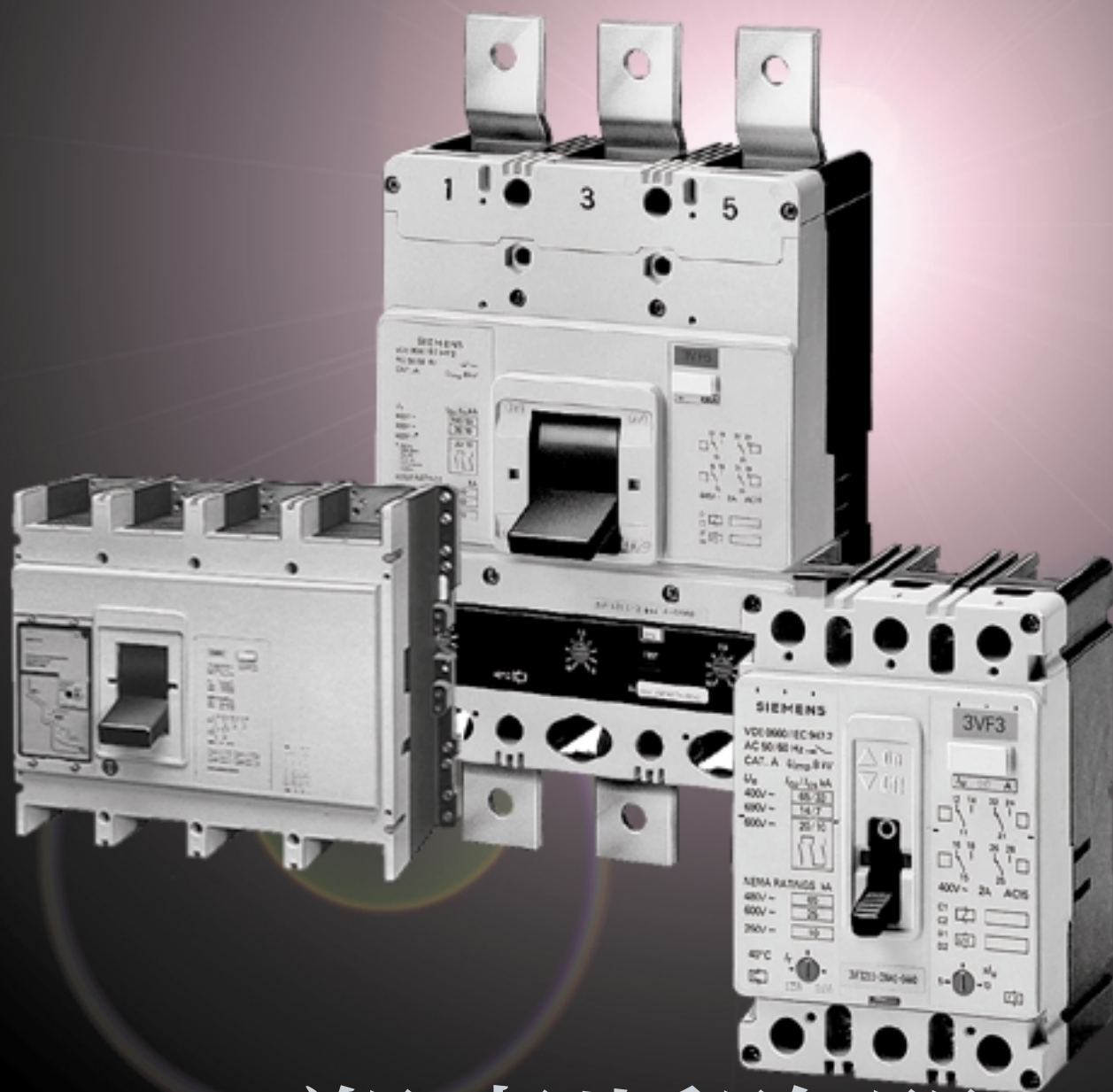


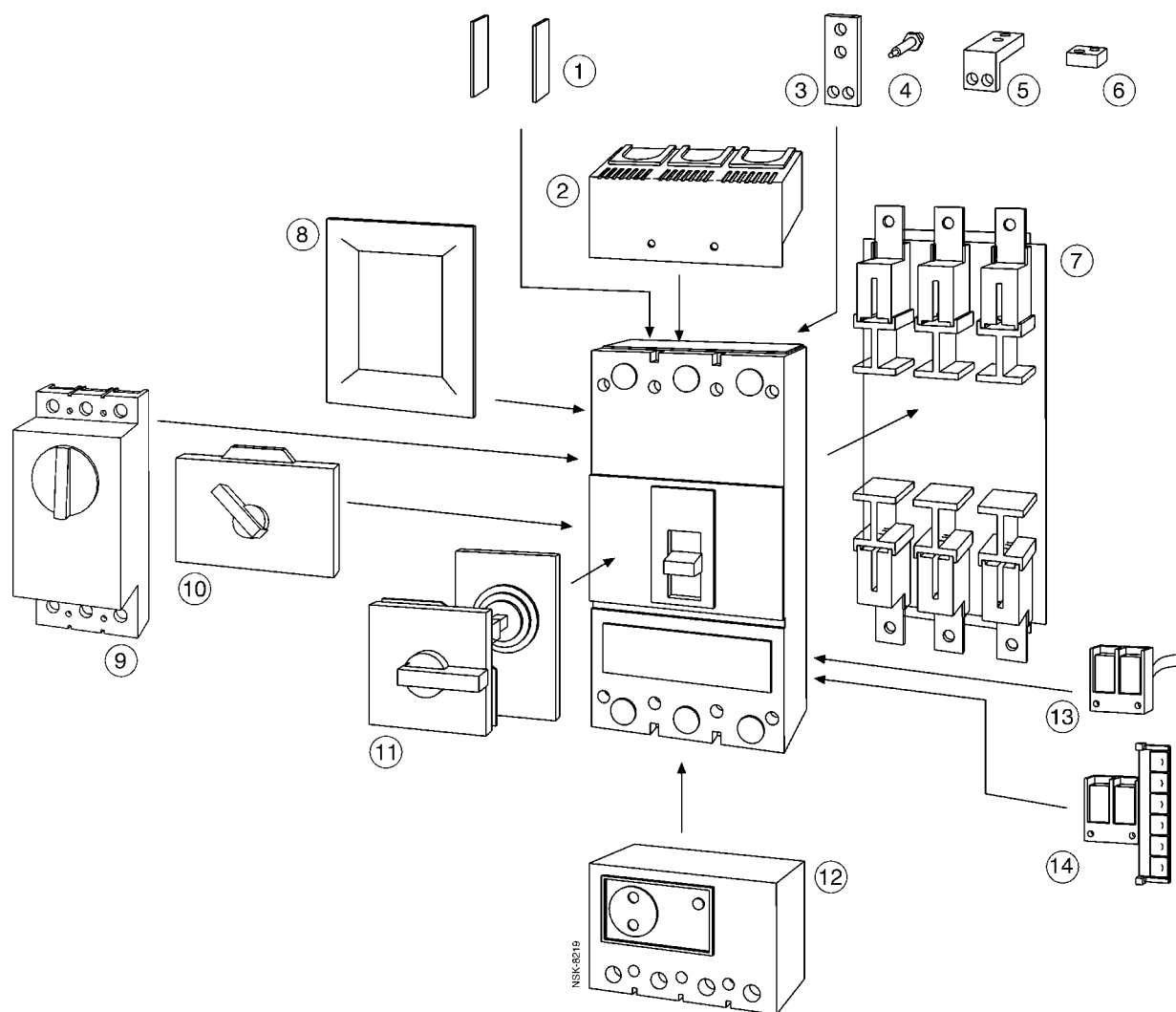


3VF 塑壳断路器



SIEMENS

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附件—连接件

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- ② 主回路端子罩盖
Terminal cover for main terminals
- ③ 正面母排连接件
Front busbar connection pieces
- ④ 用于 3VF3 的背后连接件
Rear terminal for 3VF3
- ⑤ 用于 3VF7 的背后连接件
Rear terminal for 3VF7
- ⑥ 多路进线端子
Multiple feed-in terminal
- ⑦ 插入式安装底板
Plug-in socket

附件—防护门框

Accessories - Covers

- ⑧ 断路器柜门开孔防护框
Covering frame for door cutout

附件—操作机构

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- ⑩ 用于 3VF4、3VF5、3VF6 的旋转驱动机构
Rotary drive for 3VF4, 3VF5, 3VF6
- ⑪ 柜门耦合旋转驱动机构, 整套
Rotary drive, complete for fitting in doors and covers (with door coupling rotary mechanism)
- ⑫ DI 模块
DI module

附件—辅助开关

Accessories - Auxiliary Switches

- ⑬ 辅助开关和报警开关, 带连接线
Auxiliary and alarm switch
Version with connecting leads
- ⑭ 辅助开关和报警开关, 带接线端子盒
Auxiliary and alarm switch
Version with box terminals

3VF 断路器

3VF Circuit-Breakers

描述

Description

标准

所有 3VF 断路器都符合
IEC60947-1/DIN VDE0660,第 100 部分；
IEC60947-2/DIN VDE0660,第 101 部分之标准。
隔离特性符合 IEC60947-3 标准。
电动机保护型断路器的过电流脱扣器符合：
IEC60947-4-1/DIN VDE0660, 第 102 部分的标准。
主断路器特性符合 DIN VDE0113 标准。

工作条件

3VF 断路器主要用于室内，非恶劣的环境中（例如：灰尘、腐蚀性蒸汽和气体等）。
在有尘埃和潮湿的房间里安装使用时，必须提供适当的密封区域(外壳、柜子等)。
允许的环境温度和相关的额定电流在“技术参数”中给出(见第 40 页)。

防护等级

断路器	IP 30
带正面直接旋转驱动机构	IP 54
带门耦合旋转驱动机构	IP 65
带电动机驱动 / 线圈	
操作机构	IP 20
带插入式插座底板	IP 20

结构

3VF 断路器的扳动手柄的三个位置及其侧面的指示窗表示断路器的工作状态(见图 2、图 3)。

当扳动手柄处于已脱扣位置，说明断路器的脱扣是由过载、短路、分励或欠电压引起的，或按下 TEST 按钮引起的。

这时，如果要使断路器重新合闸，应先将扳动手柄扳至复位位置(即分闸位置)。

线路保护型 3VF2 至 3VF6 断路器配有热磁式脱扣器，这些脱扣器可按需要选用固定式的或可调节的。

Standards

All 3VF circuit-breakers comply with:
IEC 60947-1/DIN VDE 0660, Part 100;
IEC 60947-2/DIN VDE 0660, Part 101 .
Isolating characteristics acc to IEC 60947-3
The overcurrent releases of the circuit-breakers for motor protection also comply with:
IEC 60947-1/DIN VDE 0660, Part 102
Master circuit-breakers comply with
DIN VDE 0113.

Operating conditions

3VF circuit-breakers are climate-proof. They are designed for use in enclosed rooms, in which there are no severe operation conditions (e.g. dust, caustic vapours, destructive gases).

For installation in dusty and damp rooms, suitable enclosures (housings, cabinets) must be provided.

The permissible ambient temperatures and relevant rated continuous currents are indicated under "Technical data" (see page 40).

Degree of protection

Circuit-breaker	IP 30
with front rotary drive mechanism	IP 54
with door-coupling rotary drive mechanism	IP 65
with motor- driven/ solenoid operated drive mechanism	IP 20
with socket	IP 20

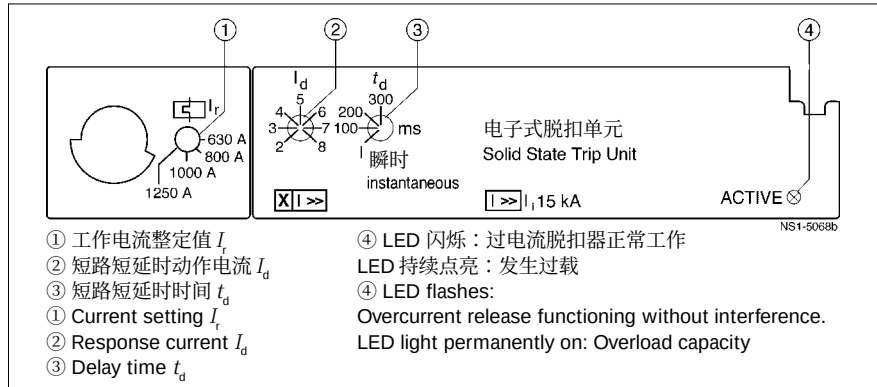


图 1 线路保护型断路器的电子式过电流脱扣器(如 3VF7)

Fig. 1 Solid state overcurrent release for plant protection (e.g. 3VF7)

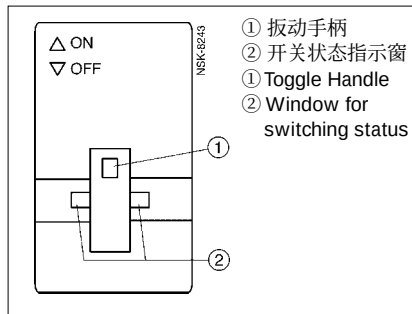


图 2

Fig. 2

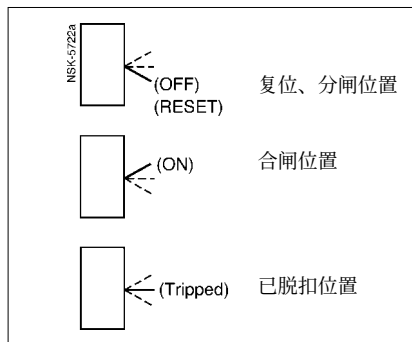


图 3 扳动手柄的三个位置

Fig. 3 Toggle handle mechanism positions

Construction

The basic version of 3VF circuit-breakers have a toggle handle operating mechanism (see Fig. 2 ①) which also serves as a switching position indicator. As well as ON and OFF, the additional position TRIPPED is also possible.

The toggle handle snaps into the TRIPPED position if the circuit-breaker is tripped by one of its overcurrent, short-circuit, shunt or undervoltage releases, or by the TEST button. Before the circuit-breaker can be reclosed following a tripout, the toggle handle must be brought beyond the OFF position ("RESET"). The circuit-breaker is then ready for closing again (see Fig. 3)

As an additional switching position indicator on 3VF3 to 3VF8 circuit-breakers there are two windows to the right and left of the toggle handle(see Fig. 2 ②) in which the switching status is indicated by means of the colours

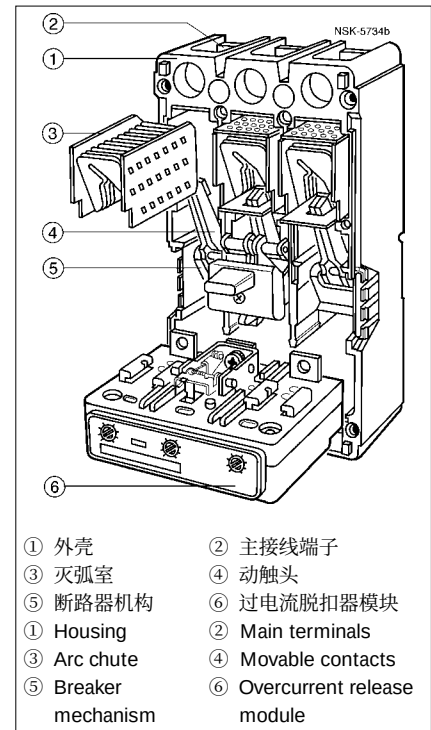


图 4 3VF5 断路器内部结构

Fig. 4 3VF5 circuit-breaker - internal construction.

red, green and white corresponding to the ON, OFF and TRIPPED positions.

Overcurrent release system

All circuit-breakers are supplied with an integrated overcurrent release (see Fig. 4 (6))

3VF2 to 3VF6 Circuit-breakers for plant protection with mechanical overload and short-circuit release(overcurrent release version"an")

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

描述

Description

配有电子式脱扣器的3VF5至3VF8线路保护型断路器

安装在3VF5至3VF8上的所有电子式脱扣器均为“azn”型，可用于短路短延时保护。

该电子式脱扣器不需要辅助电源供电。

为激活过电流脱扣器，应至少给脱扣器提供断路器额定电流的20%工作电流。

ACTIVE 发光二极管闪烁表明过电流脱扣器工作正常；发光二极管持续点亮，说明出现过电流。

• 过载反时限脱扣器“a”

由于带电子式脱扣器的线路保护型3VF5至3VF8断路器采用测量实际电流有效值进行过载保护，因此该断路器适用于可能产生高次谐波的网络中。

整定电流 I_r 从断路器额定电流的0.5倍至1倍分4点可调。

反时限的脱扣类别为 $7.2 \times I_r$ 时脱扣时间10s。

• 短路短延时脱扣器：“z”

脱扣电流 I_d 在 $2 \times I_r$ 至 $8 \times I_r$ 的范围内分7点可调。

短延时时间 t_d 从0(瞬时)至300ms分4点可调。

在如下电流值，对下级断路器可提供选择性保护：

对于3VF5 4.0kA ± 15%

对于3VF6 5.5kA ± 15%

对于3VF7 15kA ± 15%

对于3VF8 20kA ± 15%

• 短路瞬时脱扣器“n”

短路瞬时脱扣电流 I_n 固定为3VF5是4kA，3VF6是5.5kA，3VF7是15kA，3VF8是20kA。在印刷线路板的温度超过90°C时，断路器自动脱扣，以保护过电流脱扣器。

电动机保护型断路器

所有的电动机保护型断路器都配有电子式过电流脱扣器。

对于脱扣类别可调的电动机保护型断路器其过电流脱扣器的脱扣类别从“5级”至“30级”可调。当出现断相或严重的相不平衡时，其内含的“断相检测”功能可保护电动机。

所有的电动机保护型3VF3至3VF6断路器具有“热记忆”功能，以记忆断路器的前次过载脱扣。因此缩短了脱扣时间减少了电动机产生的热量。

在产生很高谐波的电动机馈电回路中(如由变频器引起)推荐采用3VF2至3VF6配“an”热磁式脱扣器的断路器。

起动器组合用断路器

起动器组合用断路器通常与接触器和过载继电器配合使用。

隔离型断路器

隔离型断路器配有固定式短路脱扣器，因此不需要后备熔断器。4极隔离型断路器在第4极不带短路脱扣器。

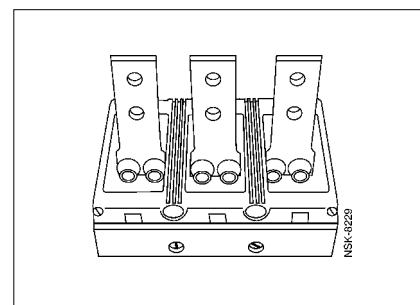


图5 用于3VF7的正向铜排连接件

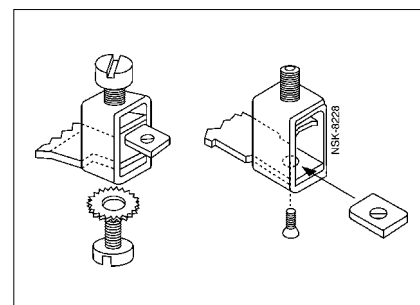


图6 用于3VF3(左)和3VF4(右)的盒式接线端子

安装

3VF断路器可以无间隙的并排安装，但考虑到这种安装方式会影响断路器散热，因此不推荐采用。

连接

断路器供货时的基本连接件如下：

带盒式接线端子

3VF2至3VF5断路器，可连接多股线或带端子的细多股线。

母排连接件

3VF6至3VF8断路器采用母排连接件。随3VF6断路器提供正向母排连接件。

对于3VF3(至160A)，3VF4，3VF5，3VF6和3VF7(至800A)断路器，也可提供扁平连接铜排。

断路器的进线端和出线端可按需选择。其电气参数不变。带DI模块的断路器只能从上端进线。

位于灭弧室上端的非绝缘连接导体应绝缘。也可采用相间隔板。

3VF 断路器

3VF Circuit-Breakers

描述

3VF5 to 3VF8 circuit-breakers for plant protection with solid state overcurrent release

All 3VF5 to 3VF8 circuit-breakers are equipped with an electronic overcurrent release, version "azn", for short-time delay short-circuit release.

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

For activating the overcurrent releases a minimum load current of approx. 20% of the respective rated current I_n of the circuit-breaker is required.

A flashing LED "heartbeat" ACTIVE indicates that the overcurrent release is functioning correctly (see Fig. 1). Overcurrent status is indicated by a permanent light $I > 100\% I_n$.

- Inverse-time delayed overload release "a"

As 3VF5 to 3VF8 circuit-breakers for plant protection with electronic releases have an effective current measurement capacity they are also suitable for use in networks with a high harmonic component. The higher harmonics are accurately measured to provide overload protection.

The set current I_r can be adjusted in 4 steps between 0.5 and 1 times the rated current I_n of the circuit-breaker.

The trip class of the inverse-time release corresponds to 10 s at $7.2 \times I_r$.

- Short-time delayed short-circuit release "z"

The tripping current I_a can be set in 7 steps between 2 and $8 \times I_r$.

The delay time t_d can be selected in 4 steps between 0 (instantaneous) and 300 ms.

This provides selectivity for downline circuit-breakers with the following currents:

- 4.0 kA $\pm 15\%$ for 3VF5
- 5.5 kA $\pm 15\%$ for 3VF6
- 15 kA $\pm 15\%$ for 3VF7 and
- 20 kA $\pm 15\%$ for 3VF8

- Instantaneous short-circuit release "n"

The tripping current I_i of the instantaneous short circuit release is fixed at 4 kA for 3VF5, 5.5kA for 3VF6, 15 kA for 3VF7 and 20kA for 3VF8. The electronic circuitry of the overcurrent release is intrinsically safe with regard to high temperatures; the circuit-breaker trips if the printed circuit temperature exceeds 90°C.

Circuit-breakers for motor protection

All circuit-breakers for motor protection are equipped with electronic overcurrent releases. They work on the same principles as electronic overcurrent releases on circuit-breakers for plant protection.

