. to DIN 43 673



双孔, 2000 ~ 3200 A  
孔洞符合 DIN 43 673 标准  
Double-hole, 2000 to 3200 A  
Holes in bar ends acc. to DIN 43673



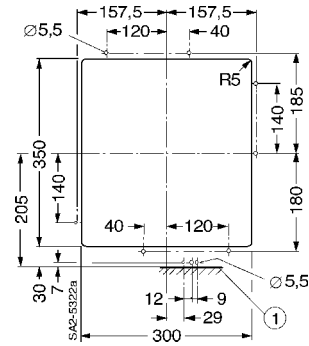
# 3WN6 断路器

## 3WN6 Circuit-Breakers

### 3WN6 断路器, 3 极和 4 极

### 3WN6 circuit-breakers, 3 and 4-pole

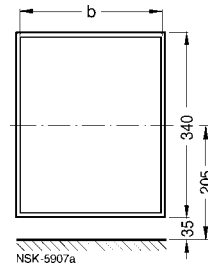
采用门密封框时, 适于控制面板的柜门开孔图  
Door cutout for control panel using door sealing frame



安装表面  
Mounting surface

\* 3 个  $\varnothing 5\text{mm}$  的孔, 仅用于门锁  
3 holes  $\varnothing 5\text{mm}$  should only be executed for the door lock

控制面板安装边缘保护边后的柜门开孔图  
Cutout after mounting of edge protector



断路器安装于开关柜内, 并位于柜门中心线时的柜门开孔。  
Cutout for installation of the circuit-breaker inside a cubicle and with central position of the door.

断路器安装于开关柜内, 并位于柜门中心线时的柜门开孔。  
Cutout for installation of the circuit-breaker inside a cubicle and with central position of the door.

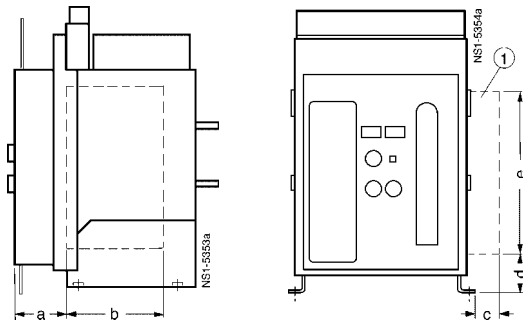
柜体宽度 Field width	固定式 Fixed-mounted b	抽屉式 Draw-out b
400	275	292
500	275	290
600	275	288

### 用于 3 极和 4 极 3WN6 断路器的附件

### Accessories for 3WN6 circuit-breakers, 3 and 4-pole

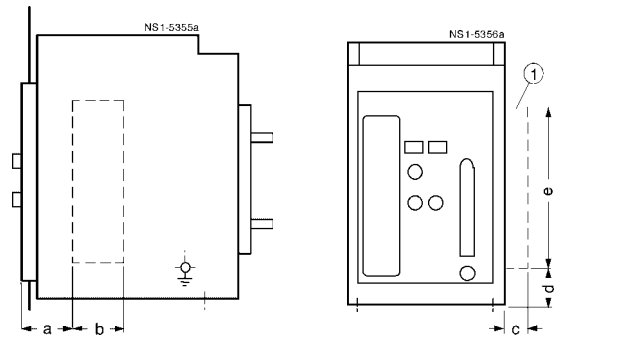
相互机械联锁(1)/ 防止合闸的锁定装置(2) / Mutual mechanical Interlocking (1)/Locking device against closing (2)  
包括柜门上的锁和带钢缆的联锁模块。 / consisting of lock in the cubicle door and interlocking module with Bowden wire

用于固定式断路器  
for fixed-mounted circuit-breaker



联锁模块所需空间(不带钢缆)  
Space for interlocking module (without Bowden wire)

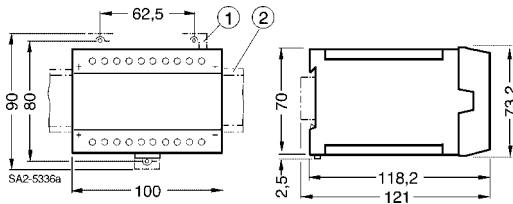
用于抽屉式断路器  
for draw-out circuit-breaker



所需空间, 用于 Space for	a	b	c	d	e
(1)	90	90	50	65	270
(2)	58	215	10	250	115

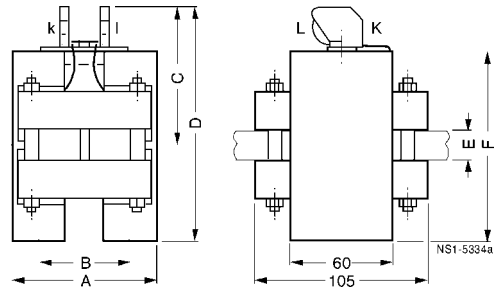
用于 3 极和 4 极 3WN6 断路器的附件 Accessories for 3WN6 circuit-breakers, 3 and 4-pole

用于分励脱扣器的 3WX3156 - 1J.01/ 储能装置 / 3WX31 56-1J.01 storage for shunt release



安装脚  
Mounting feet  
按照 DIN EN 50022-35 的标准安装导轨  
Standard mounting rail acc.to DIN EN 50 022-35

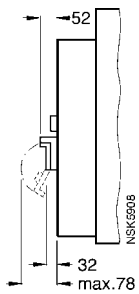
用于 N 导线过载保护与接地故障保护的电流互感器  
Current transformer for protection against overload in the N conductor and earth-fault  
用于尺寸等级 I 和 II  
for sizes I and II



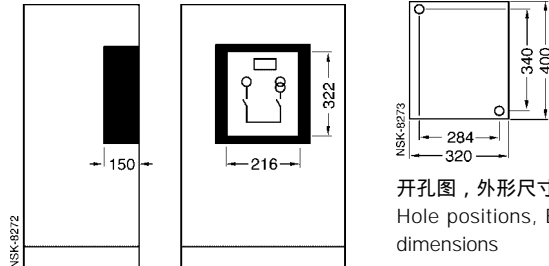
3WX36 43-1..00

电流互感器 Current transformer	电流互感器 原边额定电流 transformer primary rated current $I_N$ A	尺寸等级 Size approx.	尺寸等级							
			A	B	C	D	E	F		
3WX36 43-1..00										
CA	315	I	92	60	86.5	140	5...15	107		
CB	400									
CC	500									
CD	630									
CE	800									
CF	1000									
CG	1250									
CH	1600									
FJ	2000	II	128	80	99	167	5...35	136		
FK	2500									
FM	3200									

用于电气合闸和机械分闸按钮的锁定装置  
Locking device for Electrical ON and Mechanical OFF button



电源转换装置  
Network switching control-unit



安装于柜子中的侧视图和正视图  
Installation in the cubicle, Side view and front view

开孔图，外形尺寸  
Hole positions, External dimensions

# 3WN1 交流断路器

## 3WN1 Circuit-Breakers for AC

### 描述

### Description

符合标准：

DIN VDE0660, IEC947

工作条件

3WN1断路器一般用于非恶劣工作条件的密闭区域中。

设计

分断能力：80/100kA

额定工作电流：630A 至 6300A

额定工作电压：690/1000VAC

3WN1断路器配有过电流脱扣器、操作机构和辅助触头，如果需要还可配带欠电压脱扣器和分励脱扣器。负荷隔离开关不带过电流脱扣器。

过电流脱扣器

微处理器控制的电子式过电流脱扣器系统不需要独立电源供电，可满足配电系统、电动机、变压器和发电机等负载的各种保护要求。

Standards

DIN VDE 0660, IEC 947

Operating conditions

3WN1 circuit-breakers are climate-proof. They are intended for use in enclosed areas, where excessive operating conditions do not occur.

Designs

Breaking capacity: 80/100kA

Rated oper. current: 630 to 6300A

Rated oper.voltage: AC 690/1000V

3WN1 circuit-breakers are supplied fully equipped with overcurrent releases, operating mechanism and auxiliary contacts and, if required, with auxiliary releases.

Non-automatic circuit-breakers are always supplied without overcurrent release system.

Overcurrent releases

The solid-state, microprocessor-controlled overcurrent release system does not depend on a separate power supply and permits the various protection requirements of distribution systems, motors, transformers and generators to be taken into account.

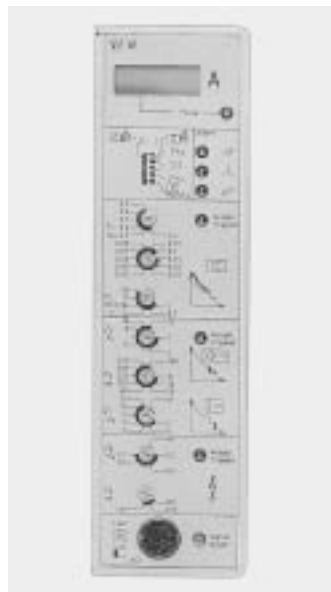


图 88 过电流脱扣器  
Fig. 11/88 Overcurrent release

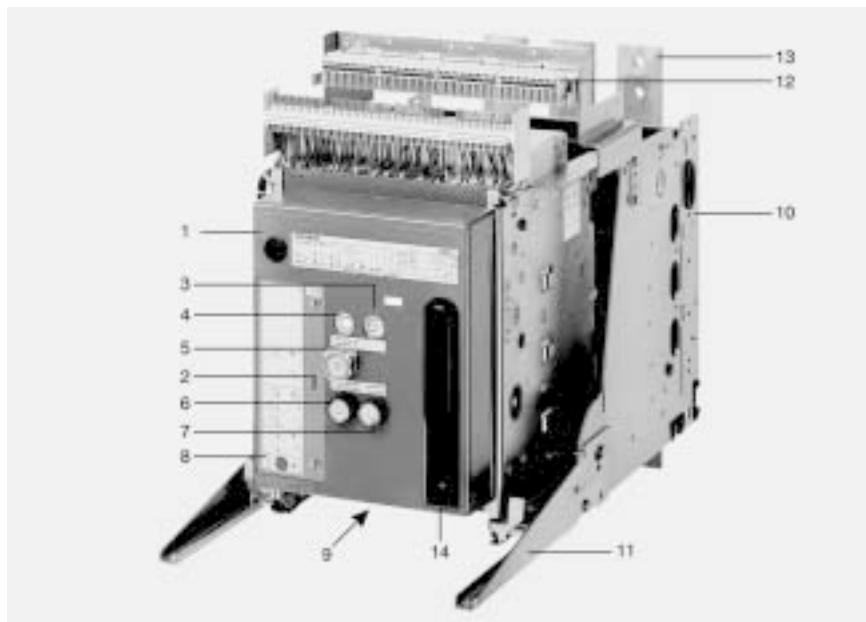


图 87 3WN1 抽屉式断路器尺寸等级 I, 3 极  
Fig. 11/87 3WN1 draw-out circuit-breaker, size I, 3-pole

- |   |   |
|---|---|
| 1 抽屉式断路器                                      | 1 Draw-out circuit-breaker  |
| 2 显示和复位按钮，用于断路器脱扣后<br>- 脱扣信号发送触头<br>- 机械重合闸锁定 | 2 Display and "RESET" button for<br>- tripped signaling contact<br>- mechanical reclosing lockout after circuit-breaker has tripped |
| 3 储能状态指示器                                     | 3 Stored-energy status indicator  |
| 4 通断状态指示器                                     | 4 Switching-state indicator   |
| 5 带密封盖的机械合闸按钮                                 | 5 ON button, mechanical, with sealing cap   |
| 6 机械分闸按钮                                      | 6 OFF button, mechanical  |
| 7 电气合闸按钮                                      | 7 ON button, electrical   |
| 8 前置透明面罩的过电流脱扣器                               | 8 Overcurrent release   |
| 9 断路器在导向框架中的位置显示                              | 9 Position indicator  |
| 10 导向框架                                       | 10 Guide frame  |
| 11 延长导轨                                       | 11 Hinged rails   |
| 12 辅助接线端子                                     | 12 Auxiliary connectors   |
| 13 带连接母排(双孔)的主接线端子                            | 13 Main connections with connecting bars (double-hole)  |
| 14 手动操作手柄                                     | 14 Lever for manual operating mechanism   |

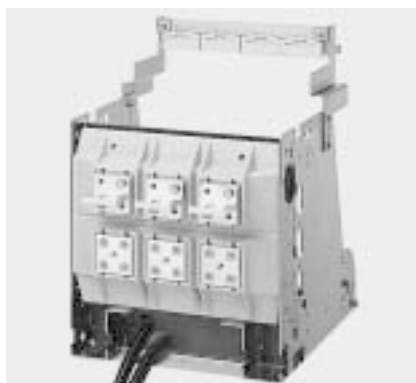


图 89 导向框架  
上部带用于水平母排连接的 T 形件，下部用于垂直母排连接  
Fig. 11/89 Guide frame  
Main connections above with T-pieces for horizontal connection, Bottom connection to vertical busbars

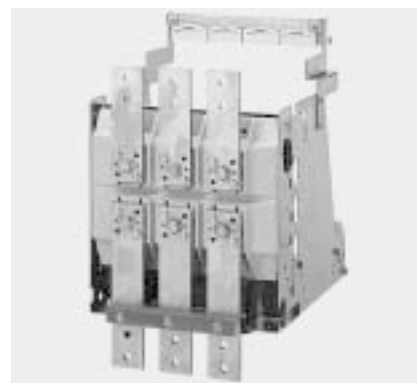


图 90 导向框架  
主回路连接为加长连接母排，可从前方连接  
Fig. 11/90 Guide frame  
Main connections with extended busbars, for connection accessible from the front

欲了解 3WN1 的详细情况，请与就近的西门子办事处联系。/ Please contact your local Siemens office for details of 3WN1.

PROFIBUS-DP

具有通讯能力断路器的数据的传送是通过已标准化的(EN50170 标准), 且与生产商无关的 PROFIBUS-DP 现场总线系统传输至高一级的可编程控制器(如SIMATIC S5)(见下页选择和功能表)。

总线技术使如下特点成为可能:

经济的方案设计、接线和调试  
远距离控制及快速故障诊断, 因而避免了不必要的维护检查, 减少了工厂停机时间

灵活性: 如果系统要求有所变化, 可更改参数设置

顺序接通和断开负载, 可避免代价昂贵的负载峰值 - 实现了能量管理

具有通讯能力的断路器被用于经济地实现工厂设备的高利用率。

具有通讯能力断路器的选择

具有通讯能力 3VL 断路器

通常包括如下配置:

1. 一台塑壳式断路器 (见 3VL 一章)
2. 一个电动机操作机构用于使断路器合 / 分闸 (见 3VL 一章有关附件)
3. 用于 3VL 断路器的改进型 SIMOCODE-DP (SIMOCODE-DP 的测量范围包含了断路器的电流调节范围 I)
4. 必要的附件, 见第 2/92 页

为快速选型, 第 2/89 页列出了订货号和相应的电动机操作机构和 SIMOCODE-DP 的订货号。

对具有通讯能力的 3WN6 断路器的选型描述见第 2/86 页。

为快速选型, 第 2/90 页上列出了推荐的订货号。对具有通讯能力的 3WN1 或 3WS1 断路器的选型, 应注意如下要点:

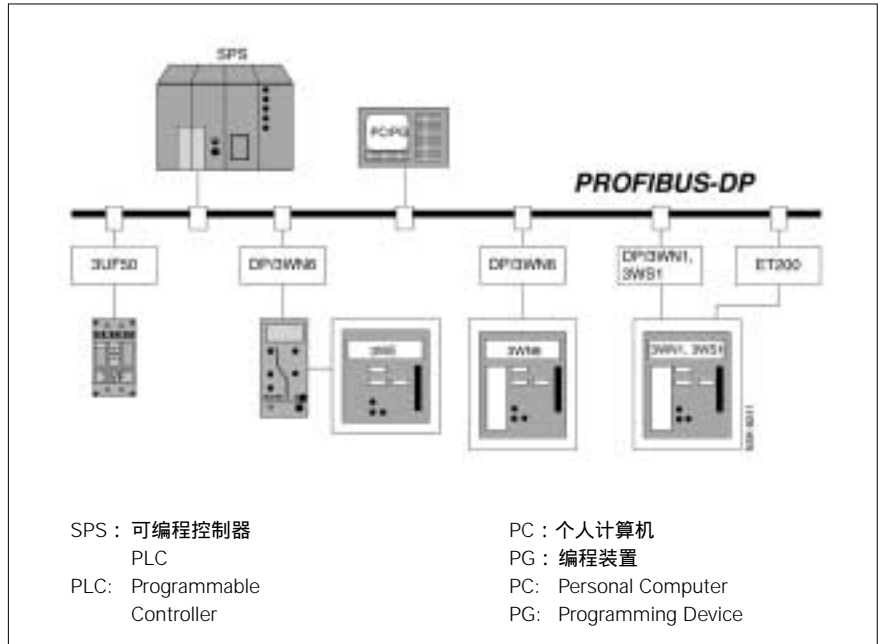
1. 断路器订货号的第 10 位改用字母 "R" ("azn" 保护) 或 "V" ("azng" 保护)(用于接地故障保护)
2. 订货号后缀加 "-Z" 和订货代号 "F01"
3. 当选用抽屉式断路器时, 导向框架订货号后缀加 "-Z" 和订货代号 "R39"。
4. 必要的附件列于第 2/94 页。

为快速选型, 第 2/91 页列出了推荐的订货号。

PROFIBUS-DP

Data from communication-capable circuit-breakers is transmitted via the standardized (EN 50 170), manufacturer-neutral PROFIBUS-DP bus system to higher-level programmable controllers (e.g. SIMATIC S5). (See chart in next page for selection and functions)

Bus technology makes possible:  
economical project planning, wiring and commissioning



remote control as well as quick fault diagnosis and thus preventive maintenance and shorter downtime of the plant flexibility: modifying the setting parameters in case of changed requirements serial switching on and off of loads to avoid expensive load peaks-power management. Communication-capable circuit-breakers are used to achieve high plant availability economically.

Selection of communication-capable circuit-breakers

- Communication-capable 3VL circuit-breakers usually consist of:
1. A conventional circuit-breaker (see Section 4)
  2. A motorized operating mechanism for switching on/off (see Section 4 Accessories)
  3. SIMOCODE-DP modified for the 3VL circuit-breaker (SIMOCODE -DP measuring range covers the circuit-breaker adjustment range I)
  4. Necessary accessories listed on page 2/92

For quick selection, on page 2/89 there are prepared Order No. for selected 3VL communication-capable circuit-breakers and corresponding motorized operating mechanisms and SIMOCODE-DP

For general selection of communication-capable 3WN6 circuit-breakers see description on page 2/86 For quick selection there are prepared Order No. for selected models on page 2/89.

For general selection of communication-capable 3WN1 or 3WS1 circuit-breakers the following criteria should be noticed:

1. Modify the 10th position of the circuit-breaker Order No. adding the trigger letter "R" ("azn") or "V" ("azng") (for earth fault protection).
2. Supplement the Order No. with "-Z" and the code "F01".
3. When ordering withdrawable circuit-breakers, supplement the guide frame Order No. with "-Z" and the code "R39".
4. The accessories listed on page 2/94 are required.

For quick selection there are prepared Order No. for selected 3WN1 circuit-breakers; see page 2/91.