The characteristic curves of the inverse-time delayed overcurrent release are specifically designed for the overload performance of 3-phase AC motors. Depending on the version, the trip class of the overcurrent release can be adjusted step-by-step between "Class 5" and "Class 30".

In this version the "sensitivity to phase failure" is additionally integrated so that the motor is reliably protected in case of phase interruption or strong imbalance.

All 3VF3 to 3VF6 circuit-breakers for motor protection have a so-called "thermal memory" which stores the preloading of the circuit-breaker (tripping by overload). Shorter tripping times reduce the amount of heat produced by the motor. After overload tripping, the motor may have to cool down again for a few minutes before it can be started again.

The same applies if the motor is started too many times during a comparatively short time, which causes the motor to heat up excessively. After overload tripping restarting is blocked for one minute.

3VF2 to 3VF6 circuit-breakers with "an" bimetal releases are recommended in branch feeder units with very high harmonics produced by the frequency converter or the controlled torque starting circuit.

Circuit-breakers for starter combinations

Circuit-breakers for starter combinations are usually combined with motor contactors and matched overload relays

Isolating circuit-breakers

The isolating circuit-breakers are equipped with fixed short-circuit releases so that backup fuses are not required. 4-pole circuit-breakers do not have a short-circuit release in the 4th pole (N).

Description

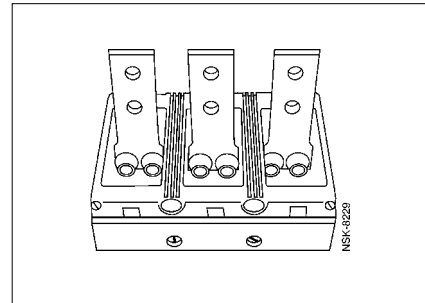


Fig. 5 Front busbar connection pieces for 3VF7

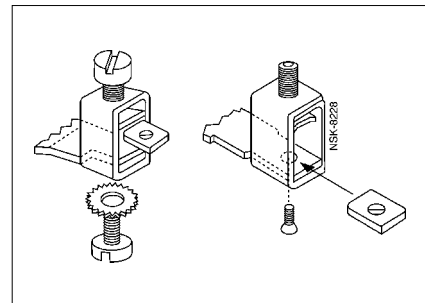


Fig. 6 Box terminal for 3VF3 (left) and for 3VF4 (right)

Mounting

Side-by-side mounting (without clearance) is possible, but is not always advisable because it hinders heat dissipation (if necessary reduced rated current).

Connection

Basic versions of circuit-breakers are supplied as follows:

With box terminals

3VF2 to 3VF5 circuit-breakers for direct connection of stranded or finely-stranded conductors with end sleeves.

Busbar connection pieces

3VF6 to 3VF8 circuit-breakers are connected via busbar connection pieces. These are laid out for the connection of standardized busbars and available for front and rear connection. 3VF6 circuit-breakers are supplied with front connection pieces.

Clamp connection of laminated flat copper bars is possible for 3VF3 (up to 160 A), 3VF4, 3VF5, 3VF6 and 3VF7 (up to 800 A) circuit-breakers.

The incoming and outgoing side can be selected on the circuit-breakers as required. The electrical data remain unchanged. Circuit-breakers with DI module are always fed in from above.

Uninsulated conductors connected to the upper terminals must be insulated in the arcing space. Interphase barriers can also be used.

描述

Description

安装

固定式安装

为标准安装方式。

插入式断路器

断路器有 6 个刀形触头和一个安全脱扣销。这可使已合闸的断路器本体在插入插座底板前自动分闸。

抽屉式断路器

3VF6 和 3VF7 可提供抽屉式结构。抽屉式断路器不能带电动机操作机构。

操作机构

正面直接旋转驱动机构(图 9)

该机构直接安装在断路器正面。

旋转驱动机构中的超前动作辅助开关(图 7)

如果选用该辅助开关,则可使欠电压脱扣器提前得电,使断路器准备合闸就绪。

Mounting

Fixed Mounting

Standard model

Plug-in Circuit-Breakers

Instead of box terminals the circuit-breakers have 6 blade contacts and an additional safety tripping pin. This causes a leading make contact when a closed circuit-breaker responds preventing the circuit-breaker from closing before it is inserted into the socket.

Draw-out Circuit-Breakers

Draw-out circuit-breakers are available for 3VF6 and 3VF7. Draw-out circuit-breakers are not to be used with a motor driven mechanism.

Operating Mechanisms

Front Rotary Drives (Fig. 9)

These mechanisms are designed for direct attachment to the circuit-breakers and transform the toggle handle movement into a rotation (rotary drive with knob).

Engaging leading auxiliary switches on front rotary drive units (Fig. 7)

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

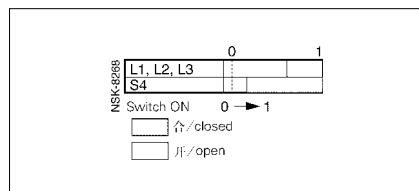


图 7 旋转驱动机构中的超前动作辅助开关 S4

Fig. 7 Leading auxiliary switches on front rotary drive

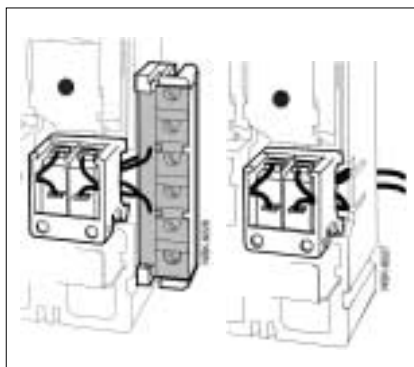


图 8 辅助脱扣器, 辅助开关—带接线盒的连接方式(左)
带连接线的连接方式(右)

Fig. 8 Auxiliary release, Auxiliary switches - Connector with terminal strips (left)
Connector with connecting cables (right)



图 10 3VF4 门耦合旋转驱动机构

Fig. 10 Door coupling rotary drive for 3VF4

门耦合旋转驱动机构(图 10) (整套机构)

如果断路器装于开关柜内, 可选用该机构, 操作手柄安装于柜门上。旋转手柄上同样有开关状态指示和复位指示。

Door coupling rotary Drives (Fig. 10) (complete mechanisms)

If the circuit-breakers are to be installed in switchgear cubicles and distribution boards, door coupling drives of the 8UC6 range are available for doors or removable covers. These mechanisms are supplied as complete sets, including articulated-shaft mechanism.

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



图 9 3VF6 正面直接旋转驱动机构
Fig. 9 Front Rotary Drive for 3VF6



图 11 3VF4 电动机操作机构

Fig. 11 Motorized Operating Mechanism for 3VF4

电动机操作机构

3VF3至3VF8断路器可配电动机操作机构用作远距离合闸和分闸操作。

同步电动机操作机构

该机构用于快速合闸($t_e < 80\text{ms}$)及远距离正常分闸。

随同步电动机操作机构和线圈操作机构一起提供挂锁锁定装置。

所有远距离操作机构都可就地手动操作。

Motor-Driven Mechanisms

The 3VF3 to 3VF8 circuit-breakers can be equipped with motorized operating mechanisms for remote in-service closing and opening.

Synchronizable Motor-Driven Mechanisms

Solenoid operating mechanisms are available for synchronizable high-speed closing ($t_e < 80\text{ms}$) as well as for normal remote opening. synchronizable motorized operating mechanisms and solenoid operating mechanisms are always supplied with a locking device for padlocks. This device can be used for electrical and mechanical blocking of the operating mechanism. All remote operating mechanisms are equipped with a manual actuator for local operation.

3VF 断路器

3VF Circuit-Breakers

描述

Description

辅助脱扣器和辅助开关

欠电压脱扣器，超前动作辅助开关

只有在欠电压脱扣器已通电以后，断路器才能合闸。应避免欠电压脱扣器没有通电而频繁地使用断路器空合闸，因为这样会缩短断路器的寿命。对于带超前动作辅助开关的断路器，欠电压脱扣器可提前得电，使断路器合闸准备就绪。

超前动作辅助开关可随正面旋转机构和门耦合旋转机构一起供货。

欠电压脱扣器的延时机构

当出现电压临时降低时，采用该延时机构可防止断路器分闸。

采用该延时机构时，欠电压脱扣器的工作电压应设定在 DC。

分励脱扣器

分励脱扣器（f—脱扣器）用于远距离使断路器分闸。

分励脱扣器的线圈为短时工作制。这意味着具有持续信号的互锁电路不能采用分励脱扣器。

辅助开关

辅助开关用于信号发送和控制之用。其各种功能见右下图。

报警开关

报警开关只有在短路、过电流引起断路器脱扣时才动作，由分励脱扣器或欠电压脱扣器引起的脱扣也会使其动作。

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 operations should be avoided as they shorten the endurance of the circuit-breaker.

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

With the 3VF circuit-breakers, the leading auxiliary switch can be supplied together with the front rotary and complete drives. For further details, see Accessories.

Delay Mechanism for Undervoltage Releases

Undervoltage releases can be fitted with a delay to prevent release of the circuit-breaker during temporary power cuts and voltage decreases. When selecting a circuit-breaker with a delayed undervoltage release, it is important that the undervoltage release is set to DC.

Shunt trips

The shunt trip (f-release) is used for remote tripping.

The coil of the shunt trip is dimensioned only for short-time operation.

It is not permissible, with the circuit-breaker open, to apply a continuous opening command to the shunt trip in order to prevent the breaker from closing.

This means that interlocking circuits with continuous commands may not be set up with shunt trips.

3 极断路器 3-pole circuit-breaker		4 极断路器 4-pole circuit-breaker	
	1 HS		1 HS
	2 HS		2 HS
	1 AS		1 AS
	1 AS + 1 HS		1 AS 1 HS
2 AS	1 HS	2 AS	1 HS
1 AS	2 HS	1 AS	2 HS
2 AS	2 HS	2 AS	2 HS
—	4 HS 4 HS 4 HS	—	4 HS 4 HS 4 HS
—	2AS 2AS 2AS	—	2AS 2AS 2AS
电动机保护型 3VF3 3VF3 for motor protection			
	1 HS ¹⁾		
1 HS	—		
2 HS	—		
1 AS	—		
1 AS + 1 HS	—		
2 AS	—		

分励脱扣器或欠电压脱扣器或DI模块
Shunt trip or undervoltage release or DI module

HS 辅助开关
Auxiliary switch

AS 报警开关
Alarm switch

● 仅用于 3VF8 断路器
For 3VF8 circuit-breakers only

NSK-5721c

带辅助和报警开关的 3VF3 至 3VF6 断路器的可能配置

Possible 3VF3 to 3VF6 circuit-breaker complements with auxiliary and alarm switches

扳动手柄(或旋转手柄)的位置 Position of the toggle handle drive (equivalently applicable for rotary drives)	3VF2 辅助开关的位置 ²⁾³⁾ Position of the auxiliary switch ²⁾³⁾	3VF2 报警开关的位置 Position of the alarm switch	3VF3 至 3VF8 辅助开关的位置 ²⁾³⁾ Position of the auxiliary switch ²⁾³⁾	3VF3 至 3VF8 报警开关的位置 ²⁾ Position of the alarm switch ²⁾	3VF3 至 3VF8 超前动作辅助开关的位置 ⁴⁾ Position of the ON leading auxiliary switch ⁴⁾
	3VF2	3VF2	3VF3 to 3VF8	3VF3 to 3VF8	3VF3 to 3VF8

辅助和报警开关与断路器开关状态的关系

Contact-making by the auxiliary and alarm switches as a function of the switching position of the circuit-breaker.

Auxiliary switches

Auxiliary switches are used for signalling and control purposes. The various functions of the auxiliary switches (1 changeover contact) are shown in the table above.

Alarm switches

Alarm switches operate when the circuit-breaker is tripped by a short-circuit or overcurrent, but also when it is tripped by a shunt trip or undervoltage release.

1) 只包含在 3VF3...—...—..F1 中

2) 括号中的数字指第二个辅助开关块

3) 辅助开关的端部标号见第 55 页接线图

4) 包括在旋转驱动机构中

1) Only available on 3VF3 ... — ... —..F1

2) Readings in brackets only apply to the second switch block

3) Terminal markings for the 3rd and 4th auxiliary switches, see wiring diagram on page 55.

4) Integrated in the rotary drives

3VF2 断路器, 3 极和 4 极, 至 100A
3VF2 Circuit-Breakers, 3 and 4-pole, up to 100A

选型和订货参数					Selection and ordering data	
固定安装式断路器 /Fixed-mounted Circuit-Breakers						
额定极限短路分断能力 I_{cu} Rated ultimate short-circuit breaking capacity I_{cu}		至 240 V		kA	65	
		up to 240 V				
		至 415 V		kA	18	
		up to 415 V				
额定运行短路分断能力 I_{cs} Rated service short-circuit breaking capacity I_{cs}		至 240 V		kA	33	
		up to 240 V				
		至 415 V		kA	9	
		up to 415 V				
额定短路接通能力 I_{cm} Rated short-circuit making capacity I_{cm}		至 240 V		kA	143	
		up to 240 V				
		至 415 V		kA	38	
		up to 415 V				
					3 极 /3-pole	4 极 /4-pole
	额定电流 Rated current I_n A	过载反时限脱扣 器的整定电流值 “ a ” Setting current of the inverse- time delayed overcurrent release “a” I_r A	短路瞬时脱扣器 的整定电 流值 “ n ” Operating current of the instantaneous short-circuit release “n” I_i A	订货号 /Order No.	订货号 /Order No.	
线路保护型断路器 /Circuit-breakers for line protection						
				具有固定式热过载脱扣器 With fixed-setting thermal overcurrent releases	具有固定式热过载脱扣器, 第 4 极带有热过载和短路脱扣器 With fixed-setting thermal overcurrent releases, with overload and short-circuit releases in the 4th pole	
	16	16	350	3VF22 13-0FC41-0AA0	3VF22 14-0JC41-0AA0	
	20	20	450	3VF22 13-0FD41-0AA0	3VF22 14-0JD41-0AA0	
	25	25	500	3VF22 13-0FE41-0AA0	3VF22 14-0JE41-0AA0	
	32	32	600	3VF22 13-0FG41-0AA0	3VF22 14-0JG41-0AA0	
	40	40	750	3VF22 13-0FJ41-0AA0	3VF22 14-0JJ41-0AA0	
	45	45	750	3VF22 13-0FK41-0AA0	3VF22 14-0JK41-0AA0	
	50	50	800	3VF22 13-0FL41-0AA0	3VF22 14-0JL41-0AA0	
	63	63	800	3VF22 13-0FN41-0AA0	3VF22 14-0JN41-0AA0	
	70	70	900	3VF22 13-0FP41-0AA0	3VF22 14-0JP41-0AA0	
	80	80	900	3VF22 13-0FQ41-0AA0	3VF22 14-0JQ41-0AA0	
	90	90	1000	3VF22 13-0FR41-0AA0	3VF22 14-0JR41-0AA0	
	100	100	1000	3VF22 13-0FS41-0AA0	3VF22 14-0JS41-0AA0	

3VF2 断路器, 3 极和 4 极, 至 100A

3VF2 Circuit-Breakers, 3 and 4-pole, up to 100A

附件		Accessories
辅助脱扣器和辅助 / 报警开关, 见下列附件 / Auxiliary releases and auxiliary/alarm switches, see accessories below.		
		订货号 / Order No.
操作机构 / Operating mechanisms		
正面旋转驱动机构 / Front rotary drive		
直接安装在断路器上, 防护等级 IP 30, 黑色手柄, 最多可用 3 把挂锁锁定 For attaching to the circuit-breaker, degree of protection IP 30, black knob, Lockable with max. 3 padlocks		3VF9 223-1AA00
紧停型(红色手柄, 黄色指示面板) EMERGENCY STOP VERSION (red knob, yellow indicator plate)		3VF9 223-1BA00
驱动机构, 带驱动轴, 无旋转手柄 Version with shaft stub, without knob		3VF9 223-1JA00
门耦合旋转操作手柄 / Door-coupling rotary drive		
标准型, 黑色手柄 Standard version, black		8UC61 12-1BD22
紧停型, 红色手柄 / 黄色面板 EMERGENCY STOP version, red/yellow.		8UC61 22-3BD22
接线端子, 罩盖 / Terminals, covers		
背后接线端子 / Rear terminal		
带罩盖, 用于 45-100A cover, for 45-100A,		1 套 = 3 件(用于 3 极) 1 set = 3 items (for 3-pole)
		1 套 = 4 件(用于 4 极) 1 set = 4 items (for 4-pole)
		3VF9 224-1LD10
		3VF9 224-1LD20
端子罩盖, 用于 3 极断路器 / Terminal covers, for 3-pole circuit-breakers 用于主回路, 电缆接线, 1 套 = 2 件 for main connection, cable connection, 1 set = 2 items		3VF9 224-1NB10
端子罩盖, 用于 4 极断路器 / Terminal covers, for 4-pole circuit-breakers 用于主回路, 电缆接线, 1 套 = 2 件 for main connection, cable connection, 1 set = 2 items		3VF9 224-1NB20
45mm 罩盖 / Cover with 45 mm cap dimension 用于配电盘, 3 极断路器, 1 套 = 1 件 for distribution boards, for 3-pole circuit-breakers, 1 set = 1 item		3VF9 220-1CA10
45mm 罩盖 / Cover with 45 mm cap dimension 用于配电盘, 4 极断路器, 1 套 = 1 件 for distribution boards, for 4-pole circuit-breakers, 1 set = 1 item		3VF9 220-1CA20
断路器柜门开孔防护框 / Cover for door cutout for circuit-breakers 1 套 = 1 件 1 set = 1 item		3VF9 220-1AA00
辅助脱扣器 ¹⁾ / Auxiliary releases ¹⁾		
分励脱扣器 Shunt release		
AC 50/60 Hz		DC
-		12 V
-		24 V
-		48 V
-		110-125 V
110-127 V		-
220-240 V		-
380-415 V		-
		3VF9 221-1JC10 3VF9 221-1JD10 3VF9 221-1JH10 3VF9 221-1JL10
		3VF9 221-1JP10 3VF9 221-1JM10 3VF9 221-1JV10
辅助开关和报警开关 ¹⁾ / Auxiliary switches and alarm switches ¹⁾		
脱扣信号发送 / 报警开关 / Tripped-signalling/alarm switch 1CO		3VF9 222-1AC10
辅助开关 / Auxiliary switch 1CO 2CO		3VF9 222-1BC10 3VF9 222-1CC10
辅助开关 / 报警开关组合 / Auxiliary switches/alarm switches combination 1CO/1CO		3VF9 222-1DC10

1) 只能在每台 3VF2 断路器左侧安装一个附件。

1) Only one accessory can be fitted to each 3VF2 circuit-breaker, on the left side.

3VF3 断路器, 3 极和 4 极, 至 160A, I_{cu} 25kA
3VF3 Circuit-Breakers, 3 and 4-pole, up to 160A, I_{cu} 25kA

选型和订货参数					Selection and ordering data	
固定安装式断路器 / Fixed-mounted Circuit-Breakers						
额定极限短路分断能力 I_{cu} Rated ultimate short-circuit breaking capacity I_{cu}		至 240 V		kA	40	
		up to 240 V				
		至 415 V		kA	25	
		up to 415 V				
额定运行短路分断能力 I_{cs} Rated service short-circuit breaking capacity I_{cs}		至 240 V		kA	40	
		up to 240 V				
		至 415 V		kA	25	
		up to 415 V				
额定短路接通能力 I_{cm} Rated short-circuit making capacity I_{cm}		至 240 V		kA	84	
		up to 240 V				
		至 415 V		kA	52	
		up to 415 V				
					3 极 /3-pole	4 极 /4-pole
	额定电流 Rated current I_n A	过载反时限脱扣器 的整定电流值 “ a ” Setting current of the inverse- time delayed overcurrent release "a" I_r A	短路瞬时脱扣器 的整定电 流 值 “ n ” Operating current of the instantaneous short-circuit release "n" I_i A	订货号 /Order No.	订货号 /Order No.	
线路保护型断路器 / Circuit-breakers for line protection						
				具有固定式热过载脱扣器 With fixed-setting thermal overcurrent releases	具有固定式热过载脱扣器，第 4 极带有热过载和短路脱扣器 With fixed-setting thermal overcurrent releases with overload and short-circuit releases in the 4th pole	
	16	16	400	3VF31 13-0FC41-0AA0	3VF31 14-0JC41-0AA0 ¹⁾	
	20	20	400	3VF31 13-0FD41-0AA0	3VF31 14-0JD41-0AA0 ¹⁾	
	25	25	400	3VF31 13-0FE41-0AA0	3VF31 14-0JE41-0AA0 ¹⁾	
	32	32	400	3VF31 13-0FG41-0AA0	3VF31 14-0JG41-0AA0 ¹⁾	
	40	40	400	3VF31 13-0FJ41-0AA0	3VF31 14-0JJ41-0AA0 ¹⁾	
	50	50	400	3VF31 11-0FL41-0AA0	3VF31 12-0JL41-0AA0 ¹⁾	
	63	63	500	3VF31 11-0FN41-0AA0	3VF31 12-0JN41-0AA0 ¹⁾	
	80	80	630	3VF31 11-0FQ41-0AA0	3VF31 12-0JQ41-0AA0 ¹⁾	
	100	100	800	3VF31 11-0FS41-0AA0	3VF31 12-0JS41-0AA0 ¹⁾	
	125	125	1000	3VF32 11-0FU41-0AA0	3VF32 12-0JU41-0AA0 ²⁾	
	160	160	1280	3VF32 11-0FW41-0AA0	3VF32 12-0JW41-0AA0 ²⁾	

附件见第 24 页 /Accessories, see Page 24

辅助脱扣器和辅助开关 / 报警开关由用户安装。/Auxiliary releases and auxiliary/alarm switches can be retrofitted by the user only.