具有通讯能力的断路器 3VL, 3WN6, 3WN1, 3WS1  
Communication-Capable 3VL, 3WN6, 3WN1, 3WS1 Circuit-Breakers

概览：具有通讯能力断路器的功能一览表		Overview: Functions of communication-capable circuit-breakers			
断路器 Circuit-breakers		3VL (至 800A)  (up to 800 A)	3WN6 (至 3200A)  (up to 3200 A)	3WS1/3WN1 (至 2500/6300A)  (up to 2500/6300 A)	
采用的接口 Interface used		SIMOCODE-DP (3UF50)	DP/3WN6	DP/3WN1, 3WS1	ET 200
使断路器合 / 分闸指令 Circuit-breaker on/off command		+	+	-	+
运行状态 合 / 分闸 合闸准备就绪	Operational status ON/OFF Ready to start	+ -	+ +	- -	+ +(断路器应带有 "-Z" 和订货码 "M10")  (Circuit-breaker with "-Z" & order code "M10")
故障信息 脱扣信号	Event information Tripped signal	+	+	+	+ (断路器应带有 "-Z" 和订货码 "M02")  (Circuit-breaker with "-Z" & order code "M02")
过载报警	Overload warning	+	+	+	+
数据读取 最大相电流 $I_{max}$  电流 $I_{L1}, I_{L2}, I_{L3}$ 电流 $I_N$	Readings Max. phase current $I_{max}$ Currents: $I_{L1}, I_{L2}, I_{L3}$ Current $I_N$	+ - -	+ + +	+ + -	- - -
能量管理 功率(P), 有效功(W), 功率因数, 电压	Energy management Power (P), Workload (W), Power factor, Voltage	(通过 PROFIBUS 计 量) (Use PROFIBUS meter)	+(断路器带 "-Z" 和 订货码 "F05" (Circuit-breaker with "-Z" & order code "FO5")	(通过 PROFIBUS 计量) (Use PROFIBUS meter)	
通过总线设置参数 (如脱扣电流值)	Parameter settings via bus (e.g. tripping current)	+ 由 SIMOCODE-DP 读取 SIMOCODE-DP reading	+	-	

描述 Description

右图所示的硬件和软件对于配置通过 PROFIBUS 通讯的 3WN6 系统来说是必需的。

过电流脱扣器应采用具有附加功能 2 的过电流脱扣器 D, E/F, H, J/K, N 或 P 型。

与一般的 3WN6 断路器相比,具有通讯能力的 3WN6 断路器带有一个通讯模块。如需要增加测量功能,应采用配置为带有计量功能通讯模块的 N 型, P 型过电流脱扣器。

增加的测量功能:

- 1. 测量:
  - 相电流
  - 相序
  - 频率
  - 有功功率, 无功功率和视在功率
  - 功率因数

2. 报警 / 脱扣整定值设定 用于:

- 相不平衡
- 能量流向
- 频率过高, 频率过低
- 过电压, 欠电压

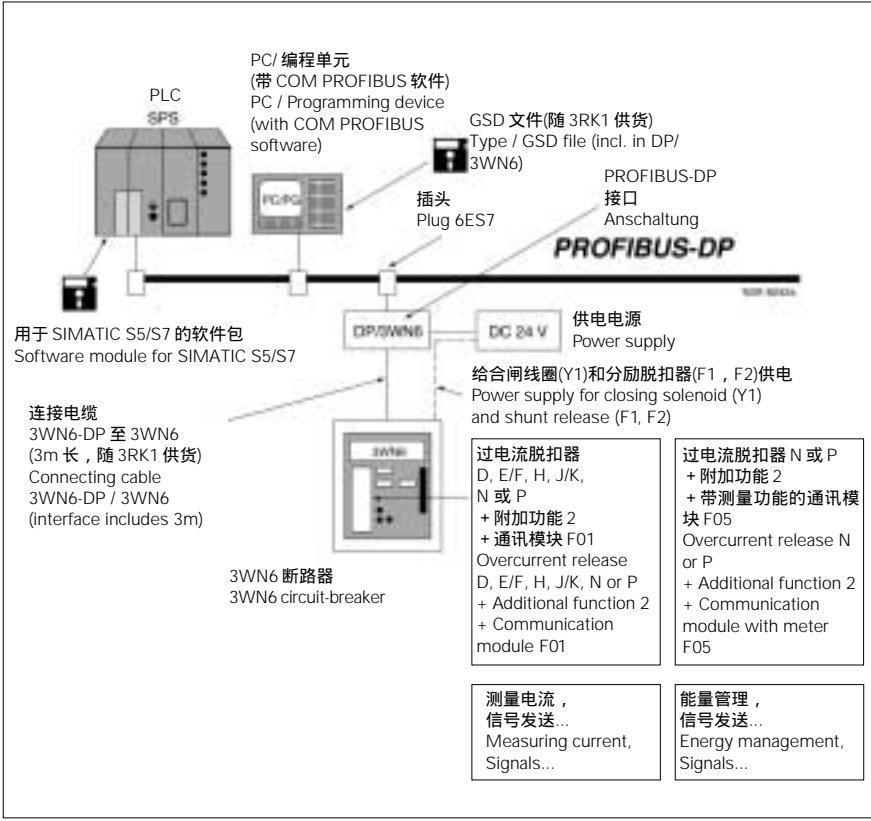
The hardware and software shown on the right is required for communication with the 3WN6 circuit-breaker via the PROFIBUS.

Basically communication-capable are the overcurrent releases D, E/F, H, J/K, N or P using additional function 2.

In contrast to standard circuit-breakers the 3WN6 communication-capable circuit-breaker has an extra communication module. For expanded meter functions, release N, P requires a communication module with a meter (meter module) instead of the standard communication module.

Expanded meter functions:

- 1 Measurement of:
  - phase current



- phase direction
- frequency
- Effective power, reactive and apparent power
- Performance factor

- 2 Alarm / trip settings for:
  - Phase unbalance voltage
  - Energy flow direction
  - Overfrequency, underfrequency
  - Overvoltage, undervoltage

注意要点 Notes

具有通讯能力 3WN6 断路器的基本选型要求在断路器订货号的第 8 个位置上填入“7”,使过电流脱扣器具有“附加功能 2”  
在断路器订货号的第 10 个位置上填入过电流脱扣器型号(D 型至 P 型)  
对于通讯模块,订货号最后加“-Z”和订货码“F01”  
对于通讯模块带测量功能,订货号最后加“-Z”和订货码“F05”  
推荐采用断路器脱扣后自动复位功能,订货号最后加“-Z”和订货码“K01”  
有关 3WN6 的详细介绍请见本章

注意要点 1

若分别订购带通讯能力的抽屉式 3WN6 断路器本体和导向框架,订货号写法如下:  
抽屉式断路器本体(不带导向框架)的订货号为在订货号的第 6 个位置中填入“7”。  
断路器的订货号:  
3WN6 7 -7 - -Z F01 或 F05  
导向框架的订货号:  
3WX3683- A 0-Z R39

注意要点 2

通过 PROFIBUS 实现断路器远距离合闸需要一个电动机储能操作机构和合闸线圈(Y1),通过 PROFIBUS 实现断路器远距离分闸,需配备一个 F1 或 F2 分励脱扣器,配置具有通讯功能的断路器需如下附件:  
系统手册(用于方案设计和调试)  
DP/3WN6 接口  
给接口供电的直流 24V 电源  
PROFIBUS 连接器和连接线

采用 SIMATIC S5/S7 实现完整的通讯系统需: 软件模块。  
为快速选型,本章第 2/90 页列举了常用订货号。

Ordering information points on general selection of communication-capable 3WN6 circuit-breakers

For the "additional function 2" enter a "7" in the 8th position of the circuit-breaker Order No.  
Enter the release type ("D" to "P") in the 10th position of the circuit-breaker Order No.  
For the communication module, supplement the Order No. with "-Z" and the order code "F01"  
For the communication module + meter, supplement the Order No. with "-Z" and the order code "F05"  
Automatic resetting after the circuit-breaker has tripped is recommended. Supplement the Order No. with "-Z" and order code "K01"  
For the detail information of 3WN6, please see the referent section

Note 1

When ordering communication-capable guide frames and 3WN6 withdrawable circuit-breakers separately, two Order Nos. must be entered.

When ordering withdrawable circuit-breakers without guide frames, enter "7" in the 6th position of the Order No. (see also Section 5) Circuit-breaker Order No.:  
3WN6 7 -7 - -Z and order code "F01" or "F05"  
Guide frame Order No.:  
3WX36 83- A 0 with "-Z" and order code "R39"

Note 2

Remote closing of the circuit-breaker via PROFIBUS requires a motorized operating mechanism with a stored energy mechanism closing solenoid (Y1). For remote opening of 3WN6 via PROFIBUS the circuit-breaker must be equipped with a F1 or F2 shunt release

Communication-capable circuit-breakers require the following accessories  
System manual (to support project planning and commissioning)  
DP/3WN6 interface  
DC power supply 24 V for interface  
PROFIBUS connectors and bus lines

Use of the complete communication package with SIMATIC S5/S7 requires: software module  
For quick selection, see prepared Order Nos. for selected models on page 2/90.





# 具有通讯能力的断路器 3WN6，至 3200A Communication-Capable 3WN6 Circuit-Breakers, up to 3200A

<b>描述</b>	<b>Description</b>
-----------	--------------------

高性能的软件包可以简化断路器的操作，也可以更方便地使用断路器的通讯功能。

### Win3WN6

该软件提供了 3WN6 断路器从参数设置、操作控制和监控的所有功能。

### 软件特点

- 可用于 D, E/F, H, J/K, N 和 P 型脱扣器。
- 在 Windows 95 和 Windows NT 4.0 操作系统下运行。
- Win3WN6 通过断路器脱扣器面板上的 RS232 接口或通过 PROFIBUS-DP, 以 SIMATIC S5, S7 或 PC 机为主机与断路器进行通讯。
- 观察断路器的运行状态和脱扣信号对断路器进行操作(可加密码保护)。
- 观测运行参数(如相电流)。
- 方便地设定保护参数(可加密码保护)。

### Win3WN6 的优点

- 参数设置方便快捷,节省时间(只要一次输入参数,然后将其拷贝至其他相同设置的断路器)。
- 只要按一下按钮即可快速读出断路器的参数并打印出来。
- 只要点一下鼠标,即可得出断路器的诊断数据,避免了/减少了停电检修时间。

### SICAM LCC

可使用户方便经济而快捷地创建工厂电器设备的图形化操作界面。SICAM LCC 适用于中小型工厂使用。

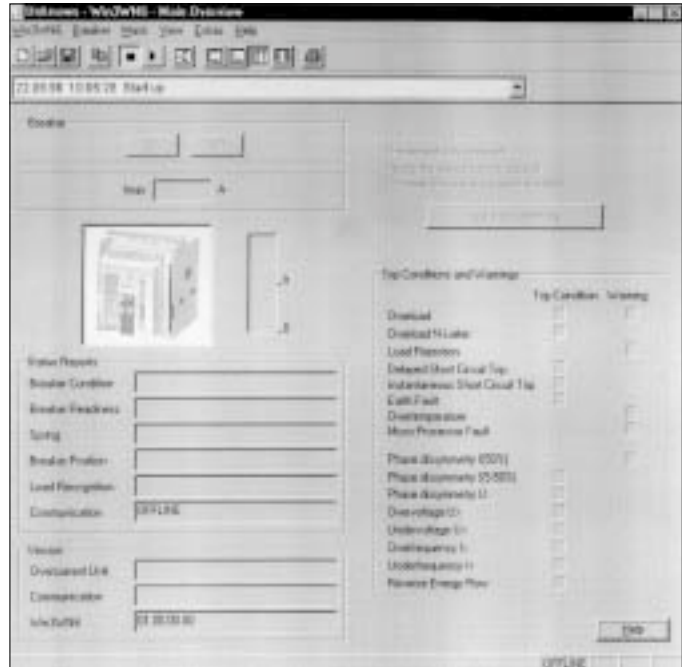
### 软件特点

- 用于 3VL, 3WN6, 3WN1, 3WS1 断路器和 SIMOCODE-DP 电动机保护和控制装置。
- 在 Windows 95 和 Windows NT 4.0 操作系统下运行。
- 配置: 在 PROFIBUS-DP 上以 SIMATIC S5, S7 或 PC 机为主机。
- 显示电器设备示意图包括重要的数据信息。
- 测量值的显示和分析(最小值/最大值/平均值/曲线图,例如电流曲线图)。
- 事故列表
- 报警列表
- 打印,记录
- 调用其他软件(如 Win3WN6; Win-SIMOCODE-DP)
- 调用电器设备的参数(调用 Win3WN6, Win-SIMOCODE-DP)

### SICAM LCC 的优点

- 为工厂配用电设备提供了清楚的标准图形界面。
- 只要按一下按钮即可快速读出电器设备的参数并打印出来。
- 通过对所有连接的电器设备进行诊断可避免/减少工厂的停电检修时间。
- 通过对测量值(如电流值)进行分析,可实现最佳的能量管理,减小负载峰值。
- 采用标准工具实现图形化操作,减少了成本。

High-performance software packages are available for easy operator control and use of the communication function of the circuit-breakers.



Win3WN6 屏幕显示  
Win3WN6 main overview screen

### Win3WN6

offers the user the whole range of functions of the 3WN6 circuit-breaker for start-up procedures, operator control and monitoring at an attractive price.

### Software features

- For release models D, E/F, H, J/K, N and P
- Runs on Windows 95 and Windows NT 4.0
- Win3WN6 communicates with the circuit-breaker either via the RS232 interface (at the release instead of the manual control) or via the PROFIBUS-DP, SIMATIC S5, S7 or PC as a master
- Overview of circuit-breaker status and tripped signals (see diagram)
- Switching operations (password-protected)
- Overview of operating data (e. g. phase currents)
- Easy setting of protective parameters (password-protected)

### Advantages of Win3WN6

- Efficient start-up procedures save time (-input parameters once and then copy them to different circuit-breakers)
- Quick and easy documentation of circuit-breaker parameters at the touch of a button
- Avoiding/-minimizing plant downtime through specific diagnosis with access to all circuit-breaker data at the click of a mouse.

### SICAM LCC

allows the user to create a standard plant visualization simply, economically, and in a very short time. SICAM LCC is used for small to medium-sized plants.

### Software features

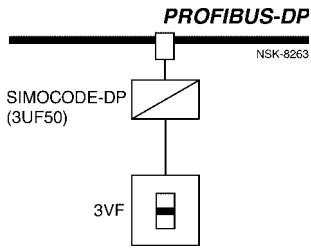
- For 3VL, 3WN6, 3WN1, 3WS1 circuit-breakers and for SIMOCODE-DP motor protection and control units
- Runs on Windows 95 and Windows NT 4.0, Configurations: SIMATIC S5, S7 or PC as master on PROFIBUS-DP
- Detailed diagrams of devices including the most important information
- Measured-value display and analysis (min / max /average/graphs, e.g of currents)
- Events lists
- Alarm lists
- Printing, logging
- Calling of other available software (Win 3WN6 see above; Win-SIMOCODE-DP, see the Controls and Distribution Catalog)
- Device parameters adjustable (call up Win 3WN6, Win-SIMOCODE-DP)

### Advantages of SICAM LCC

- Clear standard visualization (energy distribution) of the plant displaying all important information.
- Quick and easy plant documentation at the touch of a button
- Avoiding / minimizing plant downtime through specific diagnosis with access to all connected devices
- Measured-value-processing (e.g. of currents) for optimal energy consumption, e.g. for reducing peak loads (energy management)
- Cost-saving visualization using a standard tool

具有通讯能力的 3VL 系列断路器, 至 800A, 用于固定式安装, 3 极  
Communication-Capable 3VL Circuit-Breakers, up to 800A, for Fixed Mounting, 3-pole

选型和订货参数 Selection and ordering data



额定工作电压  $U_c$  至 AC 690V  
带辅助开关(1 转换)  
带报警开关(1 转换)  
带电动机操作机构(AC 220 - 240V)(需另外  
订货)<sup>1)</sup>  
详细技术参数见 3VL 一章  
3VL 实现通讯需要 SIMOCODE-DP 接口

通过 PROFIBUS-DP 可传送：  
断路器分 / 合闸指令  
运行状态信号(断路器分 / 合闸)  
脱扣信号  
过载信号  
最大相电流 ( $I_{max}$ )  
(SIMOCODE-DP)设定值的修改  
详细描述见第 2/86 页

Rated operational voltage  $U_c$  to AC 690V  
With auxiliary switch (1 changeover)  
and alarm switch (1 changeover).  
With motorized operating mechanism  
for switching on/off  
AC 220 to 240 V (to be ordered separately)<sup>1)</sup>  
For technical details see Section 3VL  
For communication, the SIMOCODE-DP  
interface is required.

Functions with PROFIBUS-DP:  
circuit-breaker on/off command,  
operational status signal (circuit-breaker on/  
off) ,  
tripped signal,  
overload signal,  
transmission of the maximum phase current  
( $I_{max}$ ),  
modification of settings (of SIMOCODE-DP).  
For a detailed selection see description on  
page 2/86.

	额定 电流 Rated current $I_n$	过载反时限 脱扣器 "a" 的 整定电流值 $I_r$	短路瞬时 脱扣器 "n" 的 整定电流值 $I_i$	断路器 Circuit-breakers	所需的电动机操作机构 (AC 220 - 240V) Required motorized operating mechanism AC 220 to 240 V <sup>1)</sup>	接口： SIMOCODE-DP 电动机 保护和控制装置 Interface: SIMOCODE-DP motor protection and control device
	(A)	(A)	(A)	订货号 Order No.	订货号 Order No.	订货号 Order No.
	80 200 250 400 500 630	63-80 160-200 200-250 315-400 400-500 500-630	400-800 1000-2000 1250-2500 2000-4000 2500-5000 3150-6300	3VL2708- DC33-0AD1 3VL3720- DC36-0AD1 3VL3725- DC36-0AD1 3VL4740- DC36-0AD1 3VL5750- DC36-0AE1 3VL5763- DC36-0AE1	3VL9 300-3MQ00 3VL9 300-3MQ00 3VL9 300-3MQ000 3VL9 400-3MQ00 3VL9 600-3MQ00 3VL9 600-3MQ00	3UF50 21-3BN00-1 3UF50 31-3BN00-1 3UF50 41-3BN00-1 3UF50 41-3BN00-1 3UF50 41-3BN00-1 3UF50 51-3BN00-1
	800	400, 500 630, 800	15000	3VL6780- DC36-0AE1	3VL9 600-3MQ00	3UF50 51-3BN00-1

标准分断能力 Standard switching capacity 1  
高分断能力 High switching capacity 2  
极高分断能力 Very high switching capacity 3

<sup>1)</sup> 对于其它类型, 见 3VL 一章。

如果控制电压 < AC 220 V, 则需一控制继电器。

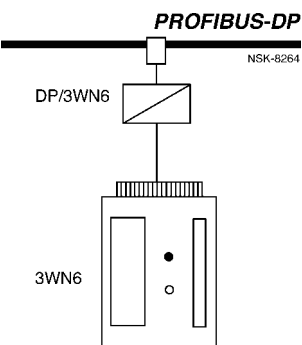

For other items see Section 11

For operating voltages < AC 220 V an additional  
control relay is required.



# 具有通讯能力的 3WN6 系列断路器，至 3200A，3 极

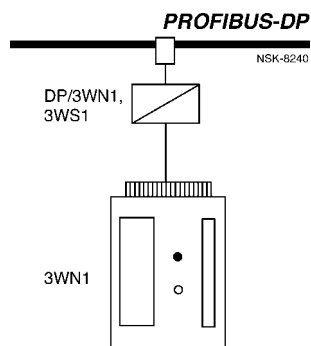
## Communication-Capable 3WN6 Circuit-Breakers, up to 3200A, 3-pole

选型和订货参数			Selection and ordering data (extract)						
			<p>额定工作电压 <math>U_e</math> 至 AC 690V 至 AC 500/690V 时的额定极限短路 分断能力 <math>I_{cu}</math>： (框架尺寸等级 I) 至 65/50kA； (框架尺寸等级 II) 至 80/50kA 带电动机操作机构 DC 24V 带分励脱扣器 DC 24V 带辅助触头(2NO+2NC) 有关 3WN6 的技术参数和其他细节， 见本章。</p> <p>Rated operational voltage <math>U_e</math> up to AC 690V. Rated ultimate short-circuit breaking capacity <math>I_{cu}</math> up to AC 500/690 V Size I up to 65/50 kA Size II up to 80/50kA With motorized operating mechanism DC 24 V With shunt release DC 24 V With auxiliary switch (2 NO + 2 NC) Technical data and other items, see Section 11</p>			<p>通过 PROFIBUS 实现的功能： 见下表中的说明。 有关 3WN6 通讯的描述，见第 2/87 页。</p> <p>Functions with PROFIBUS see Order No. supplements below. For detailed selection see also description on page 2/87.</p>			
尺寸等级 Size	额定电流 $I_n$ = 电流互感器 器额定电 流 $I_n$ Rated current $I_n$ = transformer rated current $I_n$ A	电流整定 范围 $I_r$ Current setting range $I_r$ A	固定式断路器，主回路 水平连接后置 Fixed mounted circuit-breakers with horizontal connection at the rear.	带订货码 F01 或 F05 Order with order code F01 or F05	抽屜式断路器，带导向框架，主回路 水平连接后置 Withdrawable circuit-breakers with guide frame and with horizontal connection at the rear	带订货码 F01 或 F05 Order with order code F01 or F05			
断路器装有过电流脱扣器 / Circuit-breakers with overcurrent releases									
	I I I I I II II II	630 800 1000 1250 1600 2000 2500 3200	252-630 320-800 400-1000 500-1250 640-1600 800-2000 1000-2500 1280-3200	3WN6061*-7D 51-1BA1-Z 3WN6161*-7E 51-1BA1-Z 3WN6261*-7F 51-1BA1-Z 3WN6361*-7G 51-1BA1-Z 3WN6461*-7H 51-1BA1-Z 3WN6561*-7J 51-1BA1-Z 3WN6661*-7K 51-1BA1-Z 3WN6761*-7M 51-1BA1-Z	3WN6081*-7D 51-1BA1-Z 3WN6181*-7E 51-1BA1-Z 3WN6281*-7F 51-1BA1-Z 3WN6381*-7G 51-1BA1-Z 3WN6481*-7H 51-1BA1-Z 3WN6581*-7J 51-1BA1-Z 3WN6681*-7K 51-1BA1-Z 3WN6781*-7M 51-1BA1-Z				
过电流脱扣器 (详见 3WN6 一章) Overcurrent releases (see Section 11)	通过 PROFIBUS 实现的功能： Functions with PROFIBUS:		订货号 补充 Order No. supplement		订货号 补充 Order No. supplement				
"aznN"	1 1	1 1	1 1	↑	↑	↑			
	1 1	1 1	1 1	D	F01	D F01			
"aznNg"	1 1	1 1	1 1	E	F01	E F01			
"aznN"	2 2	2 2	2 2	H	F01	H F01			
"aznNg"	2 2	2 2	2 2	J	F01	J F01			
"aznN"	3 3	3 3	3 3	N	F05	N F05			
"aznNg"	3 3	3 3	3 3	P	F05	P F05			

\*: 对 4 极 3WN6, "1" 改为 "3"  
For 4 pole 3WN6, "1" change to "3"

# 具有通讯能力的 3WN1 系列断路器，至 6300A，3 极 Communication-Capable 3WN1 Circuit-Breakers, up to 6300A, 3-pole

## 选型和订货参数 Selection and ordering data



额定工作电压  $U_e$  至 AC 690V  
至 AC 500/690V 时的额定极限短路分断能力  $I_{cu}$  :  
(框架尺寸等级 I, II) 至 80/60kA  
(框架尺寸等级 III, IV) 至 100/80kA  
带电动机操作机构 AC 220 至 250V  
带分励脱扣器 AC 220 至 240V  
带辅助触头(2NO + 2NC)

Rated operational voltage  $U_e$   
up to AC 690 V  
Rated ultimate short-circuit breaking  
capacity  $I_{cu}$  up to AC 500/690 V:  
Size I, II up to 80/60 kA  
Size III, IV up to 100/80 kA  
With motorized operating mechanism AC 220  
up to 250 V  
With shunt release AC 220 to 240V  
With auxiliary switch (2 NO + 2 NC)

通过 PROFIBUS 实现的功能：  
传送相电流  
传送脱扣信号  
传送报警信号  
传送运行状态信号(断路器处于合 / 分闸状态)  
传送使断路器合 / 分闸指令

Functions with PROFIBUS  
transmission of phase current  
tripped signal  
alarm signal  
operational status signal (circuit-breaker on/  
off)  
circuit-breaker on/off command

	尺寸等级 Size	额定电流 $I_n$ = 电流互感器额定电 流 $I_n$ Rated current $I_n$ = transformer rated current $I_n$ A	电流整定 范围 $I_t$  Current setting range $I_t$ A	固定式断路器，主回路上、下进出线均为 垂直连接铜排 Fixed-mounted circuit-breakers Vertical connecting bars, above and below  订货号 Order No.	带订货码 F01 Order with order code F01	抽屉式断路器，不带导向框架 Withdrawable circuit-breakers without guide frame  订货号 Order No.	带订货码 F01 Order with order code F01
--	--------------	---	--	---	---	---	---

### 断路器装有过电流脱扣器 / Circuit-breakers with overcurrent releases



	I/1	630	252-630	3WN1* 061-1D	68-1JA5-Z F01	3WN1 071*-1D	68-1JA5-Z F01
	I/1	800	320-800	3WN1* 161-1E	68-1JA5-Z F01	3WN1 171*-1E	68-1JA5-Z F01
	I/1	1000	400-1000	3WN1* 261-1F	68-1JA5-Z F01	3WN1 271*-1F	68-1JA5-Z F01
	I/1	1250	500-1250	3WN1* 261-1G	68-1JA5-Z F01	3WN1 271*-1G	68-1JA5-Z F01
	I/2	1250	500-1250	3WN1* 361-1G	68-1JA5-Z F01	3WN1 371*-1G	68-1JA5-Z F01
	I/2	1600	640-1600	3WN1* 461-1H	68-1JA5-Z F01	3WN1 471*-1H	68-1JA5-Z F01
	II	2000	800-2000	3WN1* 561-1J	68-1JA5-Z F01	3WN1 571*-1J	68-1JA5-Z F01
	II	2500	1000-2500	3WN1* 661-1K	68-1JA5-Z F01	3WN1 671*-1K	68-1JA5-Z F01
	III/1	3200	1260-3200	3WN1* 761-1M	68-1JA5-Z F01	3WN1 771*-1M	68-1JA5-ZF01
	III/1	4000	1600-4000	3WN1* 831-1P	68-1JA5-Z F01	3WN1 871*-1P	68-1JA5-Z F01
	IV	5000	2000-5000	-		3WN1 971*-2Q	68-1JA5-Z F01
	IV	6300	2520-6300	-		3WN1 971*-2S	68-1JA5-Z F01

过电流脱扣器 Overcurrent releases	通过 PROFIBUS 实现的功能: Functions with PROFIBUS 见下表接口 see Interfaces	订货号 补充 Order No. supplement	↑ R   V	订货号 补充 Order No. supplement	↑ R   V
“azn”					
“azng”					

\* : 对 4 极 3WN1，相应“1”改为“3”  
For 4 pole 3WN1, "1" change to "3"



具有通讯能力的3VL系列断路器,至800A,用于固定式安装,3极  
 Communication-Capable 3VL Circuit-Breakers, up to 800A, for Fixed Mounting, 3-pole

附件(必备的)	Accessories (necessary)
项目 Item	订货号 Order No.
系统手册 3VL、3WN6、3WN1/3WS1 断路器与 PROFIBUS-DP 相连的通讯界面介绍 System manual Communication interface for 3VL, 3WN6, 3WN1/3WS1 circuit-breakers to PROFIBUS-DP	E20001-P285-A644-V1
SIMOCODE-DP 系统手册 System manual for SIMOCODE-DP 德文版, 包括系统数据文件 German including system data files 英文版, 包括系统数据文件 English including system data files	3UF57 00-0AA00-0  3UF57 00-0AA00-1
PROFIBUS 连接器 用于将接口接至 PROFIBUS PROFIBUS connector for connecting the interface to PROFIBUS	6ES7 972-0BB20-0XA0
连接电缆 用于通过 SIMOCODE-DP 接口与 PC 相通讯, 长度 5m Connecting cable for communication with a PC via the SIMOCODE-DP interface, length 5m	3RW29 20-1DA00
参数设置软件 Win-SIMOCODE-DP 基于 Windows 95 或 Windows NT 的软件, 用于通过 SIMOCODE-DP 系统接口对 SIMOCODE-DP 进行参数设置, 控制, 诊断和试验, 包括用于 3VL 的参数文件。德语 / 英语可选择。(不带连接电缆) Parameterization software Win-SIMOCODE-DP Software based on Windows 95 or Windows NT for parameterization, control, diagnosis and testing of SIMOCODE-DP via the SIMOCODE-DP interface, German / English selectable (without connecting cable) including parameter file for 3VL	3RK1 803-2FA02-0DA0

## 具有通讯能力的 3WN6 系列断路器，至 3200A，3 极 Communication-Capable 3WN6 Circuit-Breakers, up to 3200A, 3-pole

推荐采用的附加功能	Further versions (recommended)
当选用具有该附加功能的断路器时，应在完整的订货号后加上“-Z”和订货代号“K01” When ordering circuit-breakers in the above versions, the complete Order No. must be supplemented with "-Z" and the order code "K01"	
订货号 Order No. 3WN6..1-7..51-1BA1-Z 及附加订货码 and with additional code + ... + ...	
用于具有通讯能力的断路器 For communication-capable circuit-breakers only	↑
具有脱扣后自动机械复位功能 With automatic mechanical reset after tripping  (如不带附加功能 K01，断路器故障脱扣后必须按断路器上的红色复位按钮手动复位) (Without the additional function K01 the switch must be reset manually using the red RESET button on the switch after tripping)	
附件	Accessories
用于具有通讯能力的 3WN6 断路器 For ordering communication-capable 3WN6 circuit-breakers	
	订货号 /Order No.
系统手册 3VL, 3WN6, 3WN1/3WS1 断路器 与 PROFIBUS-DP 相连的通讯界面介绍 System manual Communication interface for 3VL, 3WN6, 3WN1/3WS1 circuit-breakers to PROFIBUS-DP	E20001-P285-A644-V1-7600
DP/3WN6 接口 每台具有通讯能力的断路器需要一个 (包括有 GSD 文件的 3 1/2" 软盘) DP/3WN6 interface required once only per communication-capable circuit-breaker (including 3 1/2" disk with type or GSD file)	3RK1000-0JC80-0BA1
DC24V 电源 用于 DP/3WN6 接口的供电 DC 24 V power supply for DP/3WN6 interface	如 4AV2 系列，请参见有关样本  e.g. 4AV2
PROFIBUS 连接器 将接口联接至 PROFIBUS PROFIBUS connector for connecting the interface to PROFIBUS.	6ES7972-0BB20-0XA0
软件模块 推荐用于 SIMATIC S5 和 S7；用于 通讯控制的编程工具，3 1/2" 软盘 Software module recommended for SIMATIC S5 and S7; programming aid for communication control, 3 1/2" disks	3RK1800-0AA00-0AA0

有关 3WN6 通讯的描述，见第 2/87 页

For further communication-capable 3WN6 circuit-breakers see also description on page 2/87.



# 具有通讯能力的断路器 3WN6，至 3200A

## Communication-Capable 3WN6 Circuit-Breakers, up to 3200A

选型和订货数据		Selection and ordering data
项目 / Item	订货号 / Order No.	
<p>Win3WN6 Professional V1.0(专业版)</p> <p>通过 PROFIBUS-DP 或 RS232 进行参数设置，操作控制，监控，试验，包括在线帮助，德语/英语可选。</p> <p>主机控制系统：SIMATIC S5, S7, 与 PROFIBUS-DP 兼容的 PC 机</p> <p>主机系统(RS232): 笔记本电脑或个人电脑</p> <p>供货内容：光盘，3.5" 软盘，联接至 RS232 口的匹配器和电缆线</p> <p>Parameterization, operator control, monitoring, testing via PROFIBUS-DP or RS232, incl. online help, German/English selectable.</p> <p>Target master systems: SIMATIC S5, S7, PROFIBUS-DP compatible PC</p> <p>Target system (RS232): Laptop or PC</p> <p>Scope of supply: CD, 3.5" disk, interface cable and network adapter for RS232.</p>	3WX3647-6AC00	
<p>Win3WN6 Smart V1.0(简易版)</p> <p>通过 RS232 进行参数设置，操作控制，监控，试验，包括在线帮助，德语/英语可选。</p> <p>主机控制系统：SIMATIC S5, S7, 与 PROFIBUS-DP 兼容的 PC 机</p> <p>主机系统：笔记本电脑或个人电脑</p> <p>供货内容：光盘，联接至 RS232 口的匹配器和电缆线</p> <p>Parameterization, operator control, monitoring, testing via RS232 incl. online help, German / English selectable</p> <p>Target system: Laptop or PC</p> <p>Scope of supply: CD, interface cable and network adapter for RS232.</p>	3WX3647-6AB00	
<p>电源组</p> <p>Power pack</p> <p>如采用 RS232 口通讯，且断路器无 DC24V 电源输出端子需采用此电源组</p> <p>required for RS232 communication, if the circuit-breaker has no DC 24V supply</p>	3WX3647-6JA02	
<p>简易版升级至专业版 V1.0</p> <p>Smart Upgrade to Professional V1.0</p> <p>用于将 Win3WN6 简易版升级至 Win3WN6 专业版的软件包</p> <p>供货内容：3.5" 软盘</p> <p>Software package for upgrading from Win 3WN6 Smart to Win 3WN6 Professional Scope of supply:3.5 " disk</p>	3WX3647-6AD00	
<p>Win3WN6 示范版</p> <p>Win-3WN6 Demo</p> <p>帮助了解 Win3WN6 的操作屏幕，无通讯功能，德语/英语可选</p> <p>供货内容：光盘</p> <p>provides navigation help through Win-3WN6 screens, without communication function.</p> <p>Scope of supply: CD, incl. electronic manual, online help, German / English selectable.</p>	3WX3647-6AA00	
<p>SICAM LCC 图形化操作软件 /SICAM LCC Visualization Software</p> <p>SICAM LCC</p> <p>该软件用于针对采用 PROFIBUS-DP 通讯的电器设备，在电脑屏幕上生成一个标准化的图形界面和显示所有重要的信息，包括 SICAM Valpro 可分析测量值。SICAM LCC 可用于包含 3VL、3WN6、3WN1、3WS1 和 SIMOCODE-DP 3UF5 的配电保护和控制系统。</p> <p>Software for creating a standard visualization screen and display of all-important information from devices connected to PROFIBUS-DP, incl. SICAM Valpro for analysis of stored readings, SICAM LCC is used to display 3VL, 3WN6, 3WN1, 3WS1 and SIMOCODE-DP 3UF5.</p> <p>从 SICAM LCC 中可调用 Win-SIMOCODE-DP 和 Win3WN6.</p> <p>Using a suitably installed communication processor, Win-SIMOCODE-DP/Professional and Win3WN6 can also be called up with SICAM LCC.</p> <p>用户可根据需要扩展该软件的功能。/Customized expansion features are possible.</p> <p>对 PC 机的要求 /PC-requirements : INTEL Pentium 133MHz Windows NT4.0</p> <p>RAM 64MB</p> <p>硬盘可用空间 /Free space on hard disk 2GB</p> <p>图形适配器 /Graphics adapter SVGA</p> <p>监视器 /Monitor 1024 x 768</p> <p>PU/PC 接口要求 : /PU/PC interface requirements:</p> <p>Win-SIMOCODE-DP 专业版 /Win-SIMOCODE-DP/Professional CP5412(A2)及相应软件 /CP5412 (A2) with appropriate software</p> <p>供货范围：</p> <p>带授权软盘的 CD-ROM，德语/英语可选，包括 CD-ROM 手册和在线帮助，用户使用证。</p> <p>Mode of delivery: CD-ROM with authoring disks, German/English (switchable) incl. CD-ROM manual and Online Help, single-user license</p>	6MD54 02-0BA00-1AA0	
SICAM LCC 手册 / SICAM LCC manual	英语 /English 德语 /German	E50417-H8976-C030 E50417-H8900-C030
SICAM Valpro 手册 / SICAM Valpro manual	英语 /English 德语 /German	E50417-H8976-C020 E50417-H8900-C020

具有通讯能力的 3WN1 系列断路器，至 6300A，3 极  
Communication-Capable 3WN1 Circuit-Breakers, up to 6300A, 3-pole

用于 3WN1 和 / 或 3WS1 的附件	Accessories for 3WN1 and/or 3WS1																					
导向框架 Guide frame	订货号 Order																					
<p>包含用于通讯的生产厂安装的连接电缆(SubD口，9极) Including factory-installed connecting cable (SubD, 9-pole) for communication</p> <p>带 T 形连接件 With T-shaped connecting pieces</p> <p>无断路器位置远距离信号发送开关 without remote signaling of the circuit-breaker position</p> <p>带活动延伸导轨 with hinged rails</p> <p>无挡板 without shutter</p> <p>4 个辅助接线端子块 4 auxiliary connectors</p> <p>无防止柜门打开或断路器移动的锁具 without locking fixtures to prevent the cubicle door being opened or the circuit-breaker being moved.</p>	<p>带订货码 R39 Order only with order code R39</p> <table border="0"> <tr> <td>尺寸等级</td> <td>用于断路器</td> <td></td> </tr> <tr> <td>Sizes</td> <td>for circuit-breakers</td> <td></td> </tr> <tr> <td>I</td> <td>3WN1 0 to 3WN1 4</td> <td>3WX31 83-8CA00-1EA3-Z R39</td> </tr> <tr> <td>II</td> <td>3WN1 5 and 3WN1 6</td> <td>3WX31 83-8DA00-1EA3-Z R39</td> </tr> <tr> <td>III</td> <td>3WN1 7 and 3WN1 8</td> <td>3WX31 83-8GA00-1EA3-Z R39</td> </tr> <tr> <td>IV</td> <td>3WN1 9 to 5000 A</td> <td>3WX31 83-8HA00-1EA3-Z R39</td> </tr> <tr> <td>IV</td> <td>3WN1 9 to 6300 A</td> <td>3WX31 83-8UA00-1EA3-Z R39</td> </tr> </table>	尺寸等级	用于断路器		Sizes	for circuit-breakers		I	3WN1 0 to 3WN1 4	3WX31 83-8CA00-1EA3-Z R39	II	3WN1 5 and 3WN1 6	3WX31 83-8DA00-1EA3-Z R39	III	3WN1 7 and 3WN1 8	3WX31 83-8GA00-1EA3-Z R39	IV	3WN1 9 to 5000 A	3WX31 83-8HA00-1EA3-Z R39	IV	3WN1 9 to 6300 A	3WX31 83-8UA00-1EA3-Z R39
尺寸等级	用于断路器																					
Sizes	for circuit-breakers																					
I	3WN1 0 to 3WN1 4	3WX31 83-8CA00-1EA3-Z R39																				
II	3WN1 5 and 3WN1 6	3WX31 83-8DA00-1EA3-Z R39																				
III	3WN1 7 and 3WN1 8	3WX31 83-8GA00-1EA3-Z R39																				
IV	3WN1 9 to 5000 A	3WX31 83-8HA00-1EA3-Z R39																				
IV	3WN1 9 to 6300 A	3WX31 83-8UA00-1EA3-Z R39																				
<p>接口(每台断路器至少需要 ①或②) Interfaces (at least ①or②are required for each circuit-breaker)</p> <p>① DP/3WN1，3WS1 用于：            传送相电流 <math>I_{L1}</math>，<math>I_{L2}</math>，<math>I_{L3}</math>，<math>I_{Lmax}</math>            传送脱扣信号            传送报警信号</p> <p>① DP/3WN1, 3WS1 for            transmission of the phase currents <math>I_{L1}</math>，<math>I_{L2}</math>，<math>I_{L3}</math>，<math>I_{Lmax}</math>            tripped signals            alarm signals</p> <p>② ET200L(16DI，16DO)用于：            传送断路器工作状态(如断路器已合 / 分闸状态)            传送使断路器合 / 分闸指令</p> <p>② ET200L (16 DI, 16 DO) for:            operational status signal (e.g. circuit-breaker on/off)            circuit-breaker on/off command</p>	<p>3RK1 002-0BB00-0AA0</p> <p>接线端子模块 电子模块</p> <p>6ES7 193-1CL00-0XA0 6ES7 133-1BL00-0XB0</p> <p>Terminal block Electronics block</p>																					
<p>系统手册 3VL，3WN6，3WN1/3WS1 断路器与 PROFIBUS-DP 相连的通讯界面介绍 System manual Communication interface for 3VL, 3WN6, 3WN1 / 3WS1 circuit-breakers to PROFIBUS-DP</p>	<p>E20001-P285-A644-V1</p>																					
<p>DC 24V 电源 用于 DP/3WN1，3WS1 接口的供电 DC power supply 24V for DP / 3WN1, 3WS1 interface</p>	<p>如：4AV2 系统 e.g. 4AV2</p>																					
<p>PROFIBUS 连接器 将接口联接至 PROFIBUS. PROFIBUS connector for connecting the interface to the PROFIBUS.</p>	<p>6ES7 972-0BB20-0XA0</p>																					