图 12 3VF2 断路器
Fig. 12 3VF2 circuit-breaker



图 13 3VF3 断路器
Fig. 13 3VF3 circuit-breaker

1) N = 100%
2) N = 60%

3VF3 至 3VF78 断路器, 3 极, 至 2500A 3VF3 to 3VF8 Circuit-Breakers, 3-pole, up to 2500A

选型和订货参数

 3VF5 固定安装式断路器 Fixed-mounted 3VF5 circuit-breaker  3VF5 插入式断路器和安装底板 (安装底板见第 32 页) 3VF5 Plug-in circuit-breaker with pin base (pin base, see page 32)								
型号 Type		额定 电流 Rated current I_n	过载反时限脱 扣器的整定电 流值 “a” Setting current of inverse-time overload release “a” I_r	短路短延时脱 扣器的整定电 流值 “z” Response current of short-time- delayed short-circuit release “z” I_d	短路短延时脱 扣器的动作时 间 “z” Response time of short- time-delayed short-circuit release “z” t_d	短路瞬时脱扣 器的整定电流 值 “n” Response current of instantaneous short-circuit release “n” I_i	标准分断能力 40/45/50kA (AC 380/415V 时) Standard switching capacity 40/45/50 kA at AC 380/415 V	
		A	A 	A 	ms 	A 	固定安装式断路器 Fixed mounted circuit-breakers	插入式断路器 Plug-in circuit-breakers 插入式底板需另外订货, 见第 32 页 / Plug-in socket required, see page 32
订货号 / Order No. 订货号后缀请见第 22 和 23 页 Order No. supplements, see pages 22 and 23								
线路保护型断路器 / Circuit-breakers for line protection								
带固定式热过载脱扣器; 在 I_n 至 40A 时: U_{emax} 为 AC 415V/Circuit-breakers with fixed setting thermal overload releases at I_n to 40 A: U_{emax} AC 415 V								
3VF3		16	16	-	-	400	3VF31 13-1FC41-....	3VF31 13-1FC47-....
		20	20	-	-	400	-1FD41-....	-1FD47-....
		25	25	-	-	400	-1FE41-....	-1FE47-....
		32	32	-	-	400	-1FG41-....	-1FG47-....
		40	40	-	-	400	-1FJ41-....	-1FJ47-....
		50	50	-	-	400	3VF31 11-1FL41-....	3VF31 11-1FL47-....
		63	63	-	-	500	-1FN41-....	-1FN47-....
		80	80	-	-	630	-1FQ41-....	-1FQ47-....
		100	100	-	-	800	-1FS41-....	-1FS47-....
		125	125	-	-	1000	3VF32 11-1FU41-....	3VF32 11-1FU47-....
3VF4		160	160	-	-	1280	-1FW41-....	-1FW47-....
		200	200	-	-	2400	3VF33 11-1FX41-....	3VF33 11-1FX47-....
		250	250	-	-	2400	-1FY41-....	-1FY47-....
		125	125	-	-	625-1250	3VF42 11-1DF41-....	3VF42 11-1DF47-....
		160	160	-	-	800-1600	-1DH41-....	-1DH47-....
		200	200	-	-	1000-2000	-1DK41-....	-1DK47-....
		250	250	-	-	1250-2500	-1DM41-....	-1DM47-....
		200	200	-	-	1000-2000	3VF52 11-1DF41-....	3VF52 11-1DF47-....
		250	250	-	-	1250-2500	-1DH41-....	-1DH47-....
		315	315	-	-	1575-3150	-1DK41-....	-1DK47-....
3VF5		400	400	-	-	2000-4000	-1DM41-....	-1DM47-....
		315	315	-	-	1575-3150	3VF62 11-1DF44-.... ¹⁾	3VF62 11-1DF47-....
		400	400	-	-	2000-4000	-1DH44-.... ¹⁾	-1DH47-....
		500	500	-	-	2500-5000	-1DK44-.... ¹⁾	-1DK47-....
		630	630	-	-	3150-6300	-1DM44-.... ¹⁾	-1DM47-....
		800	800	-	-	3200-6400	-	-

1) 随 3VF6 断路器一起提供的正向母排连接件, 由用户自行安装

1) Front busbar connection pieces supplied are fitted by the user

3VF3 至 3VF78 断路器, 3 极, 至 2500A
3VF3 to 3VF8 Circuit-Breakers, 3-pole, up to 2500A

Selection and ordering data



3VF6 断路器, 已安装正向母排连接件
3VF6 circuit-breaker with front
busbar connection pieces



3VF7 断路器, 母排连接件需另外单独订货
3VF7 circuit-breaker, busbar connection
pieces must be ordered separately

高分断能力 70kA (AC 380/415V 时) High switching capacity 70kA at AC 380/415		极高分断能力 100kA (AC 380/415V 时) Very high breaking capacity 100kA at AC 380/415V		重量约 Approx weight
固定安装式断路器 Fixed mounted circuit-breakers	插入式断路器 Plug-in circuit-breakers 插入式底板需另外订货, 见第 32 页 / Plug-in socket required, see page 32	固定安装式断路器 Fixed mounted circuit-breakers	插入式断路器 Plug-in circuit-breakers 插入式底板需另外订货, 见第 32 页 / Plug-in socket required, see page 32	kg
订货号 / Order No. 订货号后缀请见第 22 和 23 页 Order No. supplements, see pages 22 and 23	订货号 / Order No. 订货号后缀请见第 22 和 23 页 Order No. supplements, see pages 22 and 23	订货号 / Order No. 订货号后缀请见第 22 和 23 页 Order No. supplements, see pages 22 and 23	订货号 / Order No. 订货号后缀请见第 22 和 23 页 Order No. supplements, see pages 22 and 23	
3VF31 13-2FC41-.... -2FD41-.... -2FE41-.... -2FG41-.... -2FJ41-....	3VF31 13-2FC47-.... -2FD47-.... -2FE47-.... -2FG47-.... -2FJ47-....	- - - 3VF31 13-3FG41-.... -3FJ41-....	- - - 3VF31 13-3FG47-.... -3FJ47-....	2.3
3VF31 11-2FL41-.... -2FN41-.... -2FQ41-.... -2FS41-.... 3VF32 11-2FU41-.... -2FW41-.... 3VF33 11-2FX41-.... -2FY41-....	3VF31 11-2FL47-.... -2FN47-.... -2FQ47-.... -2FS47-.... 3VF32 11-2FU47-.... -2FW47-.... 3VF33 11-2FX47-.... -2FY47-....	3VF31 11-3FL41-.... -3FN41-.... -3FQ41-.... -3FS41-.... 3VF32 11-3FU41-.... -3FW41-.... 3VF33 11-3FX41-.... -3FY41-....	3VF31 11-3FL47-.... -3FN47-.... -3FQ47-.... -3FS47-.... 3VF32 11-3FU47-.... -3FW47-.... 3VF33 11-3FX47-.... -3FY47-....	2.3
3VF42 11-2DF41-.... -2DH41-.... -2DK41-.... -2DM41-....	3VF42 11-2DF47-.... -2DH47-.... -2DK47-.... -2DM47-....	3VF42 11-3DF41-.... -3DH41-.... -3DK41-.... -3DM41-....	3VF42 11-3DF47-.... -3DH47-.... -3DK47-.... -3DM47-....	4.2
3VF52 11-2DF41-.... -2DH41-.... -2DK41-.... -2DM41-....	3VF52 11-2DF47-.... -2DH47-.... -2DK47-.... -2DM47-....	3VF52 11-3DF41-.... -3DH41-.... -3DK41-.... -3DM41-....	3VF52 11-3DF47-.... -3DH47-.... -3DK47-.... -3DM47-....	5.5
3VF62 11-2DF44-.... ¹⁾ -2DH44-.... ¹⁾ -2DK44-.... ¹⁾ -2DM44-.... ¹⁾ 3VF63 11-2DQ44-.... ^{1) 2)}	3VF62 11-2DF47-.... -2DH47-.... -2DK47-.... -2DM47-....	3VF62 11-3DF44-.... ¹⁾ -3DH44-.... ¹⁾ -3DK44-.... ¹⁾ -3DM44-.... ¹⁾	3VF62 11-3DF47-.... -3DH47-.... -3DK47-.... -3DM47-....	8.4 (at 40 kA and 65 kA) 9.5 (to 100 kA)

3VF3 至 3VF78 断路器, 3 极, 至 2500A

3VF3 to 3VF8 Circuit-Breakers, 3-pole, up to 2500A

选型和订货参数

 3VF5 固定安装式断路器 Fixed-mounted 3VF5 circuit-breaker  3VF5 插入式断路器和安装底板 (安装底板见第 32 页) 3VF5 Plug-in circuit-breaker with pin base (pin base, see page 32)								
型号 Type		额定 电流 Rated current I_n	过载反时限脱 扣器的整定电 流值 “a” Setting current of inverse-time overload release “a” I_r	短路短延时脱 扣器的整定电 流值 “z” Response current of short-time- delayed short-circuit release “z” I_d	短路短延时脱 扣器的动作时 间 “z” Response time of short- time-delayed short-circuit release “z” t_d	短路瞬时脱扣 器的整定电 流值 “n” Response current of instantaneous short-circuit release “n” I_i	标准分断能力 40/45/50kA (AC 380/415V 时) Standard switching capacity 40/45/50 kA at AC 380/415 V	
		A	A 	A 	ms 	A 	固定安装式断路器 Fixed mounted circuit-breakers	插入式断路器 Plug-in circuit-breakers 插入式底板需另外订货, 见第 32 页 / Plug-in socket required, see page 32
							订货号 / Order No. 订货号后级请见第 22 和 23 页 Order No. supplements, see pages 22 and 23	订货号 / Order No. 订货号后级请见第 22 和 23 页 Order No. supplements, see pages 22 and 23
带可调节热过载脱扣器 / Circuit-breakers with adjustable thermal overload releases								
3VF3		50 63 80 100 125 160 200	40-50 50-63 63-80 80-100 100-125 125-160 160-200	-	-	300-500 315-630 400-800 500-1000 625-1250 800-1600 1000-2000	3VF31 11-1BL41-.... -1BN41-.... -1BQ41-.... -1BS41-.... 3VF32 11-1BU41-.... -1BW41-.... 3VF33 11-1BX41-....	3VF31 11-1BL47-.... -1BN47-.... -1BQ47-.... -1BS47-.... 3VF32 11-1BU47-.... -1BW47-.... 3VF33 11-1BX47-....
3VF4		125 160 200 250	100-125 125-160 160-200 200-250	-	-	625-1250 800-1600 1000-2000 1250-2500	3VF42 11-1BF41-.... -1BH41-.... -1BK41-.... -1BM41-....	3VF42 11-1BF47-.... -1BH47-.... -1BK47-.... -1BM47-....
3VF5		200 250 315 400 400	160-200 200-250 250-315 315-400 200, 250, 315, 400	-	-	1000-2000 1250-2500 1575-3150 2000-4000 4000	3VF52 11-1BF41-.... -1BH41-.... -1BK41-.... -1BM41-.... -1BM61-....	3VF52 11-1BF47-.... -1BH47-.... -1BK47-.... -1BM47-.... -1BM67-....
3VF6		315 400 500 630 630	250-315 315-400 400-500 500-630 315, 400, 500, 630	-	-	1575-3150 2000-4000 2500-5000 3150-6300 5500	3VF62 11-1BF44-.... ¹⁾ -1BH44-.... ¹⁾ -1BK44-.... ¹⁾ -1BM44-.... ¹⁾ -1BM64-.... ¹⁾	3VF62 11-1BF47-.... -1BH47-.... -1BK47-.... -1BM47-.... -1BM67-....
3VF7		800 1250	400, 500, 630, 800 630, 800, 1000, 1250	$2 \text{ to } 8 \times I_r$ $2 \text{ to } 8 \times I_r$	0 to 300 0 to 300	15000 15000	3VF71 11-1BK60-.... ²⁾ 3VF72 11-1BM60-.... ²⁾	3VF71 11-1BK67-.... 3VF72 11-1BM67-....
3VF8		1600 2000 2500	800, 1000, 1250, 1600 1000, 1250, 1600, 2000 1600, 1800, 2000, 2500	$2 \text{ to } 8 \times I_r$ $2 \text{ to } 8 \times I_r$ $2 \text{ to } 8 \times I_r$	0 to 300 0 to 300 0 to 300	20000 20000 20000	-	-

1) 随 3VF6 断路器一起提供的正向母排连接件, 由用户自行安装

2) 母排连接件或多路进线端子需另外单独订货(见附件)

3) 随断路器提供背后母排连接件, 必须垂直安装

1) Front busbar connection pieces supplied are fitted by the user

2) Busbar connection pieces or multiple feed-in terminals must be ordered separately (see Accessories)

3) Rear busbar connection pieces supplied should be mounted vertically

3VF3 至 3VF8 断路器, 3 极和 4 极, 至 1250A
3VF3 to 3VF8 Circuit-Breakers, 3 and 4-pole, up to 1250A

Selection and ordering data



3VF6断路器, 已安装正向母排连接件
3VF6 circuit-breaker with front
busbar connection pieces



高分断能力 70kA (AC 380/415V 时) High switching capacity 70 kA at AC 380/415		极高分断能力 100kA (AC 380/415V 时) Very high breaking capacity 100 kA at AC 380/415 V		重量约 Approx weight
固定安装式断路器 Fixed mounted circuit-breakers	插入式断路器 Plug-in circuit-breakers 插入式底板需另外订货, 见第32页 / Plug-in socket required, see page 32	固定安装式断路器 Fixed mounted circuit-breakers	插入式断路器 Plug-in circuit-breakers 插入式底板需另外订货, 见第32页 / Plug-in socket required, see page 32	kg
订货号 / Order No. 订货号后缀请见第22和23页 Order No. supplements, see pages 22 and 23	订货号 / Order No. 订货号后缀请见第22和23页 Order No. supplements, see pages 22 and 23	订货号 / Order No. 订货号后缀请见第22和23页 Order No. supplements, see pages 22 and 23	订货号 / Order No. 订货号后缀请见第22和23页 Order No. supplements, see pages 22 and 23	
3VF31 11 -2BL41-.... -2BN41-.... -2BQ41-.... -2BS41-....	3VF31 11 -2BL47-.... -2BN47-.... -2BQ47-.... -2BS47-....	3VF31 11 -3BL41-.... -3BN41-.... -3BQ41-.... -3BS41-....	3VF31 11 -3BL47-.... -3BN47-.... -3BQ47-.... -3BS47-....	2.3
3VF32 11 -2BU41-.... -2BW41-....	3VF32 11 -2BU47-.... -2BW47-....	3VF32 11 -3BU41-.... -3BW41-....	3VF32 11 -3BU47-.... -3BW47-....	4.2
3VF33 11 -2BX41-....	3VF33 11 -2BX47-....	3VF33 11 -3BX41-....	3VF33 11 -3BX47-....	
3VF42 11 -2BF41-.... -2BH41-.... -2BK41-.... -2BM41-....	3VF42 11 -2BF47-.... -2BH47-.... -2BK47-.... -2BM47-....	3VF42 11 -3BF41-.... -3BH41-.... -3BK41-.... -3BM41-....	3VF42 11 -3BF47-.... -3BH47-.... -3BK47-.... -3BM47-....	5.5
3VF52 11 -2BF41-.... -2BH41-.... -2BK41-.... -2BM41-.... -2BM61-....	3VF52 11 -2BF47-.... -2BH47-.... -2BK47-.... -2BM47-.... -2BM67-....	3VF52 11 -3BF41-.... -3BH41-.... -3BK41-.... -3BM41-.... -3BM61-....	3VF52 11 -3BF47-.... ¹⁾ -3BH47-.... ¹⁾ -3BK47-.... ¹⁾ -3BM47-.... ¹⁾ -3BM67-....	
3VF62 11 -2BF44-.... ¹⁾ -2BH44-.... ¹⁾ -2BK44-.... ¹⁾ -2BM44-.... ¹⁾ -2BM64-.... ¹⁾	3VF62 11 -2BF47-.... -2BH47-.... -2BK47-.... -2BM47-.... -2BM67-....	3VF62 11 -3BF44-.... ¹⁾ -3BH44-.... ¹⁾ -3BK44-.... ¹⁾ -3BM44-.... ¹⁾ -3BM64-.... ¹⁾	3VF62 11 -3BF47-.... -3BH47-.... -3BK47-.... -3BM47-.... -3BM67-....	8.4 at 40 kA and 65 kA 9.5 to 100 kA
3VF71 11 -2BK60-.... ²⁾ 3VF72 11 -2BM60-.... ²⁾	3VF71 11 -2BK67-.... 3VF72 11 -2BM67-....	3VF71 11 -3BK60-.... ²⁾ 3VF72 11 -3BM60-.... ²⁾	3VF71 11 -3BK67-.... 3VF72 11 -3BM67-....	19.6
3VF82 11 -2BM60-.... ²⁾ 3VF83 11 -2BM60-.... ²⁾ 3VF84 11 -2BM64-.... ³⁾	-	3VF82 11 -3BM60-.... ²⁾ 3VF83 11 -3BM60-.... ²⁾ 3VF84 11 -3BM64-.... ³⁾	-	49 50

3VF3 至 3VF8 断路器, 3 极, 至 2000A
3VF3 to 3VF8 Circuit-Breakers, 3-pole, up to 2000A

选型和订货参数										
型号 Type		额定 电流 Rated current I_n	被保护三相电 动机的额定输 出功率 Rated output of 3-phase motors ¹⁾ to be protected at 50 Hz 380/ 500 V 415 V up to kW		过载反时限脱 扣器的整定电 流值 “a” Setting current of the inverse-time overload release “a” I_r	短路瞬时脱扣 器的整定电 流值 “n” Response current of instantaneous short-circuit release “n” I_i	脱扣类别 Trip class T_c	标准分断能力 40/50kA (AC 380/415V 时) Standard switching capacity 40/50 kA at AC 380/415 V 固定安装式断路器 Fixed mounted circuit-breakers 插入式断路器 Plug-in circuit-breakers 插入式底板需另外订货, 见第 32 页 / Plug-in socket required, see page 32 订货号 /Order No. 订货号后缀请见第 22 和 23 页 Order No. supplements, see pages 22 and 23		
		A	up to kW		A 	A 				
电动机保护型断路器 / Circuit-breakers for motor protection ²⁾										
脱扣类别不可调, 无断相检测功能 /without adjustable trip class, without phase-failure sensitivity										
3VF3		80 100 160 205	37 45 75 110	55 55 110 132	40-80 80-100 100-160 160-205	$15 \times I_r$ $15 \times I_r$ $15 \times I_r$ $15 \times I_r$	10 10 10 10	3VF31 11-5DN71-.... -5DQ71-.... 3VF32 11-5DS71-.... 3VF33 11-5DU71-....	3VF31 11-5DN77-.... -5DQ77-.... 3VF32 11-5DS77-.... 3VF33 11-5DU77-....	
3VF5		315	160	200	160-315	$15 \times I_r$	20	3VF51 11-5DL71-....	3VF51 11-5DL77-....	
3VF6		500	250	355	250-500	$15 \times I_r$	20	3VF61 11-5DL74-.... ³⁾	3VF61 11-5DL77-....	
脱扣类别可调, 带断相检测功能 /with adjustable trip class, with phase-failure sensitivity										
3VF3		80 100 160 205	37 45 75 110	55 55 110 132	40-80 80-100 100-160 160-205	$15 \times I_r$ $15 \times I_r$ $15 \times I_r$ $15 \times I_r$	5/10/15/20 5/10/15/20 5/10/15/20 10	3VF31 11-5EN71-.... -5EQ71-.... 3VF32 11-5ES71-.... 3VF33 11-5FU71-....	3VF31 11-5EN77-.... -5EQ77-.... 3VF32 11-5ES77-.... 3VF33 11-5FU77-....	
3VF5		315	160	200	160-315	$15 \times I_r$	10/15/20/30	3VF51 11-5EL71-....	3VF51 11-5EL77-....	
3VF6		500	250	355	250-500	$15 \times I_r$	10/15/20/30	3VF61 11-5EL74-.... ³⁾	3VF61 11-5EL77-....	
起动机组合用断路器 / Circuit-breaker for starter combinations										
3VF3		to 63 to 100 to 160	30 45 75	37 55 110	-	500-1000 750-1500 1200-2400	-	-	-	
3VF4		to 125 to 160 to 200	55 75 90	75 110 132	-	1000-2000 1250-2500 1500-3000	-	-	-	
3VF5		to 200 to 250 to 315	90 110 160	132 160 200	-	1500-3000 1900-3800 2400-4800	-	-	-	
3VF6		to 315 to 400 to 500	160 200 250	200 250 355	-	2400-4800 3000-6000 3800-7500	-	-	-	
隔离型断路器 / Switch disconnecter with short-circuit protection										
3VF3		to 100 to 160	-	-	-	2400 2400	-	-	-	
3VF4		to 250	-	-	-	3000	-	3VF42 11-5BM31-....	3VF42 11-5BM37-....	
3VF5		to 400	-	-	-	4800	-	3VF52 11-5BM31-....	3VF52 11-5BM37-....	
3VF6		to 500 to 630	-	-	-	7500 7500	-	- 3VF62 11-5BM34-.... ³⁾	- 3VF62 11-5BM37-....	
3VF7		to 800 to 1250	-	-	-	15 000 15 000	-	3VF71 11-1BK30-.... ⁴⁾ 3VF72 11-1BM30-.... ⁴⁾	3VF71 11-1BK37-.... 3VF72 11-1BM37-....	
3VF8		to 1600 to 2000	-	-	-	20 000 20 000	-	-	-	

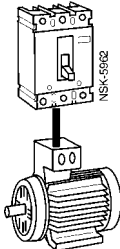
- 1) 标准 4 极电动机的推荐值、启动参数和电动机额定值是相关的
2) 用于变频器回路或平滑起动机时, 推荐采用线路保护型断路器

- 1) Recommended values for standard 4-pole motors. The start-up data and ratings for the motor are relevant
2) In connection with frequency converters or smooth starters, circuit-breakers for line protection are applicable