	页号 Page		页号 Page
3UA		3RB 12	
		<b>电子式热继电器</b>	<b>Solid state overload relays</b>
说明 Description	3/1	CLASS 5 to CLASS 30	
选型与订货数据 Selection and ordering data	3/1	<b>描述</b>	3/16
附件 Accessories	3/5	Description	
技术数据 Technical data	3/6	<b>选型订货表</b>	3/20
内部接线图 Internal connection diagrams	3/10	Selection and ordering data	
安装使用说明 Specification of installation	3/11	<b>技术数据</b>	3/22
外型及安装尺寸 Dimension drawings	3/12	Technical data	
		<b>电路图</b>	3/25
		Circuit diagrams	
		<b>外形尺寸，线路图</b>	3/25
		Dimensions and circuit diagrams	



	页号 Page
3RN10	3RN10 Thermistor motor protection

详情请洽西门子办事处  
Details please contact Siemens Office

### 3K. 系列隔离开关

3KL 和 3KM 隔离开关设计成外部安装熔断器的形式。3KA 隔离开关用隔离片替代熔断器，3KE 隔离开关具有动触头。这些触头由主触头和弧触头组成，触头更换方便。

与 3KL 隔离开关相比，3KM 隔离开关在后面有一个隔离插头，最适合安装在带有垂直母排的马达控制中心(MCC)柜中。它们安装在插入式框架中，将插头插入柜中的框架即接通了母排。抽出抽屉单元，即形成一额外隔离空间。

3KL5、3KL6、3KM 和 3KA 隔离开关为三极。其中的一些型号能增加第四极。

当 3KL 和 3KM 隔离开关断开时，熔断器也随即断开。当 3K 隔离开关断开时，都能用挂锁锁定。然而有些时候需要门操作机构（用于 3KL6 和 3KE）或可锁定检查罩（用于 3KE）。此机构有 90° 的操作角度，具有快速断开和闭合特性。

所有的 3K 系列隔离开关适合在任何气候下使用，符合 IEC947-1、IEC947-3、和 DIN VDE0660 第 107 部分的标准。根据 DIN VDE 0113 它们可用作主开关和“急停”开关。

### 3NP 系列熔断器式隔离开关

3NP 熔断器式隔离开关能带负载接通和断开电路。它们适合在任何气候下使用，符合 IEC947-1、IEC947-3、和 DIN VDE0660 第 107 部分的标准。此外，3NP5 熔断器式隔离开关符合 BS 5419 标准，也适合在船上使用。

依据使用的型号，3NP 熔断器式隔离开关适合于表面安装和安装在开关柜以及工厂自制配电盘内，例如用在 STAB 壁挂式和 SIKUS 落地式配电盘内。或在 SIPRO 通用系统中，它们也能在不同的母线上安装。

3NP35 30 熔断器式隔离开关也能卡装在 35mm 标准安装导轨上。

### 3NJ 系列顺列熔断器式隔离开关

3NJ41 和 3NJ56 型单极和三极顺列熔断器式隔离开关能安装在低压配电柜、变电站和电缆分配柜内。它们适合在任何气候下使用。

在断开位置具手背触摸防护 (3NJ56 IP 00 除外)。当熔断器座闭合后，所有顺列熔断器式隔离开关的防护等级为 IP 20。它们符合 IEC 408、IEC947-3 和 DIN VDE 0660 第 107 部分标准。符合 DIN 43620 第一部分标准的熔断器可以使用，但不允许使用连接片镀镍的熔断器。

### 3K. Switch Disconnectors

The 3KL and 3KM switch disconnectors are designed for externally mounted fuses. Instead of fuses, the 3KA disconnectors have disconnecting links and the 3KE disconnectors have movable contacts. These contacts consist of main contacts and arcing contacts with easily replaceable erosion contacts. If additional fuses are to be used, these have to be located separately.

In contrast to 3KL disconnectors, the 3KM disconnectors have an isolating plug connector on the rear side and are best suited for fitting in Motor Control Center (MCC) cubicles with a vertical conductor bar. They are installed in plug-in frames and contact with the bars is established by inserting them into this frame in the cubicle. By pulling out the withdrawable unit, an additional isolating distance is created. The 3KL5, 3KL6, 3KM and 3KA disconnectors are 3-pole. With some types, a fourth pole can be added.

disconnectors are switched off, the fuses are dead. All 3K. disconnectors can be secured

with a padlock when they are switched off. However, a door-coupling rotary mechanism is sometimes necessary (with 3KL6, 3KL7 and 3KE) or a lockable inspection mask (with 3KE). The mechanisms have an operating angle of 90° and are equipped with high-speed opening and closing feature. All 3K. disconnectors are suitable for use in any climate and comply with IEC 947-1, IEC 947-3 and DIN VDE 0660 Part 107. They can be used as main switches and EMERGENCY STOP switches in accordance with DIN VDE 0113.

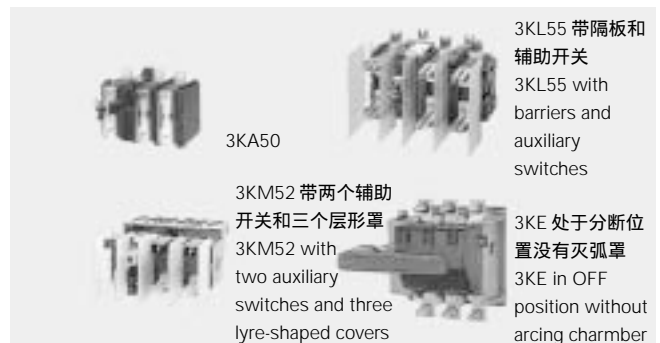
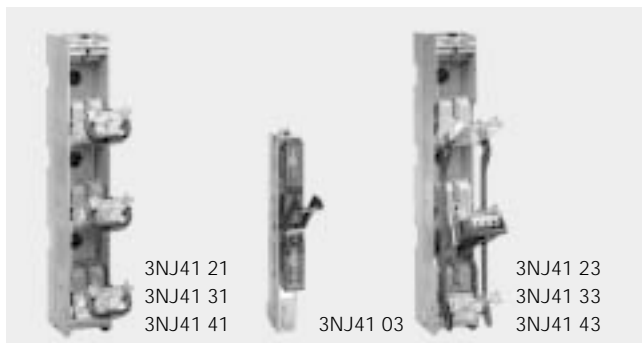
### 3NP Fuse Switch Disconnectors

3NP fuse switch disconnectors can be safely used for all-pole making and breaking of circuits under load. They are suitable for use in any climate and comply with standard IEC 947-1, IEC 947-3 and DIN VDE 0660 Part 107. In addition, the 3NP5 fuse switch disconnecter complies with BS 5419. It is also suitable for use on-board ship. Depending on the version used 3NP fuse switch disconnectors are suitable for surface mounting and for fitting into switchboards and factory-built distribution boards e.g. in STAB wall-mounted

and SIKUS floor-mounted distribution boards or in SIPRO universal systems. They can also be fitted in different busbar systems. They can also be fitted in different busbar systems. The 3NP35 30 fuse switch disconnecter can also be snapped onto 35 mm standard mounting rails.

### 3NJ In-Line Fuse Switch Disconnectors

Single-pole and three-pole in-line fuse switch disconnectors of types 3NJ41 and 3NJ56 are designed for installation in low-voltage distribution boards, substations and cable distribution cabinets. They are suitable for use in any climate. In an open position, they are safe from touch by the back of the hand (exception 3NJ56: IP 00). When the fuse carriers are closed, the degree of protection for all in-line fuse switch disconnectors is IP 20. They comply with the specifications of IEC 408, IEC 947-3 and DIN VDE 0660 Part 107. Fuse links to DIN 43 620 Part 1 can be used - nickel-plated fuse blades are not permissible.



# 3NP35 (至 160A) 和 3NP4 (至 630A) 熔断器式隔离开关

## 3NP35 Fused Switch Disconnectors up to 160A and 3NP4 up to 630A

选型及订货数据				Selection and ordering data			
 3NP35 30   3NP40 10   3NP42 70	额定不间断电流 Rated uninterrupted current $I_u$ A	导线连接(在两端) Conductor connection (on both sides)  端子类型 Type of terminal	导线截面 for conductor cross-section mm <sup>2</sup>	适用熔断器 DIN 43 620 For fuse links acc. to DIN 43 620  规格 Size	适用隔离体 For isolating links  规格 Size	防护等级 IP 00 Degree of protection IP 00  不带熔断器 without fuse links 不带隔离体 without isolating links 带有螺丝端子 with terminal screws  订货号 Order No.	大约重量 Weight approx. kg
	用于表面安装和在开关柜内安装 For surface mounting and for installation						
	160 <sup>2)</sup>	SIGUT 盒式接线端子 SIGUT box terminal	1.5-50	000 <sup>1)</sup>	00	3NP35 30-0CH00	0.553
	160 <sup>2)</sup>	盒式接线端子 Box terminal	1.5-50	000 <sup>1)</sup>	000	3NP40 10-0CH01	0.581
	160	扁平垫圈连接 Flat pad connection	~2x70(M8)	00	00	3NP40 70-0CA01	0.700
		盒式接线端子 Box terminal	2.5-70			3NP40 70-0CH01	0.800
	250	扁平垫圈连接 Flat pad connection	~150(M10)	1 and 0	1 and 0	3NP42 70-0CA01	2.300
	400	扁平垫圈连接 Flat pad connection	~240(M10)	2 and 1	2 and 1	3NP43 70-0CA01	3.400
630	扁平垫圈连接 Flat pad connection	~2x240 (M12)	3 and 2	3 and 2	3NP44 70-0CA01	4.600	
附件				Accessories			
 3NY30 35	用于 3NP40 的附件也可用于 3NP35 Accessories for 3NP40 can also be used for 3NP35		用于熔断器式隔离开关 For fuse switch disconnectors		附件订货号 Accessories Order No.	大约重量 Weight approx. kg	
	1CO 辅助开关 带自攻螺钉 Auxiliary switch 1CO with self-cutting screws		3NP40 1 ~ 3NP44		3NY3 035	0.005	
	1CO 辅助开关 适用于电子线路 带自攻螺钉 Auxiliary switch 1CO solid-state compatible, with self-cutting screws		3NP40 1 ~ 3NP44		3NY3 030		




- 1) 对应于最大宽度为 21mm 规格为 00 的熔断器 (符合 IEC 69 269-2-1 和 DIN 43 620)。
- 2) 仅为 125/160A, 采用宽度为 21mm 的熔断器 3NY1822(125A) 和 3NY1824(160A)。
- 3) 3NP35 和 3NP4 熔断器式隔离开关可加装一对辅助触头(1CO), 3NY30。

- 1) Corresponds to size 00 with a maximum width of 21mm (acc. to IEC 69 269-2-1 and DIN 43 620).
- 2) 125/160A only possible with 3NY1822(125A) and 3NY1824(160A) fuse links with a width of 21mm.
- 3) 3NP35 and 3NP4 fuse switch disconnectors can be retrofitted with auxiliary switch (1CO), 3NY30.

## 3NP5 熔断器式隔离开关 (至 630A), 全封闭, 快速闭合 3NP5 Fused Switch Disconnectors up to 630A, Fully Compartmented, with High-Speed Closing

选型及订货数据		Selection and ordering data						
 3NP50 60-0C...   3NP52 60-0C...   3NP53 60-0C...   3NP54 60-0C...	额定不间断电流 Rated un-interrupted current $I_u$  A	导线连接(在两端) Conductor connection (on both sides)  连接 Connection  导线截面 for conductor cross-section mm <sup>2</sup>	熔断器 DIN 43 620  隔离体 For fuse links acc. to DIN 43 620  规格 Size	隔离体 For isolation links  规格 Size	隔离开关 Auxiliary contacts of the switch disconnector  类型 Type	防护等级 IP 00 Degree of protection IP 00  无熔断器 without fuse links 无隔离体 without isolating links 带有螺丝端子 with terminal screws  订货号 Order No.  大约重量 Weight approx kg		
	用于表面安装和开关柜内安装 For surface mounting and for installation in switchboards							
	160	扁平垫圈连接 Flat pad connection  夹接 Clamp connection  1 根导线 2.5-50 或 2 根导线 1 × 2.5-50 1 × 2.5-35 1 conductor 2.5 to 50 or 2 conductors 1 × 2.5-50 1 × 2.5-35	2.5-150	00	00	无 / without 1NO+1NC	3NP50 60-OCA00 -OCA10	1.5 1.5
				00	00	无 / without 1NO+1NC	3NP50 60-OCB00 -OCB10	1.6 1.6
	250	扁平垫圈连接 Flat pad connection  夹接 Clamp connection  6-150  35-120	6-150	1	1	无 / without 1NO+1NC	3NP52 60-OCA00 -OCA10	4.8 4.9
				1	1	无 / without 1NO+1NC	3NP52 60-OCB00 -OCB10	5 5.1
	400	扁平垫圈连接 Flat pad connection  6-240	6-240	1 and 2	2	无 / without 1NO+1NC	3NP53 60-OCA00 -OCA10	5.8 5.9
	630	扁平垫圈连接 Flat pad connection  6-2 × 240	6-2 × 240	2 and 3	3	无 / without 1NO+1NC	3NP54 60-OCA00 -OCA10	7.1 7.2
附件		Accessories						
下列附件可供选择 Further accessories are available on request 塑模防护框架 Moulded-plastic masking frame 安装配件 Installation kit 端子罩, 辅助触头 Terminal covers, Auxiliary switch 夹紧式端子 Terminal clamp 三相母排 Three-phase busbar 用 3VU13 断路器进行熔断器监控 Fuse monitoring by 3VU13 circuit-breaker								

3NJ41 (至 1000A) 和 3NJ56 (至 1250A) 顺列熔断器式隔离开关  
 3NJ41 In-Line Fused Switch Disconnectors up to 1000A and 3NJ56 up to 1250A

选型及订货数据				Selection and ordering data		
额定不间断 电流 Rated uninterrupted current $I_u$ A	母排中心线 间距 Busbar centre- line spacing mm	端子类型(螺丝端子 / 夹式端 子, 包括在供货范围内) Terminal type (screw terminals/clamp-type terminals incl. in the scope of supply)	导线截面 For conductor cross-section mm <sup>2</sup>	订货号 Order No.	大约重量 Weight approx kg	
 <p>3NJ41 21 3NJ41 31 3NJ41 41</p>						
顺列熔断器式隔离开关, 单级操作 In-line fuse switch disconnectors, single-pole operation						
250	185	M10 短柱式端子 M10 stud terminal M10 螺丝端子 M10 screw terminal 盒式端子 Box terminal	- - 35-185 95-240	3NJ41 21-3BJ00 3NJ41 21-3BF00 3NJ41 21-3BP00 -3BQ00	5.8 5.8 6 6	
400	185	M12 短柱式端子 M12 stud terminal M12 螺丝端子 M12 screw terminal 盒式端子 Box terminal	- - 35-185 95-240	3NJ41 31-3BJ00 3NJ41 31-3BF00 3NJ41 31-3BP00 -3BQ00	6.1 6 6 6	
630	185	M10 短柱式端子 M10 stud terminal M10 螺丝端子 M10 screw terminal 盒式端子 Box terminal	- - 35-185 95-240	3NJ41 41-3BJ00 3NJ41 41-3BF00 3NJ41 41-3BP00 -3BQ00	6.8 6.3 6.5 6.5	
1250	185	M16×60 扁平式端子 M16×60 flat-type terminal	-	3NJ56 43-0BB00	30	
顺列熔断器式隔离开关, 三级操作 In-line fuse switch disconnectors, three-pole operation						
160	100	M10 螺丝端子 M10 screw terminal 夹式端子 Clamp-type terminal 棱柱式端子 Prismatic-type terminal	- 1.5-70 10-70	3NJ41 03-3BF00 3NJ41 03-3BK00 3NJ41 03-3BL00	1.4 1.4 1.5	
250	185	M12 短柱式端子 M12 stud terminal M12 螺丝端子 M12 screw terminal 盒式端子 Box terminal	- - 35-185 95-240	3NJ41 23-3BJ00 3NJ41 23-3BF00 3NJ41 23-3BP00 -3BQ00	6.5 6.2 6 6	
400	185	M10 短柱式端子 M10 stud terminal M10 螺丝端子 M10 screw terminal 盒式端子 Box terminal	- - 35-185 95-240	3NJ41 33-3BJ00 3NJ41 33-3BF00 3NJ41 33-3BP00 -3BQ00	6.8 6.4 6 6	
630	185	M10 短柱式端子 M10 stud terminal M10 螺丝端子 M10 screw terminal 盒式端子 Box terminal	- - 35-185 95-240	3NJ41 43-3BJ00 3NJ41 43-3BF00 3NJ41 43-3BP00 -3BQ00	7.5 6.7 6.5 6.5	
 <p>3NJ41 03</p>						
 <p>3NJ41 23 3NJ41 33 3NJ41 43</p>						

# 3NJ6 插入式熔丝隔离开关 3NJ6 Plug-in Switch Disconnectors with Fuses

订货与选型数据			Selection and ordering data		
	<b>额定电流</b> Rated uninterrupted current $I_n$ at AC500V A	<b>所用熔丝符合 DIN 43 620</b> For fuse links acc. to DIN 43 620  规格 / Size	<b>导体连接方式 (连接插头中心为 185mm)</b> Conductor connection (center-to- center distance of the plug contacts 185mm)	<b>订货号</b> Order No.	<b>重量</b> Weight approx  kg
 3NJ61 10	<b>单断点 / With single break</b>				
	160	00	螺丝端子 / Stud terminal M8	3NJ61 10-3EB01-0BB0	4.0
	250	1	电缆夹端子 / Cable clamp terminal	3NJ61 10-3EB11-0BB0	4.1
	400	2	螺丝端子 / Stud terminal M12	3NJ61 20-3EB01-0BB0	6.9
	630	3	螺丝端子 / Stud terminal M12	3NJ61 40-3EB01-0BB0	16.5
 3NJ61 20	<b>单断点带电子熔丝监视 / With single break and electronic fuse monitoring (EFM)</b>				
	160	00	螺丝端子 / Stud terminal M8	3NJ61 10-3EM01-0BB0	4.0
	250	1	电缆夹端子 / Cable clamp terminal	3NJ61 10-3EM11-0BB0	4.1
	400	2	螺丝端子 / Stud terminal M12	3NJ61 20-3EM01-0BB0	6.9
	630	3	螺丝端子 / Stud terminal M12	3NJ61 40-3EM01-0BB0	16.5
 3NJ61 40, 3NJ61 60	<b>双断点 / With double break</b>				
	160	00	螺丝端子 / Stud terminal M8	3NJ61 10-3MA11-0BB0	4.1
	250	1	电缆夹端子 / Cable clamp terminal	3NJ61 20-3MA01-0BB0	
	400	2	螺丝端子 / Stud terminal M12	3NJ61 40-3MA01-0BB0	
	630	3	螺丝端子 / Stud terminal M12	3NJ61 60-3MA01-0BB0	
 3NJ61 10 with EFM	<b>双断点带电子熔丝监视 / With double break and electronic fuse monitoring (EFM)</b>				
	160	00	螺丝端子 / Stud terminal M8	3NJ61 10-3MB01-0BB0	4.1
	250	1	电缆夹端子 / Cable clamp terminal (10-95mm <sup>1</sup> )	3NJ61 20-3MB01-0BB0	
	400	2	螺丝端子 / Stud terminal M12	3NJ61 40-3MB01-0BB0	
	630	3	螺丝端子 / Stud terminal M12	3NJ61 60-3MB01-0BB0	
<b>附件</b>			<b>Accessories</b>		
 3NJ69 12			<b>用于规格 NH 的隔离开关</b> For disconnectors sizes NH	<b>订货号</b> Order No.	
	<b>辅助触点 / Auxiliary switch</b> 1NO+1NC		00 1 2, 3	3NJ69 12-1AA00 -1BA00 -1CA00	
	2NO+2NC		00 1 2, 3	3NJ69 12-2AA00 -2BA00 -2CA00	
	<b>电流表固定支架</b> 规格为 00 时不需要 Ammeter fastening frame (Not necessary for size 00)		1...3	3NJ69 14-1AA00	
 3NJ69 14	<b>端子延伸件</b> 用于延伸黑色夹子式接线端子 总深度 200mm Contact extensions for extending the back clamp-type terminals overall depth 200mm		00 1 2, 3	3NH69 12-3AA00 -3BA00 -3CA00	
	 3NJ69 11-3A				

1) 改造时可加 1...3 号线夹, 见附件

Cable clamps for sizes 1 to 3 can be added retrospectively, see accessories.