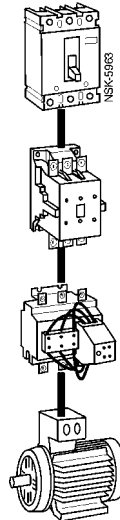
3VF3 至 3VF8 断路器, 3 极, 至 2000A
3VF3 to 3VF8 Circuit-Breakers, 3-pole, up to 2000A

Selection and ordering data

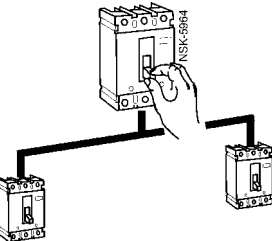
高分断能力 65/70kA (AC 380/415V 时) High switching capacity 65/70 kA at AC 380/415		重量约 Approx weight
固定安装式断路器 Fixed mounted circuit-breakers	插入式断路器 Plug-in circuit-breakers 插入式底板需另外订货, 见第 32 页 /Plug-in socket required, see page 32	
订货号 /Order No. 订货号后缀请见第 22 和 23 页 Order No. supplements, see pages 22 and 23	订货号 /Order No. 订货号后缀请见第 22 和 23 页 Order No. supplements, see pages 22 and 23	kg
3VF31 11 -6DN71-.... -6DQ71-.... 3VF32 11 -6DS71-.... 3VF33 11 -6DU71-....	3VF31 11 -6DN77-.... -6DQ77-.... 3VF32 11 -6DS77-.... 3VF33 11 -6DU77-....	2.2
3VF51 11 -6DL71-....	3VF51 11 -6DL77-....	4.8 at 40 kA 5.2 at 65 kA
3VF61 11 -6DL74-.... ³⁾	3VF61 11 -6DL77-....	10
3VF31 11 -6EN71-.... -6EQ71-.... 3VF32 11 -6ES71-.... 3VF33 11 -6FU71-....	3VF31 11 -6EN77-.... -6EQ77-.... 3VF32 11 -6ES77-.... 3VF33 11 -6FU77-....	2.2
3VF51 11 -6EL71-....	3VF51 11 -6EL77-....	4.8 at 40 kA 5.2 at 65 kA
3VF61 11 -6EL74-.... ³⁾	3VF61 11 -6EL77-....	10
3VF31 11 -6BS21-.... -6BU21-.... 3VF32 11 -6BW21-....	3VF31 11 -6BS27-.... -6BU27-.... 3VF32 11 -6BW27-....	2.0
3VF42 11 -6BH21-.... -6BK21-.... -6BM21-....	3VF42 11 -6BH27-.... -6BK27-.... -6BM27-....	4.2
3VF51 11 -6BH21-.... -6BK21-.... -6BM21-....	3VF51 11 -6BH27-.... -6BK27-.... -6BM27-....	4.8
3VF61 11 -6BH24-.... ³⁾ -6BK24-.... ³⁾ -6BM24-.... ³⁾	3VF61 11 -6BH27-.... -6BK27-.... -6BM27-....	9.5
3VF31 11 -6BS31-.... 3VF32 11 -6BW31-....	3VF31 11 -6BS37-.... 3VF32 11 -6BW37-....	2.0
3VF42 11 -6BM31-....	3VF42 11 -6BM37-....	4.2
3VF52 11 -6BM31-....	3VF52 11 -6BM37-....	4.8
3VF61 11 -6BK34-.... ³⁾ -	3VF61 11 -6BK37-.... -	9.5
3VF71 11 -2BK30-.... ⁴⁾ 3VF72 11 -2BM30-.... ⁴⁾	3VF71 11 -2BK37-.... 3VF72 11 -2BM37-....	19.6
3VF82 11 -2BM30-.... ⁴⁾ 3VF83 11 -2BM30-.... ⁴⁾	-	49 50



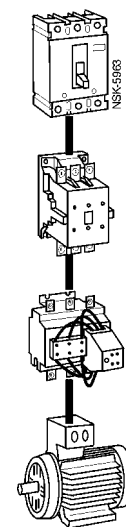
用于电动机保护的 3VF 断路器
3VF circuit-breaker for motor protection



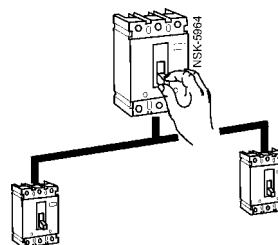
用于起动器组合的 3VF 断路器
3VF circuit-breaker for starter combinations



3VF 隔离型断路器
3VF non-automatic circuit-breaker



用于起动器组合的 3VF 断路器
3VF circuit-breaker for starter combinations



3VF 隔离型断路器
3VF non-automatic circuit-breaker

3) 随断路器提供正向母排连接件, 由用户自行安装
4) 母排连接件需另外单独订货(见附件)

3) Front busbar connection pieces are supplied and fitted by the user
4) Busbar connection pieces must be ordered separately

3VF3 至 3VF8 断路器, 4 极, 至 2500A
3VF3 to 3VF8 Circuit-Breakers, 4-pole, up to 2500A

选型和订货参数								
型号 Type		额定 电流 Rated current I_n	过载反时限脱 扣器的整定电 流值“a” Setting current of inverse-time overload release "a" I_r	短路短延时脱 扣器的整定电 流值“z” Response current of short-time- delayed short-circuit release "z" I_d	短路短延时脱 扣器的动作时 间“z” Response time of short- time-delayed short-circuit release "z" t_d	短路瞬时脱扣 器的整定电 流值“n” Response current of instantaneous short-circuit release "n" I_i	标准分断能力 40/45/50kA (AC 380/415V 时) Standard switching capacity 40/45/50kA at AC 380/415V 固定安装式断路器 Fixed mounted circuit-breakers 插入式断路器 Plug-in circuit-breakers 插入式底板需另外订货, 见第 32 页 / Plug-in socket required, see page 32	
		A	A 	A 	ms 	A 	订货号 / Order No. 订货号后请见第 22 和 23 页 Order No. supplements, see pages 22 and 23	订货号 / Order No. 订货号后请见第 22 和 23 页 Order No. supplements, see pages 22 and 23
线路保护型断路器 / Circuit-breakers for line protection								
第 4 极(N 线)无过载和短路保护脱扣器; I_n 至 40A 时的 U_{emax} 为 AC415V without overload and short-circuit releases in the 4th pole (N); at I_n up to 40 A: U_{emax} AC 415 V								
3VF3		16 20 25 32 40	16 20 25 32 40	-	-	400 400 400 400 400	3VF31 14-1RC41-.... -1RD41-.... -1RE41-.... -1RG41-.... -1RJ41-....	3VF31 14-1RC47-.... -1RD47-.... -1RE47-.... -1RG47-.... -1RJ47-....
		50 63 80 100 125 160 200 225	40-50 50-63 63-80 80-100 100-125 125-160 160-200 225	-	-	300-500 315-630 400-800 500-1000 630-1250 800-1600 1000-2000 2400	3VF31 12-1ML41-.... -1MN41-.... -1MQ41-.... -1MS41-.... 3VF32 12-1MU41-.... -1MW41-.... 3VF33 12-1MX41-.... -1RY41-....	3VF31 12-1ML47-.... -1MN47-.... -1MQ47-.... -1MS47-.... 3VF32 12-1MU47-.... -1MW47-.... 3VF33 12-1MX47-.... -1RY47-....
3VF4		125 160 200 250	100-125 125-160 160-200 200-250	-	-	630-1250 800-1600 1000-2000 1250-2500	3VF42 12-1MF41-.... -1MH41-.... -1MK41-.... -1MM41-....	3VF42 12-1MF47-.... -1MH47-.... -1MK47-.... -1MM47-....
3VF5		200 250 315 400 400	160-200 200-250 250-315 315-400 200, 250, 315, 400	- $2 \text{ to } 8 \times I_r$	- 0 to 300	1000-2000 1250-2500 1575-3150 2000-4000 4000	3VF52 12-1MF41-.... -1MH41-.... -1MK41-.... -1MM41-.... 3VF52 12-1KM61-....	3VF52 12-1MF47-.... -1MH47-.... -1MK47-.... -1MM47-.... 3VF52 12-1KM67-....
3VF6		315 400 500 630 630 800	250-315 315-400 400-500 500-630 315, 400, 500, 630 800	- $2 \text{ to } 8 \times I_r$	- 0 to 300	1575-3150 2000-4000 2500-5000 3150-6300 5500 3200-6400	3VF62 12-1MF44-.... ¹⁾ -1MH44-.... ¹⁾ -1MK44-.... ¹⁾ -1MM44-.... ¹⁾ 3VF62 12-1KM64-.... ¹⁾ -	3VF62 12-1MF47-.... -1MH47-.... -1MK47-.... -1MM47-.... 3VF62 12-1KM67-.... -
3VF7		800 1250	400, 500, 630, 800 630, 800 1000, 1250	$2 \text{ to } 8 \times I_r$ $2 \text{ to } 8 \times I_r$	0 to 300 0 to 300	15 000 15 000	3VF71 12-1KK60-.... ²⁾ 3VF72 12-1KM60-.... ²⁾	3VF71 12-1KK67-.... 3VF72 12-1KM67-....
3VF8		1600 2000 2500	800, 1000, 1250, 1600 1000, 1250, 1600, 2000 1600, 1800 2000, 2500	$2 \text{ to } 8 \times I_r$ $2 \text{ to } 8 \times I_r$ $2 \text{ to } 8 \times I_r$	0 to 300 0 to 300 0 to 300	20 000 20 000 20 000	- - -	- - -

- 1) 随断路器提供正向母排连接件, 由用户自行安装
- 2) 母排连接件需另外单独订货(见附件)
- 3) AC 380/415V 时为 50kA
- 4) 随断路器提供背后母排连接件, 必须垂直安装

- 1) Front busbar connection pieces supplied are fitted by the user
- 2) Busbar connection pieces must be ordered separately (see accessories)
- 3) 50 kA at 380/415 V
- 4) Rear busbar connection pieces supplied should be mounted vertically

3VF3 至 3VF8 断路器, 4 极, 至 2500A
3VF3 to 3VF8 Circuit-Breakers, 4-pole, up to 2500A

Selection and ordering data

高分断能力 70kA (AC 380/415V 时) High switching capacity 70 kA at AC 380/415		极高分断能力 100kA (AC 380/415V 时) Very high breaking capacity 100 kA at AC 380/415 V		重量约 Approx weight
固定安装式断路器 Fixed mounted circuit-breakers	插入式断路器 Plug-in circuit-breakers 插入式底板需另外订货, 见第 32 页 /Plug-in socket required, see page 32	固定安装式断路器 Fixed mounted circuit-breakers	插入式断路器 Plug-in circuit-breakers 插入式底板需另外订货, 见第 32 页 /Plug-in socket required, see page 32	
订货号 /Order No. 订货号后缀请见第 22 和 23 页 Order No. supplements, see pages 22 and 23	订货号 /Order No. 订货号后缀请见第 22 和 23 页 Order No. supplements, see pages 22 and 23	订货号 /Order No. 订货号后缀请见第 22 和 23 页 Order No. supplements, see pages 22 and 23	订货号 /Order No. 订货号后缀请见第 22 和 23 页 Order No. supplements, see pages 22 and 23	kg
- 3VF31 14-2RD41-.... -2RE41-.... -2RG41-.... -2RJ41-....	- 3VF31 14-2RD47-.... -2RE47-.... -2RG47-.... -2RJ47-....	- 3VF31 14-3RD41-.... -3RE41-.... -3RG41-.... -3RJ41-....	- 3VF31 14-3RD47-.... -3RE47-.... -3RG47-.... -3RJ47-....	2.6
3VF31 12-2ML41-.... -2MN41-.... -2MQ41-.... -2MS41-.... 3VF32 12-2MU41-.... -2MW41-.... 3VF33 12-2MX41-.... -2RY41-....	3VF31 12-2ML47-.... -2MN47-.... -2MQ47-.... -2MS47-.... 3VF32 12-2MU47-.... -2MW47-.... 3VF33 12-2MX47-.... -2RY47-....	3VF31 12-3ML41-.... -3MN41-.... -3MQ41-.... -3MS41-.... 3VF32 12-3MU41-.... -3MW41-.... 3VF33 12-3MX41-.... -3RY41-....	3VF31 12-3ML47-.... -3MN47-.... -3MQ47-.... -3MS47-.... 3VF32 12-3MU47-.... -3MW47-.... 3VF33 12-3MX47-.... -3RY47-....	2.6
3VF42 12-2MF41-.... -2MH41-.... -2MK41-.... -2MM41-....	3VF42 12-2MF47-.... -2MH47-.... -2MK47-.... -2MM47-....	3VF42 12-3MF41-.... -3MH41-.... -3MK41-.... -3MM41-....	3VF42 12-3MF47-.... -3MH47-.... -3MK47-.... -3MM47-....	5.5
3VF52 12-2MF41-.... -2MH41-.... -2MK41-.... -2MM41-.... 3VF52 12-2KM61-....	3VF52 12-2MF47-.... -2MH47-.... -2MK47-.... -2MM47-.... 3VF52 12-2KM67-....	3VF52 12-3MF41-.... -3MH41-.... -3MK41-.... -3MM41-.... 3VF52 12-3KM61-....	3VF52 12-3MF47-.... -3MH47-.... -3MK47-.... -3MM47-.... 3VF52 12-3KM67-....	6.5
3VF62 12-2MF44-.... ¹⁾ -2MH44-.... ¹⁾ -2MK44-.... ¹⁾ -2MM44-.... ¹⁾ 3VF62 12-2KM64-.... ¹⁾ 3VF63 12-2TQ44-.... ³⁾	3VF62 12-2MF47-.... -2MH47-.... -2MK47-.... -2MM47-.... 3VF62 12-2KM67-....	3VF62 12-3MF44-.... ¹⁾ -3MH44-.... ¹⁾ -3MK44-.... ¹⁾ -3MM44-.... ¹⁾ 3VF62 12-3KM64-.... ¹⁾	3VF62 12-3MF47-.... -3MH47-.... -3MK47-.... -3MM47-.... 3VF62 12-3KM67-....	12.0
3VF71 12-2KK60-.... ²⁾ 3VF72 12-2KM60-.... ²⁾	3VF71 12-2KK67-.... 3VF72 12-2KM67-....	3VF71 12-3KK60-.... ²⁾ 3VF72 12-3KM60-.... ²⁾	3VF71 12-3KK67-.... 3VF72 12-3KM67-....	25.5
3VF82 12-2KM60-.... ²⁾ 3VF83 12-2KM60-.... ²⁾ 3VF84 12-2KM64-.... ⁴⁾	-	3VF82 12-3KM60-.... ²⁾ 3VF83 12-3KM60-.... ²⁾ 3VF84 12-3KM64-.... ⁴⁾	-	61 62



3VF6 断路器, 第 4 极(N 线)不带脱扣器
3VF6 circuit-breaker, 4-pole (N) without release

3VF3 至 3VF8 断路器, 4 极, 至 2500A
3VF3 to 3VF8 Circuit-Breakers, 4-pole, up to 2500A

选型和订货参数									
型号 Type		额定 电流 Rated current I_n	过载反时限脱 扣器的整定电 流值“a” Setting current of inverse-time overload release “a” I_r	短路短延时脱 扣器的整定电 流值“z” Response current of short-time- delayed short-circuit release “z” I_d	短路短延时脱 扣器的动作时 间“z” Response time of short- time-delayed short-circuit release “z” t_d	短路瞬时脱扣 器的整定电流 值“n” Response current of instantaneous short-circuit release “n” I_i	标准分断能力 40/45/50kA (AC 380/415V 时) Standard switching capacity 40/45/50 kA at AC 380/415 V		
		A	A 	A 	ms 	A 	固定安装式断路器 Fixed mounted circuit-breakers	插入式断路器 Plug-in circuit-breakers	插入式底板需另外订货, 见第 32 页 / Plug-in socket required, see page 32
							订货号 / Order No. 订货号后缀请见第 22 和 23 页 Order No. supplements, see pages 22 and 23	订货号 / Order No. 订货号后缀请见第 22 和 23 页 Order No. supplements, see pages 22 and 23	
线路保护型断路器 / Circuit-breakers for line protection									
第 4 极(N 线)带过载和短路保护脱扣器; I_n 至 40A 时的 U_{emax} 为 AC415V with overload and short-circuit releases in the 4th pole (N); at I_n up to 40 A: U_{emax} AC 415 V									
3VF3		16 20 25 32 40	16 20 25 32 40	-	-	400 ¹⁾ 400 ¹⁾ 400 ¹⁾ 400 ¹⁾ 400 ¹⁾	3VF31 14-1JC41-.... -1JD41-.... -1JE41-.... -1JG41-.... -1JJ41-....	3VF31 14-1JC47-.... -1JD47-.... -1JE47-.... -1JG47-.... -1JJ47-....	
		50 63 80 100 125 160 200 225	40-50 50-63 63-80 80-100 100-125 125-160 160-200 225	-	-	300-500 ¹⁾ 315-630 ¹⁾ 400-800 ¹⁾ 500-1000 ¹⁾ 630-1250 ²⁾ 800-1600 ²⁾ 1000-2000 ²⁾ 2400 ²⁾	3VF31 12-1HL41-.... -1HN41-.... -1HQ41-.... -1HS41-.... 3VF32 12-1HU41-.... -1HW41-.... 3VF33 12-1HX41-.... -1JY41-....	3VF31 12-1HL47-.... -1HN47-.... -1HQ47-.... -1HS47-.... 3VF32 12-1HU47-.... -1HW47-.... 3VF33 12-1HX47-.... -1JY47-....	
3VF4		200 250	160-200 200-250	-	-	1000-2000 ²⁾ 1250-2500 ²⁾	3VF42 12-1HK41-.... -1HM41-....	3VF42 12-1HK47-.... -1HM47-....	
3VF5		315 400	250-315 315-400	-	-	1575-3150 ²⁾ 2000-4000 ²⁾	3VF52 12-1HK41-.... -1HM41-....	3VF52 12-1HK47-.... -1HM47-....	
		400	200, 250, 315, 400	2 to 8 $\times I_r$	0 to 300	4000 ²⁾	3VF52 12-1FM61-....	3VF52 12-1FM67-....	
3VF6		500 630 630 800	400-500 500-630 315, 400, 500, 630 800	- 2 to 8 $\times I_r$ -	- 0 to 300 -	2500-5000 ²⁾ 3150-6300 ²⁾ 5500 ²⁾ 3200-6400 ²⁾	3VF62 12-1HK44-.... ⁵⁾ -1HM44-.... ⁵⁾ 3VF62 12-1FM64-.... ⁵⁾ -	3VF62 12-1HK47-.... -1HM47-.... 3VF62 12-1FM67-.... -	
3VF7		800 1250	400, 500, 630, 800 630, 800, 1000, 1250	2 to 8 $\times I_r$ 2 to 8 $\times I_r$	0 to 300 0 to 300	15 000 ²⁾ 15 000 ²⁾	3VF71 12-1FK60-.... ³⁾ 3VF72 12-1FM60-.... ³⁾	3VF71 12-1FK67-.... 3VF72 12-1FM67-....	
3VF8		1600 2000 2500	800, 1000, 1250, 1600 1000, 1250, 1600, 2000 1600, 1800 2000, 2500	2 to 8 $\times I_r$ 2 to 8 $\times I_r$ 2 to 8 $\times I_r$	0 to 300 0 to 300 0 to 300	20 000 ²⁾ 20 000 ²⁾ 20 000 ²⁾	-	-	

- | | |
|---------------------------|--|
| 1) N = 100% | 1) N = 100% |
| 2) N = 60% | 2) N = 60% |
| 3) 母排连接件需另外单独订货(见附件) | 3) Busbar connection pieces must be ordered separately (see Accessories) |
| 4) AC 380/415V 时为 50kA | 4) 50 kA at 380/415 V |
| 5) 随断路器提供正向母排连接件, 由用户自行安装 | 5) Front busbar connection pieces supplied are fitted by the user |
| 6) 随断路器提供后置母排连接件, 必须垂直安装 | 6) Rear busbar connection pieces supplied must be mounted vertically |

3VF3 至 3VF8 断路器, 4 极, 至 2500A
3VF3 to 3VF8 Circuit-Breakers, 4-pole, up to 2500A

Selection and ordering data

高分断能力 70kA (AC 380/415V 时) High switching capacity 70 kA at AC 380/415		极高分断能力 100kA (AC 380/415V 时) Very high breaking capacity 100 kA at AC 380/415 V		重量约 Approx weight
固定安装式断路器 Fixed mounted circuit-breakers	插入式断路器 Plug-in circuit-breakers 插入式底板需另外订货, 见第 32 页 / Plug-in socket required, see page 32	固定安装式断路器 Fixed mounted circuit-breakers	插入式断路器 Plug-in circuit-breakers 插入式底板需另外订货, 见第 32 页 / Plug-in socket required, see page 32	
订货号 / Order No. 订货号后缀请见第 22 和 23 页 Order No. supplements, see pages 22 and 23	订货号 / Order No. 订货号后缀请见第 22 和 23 页 Order No. supplements, see pages 22 and 23	订货号 / Order No. 订货号后缀请见第 22 和 23 页 Order No. supplements, see pages 22 and 23	订货号 / Order No. 订货号后缀请见第 22 和 23 页 Order No. supplements, see pages 22 and 23	kg
-	-	-	-	2.6
3VF31 14-2JD41-.... -2JE41-.... -2JG41-.... -2JJ41-....	3VF31 14-2JD47-.... -2JE47-.... -2JG47-.... -2JJ47-....	3VF31 14-3JD41-.... -3JE41-.... -3JG41-.... -3JJ41-....	3VF31 14-3JD47-.... -3JE47-.... -3JG47-.... -3JJ47-....	
3VF31 12-2HL41-.... -2HN41-.... -2HQ41-.... -2HS41-.... 3VF32 12-2HU41-.... -2HW41-.... 3VF33 12-2HX41-.... -2JY41-....	3VF31 12-2HL47-.... -2HN47-.... -2HQ47-.... -2HS47-.... 3VF32 12-2HU47-.... -2HW47-.... 3VF33 12-2HX47-.... -2JY47-....	3VF31 12-3HL41-.... -3HN41-.... -3HQ41-.... -3HS41-.... 3VF32 12-3HU41-.... -3HW41-.... 3VF33 12-3HX41-.... -3JY41-....	3VF31 12-3HL47-.... -3HN47-.... -3HQ47-.... -3HS47-.... 3VF32 12-3HU47-.... -3HW47-.... 3VF33 12-3HX47-.... -3JY47-....	2.6
3VF42 12-2HK41-.... -2HM41-....	3VF42 12-2HK47-.... -2HM47-....	3VF42 12-3HK41-.... -3HM41-....	3VF42 12-3HK47-.... -3HM47-....	5.5
3VF52 12-2HK41-.... -2HM41-....	3VF52 12-2HK47-.... -2HM47-....	3VF52 12-3HK41-.... -3HM41-....	3VF52 12-3HK47-.... -3HM47-....	6.5
3VF52 12-2FM61-....	3VF52 12-2FM67-....	3VF52 12-3FM61-....	3VF52 12-3FM67-....	
3VF62 12-2HK44-.... ⁵⁾ -2HM44-.... ⁵⁾ 3VF62 12-2FM64-.... ⁵⁾ 3VF63 12-2LQ44-.... ^{4) 5)}	3VF62 12-2HK47-.... -2HM47-.... 3VF62 12-2FM67-....	3VF62 12-3HK44-.... ⁵⁾ -3HM44-.... ⁵⁾ 3VF62 12-3FM64-.... ⁵⁾ -	3VF62 12-3HK47-.... -3HM47-.... 3VF62 12-3FM67-....	12.0
3VF71 12-2FK60-.... ³⁾ 3VF72 12-2FM60-.... ³⁾	3VF71 12-2FK67-.... 3VF72 12-2FM67-....	3VF71 12-3FK60-.... ³⁾ 3VF72 12-3FM60-.... ³⁾	3VF71 12-3FK67-.... 3VF72 12-3FM67-....	25.5
3VF82 12-2FM60-.... ³⁾ 3VF83 12-2FM60-.... ³⁾ 3VF84 12-2FM64-.... ⁶⁾	-	3VF82 12-3FM60-.... ³⁾ 3VF83 12-3FM60-.... ³⁾ 3VF84 12-3FM64-.... ⁶⁾	-	61 62



3VF 断路器, 4 极,
第 4 极(N 线)带保护脱扣器
3VF circuit-breaker, 4-pole, with release in the
4th position (N)

3VF3 至 3VF8 断路器, 4 极, 至 2500A
3VF3 to 3VF8 Circuit-Breakers, 4-pole, up to 2500A

选型和订货参数					
型号 Type		额定 电流 Rated current I_n	短路瞬时脱扣器的整定电流值 “n” Operating current of the instantaneous short-circuit release “n” I_i	标准分断能力 40/50kA (AC 380/415V 时) Standard switching capacity 40/50 kA at AC 380/415 V 固定安装式断路器 Fixed mounted circuit-breakers	插入式断路器 Plug-in circuit-breakers 插入式底板需另外订货, 见第 32 页 / Plug-in socket required, see page 32
		A	A 	订货号 / Order No. 订货号后缀请见第 22 和 23 页 Order No. supplements, see pages 22 and 23	订货号 / Order No. 订货号后缀请见第 22 和 23 页 Order No. supplements, see pages 22 and 23
隔离型断路器 / switch disconnectors with short-circuit protection					
3VF3		to 100	1500	-	-
		to 160	2400		
3VF4		to 250	3000	3VF42 12-5DM31-....	3VF42 12-5DM37-....
3VF5		to 400	4800	3VF52 12-5DM31-....	3VF52 12-5DM37-....
3VF6		to 500	7500	-	-
		to 630	7500	3VF62 12-5DM34-.... ⁴⁾	3VF62 12-5DM37-....
3VF7		to 800	15000	3VF71 12-1DK30-.... 3VF72 12-1DM30-.... 母排连接件需另外单独 订货(见附件) Busbar connection pieces must be ordered separately (see Accessories)	3VF71 12-1DK37-.... 3VF72 12-1DM37-....
		to 1250	15000		
3VF8		to 1600	20000	-	-
		to 2000	20000		

3VF3 至 3VF8 断路器, 4 极, 至 2500A
3VF3 to 3VF8 Circuit-Breakers, 4-pole, up to 2500A

Selection and ordering data

高分断能力 65/70kA (AC 380/415V 时) High switching capacity 65/70 kA at AC 380/415V 固定安装式断路器 Fixed mounted circuit-breakers 订货号 /Order No. 订货号后缀请见第 22 和 23 页 Order No. supplements, see pages 22 and 23		插入式断路器 Plug-in circuit-breakers 插入式底板需另外订货, 见第 32 页 /Plug-in socket required, see page 32 订货号 /Order No. 订货号后缀请见第 22 和 23 页 Order No. supplements, see pages 22 and 23	重量约 Approx weight kg
3VF31 12-6DS31-.... 3VF32 12-6DW31-....	3VF31 12-6DS37-.... 3VF32 12-6DW37-....	2.6	
3VF42 12-6DM31-....	3VF42 12-6DM37-....	5.5	
3VF52 12-6DM31-....	3VF52 12-6DM37-....	6.5	
3VF61 12-6DM34-.... ⁴⁾ -	3VF61 12-6DK37-.... -	12.0	
3VF71 12-2DK30-.... 3VF72 12-2DM30-.... 母排连接件需另外单独 订货(见附件) Busbar connection pieces must be ordered separately (see Accessories).	3VF71 12-2DK37-.... 3VF72 12-2DM37-....	25.5	
3VF82 12-2DM30-.... 3VF83 12-2DM30-.... 母排连接件需另外单独 订货(见附件) Busbar connection pieces must be ordered separately (see Accessories).	-	61 62	

3VF3 至 3VF8 断路器, 3 极和 4 极, 至 2500A
3VF3 to 3VF8 Circuit-Breakers, 3 and 4-pole, up to 2500A

订货号后缀		Order No. supplements					
第一个订货号后缀 /1st Order No. supplement							
欠电压脱扣器或分励脱扣器 /Undervoltage release or shunt trip							
带连接线(1m 长)。对于插入式断路器, 辅助导线插件装置订货号见本节第 32 页							
Version with connecting leads (1 m in length). For plug-in circuit-breakers order the auxiliary conductor plug facility separately (see page 32).							
额定控制电压 Us/ 频率 AC 50/60 Hz DC Rated control supply voltage Us /frequency AC 50/60 Hz DC	订货号后缀 Order No. supplement 3VF.....- □□.. 	断路器 Circuit-breaker 3VF3	3VF4	3VF5	3VF6	3VF7	3VF8
无辅助脱扣器 without auxiliary release	0 A	0 A	0 A	0 A	0 A	0 A	0 A
欠电压脱扣器 / Undervoltage release							
AC 9 to 12 V	1 B	1 B	—	—	—	—	—
AC 12 V	1 C	—	1 C	1 C	1 C	1 C	1 C
AC 24 V	1 D	1 D	1 D	1 D	1 D	1 D	1 D
AC 48 V	1 U	1 U	—	—	—	—	—
AC 48 V to 60 V	1 F	—	1 F	1 F	1 F	1 F	1 F
AC 60 V	1 V	1 V	—	—	—	—	—
AC 110 to 127 V	1 G	1 G	1 G	1 G	1 G	1 G	1 G
AC 208 to 240 V	1 H	1 H	1 H	1 H	1 H	1 H	1 H
AC 380 to 500 V	1 J	—	1 J	1 J	1 J	1 J	1 J
AC 380 to 480 V	1 K	1 K	—	—	—	—	—
AC 480 to 525 V	1 L	1 L	—	—	—	—	—
DC 12 V	1 N	1 N	1 N	1 N	1 N	1 N	1 N
DC 24 V	1 P	1 P	1 P	1 P	1 P	1 P	1 P
DC 48 V	1 U	1 U	—	—	—	—	—
DC 48 V to 60 V	1 Q	—	1 Q	1 Q	1 Q	1 Q	1 Q
DC 60 V	1 V	1 V	—	—	—	—	—
DC 110 to 125 V	1 R	1 R	1 R	1 R	1 R	1 R	1 R
DC 220 to 250 V	1 S	1 S	1 S	1 S	1 S	1 S	1 S
分励脱扣器 / Shunt trip							
AC							
12 to 24 V	7 C	7 C	7 C	7 C	7 C	7 C	7 C
48 to 60 V	7 J	—	7 J	7 J	—	—	—
48 to 60 V	7 F	—	—	—	7 F	7 F	7 F
48 to 127 V	7 G	7 G	—	—	—	—	—
—	7 H	—	—	—	7 H	7 H	7 H
110 to 240 V	7 K	7 K	7 K	7 K	—	—	—
—	7 L	—	—	—	7 L	7 L	7 L
110 to 240 V	7 M	—	—	—	7 M	7 M	7 M
380 to 440 V	7 S	—	7 S	7 S	7 S	7 S	7 S
380 to 600 V	7 T	7 T	—	—	—	—	—
—表示无此项 / version not available							
第二个订货号后缀 /2nd Order No. supplement							
辅助开关(HS)和报警开关(AS)/ Auxiliary switches (HS) and alarm switches (AS).							
带连接线(1m 长)。对于插入式断路器, 辅助导线插件装置见本节第 32 页							
Version with connecting leads (1 m in length). For plug-in circuit-breakers order the auxiliary conductor plug facility separately (see page 32).							
型式 /Complement HS = 1 对转换触头 AS = 1 对转换触头 HS = 1 changeover contact AS = 1 changeover contact	订货号后缀 Order No. supplement 3VF.....- □□.. 	断路器 Circuit-breaker 3VF3	3VF4	3VF5	3VF6	3VF7	3VF8
无辅助 / 报警开关 without auxiliary switch	A 0	A 0	A 0	A 0	A 0	A 0	A 0
1HS	B 1	B 1 ²⁾	B 1	B 1	B 1	B 1	—
2HS	C 1	C 1 ²⁾	C 1	C 1	C 1	C 1	—
4HS	E 1	—	—	—	—	—	E 1
1HS	F 1	F 1 ³⁾	—	—	—	—	—
1AS	G 1	G 1 ²⁾	G 1	G 1	G 1	G 1	—
4HS+2AS	T 1	—	—	—	—	—	T 1
1HS+1AS	N 1	N 1 ²⁾	N 1	N 1	N 1	N 1	—
如果断路器不带欠电压脱扣器或分励脱扣器, 也可采用如下配置							
If no undervoltage release or shunt trip is built in, the following complements are also possible:							
1HS+2AS	R 1	R 1 ¹⁾	—	R 1	R 1	R 1	—
2HS+1AS	P 1	P 1 ¹⁾	P 1	P 1	P 1	P 1	—
2HS+2AS	S 1	S 1 ¹⁾	—	S 1	S 1	S 1	—
—表示无此项 / version not available							

- 1) 不适用于电动机保护型 3VF3 断路器 / Not suitable for 3VF3 circuit-breakers for motor protection
 2) 不适合于带辅助脱扣器或DI模块的电动机保护型3VF3断路器 / Not suitable for 3VF3 circuit-breakers for motor protection with auxiliary release or DI module
 3) 仅适用于电动机保护型断路器 / Only for 3VF3 circuit-breakers for motor protection

3VF3 至 3VF7 断路器, 3 极和 4 极, 至 1250A
3VF3 to 3VF7 Circuit-Breakers, 3 and 4-pole, up to 1250A

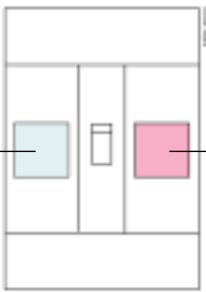
订货号后缀		Order No. supplements					
第一个订货号后缀：欠电压脱扣器或分励脱扣器 1st Order No. supplement: Undervoltage release or shunt trip 带接线端子盒 ¹⁾ (不适用于带导向框架的插入式断路器) Version with box terminals ¹⁾ (not for plug-in circuit-breakers with guide frame)							
额定控制电压 Us/ 频率 AC 50/60 Hz DC Rated control supply voltage Us /frequency AC 50/60 Hz DC	订货号后缀 Order No. supplement 3VF.....- □□.. 	断路器 Circuit-breaker 3VF3	3VF4	3VF5	3VF6	3VF7	
无辅助脱扣器 without auxiliary release	0 A	0 A	0 A	0 A	0 A	0 A	
欠电压脱扣器 / Undervoltage release							
AC 9 to 12 V	2 B	2 B	—	—	—	—	
AC 12 V	2 C	—	2 C	2 C	2 C	2 C	
AC 24 V	2 D	2 D	2 D	2 D	2 D	2 D	
AC 48 V	2 U	2 U	—	—	—	—	
AC 48 V to 60 V	2 F	—	2 F	2 F	2 F	2 F	
AC 60 V	2 V	2 V	—	—	—	—	
AC 110 to 127 V	2 G	2 G	2 G	2 G	2 G	2 G	
AC 208 to 240 V	2 H	2 H	2 H	2 H	2 H	2 H	
AC 380 to 500 V	2 J	—	2 J	2 J	2 J	2 J	
AC 380 to 480 V	2 K	2 K	—	—	—	—	
AC 480 to 525 V	2 L	2 L	—	—	—	—	
DC 12 V	2 N	2 N	2 N	2 N	2 N	2 N	
DC 24 V	2 P	2 P	2 P	2 P	2 P	2 P	
DC 48 V	2 U	2 U	—	—	—	—	
DC 48 V to 60 V	2 Q	—	2 Q	2 Q	2 Q	2 Q	
DC 60 V	2 V	2 V	—	—	—	—	
DC 110 to 125 V	2 R	2 R	2 R	2 R	2 R	2 R	
DC 220 to 250 V	2 S	2 S	2 S	2 S	2 S	2 S	
分励脱扣器 / Shunt trip							
AC							
12 to 24 V							
48 to 60 V							
48 to 60 V							
48 to 127 V							
—							
110 to 240 V							
—							
110 to 240 V							
380 to 440 V							
380 to 600 V							
DC							
12 to 24 V							
48 to 60 V							
48 to 60 V							
48 to 127 V							
—							
110 to 125 V							
110 to 125 V							
—							
220 to 250 V							
220 to 250 V							
— 表示无此项 / version not available							
第二个订货号后缀 / 2nd Order No. supplement 辅助开关(HS)和报警开关(AS) / Auxiliary switches (HS) and alarm switches (AS). 带接线端子盒 ¹⁾ (不适用于带导向框架的插入式断路器) Version with box terminals ¹⁾ (not for plug-in circuit-breakers with guide frame)							
型式 / Complement HS = 1 对转换触头 AS = 1 对转换触头 HS = 1 changeover contact AS = 1 changeover contact	订货号后缀 Order No. supplement 3VF.....- □□.. 	断路器 Circuit-breaker 3VF3	3VF4	3VF5	3VF6	3VF7	
无辅助 / 报警开关 without auxiliary current	A 0	A 0	A 0	A 0	A 0	A 0	
1HS 2HS 1AS (仅用于 3 极断路器 for 3-pole circuit-breakers only) 1HS+1AS (仅用于 3 极断路器 for 3-pole circuit-breakers only)	B 2 C 2 G 2 N 2	B 2 ²⁾ C 2 ²⁾ G 2 ²⁾ N 2 ²⁾	B 2 C 2 G 2 N 2	B 2 C 2 G 2 N 2	B 2 C 2 G 2 N 2	B 2 C 2 G 2 N 2	
如果断路器不带欠电压脱扣器或分励脱扣器, 也可采用如下配置 If no undervoltage release or shunt trip is built in, the following complements are also possible:							
1HS+2AS 2HS+1AS 2HS+2AS	R 2 P 2 S 2	R 2 ³⁾ P 2 ³⁾ S 2 ³⁾	— P 2 —	R 2 P 2 S 2	R 2 P 2 S 2	R 2 P 2 S 2	

1) 由于有接线端子块的缘故, 断路器侧面至少应留有25mm的间隙 / On account of the terminal block, the circuit-breaker lateral clearance must be at least 25mm
 2) 不适合于带辅助脱扣器或DI模块的电动机保护型3VF3断路器 / Not suitable for 3VF3 circuit-breakers for motor protection with auxiliary release or DI module
 3) 不适合于电动机保护型 3VF3 断路器 / Not suitable for 3VF3 circuit-breakers for motor protection

3VF3 至 3VF8 断路器, 3 极和 4 极, 至 2500A

3VF3 to 3VF8 Circuit-Breakers, 3 and 4-pole, up to 2500A

可用于改装的附件—辅助和报警开关

断路器内部 左侧安装 例如: 1HS 或 2HS 或 1HS+1AS left-sided mounting e.g.: 1HS or 2HS or 1HS+1AS  断路器内部右侧安装 例如: 1HS 或 4HS 或 2AS right-sided mounting e.g.: 1HS or 4 HS or 2AS		3VF3 至 3VF8 断路器可安装有辅助开关或报警开关, 分励脱扣器, 欠电压脱扣器和 DI 模块等附件, 它们在断路器中的安装位置见下表。 3VF3 to 3VF8 circuit-breaker complements. Equipping the circuit-breaker with auxiliary switches or alarm switches, shunt trips, undervoltage releases, and DI modules depends on their position inside the circuit-breaker (left or right). See chart below.	
		用于 3VF3 / For 3VF3	用于 3VF4 / For 3VF4
		订货号 / Order No.	订货号 / Order No.
		3 极或 4 极 / 3 or 4-pole	
辅助开关和报警开关(HS + AS), 用于改装, 带连接线 Auxiliary and alarm switch (HS + AS) for retrofitting. Version with connecting leads			
	左侧安装 /left mounting	右侧安装 /right mounting	
	3 极, 4 极 /3 -, 4-pole	3 极 /3-pole	4 极 /4-pole
HS	1HS 或 /or 2HS 或 /or	1HS ³⁾ 或 /or 1HS 或 /or 2HS 或 /or 4HS 或 /or	1HS 或 /or 1HS 或 /or 2HS 或 /or 4HS 或 /or
		3VF9 322 -1BB30 ³⁾ -1BB30 ²⁾ -1BB40 ^{2) 4)} -1CB10 ²⁾ -1CB20 ³⁾ -	3VF9 422 -1BB30 -1BB30 - - 3VF9 422 -1CB30 -
AS	1AS 或 /or 2AS 或 /or	1AS 或 /or 2AS 或 /or	1AS 或 /or 2AS 或 /or
		3VF9 322 -1GB10 -1GB20 ³⁾ -1GF20 -1HB10 -	3VF9 422 -1GB10 -1GB20 -1GF20 - -
HS+AS	1HS+1AS 或 /or	1HS+1AS 或 /or	1HS+1AS 或 /or
		3VF9 322 -1NB10 ²⁾ -1NB20 ³⁾ -1NF20	- 3VF9 422 -1NB20 -
□, □, DI	□ 或 /or □ 或 /or DI		
		见 26 页和 27 页 See pages 26 and 27	见 26 页和 27 页 See pages 26 and 27
用于 3VF8 的附件安装位置(仅右侧安装) / 3VF8 complements (right side only)			
HS		最多 /max.3 × 4HS 或 /or	最多 /max.3 × 4HS 或 /or
HS+AS		最多 /max.3 × 4HS+ 最多 /max.3 × 2AS 或 /or	最多 /max.3 × 4HS+ 3 × 2AS 或 /or
□+HS+AS		□+ 最多 /max.3 × 4HS+ 最多 /max.2 × 2AS 或 /or	□+ 最多 /max.3 × 4HS+ 最多 /max.2 × 2AS 或 /or
□+HS		最多 /max.3 × □+ 最多 /max.3 × 4HS 或 /or	最多 /max.3 × □+ 最多 /max.3 × 4HS 或 /or
□+HS+AS		□+ 最多 /max.3 × 4HS+ 最多 /max.2 × 2AS 或 /or	□+ 最多 /max.3 × 4HS+ 最多 /max.2 × 2AS 或 /or
□+□+HS		□+ 最多 /max.2 × □+ 最多 /max.3 × 4HS	□+ 最多 /max.2 × □+ 最多 /max.3 × 4HS
辅助开关和报警开关(HS + AS), 用于改装, 带接线端子盒¹⁾ Auxiliary and alarm switches (HS + AS) for retrofitting. Version with box terminals ¹⁾			
	左侧安装 /left mounting	右侧安装 /right mounting	
	3 极, 4 极 /3 -, 4-pole	3 极 /3-pole	4 极 /4-pole
HS	1HS (3-pole only) 或 /or 2HS (3-pole only) 或 /or	1HS 或 /or 2HS 或 /or	1HS 或 /or 2HS 或 /or
		3VF9 322 -1BC10 -1BC20 ³⁾ -1CC10 -1CC20 ³⁾	- 3VF9 422 -1BC20 - 3VF9 422 -1CC20
AS	1AS 或 /or 2AS 或 /or	1AS 或 /or	
		3VF9 322 -1GC10 -1GC20 ³⁾ -1HC10	3VF9 422 -1GC10 -1GC20 -
HS+AS	1HS+1AS 或 /or	1HS+1AS	
		3VF9 322 -1NC10 -1NC20 ³⁾	- 3VF9 422 -1NC20
□, □, DI	□ 或 /or □ 或 /or DI		
		见 26 页和 27 页 See pages 26 and 27	见 26 页和 27 页 See pages 26 and 27

□ 分励脱扣器 /Shunt trip

□ 欠电压脱扣器 /Undervoltage release

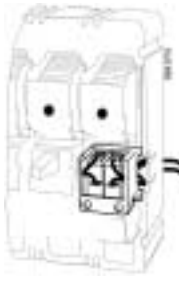
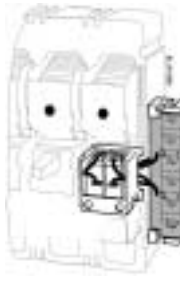
DI DI 模块 /DI module