# 3NJ6 插入式熔丝隔离开关，附件

## 3NJ6 Plug-in Switch Disconnectors with Fuses, Accessories

订货与选型数据		Selection and ordering data	
       	<b>导线夹</b> 单夹 双夹 双夹 Cable clamps Single clamp Double clamp Double clamp	所适用隔离开关的 LV HRC 规格 For disconnectors size LV HRC  1 1 2, 3	订货号 Order No.  3NJ69 11 -1BA00 -2BA00 3NJ69 11 -2CA00
	<b>端子盖</b> Terminal covers	00 1, 透明 /see through 2, 3 1, 3 橡胶 /rubbe sleeves	3NJ69 13 -1AA00 -1BA00 -1CA00 -2BA00
	<b>中央故障指示器</b> 用于带 EFM 的隔离开关，最多联 50 个开关 Centralized fault indicator for disconnectors with EFM up to 50 disconnectors in parallel	---...3	3NJ69 16 -5CA00
	<b>拔出工具</b> 可从开关连接件柜中拔出 Pulling out tool for pulling the switch connectors out of the cabinet	0...3	3NJ69 16 -4BA00
	<b>盖板</b> (带安装附件) 有通风槽 高 50mm (塑料) 高 100mm (塑料) Blank cover (incl. fixing material) with ventilation slots Height 50mm (plastic) Height 100mm (plastic)		3NJ69 16 -4AA00 3NJ69 16 -4DA00
	<b>导轨</b> 用于保证现场安装可靠，或帮助安装，深 200mm Guide rails for secure mounting on site or as an aid to mounting, depth 200mm	00...3	3NJ69 16 -6AA00
	<b>分隔板</b> (1 套 = 2 件，上，下) 用于柜内额外的间隔，可装于任何柜中 Section divider (1 set = 2 items, above and below) for extra unit section for installation of any contralgear and contral station		3NJ69 15 -1AA00
	<b>间隔门</b> 用于额外的间隔，高 100mm Section door for extra unit section, height 100mm		3NJ69 15 -4AA00
	<b>母排盖板</b> 高 200mm IP 20 Busbar coverings Height 200mm, IP 20		3NH69 16 -4EA00
	<b>柜体卡式组件</b> 高 500mm 高 1000mm 高 1500mm Cabinet cassette Height 500mm Height 1000mm Height 1500mm		3NJ69 16 -7AA00 3NJ69 16 -7BA00 3NJ69 16 -7CA00
	<b>电流表 / Ammeter</b> <b>电流互感器 / Transformer</b>	见 MP 样本 / See MP catalog 请向西门子公司咨询 / Please contact Siemens office	

## 3KL5 (至 400A) 和 3KL6 (至 630A) 带熔断器的隔离开关，三级 3KL5 Switch Disconnectors with Fuses up to 400A and 3KL6 up to 630A, 3-pole

选型及订货数据		Selection and ordering data					
	额定不间断 电流 Rated uninterrupted current $I_u$ A	类型 防护等级 IP 00 无辅助触头 无熔断器 带有螺丝端子 带有隔板	Version Degree of protection IP 00 without auxiliary contacts without fuse links with terminal screws with barriers	所用熔断器 For fuse links 规格 Size	额定电流 Rated current A	订货号 Order No.	大约重量 Weight approx  kg
	用于表面安装和开关柜内安装 For surface mounting and for installation in switchboards						
 3KL50	63	完整型，带有 8UC6 门操作机构 可用挂锁锁定 黑色旋钮，6mm 方轴 带有用于安装 LV HRC 熔断器的层形触头 Complete version with 8UC6 door coupling operating mechanism, lockable with padlocks, black knob, 6mm square shaft, with lyre-shaped contacts for LV HRC fuses		00 63 acc. to DIN 43 620		3KL50 30-1EB00	1.15
		基本型，无操作机构 带有用于安装 LV HRC 熔断器的层形触头 Basic version, without operating mechanism with lyre-shaped contacts for LV HRC fuses		00 63 acc. to DIN 43 620		3KL50 30-1AB00	0.85
 3KL52 3KL53	125	完整型，带有 8UC6 门操作机构 可用挂锁锁定 黑色旋钮，6mm 方轴 带有用于安装 LV HRC 熔断器的层形触头 Complete version with 8UC6 door coupling operating mechanism, lockable with padlocks, black knob, 6mm square shaft, with lyre-shaped contacts for LV HRC fuses		00 160 acc. to DIN 43 620		3KL52 30-1EB00	2.56
		基本型，无操作机构 带有用于安装 LV HRC 熔断器的层形触头 Basic version, without operating mechanism with lyre-shaped contacts for LV HRC fuses		00 160 acc. to DIN 43 620		3KL52 30-1AB00	2.2
 3KL52 3KL53	160	完整型，带有 8UC6 门操作机构 可用挂锁锁定 黑色旋钮，8mm 方轴 带有用于安装 LV HRC 熔断器的层形触头 Complete version with 8UC6 door coupling operating mechanism, lockable with padlocks, black knob, 8mm square shaft, with lyre-shaped contacts for LV HRC fuses		00 160 acc. to DIN 43 620		3KL53 30-1EB00	2.56
		基本型，无操作机构 带有用于安装 LV HRC 熔断器的层形触头 Basic version, without operating mechanism with lyre-shaped contacts for LV HRC fuses		00 160 acc. to DIN 43 620		3KL53 30-1AB00	2.2
 3KL55 3KL57	250	完整型，带有 8UC6 门操作机构 可用挂锁锁定 黑色旋钮，10mm 方轴 带有用于安装 LV HRC 熔断器的层形触头 Complete version with 8UC6 door coupling operating mechanism, lockable with padlocks, black knob, 10mm square shaft, with lyre-shaped contacts for LV HRC fuses		1 and 2 400 acc. to DIN 43 620		3KL55 30-1EB00	5.4
		基本型，无操作机构 带有用于安装 LV HRC 熔断器的层形触头 Basic version, without operating mechanism with lyre-shaped contacts for LV HRC fuses		1 and 2 400 acc. to DIN 43 620		3KL55 30-1AB00	4.5
 3KL55 3KL57	400	完整型，带有 8UC6 门操作机构 可用挂锁锁定 黑色旋钮，10mm 方轴 带有用于安装 LV HRC 熔断器的层形触头 Complete version with 8UC6 door coupling operating mechanism, lockable with padlocks, black knob, 10mm square shaft, with lyre-shaped contacts for LV HRC fuses		2 400 acc. to DIN 43 620		3KL57 30-1EB00	5.7
		基本型，无操作机构 带有用于安装 LV HRC 熔断器的层形触头 Basic version, without operating mechanism with lyre-shaped contacts for LV HRC fuses		2 400 acc. to DIN 43 620		3KL57 30-1AB00	4.8
 3KL61	630	基本型，无操作机构 带有用于安装 LV HRC 熔断器的层形触头 Basic version, without operating mechanism with lyre-shaped contacts for LV HRC fuses		3 630 acc. to DIN 43 620		3KL61 30-1AB00	14

可加装第 4 极用于通断控制

A switchable 4th pole can be retrofitted



3KA5 隔离开关(至 630A)，三级  
3KA5 Switch Disconnectors up to 630A, 3-pole

选型及订货数据			Selection and ordering data		
	额定 不间断电流 Rated uninterrupted current $I_u$ A	类型 防护等级 IP 00 无辅助触头 带有螺丝端子 接触横杆前面加盖	Version Degree of protection IP 00 without auxiliary contacts with terminal screws contact crass-bars covered at front	订货号 Order No.	大约重量 Weight approx  kg
用于表面安装和开关柜内安装 For surface mounting and for installation in switchboards					
 3KA50 3KA51	63	完整型, 带有 8UC6 门操作机构 可用挂锁锁定 黑色旋钮, 6mm 方轴 Complete version with 8UC6 door coupling operating mechanism, lockable with padlocks, black knob, 6mm square shaft 基本型, 无操作机构 Basic version, without operating mechanism		3KA50 30-1EE00  3KL50 30-1AE00	1.05  0.73
	80	完整型, 带有 8UC6 门操作机构 可用挂锁锁定 黑色旋钮, 6mm 方轴 Complete version with 8UC6 door coupling operating mechanism, lockable with padlocks, black knob, 6mm square shaft 基本型, 无操作机构 Basic version, without operating mechanism		3KA51 30-1EE00  3KL51 30-1AE00	1.05  0.73
 3KA53	160	完整型, 带有 8UC6 门操作机构 可用挂锁锁定 黑色旋钮, 8mm 方轴 Complete version with 8UC6 door coupling operating mechanism, lockable with padlocks, black knob, 8mm square shaft 基本型, 无操作机构 Basic version, without operating mechanism		3KA53 30-1EE00  3KA53 30-1AE00	2.56  2.2
	250	完整型, 带有 8UC6 门操作机构 可用挂锁锁定 黑色旋钮, 10mm 方轴 Complete version with 8UC6 door coupling operating mechanism, lockable with padlocks, black knob, 10mm square shaft 基本型, 无操作机构 Basic version, without operating mechanism		3KA55 30-1EE00  3KL55 30-1AE00	5.4  4.6
 3KA55 3KA57	400	完整型, 带有 8UC6 门操作机构 可用挂锁锁定 黑色旋钮, 10mm 方轴 Complete version with 8UC6 door coupling operating mechanism, lockable with padlocks, black knob, 10mm square shaft 基本型, 无操作机构 Basic version, without operating mechanism		3KA57 30-1EE00  3KL57 30-1AE00	5.4  4.6
	630	完整型, 带有 8UC6 门操作机构 可用挂锁锁定 黑色旋钮, 10mm 方轴 Complete version with 8UC6 door coupling operating mechanism, lockable with padlocks, black knob, 10mm square shaft 基本型, 无操作机构 Basic version, without operating mechanism		3KA58 30-1EE00  3KL58 30-1AE00	5.6  4.8
 3KA58					

可加装第 4 极用于通断控制  
A switchable 4th pole can be retrofitted

3KL5 与 3KL6 带熔断器的隔离开关，3KA5 隔离开关  
3KL5 and 3KL6 Switch Disconnectors with Fuses, 3KA5 Switch Disconnectors

附件		Accessories		
		适用的隔离开关 For disconnector	订货号 Order No.	大约重量 Weight approx kg
<b>固定安装的操作机构</b> Operating mechanisms for fixed mouting				
 3KX3 516-1AA	黑色旋钮，36mm 长 带有 6mm 方轴，250mm 长 Black knob, 36mm long with 6mm square shaft, 250mm long	3KA50, 3KA51 3KL50,	3KX3 516-1AA	0.1
	黑色旋钮，62mm 长 带有 8mm 方轴，250mm 长 Black knob, 62mm long with 8mm square shaft, 250mm long	3KA53, 3KL52, 3KL53	3KX3 536-1AA	0.25
	黑色手柄，140mm 长 带有 10mm 方轴，205mm 长 Black handle, 140mm long with 10mm square shaft, 205mm long	3KA55, 3KA57, 3KA58 3KL55, 3KL57	3KX3 176-1E	0.3
 3KX3 176-1E	黑色双翼手柄，280mm 长 带有 12mm 方轴，110mm 长 带有耦合片 Black double-wing handle, 280mm long with 12mm square shaft, 110mm long with coupling piece	3KL61	3KX3 616-1A	0.36
<b>可拆卸的操作机构</b> Detachable operating mechanisms				
 8UC62 12-1BB20	门操作机构 防护等级 IP 65 可用挂锁锁定 具有门联锁，黑色手柄 带有旋钮，36mm 长，带有 6mm 方轴，300mm 长 Door-coupling operating mechanism degree of protection IP 65, lockable with padlocks, with door interlocking, black handle with knob, 36mm long, with 6mm square shaft, 300mm long	3KA50, 3KA51 3KL50, 3KM50	8UC61 11-1BB10	0.29
	带有旋钮，62mm 长，8mm 方轴，300mm 长 带有旋钮，140mm 长，10mm 方轴，300mm 长 带有手柄，200mm 长，12mm 方轴，300mm 长 所需适配器 required adapter	3KA53, 3KL52, 3KL53 3KA55, 3KA57, 3KA58 3KL61 3KL61	8UC62 12-1BB20 8UC63 13-1BB30 8UC64 14-1BB44	0.36 0.9 1.08
 8UC64 14-1BB44	“急停”门联锁操作机构 防护等级 IP 65 可用挂锁锁定 具有门联锁，红色手柄、黄色标志牌 带有旋钮，36mm 长，带有 6mm 方轴，300mm 长 EMERGENCY STOP door-coupling operating mechanism degree of protection IP 65. lockable with padlocks, with door interlocking, red handle, yellow indicator plate, with knob, 36mm long, with 6mm square shaft, 300mm long	3KA50, 3KA51 3KL50	8UC61 21-3BB10	0.29
	带有旋钮，62mm 长，8mm 方轴，300mm 长 带有手柄，140mm 长，10mm 方轴，300mm 长 带有手柄，200mm 长，12mm 方轴，300mm 长 所需适配器 required adapter	3KA53, 3KL52, 3KL53 3KM52 3KA55, 3KA57, 3KA58 3KL55, 3KL57 3KL61 3KL61	8UC62 22-3BB20 8UC63 23-2BB30 8UC64 24-3BB44 8UC92 53	0.36 0.9 1.08 0.11

# 3KL5 与 3KL6 熔断器式隔离开关, 3KA5 隔离开关

## 3KL5 and 3KL6 Switch Disconnectors with fuses, 3KA5 switch Disconnectors

附件		Accessories		
 <p>3KL5 带后部手动 操作机构</p> <p>3KL5 with manual operating mechanism at the rear</p>	<b>后部手动操作机构</b> Rear manual operating mechanisms 整套装置带有：防护框架，可锁定手柄，进线侧 3 个端子盖板，LV HRC 熔断器盖板和联锁装置 (3KA5 不能装盖板和联锁装置)。 complete assembly with masking frame and lockable handle, including 3 terminal covers for supply side. with cover for LV HRC fuses and interlocking device (covers and interlocking device are not applicable for 3KA5)			
	<b>黑色手柄</b> Black handle	3KA50, 3KA51 3KA53 3KA55, 3KA57, 3KA58	3KX3 516-2AA 3KX3 536-2AA 3KX3 556-2AA	1.0 1.0 1.2
		3KA50 3KA52 3KA53 3KA55, 3KA57	3KX3 516-3AA 3KX3 526-3AA 3KX3 536-3AA 3KX3 556-3AA	1.0 1.0 1.0 1.45
	<b>紧急停止型，红色手柄，黄色标志牌</b> EMERGENCY STOP version, red handle, yellow indicator plate	3KA50, 3KA51 3KA53 3KA55, 3KA57, 3KA58	3KX3 516-2BA 3KX3 536-2BA 3KX3 556-2BA	1.0 1.0 1.2
		3KA50 3KA52 3KA53 3KA55, 3KA57	3KX3 516-3BA 3KX3 526-3BA 3KX3 536-3BA 3KX3 556-3BA	1.0 1.0 1.0 1.45
	<b>LV HRC 熔断器盖板</b> Cover for LV HRC fuses			
	<b>带联锁装置(3KL 后部手动操作机构中已包含)</b> with interlocking device (included in "Rear manual operating mechanism for 3KL")	3KL50 3KL52, 3KL53 3KL55, 3KL57	3KX3 517-3AA 3KX3 527-3AA 3KX3 557-3AA	0.1 0.1 0.25

3KL5 与 3KL6 熔断器式隔离开关, 3KA5 隔离开关  
3KL5 and 3KL6 Switch Disconnectors with fuses, 3KA5 Switch Disconnectors

附件		Accessories		
		用于隔离开关 For disconnector	订货号 Order No.	大约重量 Weight approx. kg
 3SB 1400 - 0A	<b>辅助触头座</b> <b>Auxiliary contact blocks</b> 1 NO+1NC (可加装辅助触头座的最大数目见技术数据第 12/17 页) (max. number of auxiliary contact blocks to be fitted see Technical data, pages 12/17 ) 1 NO+1NC <b>包括所需安装零件</b> (此外, 还可加装 2 个 3SB14 00-0A <sup>1)</sup> ) including required mounting parts (in addition, 2 more 3SB14 00-0A <sup>1)</sup> contact blocks can be fitted)	3KA5, 3KL5	3SB14 00-0A <sup>1)</sup>	0.02
	<b>第 4 极, 可通断</b> <b>4th pole, switchable</b> <b>装在右侧, 带安装零件</b> to be mounted on the right-hand side, with mounting parts	3KL53, 3KL52, 3KL53 3KA55, 3KA57, 3KA58 3KL55, 3KL57	3KX3 523-0AA 3KX3 553-0AA	0.5
 3KX35.3 - 0AA	<b>端子安装配件</b> <b>Kit for terminal fitting</b> 适用于 35 级以下的 8WA1 端子座; 所需端子需单独订货 suitable for 8WA1 terminal blocks up to size 35; required terminal to be ordered separately	3KA50, 3KA51, 3KL50	3KX3 513-0DA	0.1
 3TX6	<b>端子罩(1 套 = 6 件)</b> <b>Terminal covers</b> (1set = 6 items) <b>拧至螺钉头上用于振动防护</b> screwable onto free screw end for shock-hazard protection <b>M6 螺钉罩</b> Single cover for M 6 terminal screws	3KA50, 3KA51, 3KL50, 3KL52, 以及 3KX3 523-0AA	3TX6 506-3B	0.1
	<b>M8 螺钉罩</b> Single cover for M 8 terminal screws	3KA53, 3KL53	3TX6 526-3B	0.1
	<b>M10 螺钉罩</b> Single cover for M 10 terminal screws	3KA55, 3KA57, 3KA58, 3KL55, 3KL57, 以及 3KX3 553-0AA	3TX6 546-3B	0.1
	<b>M12 螺钉罩</b> Single cover for M 12 terminal screws	3KL61	3TX6 346-3B	0.1
 3KX3 507 - 0BA	<b>触头罩</b> <b>Covers for lyre-shaped contacts</b> (3KM50, 3KM52 与 3KM53 隔离开关有 3 个触头罩) (1 套 = 6 件) (3 lyre covers supplied with 3KM50, 3KM52 and 3KM53 swtch disconnectors) (1set = 6 items)	3KL50, 3KL52, 3KL53	3KX3 507-0BA	0.03
 3KX3 525 - 0.A	<b>插入式端子</b> <b>Plug-type terminals</b> 导体截面积 2 × 4-16mm <sup>2</sup> (带盖板) (1 套 = 6 件) conductor cross-section 2 × 4 to16mm <sup>2</sup> (with cover) (1set = 6 items)	3KA50, 3KA51 3KL50, 3KL52	3KX3 525-0CA	0.1
 3KL 50 with 3KX35.7 - 0AA	<b>隔板</b> <b>Barriers</b> (包含在隔离开关一起) (the barriers are included with the disconnectors) (1 套 = 5 件)/(1 set = 5 items) (1 套 = 5 件)/(1 set = 5 items) (1 套 = 4 件)/(1 set = 4 items)	3KL50, 3KL52 3KL53 3KL55, 3KL57 3KL61	3KX3 507-0AA 3KX3 557-0AA 3KY3 612-0A	0.1 0.2 0.17
	<b>熔断器监测端子</b> <b>Fuse monitoring connection</b> (1 套 = 6 件)/(1set = 6 items)	3KL5	3KX3 505-0AA	0.25

1) 也可加装其它触头类型的 3SB14 00-0 辅助触头座。

1) 3SB14 00-0. contact blocks with other contact versions can also be fitted.