1) 如带接线端子盒 则断路器之间应留
至少 25mm 间隙

1) With box terminals the minimum lateral spacing
between circuit-breakers is 25mm

3VF3 至 3VF8 断路器, 3 极和 4 极, 至 2500A
3VF3 to 3VF8 Circuit-Breakers, 3 and 4-pole, up to 2500A

Accessories for retrofitting - Auxiliary and alarm switches

 安装在右侧的 1 个辅助开关和 1 个报警开关 带连接线 1 Auxiliary and 1 Alarm switch on the right-hand side Version with connecting leads		 安装在右侧的 1 个辅助开关和 1 个报警开关 带接线端子盒 1 Auxiliary and 1 Alarm switch on the right-hand side Version with box terminal	
用于 3VF5 / For 3VF5	用于 3VF6 / For 3VF6	用于 3VF7 / For 3VF7	用于 3VF8 / For 3VF8
订货号 / Order No.	订货号 / Order No.	订货号 / Order No.	订货号 / Order No.
3VF9 522 -1BB30 -1BB30 - 3VF9 522 -1CB30 -1CB30 -	3VF9 622 -1BB30 -1BB30 - 3VF9 622 -1CB30 -1CB30 -	3VF9 722 -1BB30 -1BB30 - 3VF9 722 -1CB30 -1CB30 -	- - - - - 3VF9 822 -1EB40
3VF9 522 -1GB10 -1GB20 -1GF20 -1HB10 -	3VF9 622 -1GB10 -1GB20 -1GF20 -1HB10 -	3VF9 722 -1GB10 -1GB20 -1GF20 -1HB10 -	- - - - 3VF9 822 -1HB40
- 3VF9 522 -1NB20 -	- 3VF9 622 -1NB20 -	- 3VF9 722 -1NB20 -	- - -
见 26 页和 27 页 See pages 26 and 27	见 26 页和 27 页 See pages 26 and 27	见 26 页和 27 页 See pages 26 and 27	见 26 页和 27 页 See pages 26 and 27
- 3VF9 522 -1BC20 - 3VF9 522 -1CC20	- 3VF9 622 -1BC20 - 3VF9 622 -1CC20	- 3VF9 722 -1BC20 - 3VF9 722 -1CC20	- - -
3VF9 522 -1GC10 -1GC20 -1HC10	3VF9 622 -1GC10 -1GC20 -1HC10	3VF9 722 -1GC10 -1GC20 -1HC10	- - -
- 3VF9 522 -1NC20	- 3VF9 622 -1NC20	- 3VF9 722 -1NC20	- -
见 26 页和 27 页 See pages 26 and 27	见 26 页和 27 页 See pages 26 and 27	见 26 页和 27 页 See pages 26 and 27	见 26 页和 27 页 See pages 26 and 27

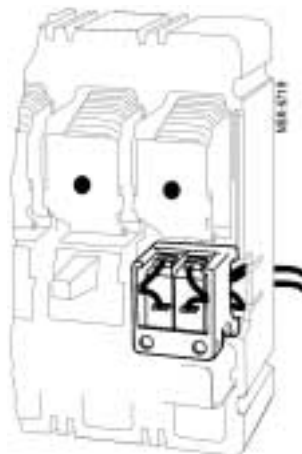
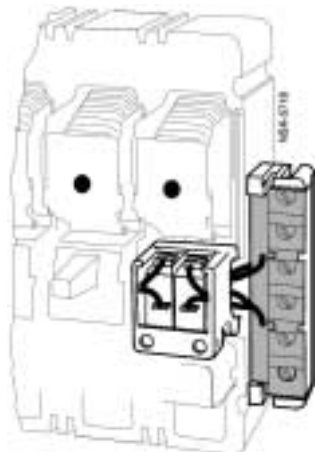
- 2) 只适用于电动机保护型 3VF3 断路器
3) 对于电动机保护型 3VF3 断路器, 只能安装在左侧
4) 只能对 96 年 2 月以后生产的断路器进行改装

- 2) Only for 3VF3 circuit-breakers for motor protection
3) With 3VF3 circuit-breakers for motor protection, for fitting at the left side only
4) Can only be retrofitted to circuit-breakers produced after 02.96

3VF3 至 3VF8 断路器, 3 极和 4 极, 至 2500A

3VF3 to 3VF8 Circuit-Breakers, 3 and 4-pole, up to 2500A

可用于改装的附件—分励脱扣器和欠电压脱扣器(见 58 页示意图)

		用于 3VF3 / For 3VF3	用于 3VF4 / For 3VF4																					
		订货号 / Order No.	订货号 / Order No.																					
		3 极或 4 极 / 3 or 4-pole																						
	分励脱扣器 / Shunt trip  用于对 3VF3~3VF7(左侧位置), 3VF8 (右侧位置)进行改装。 for retrofitting to 3VF3 to 3VF7 (left- hand side), 3VF8 (right-hand side)																							
	<table><tr><th>AC</th><th>DC</th></tr><tr><td>12-24 V</td><td>12-24 V</td></tr><tr><td>48-60 V</td><td>48-60 V</td></tr><tr><td>48-60 V</td><td>—</td></tr><tr><td>48-127 V</td><td>48-60 V</td></tr><tr><td>—</td><td>48-60 V</td></tr><tr><td>110-240 V</td><td>110-125 V</td></tr><tr><td>—</td><td>110-125 V</td></tr><tr><td>110-240 V</td><td>—</td></tr><tr><td>380-440 V</td><td>220-250 V</td></tr><tr><td>380-600 V</td><td>220-250 V</td></tr></table>	AC	DC	12-24 V	12-24 V	48-60 V	48-60 V	48-60 V	—	48-127 V	48-60 V	—	48-60 V	110-240 V	110-125 V	—	110-125 V	110-240 V	—	380-440 V	220-250 V	380-600 V	220-250 V	3VF9 321 -1. C10 - - 3VF9 321 -1. G10 - 3VF9 321 -1. K10 - - - 3VF9 321 -1. T10
AC	DC																							
12-24 V	12-24 V																							
48-60 V	48-60 V																							
48-60 V	—																							
48-127 V	48-60 V																							
—	48-60 V																							
110-240 V	110-125 V																							
—	110-125 V																							
110-240 V	—																							
380-440 V	220-250 V																							
380-600 V	220-250 V																							
右侧安装的分励脱扣器, 带连接线 Shunt trip (right) Version with connecting leads	带连接线 Version with connecting leads 带接线端子盒 ¹⁾ Version with box terminals ¹⁾	 H J	 H J																					
	欠电压脱扣器 / Undervoltage release  用于对 3VF4~3VF7(左侧位置), 3VF8(右侧位置)进行改装。 for retrofitting to 3VF4 to 3VF7 (left-hand side), 3VF8 (right-hand side)																							
	AC 12 V AC 24 V AC 48-60 V (only 48 V with 3VF3) AC 60 V (3VF3 only) AC 110-127 V AC 208-240 V AC 380-500 V (only upto 480 V with 3VF3) AC 480-525 V	3VF9 321 -1.B10 -1.D10 -1.U10 -1.V10 3VF9 321 -1.G10 -1.H10 -1.K10 -1.L10  B C	3VF9 421 -1. C10 -1. D10 -1. F10 - 3VF9 421 -1. G10 -1. H10 -1. J10 -  B C																					
右侧安装的分励脱扣器, 带接线端子盒 Shunt trip (right) Version with box terminals	带连接线 Version with connecting leads 带接线端子盒 ¹⁾ Version with box terminals ¹⁾	3VF9 321 -1. N10 -1. P10 -1. U10 -1. V10 3VF9 321 -1. R10 -1. S10  B C	3VF9 421 -1. N10 -1. P10 -1. Q10 - 3VF9 421 -1. R10 -1. S10  B C																					
用于欠电压脱扣器的延时装置 (DC 220~250V) Time-delay device for undervoltage release (DC 220 to 250 V) 额定控制电压 Rated control supply voltage Us=AC/DC 220-230V 延迟时间 / Delay time: 0.3; 3.5 s 0.5; 0.8 s 1.7; 3.3 s 0.7; 1.4 s																								
		3WX31 56-3JJ10 3TX4 490-1A 3TX4 701-0AN1 -	3WX31 56-3JJ10 - - 3TX4 701-0AN1																					

1) 如带接线端子盒, 则断路器之间应留至少 25mm 间隙

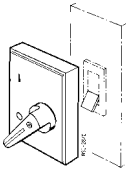
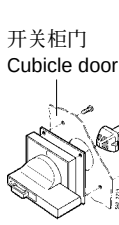
1) With box terminals the minimum lateral spacing

3VF3 至 3VF8 断路器, 3 极和 4 极, 至 2500A
3VF3 to 3VF8 Circuit-Breakers, 3 and 4-pole, up to 2500A

Accessories for retrofitting - Shunt trip and undervoltage release (complements, see page 58)

用于 3VF5 / For 3VF5	用于 3VF6 / For 3VF6	用于 3VF7 / For 3VF7	用于 3VF8 / For 3VF8
订货号 / Order No.	订货号 / Order No.	订货号 / Order No.	订货号 / Order No.
3VF9 521 -1. C10 -1. J10 - - - 3VF9 521 -1. K10 - - 3VF9 521 -1. S10 -  H J	3VF9 621 -1. C10 - 3VF9 621 -1. F10 - 3VF9 621 -1. H10 - 3VF9 621 -1. L10 -1. M10 3VF9 621 -1. S10 -  H J	3VF9 721 -1. C10 - 3VF9 721 -1. F10 - 3VF9 721 -1. H10 - 3VF9 721 -1. L10 -1. M10 3VF9 721 -1. S10 -  H J	3VF9 821 -1. C40 - 3VF9 821 -1. F40 - 3VF9 821 -1. H40 - 3VF9 821 -1. L40 -1. M40 3VF9 821 -1. S40 -  H J
3VF9 521 -1. C10 -1. D10 -1. F10 - 3VF9 521 -1. G10 -1. H10 -1. J10 -  B C 3VF9 521 -1. N10 -1. P10 -1. Q10 - 3VF9 521 -1. R10 -1. S10  B C	3VF9 621 -1. C10 -1. D10 -1. F10 - 3VF9 621 -1. G10 -1. H10 -1. J10 -  B C 3VF9 621 -1. N10 -1. P10 -1. Q10 - 3VF9 621 -1. R10 -1. S10  B C	3VF9 721 -1. C10 -1. D10 -1. F10 - 3VF9 721 -1. G10 -1. H10 -1. J10 -  B C 3VF9 721 -1. N10 -1. P10 -1. Q10 - 3VF9 721 -1. R10 -1. S10  B C	3VF9 821 -1. C40 -1. D40 -1. F40 - 3VF9 821 -1. G40 -1. H40 -1. J40 -  B - 3VF9 821 -1. N40 -1. P40 -1. Q40 - 3VF9 821 -1. R40 -1. S40  B -
3WX31 56-3JJ10 - - 3TX4 701-0AN1	3WX31 56-3JJ10 - - 3TX4 701-0AN1	3WX31 56-3JJ10 - - 3TX4 701-0AN1	3WX31 56-3JJ10 - - 3TX4 701-0AN1

3VF3 至 3VF8 断路器, 3 极和 4 极, 至 2500A
3VF3 to 3VF8 Circuit-Breakers, 3 and 4-pole, up to 2500A

附件—操作机构			
 用于 3VF3 的正面直接旋转机构 Front rotary drive for 3VF3  用于 3VF6 的正面直接旋转机构 Front rotary drive for 3VF6  正面直接旋转驱动手柄 Front rotary drive with knob		用于 3VF3 / For 3VF3	用于 3VF4 / For 3VF4
		订货号 / Order No.	订货号 / Order No.
		3 极或 4 极 / 3 or 4-pole	
 开关柜门 Cubicle door  柜门耦合旋转驱动机构, 整套 Rotary drive complete, scope of supply  用于 3VF3 的电动机操作机构 Motorized operating mechanism for 3VF3	正面直接旋转机构 Front rotary drive 直接安装在断路器上, 防护等级 IP30, 黑色手柄, 最多可用 3 把挂锁锁定 for direct fitting to the circuit-breaker. Degree of protection IP 30, black, with max. 3 padlocks 无超前动作辅助开关 without leading aux. switch 带超前动作辅助开关 (2NO, 带连接线) with leading aux. switch at ON (2S) <u>急停型</u> <u>EMERGENCY STOP version</u> 红色手柄, 黄色指示板 with red knob, yellow indicator plate (3VF6 to 3VF8) 无超前动作辅助开关 without leading aux. switch 带超前动作辅助开关(2NO, 带连接线) with leading aux. switch at ON (2S) <u>直接旋转机构, 带驱动轴, 无手柄</u> <u>Version with shaft stub, without knob</u> (需另选门耦合旋转机构) (additional door-coupling rotary mechanism required, see page 4/29) 无超前动作辅助开关 without leading aux. switch 带超前动作辅助开关 (2NO, 带连接线) with leading aux. switch at ON (2S)	3VF9 323-1AA00 3VF9 323-1AB00 3VF9 323-1BA00 3VF9 323-1BB00 3VF9 323-1JA00 3VF9 323-1JB00	3VF9 423-1AA00 3VF9 423-1AB00 3VF9 423-1BA00 3VF9 423-1BB00 3VF9 423-1JA00 3VF9 423-1JB00
	旋转驱动机构, 整套, 安装在柜门上 Rotary drive, complete for fitting in doors and covers 防护等级 IP65, 带黑色手柄, 可卸式门耦合装置, 300mm 长驱动轴, 和直接驱动机构, 最多可用 3 把挂锁锁定, 柜门联锁式 Degree of protection IP 65, incl black knob, 300 mm extension shaft, and front rotary drive, for each circuit-breaker, lockable with a max. of 3 padlocks, with door-interlocking 无超前动作辅助开关 without leading aux. switch 带超前动作辅助开关 (2NO, 带连接线) with leading aux. switch at ON (2S) <u>急停型</u> <u>EMERGENCY STOP version</u> 红色手柄, 黄色指示板 with red knob, yellow indicator plate 无超前动作辅助开关 without leading aux. switch 带超前动作辅助开关(2NO, 带连接线) with leading aux. switch at ON (2S) <u>用于门耦合旋转机构的附加锁定装置, 整套¹⁾</u> <u>Additional locking device for rotary drive, complete¹⁾</u>	3VF9 323-1EA00 3VF9 323-1EB00 3VF9 323-1FA00 3VF9 323-1FB00 3VF9 323-1VA00	3VF9 423-1EA00 3VF9 423-1EB00 3VF9 423-1FA00 3VF9 423-1FB00 3VF9 423-1VA00

HS= 辅助开关
HS = auxiliary switch

1) 用于将电动机锁定在分闸位置, 可用最多 3 把挂锁锁定, 锁环直径为 4.5 - 8mm

1) Only required if the circuit-breaker is to be locked open, i.e. with detached rotary drive. Lockable with max. 3 padlocks, 4.5 to 8 mm shackle diameter

3VF3 至 3VF8 断路器, 3 极和 4 极, 至 2500A
3VF3 to 3VF8 Circuit-Breakers, 3 and 4-pole, up to 2500A

Accessories - Operating mechanisms				
	用于 3VF5 / For 3VF5	用于 3VF6 / For 3VF6	用于 3VF7 / For 3VF7	用于 3VF8 / For 3VF8
	订货号 / Order No.	订货号 / Order No.	订货号 / Order No.	订货号 / Order No.
	3VF9 523-1AA00 3VF9 523-1AB00	3VF9 623-1AA00 3VF9 623-1AB00	3VF9 723-1AA00 3VF9 723-1AB00	3VF9 823-1AA01 3VF9 823-1AB01
	3VF9 523-1BA00 3VF9 523-1BB00	3VF9 623-1BA00 3VF9 623-1BB00	3VF9 723-1BA00 3VF9 723-1BB00	3VF9 823-1BA01 3VF9 823-1BB01
	3VF9 523-1JA00 3VF9 523-1JB00	3VF9 623-1JA00 3VF9 623-1JB00	3VF9 723-1JA00 3VF9 723-1JB00	3VF9 823-1JA01 3VF9 823-1JB01
	3VF9 523-1EA00 3VF9 523-1EB00	3VF9 623-1EA00 3VF9 623-1EB00	3VF9 723-1EA00 3VF9 723-1EB00	3VF9 823-1EA01 3VF9 823-1EB01
	3VF9 523-1FA00 3VF9 523-1FB00 3VF9 523-1VA00	3VF9 623-1FA00 3VF9 623-1FB00 3VF9 623-1VA00	3VF9 723-1FA00 3VF9 723-1FB00 已附在旋转驱动机构上 Integrated in front rotary drive	3VF9 823-1FA01 3VF9 823-1FB01 已附在旋转驱动机构上 Integrated in front rotary drive

3VF3 至 3VF8 断路器, 3 极和 4 极, 至 2500A
3VF3 to 3VF8 Circuit-Breakers, 3 and 4-pole, up to 2500A

附件—操作机构

		用于 3VF3 / For 3VF3	用于 3VF4 / For 3VF4
		订货号 / Order No.	订货号 / Order No.
		3 极或 4 极 / 3 or 4-pole	
 用于 3VF4, 3VF5, 3VF6 的电动机操作机构 (图示为 3VF6) Motorized operating mechanism for 3VF4, 3VF5, 3VF6 (shown with 3VF6)	电动机操作机构 ¹⁾ , 防护等级 IP 00 Motorized operating mechanism ¹⁾ . Degree of protection IP 00 不带锁定装置 without locking device AC50/00Hz DC		
	- 24V	3VF9 323-1MA20	3VF9 423-1MA20
	42V 48V	3VF9 323-1MB10	3VF9 423-1MB10
	- 60V	3VF9 323-1MC20	3VF9 423-1MC20
	110/127V 110/127V	3VF9 323-1MD10	3VF9 423-1MD10
	220/240V 220V	3VF9 323-1ME10	3VF9 423-1ME10
	带锁定装置, 可用 3 把挂锁 with locking device for 3 padlocks AC50/60Hz DC		
	- 24V	3VF9 323-1NA20	3VF9 423-1NA20
	- 48V	-	-
	42V 48V	3VF9 323-1NB10	3VF9 423-1NB10
 用于 3VF8 的电动机操作机构 Motorized operating mechanism for 3VF8	- 60V	3VF9 323-1NC20	3VF9 423-1NC20
	- 110/125V	-	-
	110/127V 110/127V	3VF9 323-1ND10	3VF9 423-1ND10
	220/240V 220V	3VF9 323-1NE10	3VF9 423-1NE10
	同步电动机操作机构, 防护等级 IP 00 Synchronizable motorized operating mechanism. Degree of protection IP 00 带可挂 3 把挂锁的锁定装置 with locking device for 3 padlocks AC50/60Hz DC		
	- 24V	-	3VF9 423-1QA20
	- 48V	-	-
	42V 48V	-	3VF9 423-1QB10
	- 60V	-	3VF9 423-1QC20
	110/127V 110/127V	-	3VF9 423-1QD10
	220/240V 220V	-	3VF9 423-1QE10
	用于同步电动机操作机构的操作手柄 Handle for synchronizable motorized operating mechanisms ³⁾	-	3VF9 623-1WB00
	电磁线圈操作机构 Solenoid operating mechanism AC50/60Hz 110/120V	3VF9 323-1SD30	-
	AC50/60Hz 220/240V	3VF9 323-1SED30	-
	DC110/120V	3VF9 323-1SD20	-
	DC220/240V	3VF9 323-1SE20	-

1) 如果控制电压为 380/400V 或 500V, 则需要一个控制变压器, 如: 400/230V (380/220), 订货号: 4AM3441-5AT10-0C 500/230V, 订货号: 4AM3441-5FT10-0C
电动机操作机构应选择控制电压为 AC50/60Hz, 220V

1) For a control voltage of 380/400 V or 500 V, a control transformer is required e.g. 400/230 V (380/220), Order No. 4AM34 41 - 5AT 10 - 0C 500/230 V, Order No. 4AM34 41 - 5FT 10 - 0C
The motorized operating mechanism should be ordered for AC 50/60 Hz 220V

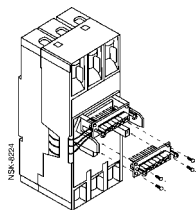
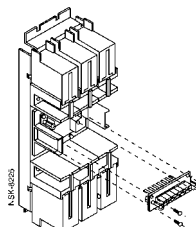
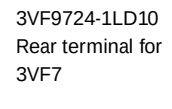
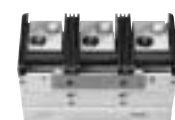
3VF3 至 3VF8 断路器, 3 极和 4 极, 至 2500A
3VF3 to 3VF8 Circuit-Breakers, 3 and 4-pole, up to 2500A

Accessories - Operating mechanisms				
	用于 3VF5 / For 3VF5	用于 3VF6 / For 3VF6	用于 3VF7 / For 3VF7	用于 3VF8 / For 3VF8
	订货号 / Order No.	订货号 / Order No.	订货号 / Order No.	订货号 / Order No.
	3VF9 523-1MA20 3VF9 523-1MB10 3VF9 523-1MC20 3VF9 523-1MD10 3VF9 523-1ME10 3VF9 523-1NA20 - 3VF9 523-1NB10 3VF9 523-1NC20 - 3VF9 523-1ND10 3VF9 523-1NE10	3VF9 623-1MA20 ⁴⁾ 3VF9 623-1MB10 ⁴⁾ 3VF9 623-1MC20 ⁴⁾ 3VF9 623-1MD10 ⁴⁾ 3VF9 623-1ME10 ⁴⁾ 3VF9 623-1NA20 ⁴⁾ - 3VF9 623-1NB10 ⁴⁾ 3VF9 623-1NC20 ⁴⁾ - 3VF9 623-1ND10 ⁴⁾ 3VF9 623-1NE10 ⁴⁾	- - - - - - 3VF9 723-1NB20 - - 3VF9 723-1ND20 ⁴⁾ 3VF9 723-1ND30 ^{2) 4)} 3VF9 723-1NE30 ^{2) 4)}	- - - - - - 3VF9 833-1NB20 - - - 3VF9 833-1ND30 ³⁾ 3VF9 833-1NE30 ³⁾
	3VF9 523-1QA20 - 3VF9 523-1QB10 3VF9 523-1QC20 3VF9 523-1QD10 3VF9 523-1QE10 3VF9 623-1WB00 - - - -	3VF9 623-1QA20 - 3VF9 623-1QB10 3VF9 623-1QC20 3VF9 623-1QD10 3VF9 623-1QE10 3VF9 623-1WB00 - - - -	- - - - - - - - - - - - -	- - - - - - - - - - - - -