# 3KE4 隔离开关(至 1000A)

## 3KE4 Switch Disconnectors up to 1000A

选型及订货数据				Selection and ordering data		
额定不间断电流 Rated uninterrupted current $I_u$ A	类型 防护等级 IP 00 具有快速闭合与分断特性 无辅助触头 带有螺丝端子	Version Degree of protection IP 00 with high-speed closing and opening feature without auxiliary contacts with terminal screws	订货号 Order No.	大约重量 Weight approx		
 <p>3KE43 30-0BA</p>	250	完整型, 带有8UC6门操作机构 可用挂锁锁定 黑色手柄, 12mm 方轴 Complete version with 8UC6 door coupling operating mechanism, lockable with padlocks, black handle, 12mm square shaft	3KE42 30-0EA	4.58		
			3KE42 30-0AA	3.5		
			3KE42 30-0BA	3.6		
			3KE42 30-0CA	4.4		
	400	完整型, 带有8UC6门操作机构 可用挂锁锁定 黑色手柄, 12mm 方轴 Complete version with 8UC6 door coupling operating mechanism, lockable with padlocks, black handle, 12mm square shaft	前面操作机构, 无手柄 Front operating mechanism, without handle	3KE43 30-0EA	4.58	
				3KE43 30-0AA	3.5	
				3KE43 30-0BA	3.6	
				3KE43 30-0CA	4.4	
	630	完整型, 带有8UC6门操作机构 可用挂锁锁定 黑色手柄, 12mm 方轴 Complete version with 8UC6 door coupling operating mechanism, lockable with padlocks, black handle, 12mm square shaft	前面操作机构, 无手柄 Front operating mechanism, without handle	3KE44 30-0EA	6.68	
				3KE44 30-0AA	5.6	
				3KE44 30-0BA	5.7	
				3KE44 30-0CA	6.5	
1000	完整型, 带有8UC6门操作机构 可用挂锁锁定 黑色手柄, 12mm 方轴 Complete version with 8UC6 door coupling operating mechanism, lockable with padlocks, black handle, 12mm square shaft	前面操作机构, 无手柄 Front operating mechanism, without handle	3KE45 30-0EA	7.18		
			3KE45 30-0AA	6.1		
			3KE45 30-0BA	6.3		
			3KE45 30-0CA	7		
<b>附件</b>				<b>Accessories</b>		
下列附件可供选择： 固定安装式的操作机构 可拆卸式操作机构 轴连接机构 (用于 2 台隔离开关的并行通断) 切换操作机构 (电动机械式): 有间断( - 0 - )或无间断( - + - ) 辅助触头端子罩		Further accessories are available on request: Operating mechanisms for fixed mounting Detachable operating mechanism Shifting linkage (parallel switching of 2 switch disconnectors) Change over operating mechanism (motorized): with interruption ( - 0 - ) or without interruption ( - + - ) Auxiliary switch terminal cover				

3KL7 带熔断器的隔离开关，3 极和 4 极最大 100A，4 极最大 630A  
3KL7 Switch Disconnectors with Fuses, 3 and 4-pole Up to 100A, 4-pole up to 630A

选型与订货数据				Selection and ordering data		
	额定电流 Rated current $I_n$	规格 Size	极数 Number of poles	所用熔丝 For fuse links	订货号 Order No.	重量 Weight approx.
	A			规格 Size	如需附加订货号 见下表 Order No. supplement (if necessary), see table below	kg
	50	1	3	14 x 51 <sup>1)</sup>	3KL70 18-3BA.0	1.2
			4	14 x 51 <sup>1)</sup>	3KL70 18-5BA.0	1.5
	100	2	3	22 x 58 <sup>1)</sup>	3KL70 30-3BA.0	1.8
			4	22 x 58 <sup>1)</sup>	3KL70 30-5BA.0	2.2
	125	2	4	LV HRC 00 <sup>2)</sup>	3KL70 33-5AA 0	2.2
	250	4a	4	LV HRC 1 <sup>2)</sup>	3KL70 42-5AA 0	8.4
400	4b	4	LV HRC 2 <sup>2)</sup>	3KL70 48-5AA 0	8.8	
463	5	4	LV HRC 3 <sup>2)</sup>	3KL70 54-5AA 0	19.3	
附加订货号				Order No. supplement		
柜门联锁式旋转操作机构 / Door-coupling rotary operating mechanism					附加订货号 / Order No. supplement 3KL70 ...A□0	
前面带操作手柄，黑色 / Front operation with knob, black					0	
侧面带操作手柄，黑色 / Lateral operation with knob, black					1	
附件				Accessories		
适用的熔丝开关 For switch disconnector with fuses	订货号 Order No.	重量 Weight approx. kg				
熔丝盖板 / Cover for fuses			适用的熔丝开关 For switch disconnector with fuses			
3KL70 18-3BA.0	3KX7 018-3CA00	0.03	辅助触点 / Auxiliary switch			
3KL70 18-5BA.0	3KX7 018-5CA00	0.04	型式 / Version			
3KL70 30-3BA.0	3KX7 030-5CA00	0.04	3KL70 18	1 NO+1NC	3KX7 033-0AA00	0.13
3KL70 30-5BA.0	3KX7 030-5CA00	0.05	3KL70 30		3KX7 033-0AA00	0.13
3KL70 33-5AA.0	3KX7 033-5CA00	0.06	3KL70 33		3KX7 033-0AA00	0.13
3KL70 42-5AA00	3KX7 042-5CA00	0.15	3KL70 42		3KX7 048-0AA00	0.13
3KL70 48-5AA00	3KX7 048-5CA00	0.19	3KL70 48		3KX7 048-0AA00	0.13
3KL70 54-5AA00	3KX7 054-5CA00	0.24	3KL70 54		3KX7 054-0AA00	0.14
端子盖板 / Terminal cover			3KL70 18	2 NO+2NC	3KX7 033-0AB00	0.21
3KL70 18-3BA.0	不需要 / not necessary		3KL70 30		3KX7 033-0AB00	0.21
3KL70 18-5BA.0	不需要 / not necessary		3KL70 33		3KX7 033-0AB00	0.21
3KL70 30-3BA.0	3KX7 030-3BA00	0.02	3KL70 42		3KX7 048-0AB00	0.21
3KL70 30-5BA.0	3KX7 030-5BA00	0.02	3KL70 48		3KX7 048-0AB00	0.21
3KL70 33-5AA.0	3KX7 033-5BA00	0.02	3KL70 52		3KX7 054-0AB00	0.22
3KL70 42-5AA00	3KX7 042-5BA00	0.09	锁闭装置 / Locking device <sup>3)</sup>			
3KL70 48-5AA00	3KX7 048-5BA00	0.12	3KL70 18		3KX7 033-0HA00	0.11
3KL70 54-5AA00	3KX7 054-5BA00	0.17	3KL70 30		3KX7 033-0HA00	0.11
转轴延长杆 / Shaft extension, 200mm			3KL70 33		3KX7 033-0HA00	0.11
3KL70 18	3KX7 033-0EA00	0.08	3KL70 48		3KX7 048-0HA00	0.16
3KL70 30	3KX7 033-0EA00	0.08	3KL70 48		3KX7 048-0HA00	0.16
3KL70 33	3KX7 033-0EA00	0.08	3KL70 52		3KX7 054-0HA00	0.16
3KL70 42	3KX7 048-9EA00	0.24	柜门联锁式旋转操作机构 红 - 黄 / Door-coupling rotary operating mechanism, red-yellow			
3KL70 48	3KX7 048-0EA00	0.24	3KL70 18		3KX7 033-0FB00	0.15
3KL70 54	3KX7 054-0EA00	0.36	3KL70 30		3KX7 033-0FB00	0.15
			3KL70 33		3KX7 033-0FB00	0.15
			3KL70 48		3KX7 048-0FB00	0.17
			3KL70 48		3KX7 048-0FB00	0.17
			3KL70 52		3KX7 054-0FB00	0.28
			直接操作机构，黑色 / Direct operating mechanism, black			
			3KL70 18		3KX7 516-1AA	0.10
			3KL70 30		3KX7 516-1AA	0.10
			3KL70 33		3KX7 516-1AA	0.10

1) 圆柱形熔丝按 IEC 269-2-1 和 DIN VDE 0636 第 107 部分  
2) 按照 DIN 43 620  
3) 仅用于前面操作

1) Cylindrical fuses acc.to IEC 2690201 and DIN VDE 0636 Pary 107  
2) According to DIN 43 620  
3) Only for switches with front operation.

3KL5 熔断器式隔离开关, 至 400A, 3KL6 至 630A  
3KL5 Switch Disconnectors with Fuses up to 400A, 3KL6 up to 630A

技术数据			
标准 / Standards		IEC 947-1, IEC947-3, DIN VDE 0660 Part 107	
型号 / Type		3KL50	3KL52
额定不间断电流 $I_n$ / Rated uninterrupted current $I_n$ 对于熔断器 DIN 43 620 / for fuse links according to DIN 43 620 (使用半导体熔断器需要降容, 见 DA 94.1 样本) (The use of semiconductor protection fuses requires a current reduction; see Catalog DA 94.1)	A Size	63 00	125 00
约定封闭发热电流 $I_{th}$ / Conventional free-air thermal current $I_{th}$	A	63	125
额定绝缘电压 $U_i$ / Rated insulation voltage $U_i$	AC V	690	1000
额定工作电压 $U_e$ / Rated operational voltage $U_e$	AC 50/60 Hz V DC V	690 440 (3 个电流通路串联 / 220 (2 个电流通路串联 /	
额定短路接通能力, 带熔断器 <sup>2)</sup> / Rated short-circuit making capacity with fuses <sup>2)</sup> at AC 50/60Hz 690V	kA(峰值 / peak value)	210	210
额定条件性短路电流, 带熔断器 <sup>2)</sup> / Rated conditional short-circuit current with fuses <sup>2)</sup> at AC 50/60Hz 690V	kA(峰值 / peak value)	100	100
熔断器最大额定电流 $I_n$ / max. current ratings $I_n$ of the fuses	A	80	160
允许熔断器切断电流 <sup>3)</sup> / Permissible cut-off current of the fuses <sup>3)</sup>	kA	8	17
断路器串联后的允许切断电流 / Permissible cut-off current of a circuit-breaker connected in series at AC 50/60Hz 690V	KA(峰值 / peak value)	-	-
额定短路接通能力, 无熔断器 / Rated short-circuit making capacity without fuses at AC 50/60Hz 690V	KA(峰值 / peak value)	-	-
通断能力(从顶端或底部进线) / Switching capacity (teed-in from the top or bottom) at AC 400V			
分断电流 / Breaking current $I_c$ (p.f.=0.35)	A(峰值 / rms value)	500	1000
额定工作电流 / Rated operational current $I_e$ at AC-21, AC-22, AC-23	A	63	125
电机通断能力 / Motor switching capacity AC-23	kW	30	65
at AC 500V			
分断电流 / Breaking current $I_c$ (p.f.=0.35)	A(峰值 / rms value)	500	1000
额定工作电流 / Rated operational current $I_e$ at AC-21, AC-22, AC-23	A	63	125
电机通断能力 / Motor switching capacity AC-23	kW	40	90
at AC 690V			
分断电流 / Breaking current $I_c$ (p.f.=0.35)	A(峰值 / rms value)	500	1000
额定工作电流 / Rated operational current $I_e$ at AC-21, AC-22, AC-23	A	63	125
电机通断能力 / Motor switching capacity AC-23	kW	50	110
at DC 440V (3 个电流通断串连 / 3 conducting paths series connected)			
分断电流 / Breaking current $I_c$ (L/R=15 ms)	A	250	500
额定工作电流 / Rated operational current $I_e$ at DC-23	A	63	125
额定短时电流(1 s 电流) / Rated short-time current (1 s current)	kA(峰值 / rms value)	2.5	3.2
允许环境温度 / Permissible ambient temperature	°C	运行 <sup>4)</sup> : -25 到 +55, 储存 -50 到 +80. /	
机械寿命 / Mechanical Endurance	操作循环 / Operating cycles	15000	15000
所需操作力矩 / Required operating torque	Nm	3	7.5
防护等级 / Degree of protection		IP 00/IP 20 (从面板处, 带母排和端子罩 /	
$I_{th}$ 时隔离开关功率损耗 / Power loss of the switch disconnector at $I_{th}$ (加上熔断器的功率损耗) / (Plus power loss of the fuse links)	W	8.5	22
主回路导体 / Main conductor connection			
扁平排 / Flat bars	mm × mm	15 × 2	15 × 3
接线片, 最大导体截面积(绞合线) / Cable lug, max. conductor cross-section(stranded)	mm <sup>2</sup>	35	70
拧紧力矩 / Tightening torque	Nm	6-7.5	7-10
固定螺钉 / Fixing screws		M6	M6
保护回路导体 / Protective conductor connection			
扁平排 / Flat bars	mm × mm	-	-
接线片, 最大导体截面积(绞合线) / Cable lug, max. conductor cross-section(stranded)	mm <sup>2</sup>	-	-
可加装的第四极(附件) / Attachable 4th pole (accessory)			
额定持续电流 $I_u$ / Rated continuous current $I_u$	A	-	125
额定工作电流 / Rated operational current $I_e$ at AC-21, AC690V	A	-	125
主回路导体 扁平排 / Flat bars	mm × mm	-	15 × 3
Main conductor 接线片 / Cable lug	mm <sup>2</sup>	-	70
connection 最大导体截面积(绞合线) / Max. conductor cross-section (stranded)	mm <sup>2</sup>	-	70
辅助触头座 1NO+1 NC (附件) / Auxiliary contact blocks 1NO+1 NC (accessories)			
可加装的数目 / Max. number to be plugged		1	2
额定工作电流 $I_e$ / Rated operational current $I_e$	A	10	
at AC 50/60 Hz $I_e$ / AC-12	V	220/230	380/400
$I_e$ / AC-15 at $U_e$	A	6	4
at DC $I_e$ / AC-13 at $U_e$	V	24	48
	A	10	4
实芯线 / Connection solid	mm <sup>2</sup>	2 × (1-2.5)	
细绞线带断子套管 / finely stranded with end sleeve	mm <sup>2</sup>	2 × (0.5-1.5)	

<sup>1)</sup> 有关 CSA 技术数据请查询。  
Technical data for CSA approval on request.

<sup>2)</sup> 只适用 3NA38, 3NA32 或 3ND18, 3ND12 熔断器(105kA, 其它熔断器是 50kA)  
Only for 3NA38, 3NA32 or 3ND18 3ND12 fuses (105 kA, 50kA for others).

<sup>3)</sup> 3ND1 开关保护熔断器。  
3ND1 switchgear protection fuses.

# 3KL5 熔断器式隔离开关，至 400A，3KL6 至 630A 3KL5 Switch Disconnectors with Fuses up to 400A, 3KL6 up to 630A

## Technical data

IEC 947-1, IEC947-3, DIN VDE 0660 Part 107											
	3KL53	3KL55 <sup>1)</sup>	3KL57 <sup>1)</sup>	3KL61 <sup>1)</sup>	3KA50	3KA51	3KA53 <sup>1)</sup>	3KA55	3KA57 <sup>1)</sup>	3KA58	
	160 00	250 0.1 and 2	400 1 and 2	630 <sup>2)</sup> 3	63 -	80 -	160 -	250 -	400 -	630 <sup>2)</sup> -	
	160	250	400	630 <sup>2)</sup>	63	80	160	250	400	630 <sup>2)</sup>	
	1000	1000	1000	1000	690	690	1000	1000	1000	1000	
	3 conducting paths series connected, 2 conducting paths series connected)				690 440 (3 个电流通路串联 / 3 conducting paths series connected), 220 (2 个电流通路串联 / 2 conducting paths series connected)						
	210	170	170	105	210	210	210	170	170	105	
	100 160 17	80 400 30 <sup>3)</sup>	80 400 30 <sup>3)</sup>	50 630 50	100 63 8	100 80 10	100 160 17	80 250 30 <sup>3)</sup>	80 400 30 <sup>3)</sup>	50 630 40 <sup>3)</sup>	
	-	-	-	-	7	8	15	25	25	32	
	-	-	-	-	7	7	9	20	25	35	
	1280 160 80	2000 250 132	3200 400 200	5100 630 335	500 63 30	650 80 40	1280 160 80	2000 250 132	3200 400 200	5040 630 350	
	1280 160 160 110	2000 250 250 185	3200 400 400 280	5100 630 630 425	500 63 63 40	640 80 80 50	1280 160 160 110	2000 250 250 185	3200 400 400 280	3200 630 400 280	
	1280 160 160 150	2000 250 250 220	3200 400 400 375	5100 630 630 560	500 63 63 50	500 80 63 50	1280 160 160 150	2000 250 160 132	3200 400 400 375	3200 630 400 375	
	640 160	1000 <sup>4)</sup> 250 <sup>3)</sup>	1600 400	2520 <sup>7)</sup> 630 <sup>2)</sup>	260 63	260 63	640 160	1000 <sup>4)</sup> 250 <sup>3)</sup>	1600 400	1600 400	
	3.2	8	11	32	2.5	2.5	3.2	8	11	15	
	-25 to +55 in operation <sup>4)</sup> , -50 to +80 when stored.				运行：-25~+55, 储存 -50 到 +80 <sup>4)</sup> 。 / -25 to +55 in operation, -50 to +80 when stored <sup>4)</sup> 。						
	15000	12000	12000	3000	15000	15000	15000	12000	12000	12000	
	7.5	16	16	30	3	3	7.5	16	16	16	
	from the panel, with busbar and terminal covers)				IP 00/IP 20 (从面板处, 带母排和端子罩 / from the panel, with busbar and terminal covers)						
	36	33	86	140	7	12	22	33	72	170	
	20 x 3.5 120 18-22 M8	25 x 4 150 35-45 M10	25 x 6 2 x 150 or 1 x 240 35-45 M10	40 x 6 2 x 240 56 M12	15 x 2 35 6-7.5 M6	15 x 2 35 6-7.5 M6	20 x 3.5 120 18-22 M8	25 x 4 150 35-45 M10	25 x 6 2 x 150 or 1 x 240 35-45 M10	30 x 6 2 x 240 35-45 M10	
	- -	20 x 2.5 70	20 x 2.5 120	- -	- -	- -	- -	20 x 2.5 70	20 x 2.5 120	20 x 2.5 120	
	125 125 15 x 3 70	400 400 25 x 4 240	400 400 25 x 4 240	- - - -	- - - -	- - - -	125 125 15 x 3 70	400 400 15 x 3 240	400 400 25 x 4 240	400 400 25 x 4 240	
	2	2	2	3	1	1	2	2	2	2	
	500 2.5 110 1.2	690 1.2 220 0.4	440		10 220/230 6 24 10 2 x (1-2.5) 2 x (0.5-1.5)	380/400 4 48 4	500 2.5 110 1.2	690 1.2 220 0.4	440		

<sup>1)</sup> 3KL61 运行时为 -25~+35°C, +55°C 时  $I_{th}=570A$   
With 3KL61 for the operation at -25 to +35°C, at +55°C:  $I_{th}=570A$

<sup>2)</sup> At 440V DC-22, at 220V DC-23  
<sup>3)</sup> L/R=4ms. <sup>7)</sup> L/R=2.5ms

<sup>4)</sup> 3KA58+55°C 时  $I_{th}=570A$   
With 3KA58 at +55°C:  $I_{th}=570A$



### 3KL7 带熔断器的隔离开关，3 极和 4 极最大 100A，4 极最大 630A

### 3KL7 Switch Disconnectors with Fuses, 3 and 4-pole Up to 100A, 4-pole up to 630A

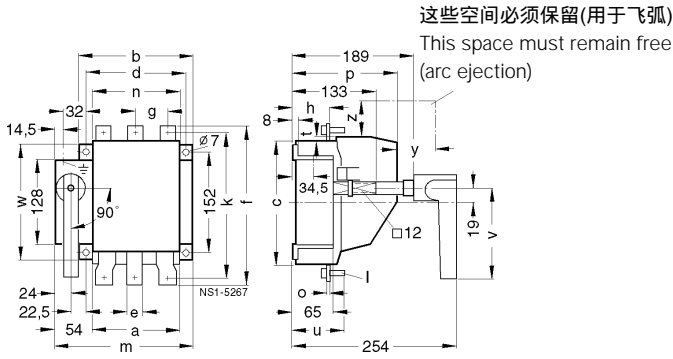
技术参数		Technical data							
标准 /Standards	IEC 947-1, IEC 947-3, DIN VDE 0660 Part 107								
型号 /Type	3KL70 18	3KL70 30	3KL70 33	3KL70 42	3KL70 48	3KL70 54			
额定电流 $I_n$ Rated uninterrupted current $I_n$	A 50	100	125	250	400	630			
额定绝缘电压 $U_i$ Rated insulation voltage $U_i$	V 690								
AC-22B 时的额定热电流和额定运行电流 环境温度 40°C Rated thermal current and rated operational current at AC-22B, 40°C ambient temperature	封闭的 自由空气 tree air enclosed	at AC 50/60Hz 690V 690V	A 50 A 50	100 100	125 115	250 250	400 345	630 540	
额定运行电压 $U_e$ Rated operational voltage $U_e$	AC V 690								
AC23B, AC-3 时的额定电流 AC-3 时动作周期间隔 30s Rated operational current at AC-22B and AC-3, 30 s time interval between the operating cycles at AC-3 <sup>1)</sup>	at AC 50/60Hz 220V 380V 415V 550V 690V	A 50 A 50 A 50 A 50 A 50	100 100 100 100 100	125 125 125 125 125	250 250 250 250 250	400 400 400 400 400	630 630 630 630 630		
DC-23B 时额定电流 Rated operational current at DC-23B	1 导电通路 DC 2 导电通路，串联 2 导电通路，串联 1 conducting path at DC 2 conducting path in series 2 conducting path in series	110V 250V 500V	A 50 A 50 A 50	100 100 100	125 125 80	250 250 250	400 400 400	630 630 -	
AC23B, AC-3 时的额定电流 AC-3 时动作周期间隔 30s <sup>1)</sup> Rated operational power at AC-23B and AC-3 30 s time interval between the operating cycles at AC-3 <sup>1)</sup>	at AC 50/60Hz 220V 380V 415V 550V 690V	kW kW kW kW kW	11 22 30 37 45	30 55 55 75 90	37 55 60 90 110	75 132 132 185 225	132 185 225 300 330	200 315 375 400 540	
开断能力 AC p.f. = 0.35 开断能力 DC L/R = 15ms Rated breaking capacity, AC, p.f. = 0.35 Rated breaking capacity, DC, L/R = 15ms	at AC 50/60Hz 550V 690V 110V 250V 500V	A A A A A	400 400 200 200 200	800 800 400 400 320	1000 1000 500 500 320	2000 2000 800 800 800	3200 3200 1600 1600 -	5040 5040 2520 2520 -	
带熔丝时额定短路电流 Rated short-circuit current with fuses	有效值 峰值 rms value peak value	at AC 50/60Hz 690V 690V	kA kA	100 210	100 210	100 210	100 210	50 105	50 105
额定短路接通能力 Rated short-circuit making capacity	有效值 峰值 rms value peak value	at AC 50/60Hz 690V 690V	kA kA	100 210	100 210	100 210	100 210	50 105	50 105
额定短路耐受能力 Rated short-time current withstand capacity	有效值 rms value	at AC 50/60Hz 690V 690V	kA kA	11 3.2	15 5	15 5	29 10	52 10	71 16
电容分断能力 <sup>2)</sup> Capacitance switching capacity <sup>2)</sup>	at AC 50/60Hz 415V kvar								
额定冲击耐受电压 Rated impulse withstand voltage	峰值 peak value	kV 10 12 12 12 12 12							
机械寿命 Mechanical endurance	operating cycles 循环操作	20000 15000 15000 10000 10000 5000							
熔丝规格 Fuse sizes	NFC DIN 43 620	14x51 -	22x58 -	- 00	- 1	- 2	- 3	- 3	
主回路端子 Main conductor connection	螺丝 拧紧力矩 Terminal screws Tightening torque	M5 Nm 2.0	M6 5.0	M6 5.0	M10 25.0	M10 25.0	M14 50.0	M14 50.0	
辅助开关 $I_{in}=10A$ AC-11 时额定电流 Auxiliary switch, $I_{in} = 10A$ Rated operational current at AC-11	at $U_e =$ AC 50/60Hz 48V		A 10 A 10 A 6 A 4	10 10 6 4	10 10 6 4	10 10 6 4	10 10 6 4	10 10 6 4	



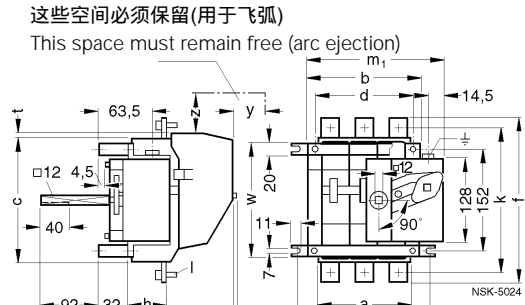
# 隔离开关 Disconnectors

## 3KE4 隔离开关

## 3KE4 switch disconnectors



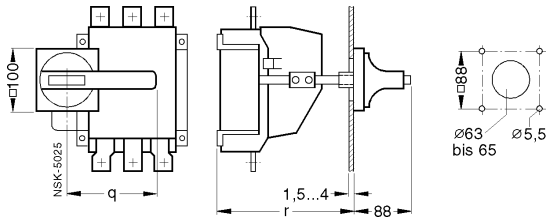
3KE4 具有前面操作机构, 带手柄  
3KE4 with front operating mechanism, with handle



3KE4 具有后面操作机构, 无手柄  
3KE4 with rear operating mechanism, without handle

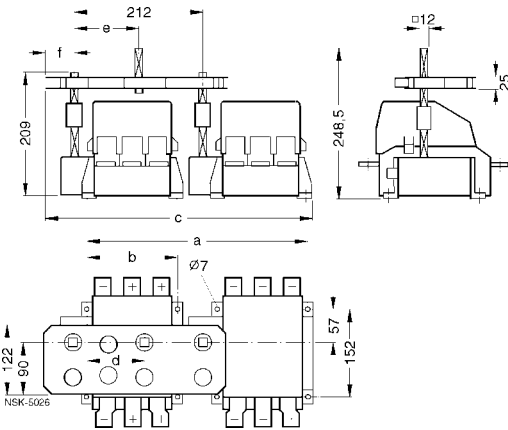
不能用作操作机构  
Not to be used as an operating mechanism

型号 Type	a	b	c	d	e	f	g	h	k	l	m	m1	n	n1	o	p	s	t	u	v	w	y	z
3KE42	125	155	170	140	25	200	40	60	175	M1030	194	194	129	121	4	150	15	-	105	140	170	50	50
3KE43	125	155	170	140	25	200	47	60	175	M1030	194	194	129	121	4	150	15	-	105	140	170	50	50
3KE44	138	170	192	155	40	278	55	65	238	M1235	209	208	144	136	5	161	23	3.5	121	200	172	-	-
3KE45	138	170	192	155	40	290	65	68	250	M1250	209	208	144	136	8	161	23	3.5	121	200	172	-	-



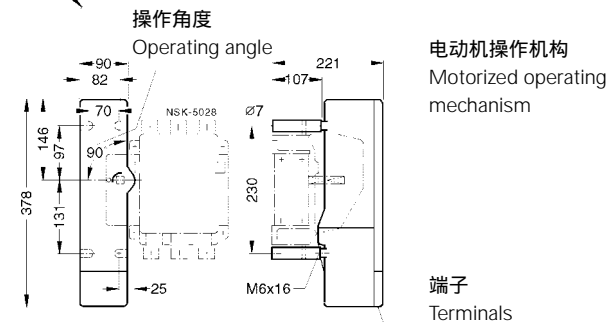
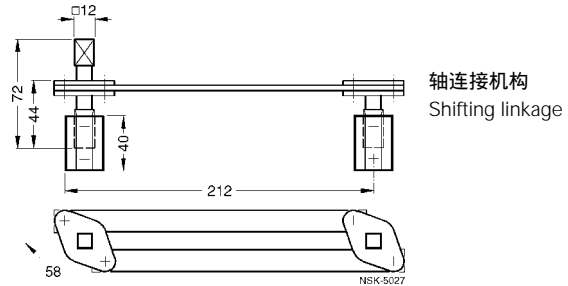
3KE4.30-0EA  
具有连接轴和 8UC6 操作机构  
3KE4.30-0EA with shaft and 8UC6 operating mechanism

型号 Type	r	连接轴长度 Shaft length	q
3KE42	最大: 433 max. 433	300; 未变化的 8UC63 连接轴 300; unchanged shaft from 8UC63	140
3KE43	最小: 200 min. 200	67; 缩短的 8UC63 连接轴 67; shortened shaft from 8UC63	140
	200 ... 433	r <sub>-133</sub>	140
3KE44	最大 433 max. 433	300; 未变化的 8UC64 连接轴 300; unchanged shaft from 8UC64	200
3KE45	最小 210 min. 210	77; 缩短的 8UC64 连接轴 77; shortened shaft from 8UC64	200
	210 ... 433	r <sub>-133</sub>	200



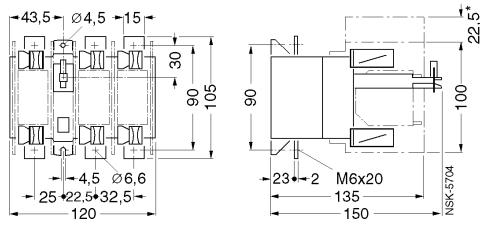
切换操作机构 / Changeover operating mechanism

规格 Version	用于 for type	a	b	c	d	e	f
有间断 with interruption	3KE42, 3KE43 3KE44 3KE45	352 367 367	140 155 155	427 442 442	92.5 92.5 92.5	115 115 115	45 45 45
无间断 without interruption	3KE42, 3KE43 3KE44 3KE45	352 367 367	140 155 155	417 432 432	74.5 74.5 74.5	97 97 97	35 35 35



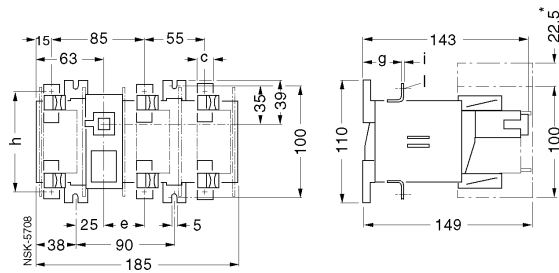
3KL5 熔断器式隔离开关

3KL5 switch disconnectors with fuse



3KL50, 63A  
无操作机构, 具有层形触头  
3KL50, 63A  
without operating mechanism, with lyre-shaped contacts

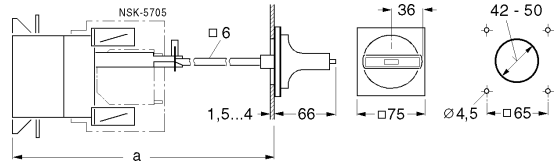
NSK-5707 连接轴(立面图) Shaft (profile)  
长度: Engaged length:  
最小: 70 毫米 min. 70mm  
最大: 150 毫米 max. 150mm



3KL52, 125A 3KL53, 160A  
无操作机构, 具有层形触头  
3KL52, 125A 3KL53, 160A  
without operating mechanism, with lyre-shaped contacts

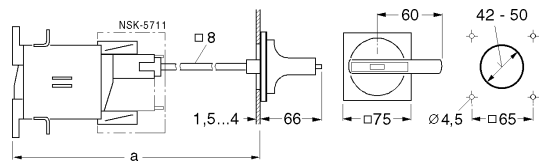
Type 型号	c	d	e	g	h	i	l
3KL52	15	M6 × 20	37	42	91	3	∅6.6
3KL53	20	M8 × 25	39	39.5	105	3.5	∅9

NSK-5712 连接轴(立面图) Shaft (profile)  
长度: Engaged length:  
最小: 90 毫米 min. 90mm  
最大: 143 毫米 max. 143mm



3KL50, 63A 具有连接轴和 8UC6 操作机构  
3KA50, 63A with shaft and 8UC6 operating mechanism

a	连接轴长度 Shaft length
最大 380 max. 380	300; 未变化的 8UC61 连接轴 300; unchanged shaft from 8UC61
最小 175 min. 175	175 <sub>-80°</sub> ; 缩短的 8UC61 连接轴 175 <sub>-80°</sub> ; shortened shaft from 8UC61
175 ... 380	a <sub>80</sub>



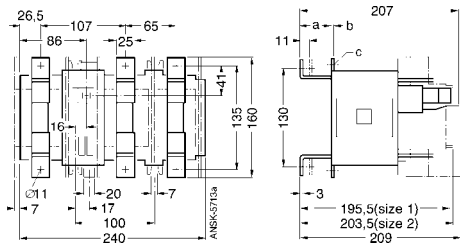
3KL52, 125A 3KL53, 160A  
具有连接轴和 8UC6 操作机构  
3KA52, 125A 3KL53, 160A  
with shaft and 8UC6 operating mechanism

a	连接轴长度 Shaft length
最大 350 max. 350	300; 未变化的 8UC61 连接轴 300; unchanged shaft from 8UC61
最小 165 min. 165	175 <sub>-50°</sub> ; 缩短的 8UC61 连接轴 175 <sub>-50°</sub> ; shortened shaft from 8UC61
165 ... 350	a <sub>50</sub>

# 隔离开关 Disconnectors

## 3KL5 与 3KL6 隔离开关

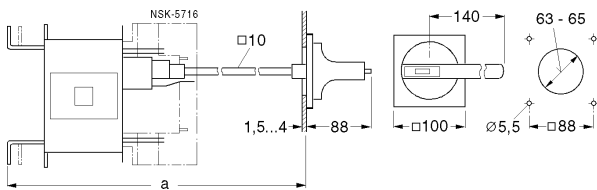
## 3KL5 and 3KL6 switch disconnectors with fuses



3KL55, 250A 3KL57, 400A,  
无操作机构, 具有层形触头  
3KL55, 250A, 3KL57 400A,  
without operating mechanism, with lyre-shaped contacts

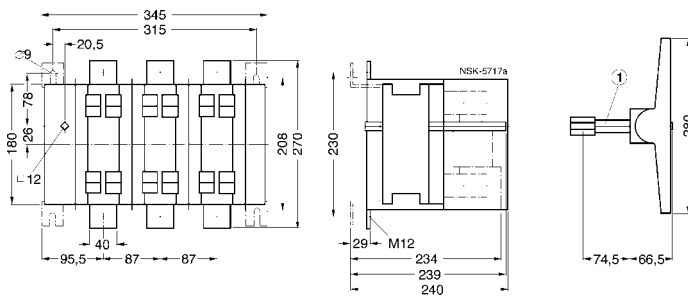
Type 型号	a	b	c
3KL55	40	4	M10 × 30
3KL57	38	6	M10 × 36

NSK-5714 连接轴(立面图) Shaft (profile)  
长度: Engaged length:  
最小: 170 毫米 min. 170mm  
最大: 205 毫米 max. 205mm



3KL55, 250A 3KL57, 400A  
具有连接轴和 8UC6 操作机构  
3KL55, 250A 3KL57, 400A  
with shaft and 8UC6 operating mechanism

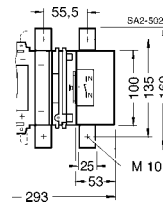
a	连接轴长度 Shaft length
最大 335 max. 335	300; 未变化的 8UC61 连接轴 300; unchanged shaft from 8UC61
最小 230 min. 230	230 <sub>-35</sub> ; 缩短的 8UC61 连接轴 230 <sub>-35</sub> ; shortened shaft from 8UC61
230 ... 335	a <sub>-35</sub>



3KL61, 630A  
无操作机构, 具有层形触头, 带隔离板  
3KL61, 630A  
without operating mechanism, with lyre-shaped contacts,  
with barriers

带手柄的总安装深度  
Total installation depth with handle:  
239+74.5+66.5 = 370

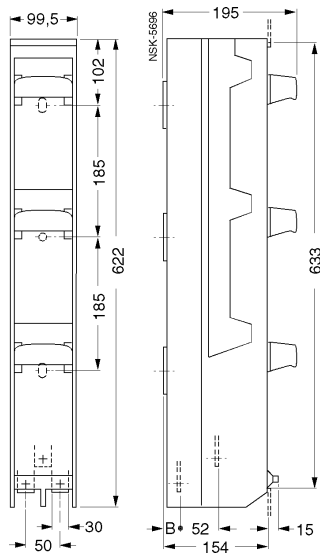
立面: 12 × 12  
轴长: 110  
轴能转动 45°  
Profile 12 × 12,  
Shaft length 110,  
Shaft can be turned by 45°



第四极 3KX3 553 - 0AA  
用于 3KL55, 3KL57  
4th pole 3KX3 553 - 0AA  
for 3KL55, 3KL57

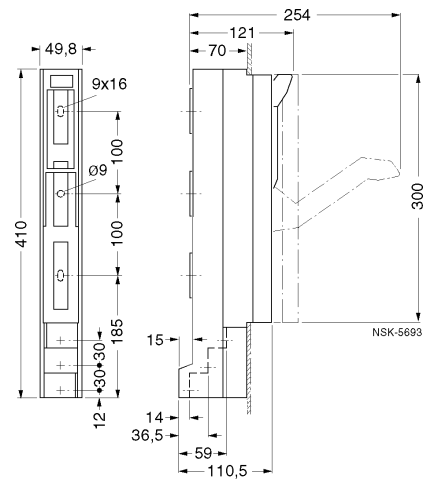
3NJ41 列式熔断器式隔离开关

3NJ41 in-line fuse switch disconnectors

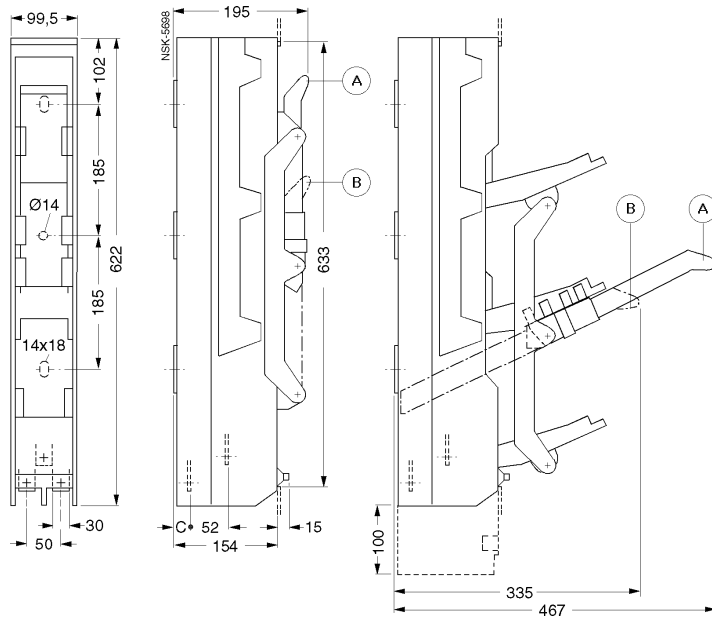


3NJ41. 1-3, 250-630A  
单极操作  
3NJ41. 1-3, 250 to 630A  
single-pole operation

型号 Type	B
3NJ41 21	23
3NJ41 31	24
3NJ41 41	25



3NJ4103, 160A  
三极操作(用于 100mm 中心间距母线)  
3NJ4103, 160A  
three-pole operation  
for 100mm busbar centre-line spacing