2) 不适用于直流控制电压
 3) 用于就地手动合闸
 4) 如选用用于 3VF6/3VF7 的电动机操作机构, 断路器不应选用抽屉式

2) Not for DC voltages
 3) For local manual closing
 4) With 3VF6/3VF7 motorized drive mechanisms, do not use with withdrawable units

3VF3 至 3VF8 断路器, 3 极和 4 极, 至 2500A
3VF3 to 3VF8 Circuit-Breakers, 3 and 4-pole, up to 2500A

附件—连接件				
 断路器背后安装 Circuit-breaker rear mounting	 3VF9324-1LD10 用于 3VF3 的背后接线端子 3VF9324-1LD10 rear terminal for 3VF3	用于 3VF3 / For 3VF3	用于 3VF4 / For 3VF4	
		订货号 / Order No.	订货号 / Order No.	
3 极或 4 极 / 3 or 4-pole				
 插入式插座 安装于插入式插座上 Plug-in socket Mounting on plug-in socket	 3VF9524-1VA50 用于 3VF4/3VF5 的辅助导体插件 3VF9524-1VA50 Auxiliary conductor plug facility for 3VF4/3VF5	辅助导线插件 Auxiliary conductor plug facility 用于插入式断路器和抽屉式断路器。 for plug-in circuit breakers and withdrawable circuit-breakers. 安装在插入式断路器侧面 Lateral mounting 安装在背后 /Rear mounting 附加的侧面安装插头 Additional lateral plug 附加的背后安装插头 Additional rear plug	3VF9 624-1VA40 - 3VF9 624-1VJ40 - 3VF9 624-1VA50 3VF9 624-1VJ40 3VF9 624-1VJ50	
		抽出式工具 ¹⁾ Draw-out device ¹⁾ 用于插入式断路器和插入式安装底板 for plug-in circuit-breakers and plug-in sockets	3VF9 624-1VF00	3VF9 624-1VF00
 3VF9724-1LD10 用于 3VF7 的背后接线端子 3VF9724-1LD10 Rear terminal for 3VF7	 3VF9524-1FA10 用于正向连接的 3VF5 的插入式插座底板 3VF9524-1FA10 Plug-in socket with base plate for front connection for 3VF5	位置信号发送开关 Position signalling switch 用于导向框架 / for guide frame	-	
		只用于 3 极 / 3-pole only		
 3VF9624-1AD10 用于 3VF6 的多路进线端子 3VF9 624-1AD10 Multiple feed in terminal for 3VF6	 3VF9724-1JA10 用于 3VF7 的正向母排连接件 3VF9 724-1JA10 Front busbar connection pieces for 3VF7	正面母排连接件 Front busbar connection pieces 1 套= 3 件 / 1 set =3 items	3VF9 324-1JA10 3VF9 424-1JA10	
		背后导体连接件 Rear terminals 1 套= 3 件 / 1 set =3 items	3VF9 324-1LD10 3VF9 424-1LD10	
		用于连接扁铜排的接线端子 Terminals with phase barrier for flexible flat copper bars (20mm 宽, 10mm 厚) (20 mm in width, up to 10 mm thick) 1 套= 3 件 / 1 set =3 items	作为标准接线端子, 至 160A 已包含在断路器的基本供货范围内。 / with standard terminal up to 160 A incl. in the scope of supply of the circuit-breaker	作为标准接线端子, 已包含在断路器的基本供货范围内 with standard terminal incl. in the scope of supply of the circuit-breaker
		多路进线端子 Multiple feed-in terminals 1 套= 3 件 / 1 set =3 items	-	-
		插入式断路器插座底板 Plug-in socket complete with base plate and 2 terminal covers 用于正向连接 /for front connection 用于带 DI 模块的断路器 for circuit-breakers with DI module	3VF9 324-1FA10 3VF9 324-1FE10	3VF9 424-1FA10 3VF9 424-1FE10
		插入式断路器插座底板 Plug-in socket with base plate 用于背后连接 / for rear connection 用于带 DI 模块的断路器 for circuit-breakers with DI module	3VF9 324-1FB10 3VF9 324-1FF10	3VF9 424-1FB10 3VF9 424-1FF10
		导向框架 ²⁾ Guide frame ²⁾ 带底板和曲柄 with base plate and crank handle 正向接线 /for front connection 背后接线 /for rear connection	- -	- -
		端子罩盖、IP 30 Terminal covers IP 30 用于主接线端子 /for main terminal 1 套= 2 件 / 1 set = 2 items	3VF9 324-1NB10 用于电缆接线 for cable connection	3VF9 424-1NB10 用于电缆接线 for cable connection
		相间隔板 Interphase barrier 用于主接线端子 /for main terminal 1 套= 2 件 / 1 set = 2 items	3VF9 324-1RA10	3VF9 524-1RA10

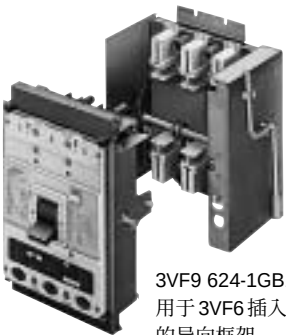
1) 用于方便地取出插入式 3VF 断路器
2) 采用带连接附件的插入式断路器(见第 22 页)

1) For easy removal of 3VF for series mounting
2) Use plug-in circuit-breaker with connection leads (see page 22)

3VF3 至 3VF8 断路器, 3 极和 4 极, 至 2500A
3VF3 to 3VF8 Circuit-Breakers, 3 and 4-pole, up to 2500A

Accessories - Connections				
	用于 3VF5 / For 3VF5	用于 3VF6 / For 3VF6	用于 3VF7 / For 3VF7	用于 3VF8 / For 3VF8
	订货号 / Order No.	订货号 / Order No.	订货号 / Order No.	订货号 / Order No.
	3VF9 624-1VA40	3VF9 624-1VA40	-	-
	3VF9 524-1VA50	3VF9 624-1VA50	3VF9 724-1VA50	-
	3VF9 624-1VJ40	3VF9 624-1VJ40	-	-
	3VF9 624-1VJ50	3VF9 624-1VJ50	3VF9 624-1VJ50	-
	3VF9 624-1VF00	3VF9 624-1VF00	-	-
	-	3VF9 624-1VL60 (1 对转换触头) (1 changeover contact)	3VF9 724-1VL60 (2 对转换触头) (2 changeover contact)	-
	3VF9 524-1JA10	供货时已提供 included in scope of supply of circuit-breaker	3VF9 724-1JA10	3VF9 824-1JA10 (至 /to 2000 A)
	3VF9 524-1LD10	3VF9 624-1LD10	3VF9 724-1LD10	3VF9 824-1LD10
	3VF9 524-1JB10	如需要, 请查询 on request	如需要, 请查询 on request	-
	-	3VF9 624-1AD10 (至 /to 630 A)	3VF9 724-1AD10	-
	3VF9 524-1FA10 3VF9 524-1FE10	3VF9 624-1FA10 -	- -	- -
	3VF9 524-1FB10 3VF9 524-1FF10	3VF9 624-1FB10 -	- -	- -
	- -	3VF9 624-1GA10 3VF9 624-1GB10	3VF9 724-1GA10 3VF9 724-1GB10	- -
	3VF9 524-1NB10 用于电缆接线 for cable connection	3VF9 624-1NB10 用于电缆接线或母排连接 for cable or busbar connection	-	-
	3VF9 524-1RA10	3VF9 624-1RA10	3VF9 724-1RA10	-

3VF3 至 3VF8 断路器, 3 极和 4 极, 至 2500A
3VF3 to 3VF8 Circuit-Breakers, 3 and 4-pole, up to 2500A

附件—连接件			
 3VF9 524-1NB10 用于 3VF5 的主接 线端子罩盖 3VF9 524-1NB10 Cover for main terminals for 3VF5 3VF9 524-1RA10 用于 3VF4/3VF5 的 相间隔板 3VF9 524-1RA10 Interphase barrier for 3VF4/3VF5  3VF9 624-1GB10 用于 3VF6 插入式断路器的 导向框架 3VF9 624-1GB10 Guide frame with 3VF6 plug- in circuit-breaker		用于 3VF3 / For 3VF3 订货号 / Order No.	用于 3VF4 / For 3VF4 订货号 / Order No.
		只用于 4 极 / 4-pole only	
	正向铜排连接件 Front busbar connection pieces 1 套 = 4 件 / 1 set = 4 items	3VF9 324-1JA20	3VF9 424-1JA20
	背后导体连接件 Rear terminal 1 套 = 4 件 / 1 set = 4 items	3VF9 324-1LD20	3VF9 424-1LD20
	用于连接扁铜排的接线端子 Terminals with phase barrier for flexible flat copper bars (20mm 宽, 10mm 厚) (20 mm in width, up to 10 mm thick) 1 套 = 4 件 / 1 set = 4 items	作为标准接线端子, 至 160A, 已包含在断路器的基本供货范 围内。 / With standard terminal up to 160A incl. in the scope of supply of the circuit-breaker	作为标准接线端子, 已包含在 断路器的基本供货范围内。 With standard terminal incl. in the scope of supply of the circuit-breaker
	多路进线端子 Multiple feed-in terminals 1 套 = 4 件 / 1 set = 4 items	-	-
	插入式断路器插座底板 Plug-in socket complete with base plate and 2 terminal covers 用于正向接线 / for front connection 用于带 DI 模块的断路器 for circuit-breakers with DI module	3VF9 324-1FA20 3VF9 324-1FE20	3VF9 424-1FA20 3VF9 424-1FE20
	插入式断路器插座底板 Plug-in socket complete with base plate and 2 terminal covers 用于背后接线 for rear connection 用于带 DI 模块的断路器 for circuit-breakers with DI module	3VF9 324-1FB20 3VF9 324-1FF20	3VF9 424-1FB20 3VF9 424-1FF20
	导向框架 ¹⁾ , 带底板和曲柄 Guide frame ¹⁾ , with base plate and crank handle 正向接线 for front connection 背后接线 for rear connection	- -	- -
	端部罩盖 IP 30 Terminal covers IP 30 用于主接线端子 for main terminal 1 套 = 2 件 / 1 set = 2 items	3VF9 324-1NB20 用于电缆接线 for cable connection	3VF9 424-1NB20 用于电缆接线 for cable connection

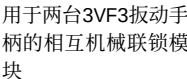
1) 采用带连接附件的插入式断路器(见第 22 页)

1) Use plug-in circuit-breaker with connection leads (see page 22)

3VF3 至 3VF8 断路器, 3 极和 4 极, 至 2500A
3VF3 to 3VF8 Circuit-Breakers, 3 and 4-pole, up to 2500A

Accessories - Connections				
	用于 3VF5 / For 3VF5	用于 3VF6 / For 3VF6	用于 3VF7 / For 3VF7	用于 3VF8 / For 3VF8
	订货号 / Order No.	订货号 / Order No.	订货号 / Order No.	订货号 / Order No.
	3VF9 524-1JA20	供货时已提供 included in scope of supply of circuit-breaker	3VF9 724-1JA20	3VF9 824-1JA20 (至 /to 2000 A)
	3VF9 524-1LD20	3VF9 624-1LD20	3VF9 724-1LD20	3VF9 824-1LD20
	3VF9 524-1JB20	如需要, 请查询 on request	如需要, 请查询 on request	-
	-	3VF9 624-1AD20 (至 /to 630 A)	3VF9 724-1AD20	-
	3VF9 524-1FA20 3VF9 524-1FE20	3VF9 624-1FA20 -	- -	- -
	3VF9 524-1FB20 3VF9 524-1FF20	3VF9 624-1FB20 -	- -	- -
	- -	3VF9 624-1GA20 3VF9 624-1GB20	3VF9 724-1GA20 3VF9 724-1GB20	- -
	3VF9 524-1NB20 用于电缆接线 for cable connection	3VF9 624-1NB20 用于电缆接线或母排连接 for cable or busbar connection	-	-

3VF3 至 3VF8 断路器, 3 极和 4 极, 至 2500A
3VF3 to 3VF8 Circuit-Breakers, 3 and 4-pole, up to 2500A

附件—联锁，罩盖			
 3VF9 520-1AA00 用于 3VF5 的柜门开孔防护框 3VF9 520-1AA00 Covering frame for door cutout for 3VF5		用于 3VF3 / For 3VF3	用于 3VF4 / For 3VF4
		订货号 / Order No.	订货号 / Order No.
	3 极或 4 极 / 3 or 4-pole		
 3VF9 523-1VC00 用于锁住 3VF4/3VF5 手柄的锁定装置 3VF9 523-1VC00 locking device for toggle handle for 3VF4/3VF5	断路器手柄的锁定装置 Locking device for toggle handle	3VF9 323-1VC00	3VF9 523-1VC00
	扳动手柄加长件 Toggle handle extension for retrofitting 直接套在断路器扳动手柄上 to the toggle handle of the circuit-breaker	-	3VF9 523-1VB00
	两个断路器的相互机械联锁 Mutual interlocking of two circuit-breakers 需另外订购 2 套门耦合旋转机构 ¹⁾ 2 door-coupling rotary mechanisms should be ordered separately ¹⁾	3VF9 523-1VL00	3VF9 523-1VL00
 3VF9 523-1VC00 用于锁住 3VF4/3VF5 手柄的锁定装置 3VF9 523-1VC00 locking device for toggle handle for 3VF4/3VF5	用于断路器柜门开孔的防护框 Covering frame for door cutout for circuit-breakers 不带 DI 模块 without DI module	3VF9 320-1AA00	3VF9 420-1AA00
	带 DI 模块 with DI module	3VF9 320-1AB00	3VF9 420-1AB00
	薄钢板外罩 IP 54，无旋转驱动机构 Sheet steel housing IP 54, without drive mechanism (塑料外壳，见 NS K 样本) (moulded-plastic housing, see NS K Catalog)	3VF9 324-1DA00	塑料外罩，见 NS K 样本 Moulded-plastic housing, see NS K catalog
 3VF9 323-1VG00 用于两台3VF3扳动手柄的相互机械联锁模块 3VF9 323-1VG00 module for mutual interlocking of toggle handle for 3VF3	附件： Accessories: 正面旋转机构 Front rotary drive 黑色手柄，可锁住 with black knob, lockable 不带超前动作辅助触头 without leading aux. contact 带超前动作辅助触头 2NO with leading aux. contact 2NO	3VF9 323-1AA00 3VF9 323-1AB00	
	或用作急停开关： or for use as EMERGENCY STOP switch: 正面旋转机构 Front rotary drive 红色手柄，黄色指示板，可锁住 with red knob and yellow indicator plate, lockable 不带超前动作辅助触头 without leading aux. contact 带超前动作辅助触头 2NO with leading aux. contact 2NO	3VF9 323-1BA00 3VF9 323-1BB00	
		只用于 3 极 / 3-pole only	
 3VF9 523-1VL00 用于 3VF3 至 3VF7 带旋转驱动机构的两台断路器之间的相互机械联锁 3VF9 523-1VL00 mutual interlocking of two circuit-breakers with rotary drive, for 3VF3 to 3VF7 complete for mounting in doors and covers	扳动手柄的相互联锁模块 ²⁾ Module for mutual interlocking of toggle handles ²⁾	3VF9 323-1VG00	3VF9 423-1VG00

1) 见第 28 页

2) 仅用于带连接线的型式

1) See page 28

2) Only for versions with connecting leads

3VF3 至 3VF7 断路器, 3 极和 4 极, 至 1250A
3VF3 to 3VF7 Circuit-Breakers, 3 and 4-pole, up to 1250A

Accessories - Interlockings, covers				
	用于 3VF5 / For 3VF5	用于 3VF6 / For 3VF6	用于 3VF7 / For 3VF7	用于 3VF8 / For 3VF8
	订货号 / Order No.	订货号 / Order No.	订货号 / Order No.	订货号 / Order No.
	3VF9 523-1VC00	3VF9 623-1VC00	3VF9 723-1VC00	-
	3VF9 523-1VB00	3VF9 623-1VB00	随断路器一起提供 included in scope of delivery of the circuit-breaker	随断路器一起提供 included in scope of delivery of the circuit-breaker
	3VF9 523-1VL00	3VF9 623-1VL00	3VF9 623-1VL00	-
	3VF9 520-1AA00 3VF9 520-1AB00	3VF9 620-1AA00 -	3VF9 720-1AA00 -	3VF9 820-1AA00 -
	塑料外罩, 见 NS K 样本 Molded plastic, see NS K Catalog	塑料外罩, 见 NS K 样本 Molded plastic, see NS K Catalog	塑料外罩, 见 NS K 样本 Molded plastic, see NS K Catalog	-
	3VF9 523-1VG00	3VF9 623-1VG00	-	-

3VF3 至 3VF5 断路器, 3 极和 4 极, 至 400A 3VF3 to 3VF5 Circuit-Breakers, 3 and 4-pole, up to 400A

带 DI 模块的 3VF 断路器

3VF circuit-breakers with DI module

应用场合

- 在 TT, IT 和 TN 系统中保护人身安全
(设定 $I_{\Delta n}=30\text{mA}$, t_d 为瞬时)¹⁾
- 防止由接地故障引起的线路和设备的过载或损坏

DI 模块(漏电保护模块)在三相或四相系统中(交流或脉动直流)检测接地故障电流,使断路器分断故障电路。将 DI 模块接在 3VF 断路器上,不会对断路器的特性和性能产生任何影响。

标准

带 DI 模块的断路器符合 IEC947-2 或 DIN VDE0660 第 101 部分标准, DI 保护符合 IEC947-2, 附录 B 的标准。

电磁兼容性(EMC)符合 IEC801-2~5 标准。

整定

- 漏电电流动作值 $I_{\Delta n}$ 从 30mA 至 30A 可调
- 动作延迟时间从瞬时至 1s 可调。但对 $I_{\Delta n}=30\text{mA}$ 为瞬时。
- 控制面板上的试验按钮用来对电流互感器, DI 模块等进行电气试验。

显示 / 分励脱扣

DI 模块引起的脱扣可由断路器面板或远距离监控信号发送辅助触头显示出来。DI 脱扣器也可用作分励脱扣器远距离使断路器脱扣。

带 DI 模块的断路器只能从上端接进线电源。

带 DI 模块的断路器(3 极和 4 极)可带辅助和报警开关。

Application

- Safety of persons in TT, IT and TN systems
(set to $I_{\Delta n} = 30 \text{ mA}$, t_d instantaneous)¹⁾
- Protection of plant and equipment against overload or damage by earth faults (earth-fault protection)

The DI module is used for the detection of fault currents in a 3 or 4 conductor system (AC or pulsating DC) and causes the circuit-breaker to switch off the faulty circuit. Integration of a DI module into a 3VF circuit-breaker has no effect on its characteristics.



图 14 带 DI 模块的 3VF5 断路器
Fig. 14 3VF5 Circuit-Breaker with DI module

Standards

Circuit-breakers with a DI module correspond to IEC 60947-2 or DIN VDE 0660, Part 101, so the DI protection corresponds to IEC 60947-2, Appendix B.

Electromagnetic compatibility (EMC) meets with IEC 801-2 to 5.

Settings

- The response differential current $I_{\Delta n}$ is adjustable in steps from 30 mA to 30 A.
- The response delay is adjustable in steps from instantaneous to 1 s.
Exception: Instantaneous trip for $I_{\Delta n} = 30 \text{ mA}$
- The setting knobs can be made inaccessible with seals
- A test button is located at the control panel. It can be used for electronic testing of the current transformer, the evaluation electronics and the DI module in the circuit-breaker

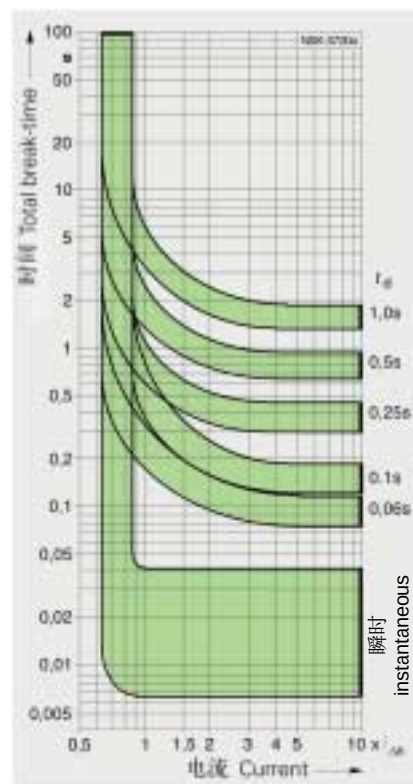


图 15 DI 模块的脱扣特性
Fig. 15 Tripping characteristics of a DI module

Displays/Shunt trips

A visual display on the cover of the circuit-breaker and an auxiliary contact for remote monitoring indicate the trip of the circuit-breaker by the DI release. The DI release can also be used as a shunt trip for remote tripping of the circuit-breaker.

The combination of circuit-breaker and DI module can only be fed from the top. The 3VF circuit-breakers (3 and 4-pole) with DI module can be supplied with auxiliary and alarm switches (2nd Order No. supplement, see pages 22 and 23)

1) 按照 IEC 标准(非 DIN VDE0100, 第 410 部分)

2) 不适用于电子式脱扣器(订货号的第 11 个位置为“5”或“6”)

1) Acc. to IEC (not DIN VDE 0100, Part 410)

2) Not for electronic releases (“5” or “6” in 11th position on the Order No.)

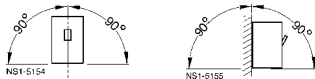
3VF3 至 3VF5 断路器, 3 极和 4 极, 至 400A
3VF3 to 3VF5 Circuit-Breakers, 3 and 4-pole, up to 400A

选型和订货参数						Selection and ordering data	
带 DI 模块的 3VF 断路器 3VF circuit-breakers with DI module							
DI 模块由生产厂装配于断路器上供货 The DI module is only supplied integrated into the circuit-breaker by the manufacturer. 订货时, 在订货号最后加 “-Z” 和相应订货代码 When ordering, add Order No. suffix "-Z" to the complete Order No. and add the relevant order code.							
用于 3 极或 4 极断路器 Circuit-breakers, 3 and 4-pole	额定电流 Rated current I_n A	漏电流 Differential currents $I_{\Delta N}$ 可调节 adjustable A	延迟时间 t_d 可调节 Delay time t_d adjustable s	额定电压 Rated operational voltage U_e V	带 “-Z” 的断路器订货号 3VF .. - .. - 0A .. -Z 和附加的代码 Order No. with "-Z" 3VF .. - .. - 0A .. -Z and additional order code □□□	DI 模块的重量 Additional weight for circuit-breaker 3 极 3-pole kg 4 极 4-pole kg	
						具有附加规格的 订货代号 - Z Identification code for "further versions" -Z	
3VF31 用于线路或 电动机保护 3VF32 For line or motor protection 3VF4	100 160 250	0.03 0.1 0.3 0.5 1.0 3.0	瞬时 / no delay 0.06 0.1 0.25 0.5 1.0	110-415 110-690	A01 A02	0.48 0.48 0.94	0.5 0.5 1.25
3VF5 用于线路 保护 ²⁾ For line protection ²⁾	400	10 30				1.18	1.21

3VF2 断路器, 3 极和 4 极, 至 100A
3VF2 Circuit-Breakers, 3 and 4-pole, up to 100A

技术参数		Technical data
符合标准 / Specifications		IEC 60947, EN 60947
最大额定电流 / Max. rated current I_n	A	16 to 100
额定绝缘电压 / Rated insulation voltage U_i		
主回路 / Main circuits	AC V	500
控制回路 / Control circuits	AC V	415
额定脉冲耐受电压 U_{imp} Rated surge withstand capability U_{imp}		
主回路 / Main circuits	kV	6
控制回路 / Control circuits	kV	4
额定工作电压 / Rated operational voltage U_e IEC		AC V up to 415
允许环境控制温度 Permissible ambient temperature	°C	-20 to +70
允许负载 / Permissible load 断路器附近不同的环境温度下, 对应的断路器额定电流 for various ambient temperatures 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 40°C %	100
	50°C %	92
	55°C %	87
	60°C %	83
	70°C %	73
额定短路接通和分断能力 Rated short-circuit making and breaking capacity		
额定极限短路分断能力 I_{cu} Rated ultimate short-circuit breaking capacity I_{cu}		
	up to 240 V kA	65
	up to 415 V kA	18
额定运行短路分断能力 I_{cs} Rated service short-circuit breaking capacity I_{cs}		
	up to 240 V kA	33
	up to 415 V kA	9
额定运行短路接通能力 I_{cm} Rated service short-circuit making capacity I_{cm}		
	up to 240 V kA	143
	up to 415 V kA	36
主开关 - 特性(IEC60947-2) 带可锁定旋转驱动机构 Main switch - characteristics (IEC 60947-2) with lockable rotary drives		符合 yes
急停型开关特性(DIN VDE0113) EMERGENCY STOP switch characteristics (DIN VDE 0113)		符合 yes
机械寿命 Endurance, mechanical	操作次数 Operating cycles	10000
操作频率 / Operating frequency	1/h	120
主回路导体截面积和接线端子型式(铜或铝) Conductor cross-sections and terminal types for main conductors (copper or aluminum) 端子型式 / Terminal types 单股线或多股线 / Solid or stranded		
	up to 40 A mm ²	2.5 ~ 10
	45~100A mm ²	16 ~ 50
盒式接线端子的拧紧力矩 Tightening torque for box terminals	Nm	4.0/5.7

3VF2 断路器, 3 极和 4 极, 至 100A
3VF2 Circuit-Breakers, 3 and 4-pole, up to 100A

技术参数		Technical data	
控制回路的导体截面积 Conductor cross-sections for control circuits with terminal connection or terminal strip 单股线 / Solid 螺钉的拧紧力矩 Tightening torque for fitting screws		mm ² Nm	0.5 ~ 2.5 0.9
每台断路器的功率消耗当断路器处于 最大额定电流 I_n 和三相平衡负载时 Power loss per circuit-breaker at max. rated current I_n at three-phase symmetrical load 用于线路保护 -for line protection		W	16
允许安装位置 Permissible mounting position			
辅助开关 / Auxiliary switches			
额定持续热电流 I_{th} Rated continuous thermal current I_{th}	A	6	
额定接通能力 Rated making capacity	A	15	
AC (AC-15) - 额定工作电压 - Rated operational voltage - 额定工作电流 - Rated operational current	V A	240 6	
DC (DC-13) - 额定工作电压 - Rated operational voltage - 额定工作电流 - Rated operational current	V A	125 0.5	
后备熔断器 Back-up fuse	A	4	
脱扣器 / Releases			
分励脱扣器(“ r ” — 脱扣器) Shunt trips (“r”-releases) 工作电压 Operating voltage - 断路器脱扣 - Pickup (breaker trips)		0.7 to 1.1 U_s	
功率消耗(短时): Power consumption (short-time) at:			
AC50/60Hz 12-24V	VA	108	
AC50/60Hz 48-60V	VA	120	
AC50/60Hz 48-127V	VA	162	
DC12-24V	W	14.4	
DC48-60V	W	19.2	
DC110-125V	W	38.4	
DC220-250V	W	44	
最长通电时间 Max. in-service period		自动断电 interrupts automatically	
最长断开时间 Max. opening time	ms	50	

3VF3 至 3VF8 断路器, 3 极和 4 极, 至 2500A
3VF3 to 3VF8 Circuit-Breakers, 3 and 4-pole, up to 2500A

技术参数											Technical data						
型号		3VF3		3VF4		3VF5		3VF6		3VF7		3VF8					
最大额定电流 I_n 与断路器类别有关		A		160/205;225		200/250		315/400		500/630/800		800/1250		1600/2000		2500	
额定绝缘电压 U_i (按照 IEC60947-2)																	
主回路		AC V		750		750		750		750		750		750			
控制回路		AC V		690		690		690		690		690		690			
额定脉冲耐受电压 U_{imp}																	
主回路		kV		8													
控制回路		kV		4													
额定工作电压 U_e		AC V		690 ¹⁾		690		690		690		690		690			
允许环境温度		°C		-20 to +70								-5 to +60					
允许负载																	
断路器附近不同的温度下, 负载与断路器的额定电流关系																	
- 线路保护型断路器		40°C %		100		100		100		100		100		100		100	
		50°C %		96		92		96		94		96		92		100	
		55°C %		93		87		94		90		93		87		100	
		60°C %		91		83		92		87		90		84		100	
		70°C %		86		73		88		80		85		75		85	
												84		70		84	
- 电动机保护型断路器		40°C %		100/100		-		100		100		-		-			
		50°C %		100/96		-		100		100		-		-			
		55°C %		100/90		-		100		100		-		-			
		60°C %		100/86		-		100		100		-		-			
		70°C %		100/77		-		87		90		-		-			
- 起动机组合用断路器 及隔离型断路器		40°C %		100		100		100		100		100		100		100	
		50°C %		100		100		100		100		91		100		100	
		55°C %		96		96		95		95		85		100		96	
		60°C %		91		92		90		90		81		100		92	
		70°C %		86		88		85		84		-		-		-	
额定短路接通和分断能力(DC) 不适用于电动机保护型断路器 时间常数 $\tau = 10\text{ms}$ 1 极 2 极串联 3 极串联 3 极串联 对于 3VF3~3VF6 至 DC250V DC440V DC600V DC750V		kA		20		20		20		20		- 2)		- 2)			
主开关—特性(IEC60947-2) 带可锁定旋转驱动机构				符合		符合		符合		符合		符合		符合			
急停型开关特性(DIN VDE0113)				符合		符合		符合		符合		符合		符合			
额定短路分断能力 按照 IEC947-2 标准(AC50/60Hz) ⁷⁾				额定短路分断能力, 见 47 页													
寿命		机械寿命		10 000		10 000		8000		8000		3000		3000			
		电寿命		6000		6000		6000		6000		500		500			
最大操作频率		1/h		300		240		240		240		60		20			
主回路导体截面积和接线端子型式 ⁵⁾ 端子型式 单股线或多股线 带端子的细多股线 母排 多路进线端子(附件) Cu 或 Al, 多股线 盒式接线端子的拧紧力矩 母排连接件的拧紧力矩		mm ² mm ² mm mm ² Nm Nm		2.5 to 70;95 2.5 to 50;70 - - 5/9 4.5/4.5		50 to 150 35 to 120 - - 20 15		95 to 240 70 to 150 - - 42 30		- - 1x40x10 ⁴⁾ 2x(185~240) 31 6		- - 2x40x10 ³⁾ / 4x(95~185) 31 50		- - 2x60x10 ³⁾ / 2x80x10 - 37		- - 3x80x10 - 20	
控制回路的导体截面积 ⁶⁾ 单股线 带端子的细多股线 带裸线头的电缆线 螺钉的拧紧力矩		mm ² mm ² mm ² Nm		0.75 to 2.5 0.75 to 2.5 0.82(AWG 18) 0.8 to 1.4		0.75 to 2.5 0.75 to 2.5 0.82(AWG 18) 0.8 to 1.4		0.75 to 2.5 0.75 to 2.5 0.82(AWG 18) 0.8 to 1.4		0.75 to 2.5 0.75 to 2.5 0.82(AWG 18) 0.8 to 1.4		to 2x4 to 2x2.5 0.82(AWG 18) 0.8 to 1.4		to 2x4 to 2x2.5 0.82(AWG 18) 0.8 to 1.4			
每台断路器的功率消耗 当断路器处于最大额定电流 I_n 和三相平衡负载时				(如需要, 应考虑欠电压脱扣器(r- 脱扣器)的功率消耗)													
- 用于线路保护		W		60		75		175		75		255		120		87/210	
- 用于隔离开关		W		45		75		107		160						135/240	
- 用于起动机组合		W		45		45		107		160						135/240	
- 用于电动机保护		W		60		-		75		120						-	
允许安装位置																	

1) 对于断路器额定电流 ≤ 40A, U_e 最大为 415V。

2) 不适用于直流开关操作。

3) 母排连接件(见附件)。

4) 800 A : $3 \times 40 \times 5$ 。

5) 表示导体的最大截面积

6) 可接 2 股导体

7) 也可以用于 400Hz 的网络, 如需要请查询有关技术数据。

① 热过载脱扣器整定在最大值, 或指固定式热过载脱扣器。

② 热过载脱扣器整定在最小值

③ 电子式脱扣器

3VF3 至 3VF8 断路器, 3 极和 4 极, 至 2500A
3VF3 to 3VF8 Circuit-Breakers, 3 and 4-pole, up to 2500A

技术参数				Technical data				
Type		3VF3	3VF4	3VF5	3VF6	3VF7	3VF8	
Max. rated current I_n depending on version	A	160/205;225	200/250	315/400	500/630/800	800/1250	1600/2000	2500
Rated insulation voltage U_i acc. IEC 60947-2								
Main circuits	AC V	750	750	750	750	750	750	
Control circuits	AC V	690	690	690	690	690	690	
Rated surge withstand capability U_{imp}								
Main circuits	kV	8						
Auxiliary circuits	kV	4						
Rated operational voltage U_e								
IEC	AC V	690 ¹⁾	690	690	690	690	690	
Permissible ambient temperature	°C	-20 to +70				-5 to +60		
Permissible load for various ambient temperatures close to the circuit-breaker, related to the rated current of the circuit-breaker		①	②	①	②	①	②	③
-Circuit-breakers	at 40°C %	100	100	100	100	100	100	100
for plant protection	50°C %	96	92	96	94	96	91	100
	55°C %	93	87	94	90	93	86	100
	60°C %	91	83	92	87	90	82	100
	70°C %	86	73	88	80	85	75	85
-Circuit-breakers	at 40°C %	100/100	-	100	100	-	-	-
for motor protection	50°C %	100/96	-	100	100	-	-	-
	55°C %	100/90	-	100	100	-	-	-
	60°C %	100/86	-	100	100	-	-	-
	70°C %	100/77	-	87	90	-	-	-
-Circuit-breakers	at 40°C %	100	100	100	100	100	100	100
for starter combinations	50°C %	100	100	100	100	91	100	100
and non-automatic circuit-breakers	55°C %	96	96	95	95	85	100	96
	60°C %	91	92	90	90	81	100	92
	70°C %	86	88	85	84	-	-	-
Rated short-circuit breaking capacity (DC) not for 3VF circuit-breakers for motor protection								
Time constant $\tau = 10$ ms								
1 conducting path								
2 conducting paths in series								
3 conducting paths in series								
4 conducting paths in series								
for 3VF3 to 3VF6								
up to DC 250 V DC 440 V DC 600 V DC 750 V	kA	20	20	20	20	- 2)	- 2)	
Main switch - characteristics (IEC 60947-2) with lockable rotary drives		yes	yes	yes	yes	yes	yes	
EMERGENCY STOP switch characteristics (DIN VDE 0113)		yes	yes	yes	yes	yes	yes	
Rated short-circuit breaking capacity acc. IEC 60947-2 (AC 50/60 Hz) ⁷⁾		Rated short-circuit breaking capacity, see page 47						
Endurance								
Mechanical endurance		10 000	10 000	8000	8000	3000	3000	
Electrical endurance		6000	6000	6000	6000	500	500	
Max operating frequency	1/h	300	240	240	240	60	20	
Conductor cross-sections and terminal types for main conductors ⁵⁾		Box-terminal	Box-terminal	Box-terminal	Flat-terminal	Flat-terminal	Flat-terminal	Vertical busbar mounting
Terminal types								
Solid or stranded	mm ²	2.5 to 70;95	50 to 150	95 to 240	-	-	-	-
Finely-stranded with end sleeve	mm ²	2.5 to 50;70	35 to 120	70 to 150	-	-	-	-
Busbar	mm	-	-	-	1x40x10 ⁴⁾	2x40x10 ³⁾	2x60x10 ^{3)/} 2x80x10 ³⁾	3x80x10
Multiple feed-in terminal (accessory)								
Cu or Al, stranded	mm ²	-	-	-	2x(185-240)	4x(95-185)	-	-
Tightening torque for box terminals	Nm	5/9	20	42	31	31	-	-
Tightening torque for busbar connection pieces	Nm	4.5/4.5	15	30	6	50	37	20
Conductor cross-sections for control circuits ⁶⁾								
Solid	mm ²	0.75 to 2.5	0.75 to 2.5	0.75 to 2.5	0.75 to 2.5	to 2x4	to 2x4	
Finely-stranded with end sleeve	mm ²	0.75 to 2.5	0.75 to 2.5	0.75 to 2.5	0.75 to 2.5	to 2x2.5	to 2x2.5	
with brought-out cable ends	mm ²	0.82(AWG 18)	0.82(AWG 18)	0.82(AWG 18)	0.82(AWG 18)	0.82(AWG 18)	0.82(AWG 18)	
Tightening torque for fitting screws	Nm	0.8 to 1.4	0.8 to 1.4	0.8 to 1.4	0.8 to 1.4	0.8 to 1.4	0.8 to 1.4	
Power loss per circuit-breaker at max. rated current I_n at three-phase symmetrical load		(The power losses of the undervoltage releases ("r" releases) must be observed if necessary)						
- for plant protection	W	60	75	175	75	255	120	87/210
- for non-automatic circuit-breakers	W	45	75	107	160	87/210	135/240	400
- for starter combinations	W	45	45	107	160	-	-	-
- for motor protection	W	60	-	75	120	-	-	-
Permissible mounting position								

- 1) With circuit-breakers with rated currents ≤ 40 A: U_e maximum 415V.
- 2) Not suitable for DC switching
- 3) Busbar connection pieces (see accessories)
- 4) 800 A: $3 \times 40 \times 5$
- 5) Max cross-section only, once cross-section smaller: up to sum of max. cross-sections
- 6) 2 conductor connections
- 7) Can also be used in 400 Hz networks. Technical data available on request.
 - ① Thermal overload release set to upper value, resp. the thermal overload release with fixed setting.
 - ② Thermal overload release set to lower value.
 - ③ Electronic release.

3VF3 至 3VF8 断路器, 3 极和 4 极, 至 2500A
3VF3 to 3VF8 Circuit-Breakers, 3 and 4-pole, up to 2500A

技术参数		Technical data					
型号 / Type		3VF3	3VF4	3VF5	3VF6	3VF7	3VF8
辅助开关 / Auxiliary switches							
约定发热电流 I_{th} Conventional thermal current I_{th}	A	6	6	6	6	6	6
额定接通能力 / Rated making capacity	A	20	20	20	20	20	20
AC (AC-15)							
- 额定工作电压 / Rated operational voltage	V	230 415 690	230 415 690	230 415 690	230 415 690	230 415 690	230 415 690
- 额定工作电流 / Rated operational current	A	6 3 0.25	6 3 0.25	6 3 0.25	6 3 0.25	6 3 0.25	6 3 0.25
DC (DC-13)							
- 额定工作电压 / Rated operational voltage	V	24 125 240	24 125 240	24 125 240	24 125 240	24 125 240	24 125 240
- 额定工作电流 / Rated operational current	A	6 0.5 0.15	6 0.5 0.15	6 0.5 0.15	6 0.5 0.15	6 0.5 0.15	6 0.5 0.15
后备熔断器 / Back-up fuse	A	6 4 4	6 4 4	6 4 4	6 4 4	6 4 4	6 4 4
小型断路器 / Miniature circuit-breaker	A	6 4 4	6 4 4	6 4 4	6 4 4	6 4 4	6 4 4
超前动作辅助开关(只与旋转驱动装置合用) / Leading auxiliary switches (only in combination with rotary drive)							
约定发热电流 I_{th} Conventional thermal current I_{th}	A	2				-	16
额定接通能力 Rated making capacity	A	2(感性 0.5) 2 (inductive 0.5)				-	60
AC $\cos \varphi$ 0.7							
- 额定工作电压 / Rated operational voltage	V	220				-	380
- 额定工作电流 / Rated operational current	A	2(感性 0.5) / 2 (inductive 0.5)				-	6
- 额定分断能力 / Rated breaking capacity	A	2				-	60
后备熔断器(快速动作型) Back-up fuse (quick-response)	A	2				-	16
脱扣器 / Releases							
欠电压脱扣器("r"-脱扣器) Undervoltage releases ("r"-releases)							
动作电压 / Response voltage	V	0.7~0.35 U_s	0.7~0.35 U_s	0.7~0.35 U_s	0.7~0.35 U_s	0.7~0.35 U_s	0.7~0.35 U_s
- 断路器脱扣 - Drop (breaker tripped)	V	0.85~1.1 U_s	0.85~1.1 U_s	0.85~1.1 U_s	0.85~1.1 U_s	0.85~1.1 U_s	0.85~1.1 U_s
- 允许断路器合闸 - Pickup (breaker may be switched on)	V	0.85~1.1 U_s	0.85~1.1 U_s	0.85~1.1 U_s	0.85~1.1 U_s	0.85~1.1 U_s	0.85~1.1 U_s
功率消耗(持续工作): Power consumption (continuous operation) at:							
AC50/60Hz 12V	VA	2.5	1.6	1.6	1.6	1.9	2.9
AC50/60Hz 24V	VA	1.4	6.0	6.0	6.0	2.4	3.1
AC50/60Hz 48-60V	VA	1.2-1.9	3.2-5.5	3.2-5.5	3.2-5.5	2.3-4.1	3.4-6.0
AC50/60Hz 110-127V	VA	1.3-1.7	2.2-2.9	2.2-2.9	2.2-2.9	3.4-4.2	3.3-3.8
AC50/60Hz 208-240V	VA	2.2-2.9	3.5-4.6	3.5-4.6	3.5-4.6	4.8-6.5	4.2-7.2
AC50/60Hz 380-500V	VA	2.9-5	3.9-6.9	3.9-6.9	3.9-6.9	6.8-12.0	3.8-10.0
DC12V	W	2.8	2.5	2.5	2.5	2.8	3.4
DC24V	W	1.6	3.1	3.1	3.1	3.6	4.3
DC48-60V	W	1.3-2.0	3.5-5.4	3.5-5.4	3.5-5.4	3.5-6.5	4.8-7.2
DC110-125V	W	1.5-1.9	3.2-4.1	3.2-4.1	3.2-4.1	2.9-3.6	3.3-3.8
DC220-250V	W	2.6-3.4	5.5-6.9	5.5-6.9	5.5-6.9	4.8-6.3	6.6-7.5
最长断开时间 / Max. opening time	ms	50	50	50	50	80	80
分励脱扣器("f"-脱扣器) Shunt trips ("f"-releases)							
工作电压 / Operating voltage	V	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
- 断路器脱扣 - Pickup (breaker trips)	V	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
功率消耗(短时): Power consumption (short-time) at:							
AC50/60Hz 12-24V	VA	40-300	87-405	87-405	81-701	86-631	177-1207
AC50/60Hz 48-60V	VA	-	710-1105	710-1105	58-90	48-71	443-731
AC50/60Hz 48-127V	VA	92-640	-	-	-	-	-
AC50/60Hz 110-240V	VA	51-240	66-432	66-432	118-665	81-505	323-1466
AC50/60