3NJ41. 3-3, 250-630A  
三极操作  
3NJ41. 3-3, 250 to 630A  
three-pole operation

“接通”位置 “断开”位置  
ON position OFF position

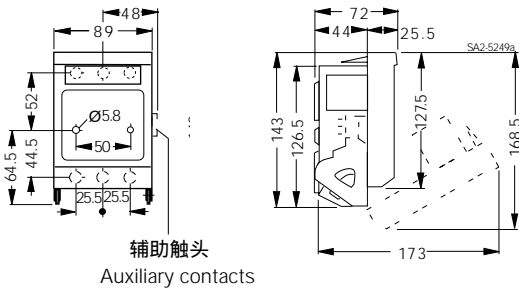
- Ⓐ 不联锁  
Not interlocked
- Ⓑ 联锁  
Interlocked

型号 Type	C
3NJ41 23	23
3NJ41 33	24
3NJ41 43	25

隔离开关  
Disconnectors

3NP35 与 3NP4 熔断器式隔离开关

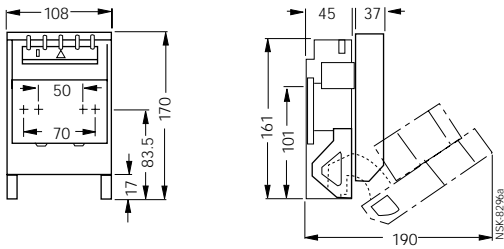
3NP35 and 3NP4 fuse switch disconnectors



辅助触头  
Auxiliary contacts

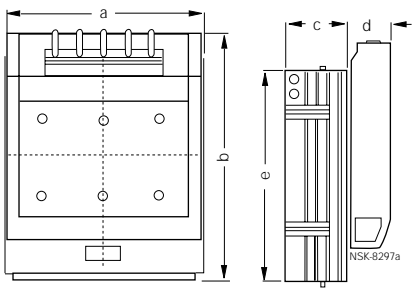
3NP35 30 和 3NP40 10  
3NP35 30 and 3NP40 10

3NP35 30 和 3NP40 10 安装切割图  
Mounting cutout for 3NP35 30 and 3NP40 10



3NP40 70 用于表面安装  
3NP40 70 for surface mounting

用于 3NP40 70 的安装孔  
Hole for 3NP40 70



3NP42 70  
3NP43 70  
3NP44 70  
用于表面安装  
For surface mounting

用于 3NP42 70 的安装孔  
Hole for 3NP42 70

用于 3NP43 70 的安装孔  
Hole for 3NP43 70

用于 3NP44 70 的安装孔  
Hole for 3NP44 70

Type 型号	a	b	c	d	e
3NP42 70	184	243	66	45.5	215
3NP43 70	210	288	80	48	255
3NP44 70	256	300	94.5	48	267

隔离开关下部底端  
隔离开关下部中心  
Lower edge of disconnector's lower part  
Center of disconnector's lower part



3LD

页号  
page

- 3 和 4 极  
3 and 4 poles
- 4 种不同模式  
in 4 different module
- 4 种不同触点布置方式  
with 4 different contact arrangement

选型及订货数据  
Selection and ordering data

4/2


附件  
Accessories

4/7



# 主控和急停开关 3LD2

## 3LD2 Main Control and EMERGENCY-STOP Switches

选型与订货数据				Selection and Ordering Data							
<p>3LD2 可作为控制主回路或辅助回路的开关，也可用作按要求在维护的修理时断开三相电机等负载的装置。</p> <p>The 3LD2 switches are used to switch main and auxiliary circuits, but also to switch three-phase motors and other loads in the event of maintenance and repair.</p>				<p>可用作</p> <ul style="list-style-type: none"> <li>• 开/关装置</li> <li>• 急停装置</li> <li>• 主开关符合 DIN EN 60 204 - 1 的要求</li> </ul> <p>They can be used as</p> <ul style="list-style-type: none"> <li>• ON/OFF switches</li> <li>• EMERGENCY STOP switches and</li> <li>• Main switches in conformity with IEC 60 204</li> </ul>				<p>主控和急停符合 IEC 对手动隔离开关的要求，也符合 IEC 60 204对机械操作的负荷开关的要求 60 947-3, DIN VDE 0660 Part 107. According to IEC 60 947-3/DIN VDE 0660 Part 107 (EN 60 947-3), main and EMERGENCY-STOP switches are manually actuated switch disconnectors and meet the isolator characteristics and the requirements of the machine guideline IEC 60 204-1.</p>			
触点的数量和形式 Number and version of the contacts		额定值 Ratings at 50...60Hz 380...440V		<p>面板式安装 主控或急停开关，带旋转动作机构在断开位置最多可用 3 把挂锁锁闭 正面保护等级 IP 65</p> <p>Front-mounting switches Main control and EMERGENCY-STOP switches with rotary actuator, lockable in 0 position with max. 3 padlocks. Degree of protection, front side IP 65</p> <p>面板 3LD2 1, 3LD2 2: 67 x 67mm; Front cover 3LD2 5 to 3LD2 8: 90 x 90mm</p>  <p>3LD2 203-0TK53</p>		<p>底座式安装 主控或急停开关，带门旋转开关带 300mm 长的开关轴 可用 3 把挂锁锁闭，正面保护等级 IP 65</p> <p>Base-mounting switches Main control and EMERGENCY-STOP switches with door-coupling rotary actuator, with 300mm switch shaft lockable with 3 padlocks Degree of protection, front side IP 65</p> <p>面板 3LD2 1, 3LD2 2: 67 x 67mm; Front cover 3LD2 5 BIS 3LD2 8: 90 x 90mm</p>  <p>3LD2 213-0TK53</p>					
主触点 Main contacts	辅助触点 Aux. contacts	功率 P <sub>I</sub> AC-23A  kW	电流 I <sub>u</sub>  A	订货号 Order No.	订货号 Order No.	订货号 Order No.	订货号 Order No.				
3	-	9.5 11.5 22 37 45	25 32 63 100 125	3LD2 103-0TK.. 3LD2 203-0TK.. 3LD2 504-0TK.. 3LD2 704-0TK.. 3LD2 804-0TK..	3LD2 154-0TK.. 3LD2 254-0TK.. 3LD2 555-0TK.. - -	3LD2 113-0TK.. 3LD2 213-0TK.. 3LD2 514-0TK.. 3LD2 714-0TK.. 3LD2 814-0TK..	3LD2 144-0TK.. 3LD2 244-0TK.. 3LD2 545-0TK.. - -				
3+N	-	9.5 11.5  22 37 45	25 32  63 100 125	3LD2 103-1TL.. 3LD2 203-1TL..  3LD2 504-0TK.. + 1) 3LD9 250-0B  3LD2 704-0TK.. + 1) 3LD9 280-0B  3LD2 804-0TK.. + 1) 3LD9 280-0B	3LD2 154-1TL.. 3LD2 254-1TL..  3LD2 555-0TK.. + 1) 3LD9 250-0B  -  -	3LD2 113-1TL.. 3LD2 213-0TK.. + 1) 3LD9 220-0C  3LD2 514-0TK.. + 1) 3LD9 250-0C  3LD2 714-0TK.. + 1) 3LD9 280-0C  3LD2 814-0TK.. + 1) 3LD9 280-0C	3LD2 144-1TL.. 3LD2 244-0TK.. + 1) 3LD9 220-0C  3LD2 545-0TK.. + 1) 3LD9 250-0C  -  -				
<p>旋钮头 /Actuator</p> <p>黑 /black</p> <p>红 / 黄 red/yellow (急停 /Emergency stop)</p> 											


1) 第四极 N 线控制，请另订货，详见附件。

Please order the 4th contact element as N conductor separately; see Accessories.



# 主控和急停开关 3LD2



## 3LD2 Main Control and EMERGENCY-STOP Switches

选型与订货数据				Selection and Ordering Data		
触点的数量和形式 Number and version of the contacts		额定值 Ratings at 50...60Hz 380...440V		面板式安装 主控或急停开关，带旋转动作机构 断开位置最多可用 2 把挂锁锁闭 正面保护等级 IP 65 Front-mounting switches Main control and EMERGENCY-STOP switches with knob actuator, lockable in 0 position with max. 2 padlocks. Degree of protection, front side IP 65  面板 / Front cover      48 x 48mm    3LD2 222-0TK11		
主触点 Main contacts	辅助触点 Aux. contacts	功率 <i>P</i> AC-23A  kW	电流 <i>I<sub>u</sub></i>  A	订货号 Order No.	订货号 Order No.	
3	-	9.5  11.5	25  32	3LD2 122-0TK..  3LD2 222-0TK..	3LD2 150-0TK..  3LD2 250-0TK..	
3+N	-	9.5  11.5	25  32	3LD2 122-0TK.. + 1) 3LD9 220-0B  3LD2 222-0TK.. + 1) 3LD9 220-0B	3LD2 150-0TK.. + 1) 3LD9 220-0B  3LD2 250-0TK.. + 1) 3LD9 220-0B	
3	1NO+ 1NC	9.5  11.5	25  32	3LD2 122-0TK.. + 2) 3LD9 220-5B  3LD2 222-0TK.. + 2) 3LD9 220-5B	3LD2 150-0TK.. + 2) 3LD9 220-5B  3LD2 250-0TK.. + 2) 3LD9 220-5B	
3+N	1NO+ 1NC	9.5  11.5	25  32	3LD2 122-0TK.. + 1) 3LD9 220-0B + 2) 3LD9 220-5B  3LD2 222-0TK.. + 1) 3LD9 220-0B + 2) 3LD9 220-5B	3LD2 150-0TK.. + 1) 3LD9 220-0B + 2) 3LD9 220-5B  3LD2 250-0TK.. + 1) 3LD9 220-0B + 2) 3LD9 220-5B	
旋钮头 /Actuator 黑 /black      ----- 11 ----- 11 红 / 黄 red/yellow (急停 /Emergency stop) ----- 13 ----- 13						

1) 第四极 N 线控制，请另订货，详见附件。  
 2) 辅助触点 1NO + 1NC 请另订货，详见附件。

1) Please order the 4th contact element as N conductor separately; see Accessories.  
 2) Please order an auxiliary switch 1 NO + 1NC separately; see Accessories.

## 主控和急停开关 3LD2 3LD2 Main Control and EMERGENCY-STOP Switches

选型与订货数据				Selection and Ordering Data			
触点的数量和形式 Number and version of the contacts		额定值 Ratings at 50...60Hz 380...440V		开关装于配电柜内用螺丝或卡入式装于 35mm 导轨上 开 / 关或急停，带面板和控制手柄 可在断开位置最多用 2 把挂锁锁闭，正面保护等级 IP 44  Switches for distribution board installation, with screw or snap mounting on 35 mm DIN rail ON-OFF and EMERGENCY-STOP switches with masking frame and knob, lockable in 0 position with max. 2 padlocks. Degree of protection, front side IP 44  <div style="text-align: center;">             3LD2 530-0TK13         </div>		塑壳开关带 N, PE 线夹端子 主控或急停开关 可在断开位置最多用 3 把挂锁锁闭 正面保护等级 IP 65  Switches with insulating material enclosure with N/PE terminal Main control and EMERGENCY-STOP switches, lockable in 0 position with max. 3 padlocks. Degree of protection: IP 65  <div style="text-align: center;">             3LD2 261-0TB51         </div>	
主触点 Main contacts	辅助触点 Aux. contacts	功率 <i>P</i> AC-23A  kW	电流 <i>I<sub>u</sub></i>  A	订货号 Order No.	订货号 Order No.		
3	-	9.5	25	3LD2 130-0TK..	3LD2 161-0TB..		
		11.5	32	3LD2 230-0TK..	3LD2 261-0TB..		
		22	63	3LD2 530-0TK..	3LD2 562-0TB..		
		37	100	3LD2 730-0TK..	3LD2 763-0TB..		
		45	125	3LD2 830-0TK..	3LD2 863-0TB..		
3+N	-	9.5	25	3LD2 130-0TK.. + 1) 3LD9 220-0C 3LD2 230-0TK..	3LD2 161-1TC..		
		11.5	32	+ 1) 3LD9 220-0C 3LD2 530-0TK..	3LD2 261-1TC53		
		22	63	+ 1) 3LD9 250-0C 3LD2 730-0TK..	3LD2 562-1TC53		
		37	100	+ 1) 3LD9 280-0C 3LD2 830-0TK..	3LD2 763-0TB.. + 1) 3LD9 280-0C		
		45	125	+ 1) 3LD9 280-0C	3LD2 863-0TB.. + 1) 3LD9 280-0C		
旋钮头 /Actuator 黑 /black <span style="margin-left: 150px;">----- 11 -----</span> <span style="margin-left: 150px;">----- 51 -----</span> 红 / 黄 red/yellow (急停 /Emergency stop) <span style="margin-left: 150px;">----- 13 -----</span> <span style="margin-left: 150px;">----- 13 -----</span>							



1) 第四极 N 线控制，请另订货，详见附件。

Please order the 4th contact element as N conductor separately; see Accessories.



# 主控和急停开关 3LD2

## 3LD2 Main Control and EMERGENCY-STOP Switches

选型与订货数据				Selection and Ordering Data					
触点的数量和形式 Number and version of the contacts		额定值 Ratings at 50...60Hz 380...440V		<p>开关装于配电柜内用螺丝或卡入式装于 35mm 导轨上 开 / 关或急停，带面板和控制手柄 可在断开位置最多用 2 把挂锁锁闭，正面保护等级 IP 44</p> <p>Switches for distribution board installation, with screw or snap mounting on 35 mm DIN rail ON-OFF and EMERGENCY-STOP switches with masking frame and knob, lockable in 0 position with max. 2 padlocks. Degree of protection, front side IP 44</p>  <p>3LD2 530-0TK11</p>		<p>塑壳开关带 N, PE 线夹端子 主控或急停开关 可在断开位置最多用 3 把挂锁锁闭 正面保护等级 IP 65</p> <p>Switches with insulating material enclosure with N/PE terminal Main control and EMERGENCY-STOP switches, lockable in 0 position with max. 3 padlocks. Degree of protection: IP 65</p>  <p>3LD2 261-0GP53</p>			
主触点 Main contacts	辅助触点 Aux. contacts	功率 P <sub>I</sub> AC-23A  kW	电流 I <sub>u</sub>  A	订货号 Order No.	订货号 Order No.				
3	1NO+1NC	9.5	25	3LD2 130-0TK.. + 2) 3LD9 220-5C 3LD2 230-0TK..	3LD2 161-1GP..				
		11.5	32	+ 2) 3LD9 220-5C 3LD2 530-0TK..	3LD2 261-1GP..				
		22	63	+ 2) 3LD9 250-5C 3LD2 730-0TK..	3LD2 562-1GP..				
		37	100	+ 2) 3LD9 280-5C 3LD2 830-0TK..	3LD2 763-1GP..				
		45	125	+ 2) 3LD9 280-5C	3LD2 863-1GP..				
3+N	1NO+1NC	9.5	25	3LD2 130-0TK.. + 2) 3LD9 220-5C + 1) 3LD9 220-0C 3LD2 230-0TK..	3LD2 161-1GP.. + 1) 3LD9 220-0C				
		11.5	32	+ 2) 3LD9 220-5C + 1) 3LD9 220-0C 3LD2 530-0TK..	3LD2 261-1GP.. + 1) 3LD9 220-0C				
		22	63	+ 2) 3LD9 250-5C + 1) 3LD9 250-0C 3LD2 730-0TK..	3LD2 562-1GP.. + 1) 3LD9 250-0C				
		37	100	+ 2) 3LD9 280-5C + 1) 3LD9 280-0C 3LD2 830-0TK..	3LD2 763-1GP.. + 1) 3LD9 280-0C				
		45	125	+ 2) 3LD9 280-5C + 1) 3LD9 280-0C	3LD2 863-1GP.. + 1) 3LD9 280-0C				
旋钮头 / Actuator 黑 / black 红 / 黄 red / yellow (急停 / Emergency stop) <table style="margin-left: 200px; border-collapse: collapse;"> <tr> <td style="border: 1px dashed black; padding: 2px;">11</td> <td style="border: 1px dashed black; padding: 2px;">51</td> </tr> <tr> <td style="border: 1px dashed black; padding: 2px;">13</td> <td style="border: 1px dashed black; padding: 2px;">53</td> </tr> </table>						11	51	13	53
11	51								
13	53								

1) 第四极 N 线控制，请另订货，参见附件。

2) 辅助触点 1NO + 1NC 请另订货，参见附件。

1) Please order the 4th contact element as N conductor separately; see Accessories.

2) Please order an auxiliary switch 1 NO + 1NC separately; see Accessories.

主控和急停开关 3LD2  
3LD2 Main Control and EMERGENCY-STOP Switches

面板安装的附件		Accessories for front mounting		
		订货号 Order No.	订货号 Order No.	订货号 Order No.
	第4极触点(常闭) 用于正面安装 提前闭合, 滞后分断 4th contact (N conductor) for front installation leading make contact lagging break contact	3LD9 220-0B	3LD9 250-0B	3LD9 280-0B
3LD9 2.0-0B 3LD9 2.0-2B	N/PE 端子 穿透式 N/PE N/PE terminal block continuous	3LD9 220-2B	3LD9 250-2B	3LD9 280-2B
	辅助触点 装于左侧或右侧 提前分断, 滞后闭合 Auxiliary switch to be fitted at the left and/or right hand side lagging make contact leading break contact			
3LD9 2.0-3B 3LD9 2.0-5B	1NO+1NC 1NO 1NC	3LD9 220-5B 3LD9 220-3B 3LD9 220-4B	3LD9 250-5B 3LD9 250-3B 3LD9 250-4B	3LD9 280-5B 3LD9 280-3B 3LD9 280-4B
	前面板 / Front plate 德 / 英 / German/English	3LD9 286-1A	3LD9 286-1A	3LD9 286-1A
面板式基座式安装的附件		Accessories for front or base mounting		
	旋转把手断开位置最多 可用3把挂锁锁闭 Rotary actuator lockable in 0 position with max. 3 padlocks			
3LD9 2.4-1D	用于4孔固定 黑/black 红/red/黄/yellow	3LD9 224-1B 3LD9 224-3B	3LD9 284-1B 3LD9 284-3B	3LD9 284-1B 3LD9 284-3B
	用于中心孔固定 黑/black 红/red/黄/yellow	3LD9 224-1D 3LD9 224-3D	3LD9 284-1D 3LD9 284-3D	- -
	前面板 / Front plate 德 / 英 / German/English	3LD9 286-1A	3LD9 286-1A	3LD9 286-1A
	端子盖, 用作额外触电保护 装于上部或下部 Terminal cover as additional shock hazard protection snaps on at top and bottom			
3LD9 2.1-0A 3LD9 2.1-2A	单极 1 pole 3极 3 pole 1-pole (1 pack = 4 units) 3-pole (1 pack = 4 units)	3LD9 221-2A 3LD9 221-0A	3LD9 251-2A 3LD9 251-0A	3LD9 281-2A -
基座或柜内安装的附件		Accessories for base or mounting and distribution boards		
	第4极触点(N导体) 用于背面安装 提前闭合, 滞后分断 4 contact (N conductor) for rear installation leading make contact lagging break contact	3LD9 220-0C	3LD9 250-0C	3LD9 280-0C
3LD9 2.0-0C	N/PE 端子 穿透式 N/PE N/PE terminal block continuous	3LD9 220-2C	3LD9 250-2C	3LD9 280-2C
	辅助触点 装于左右两侧 提前闭合, 滞后分断 Auxiliary switch to be fitted at the left and/or right hand side leading make contact lagging break contact			
3LD9 2.0-0C	1NO+1NC 1NO 1NC	3LD9 220-5C 3LD9 220-3C 3LD9 220-4C	3LD9 250-5C 3LD9 250-3C 3LD9 250-4C	3LD9 280-5C 3LD9 280-3C 3LD9 280-4C
	前面板 / Front plate 德 / 英 / German/English	3LD9 286-1A	3LD9 286-1A	3LD9 286-1A

备注

For your notes

A solid green horizontal bar spanning most of the width of the page, positioned below the text 'For your notes'. It is currently empty.





备注  
For your notes

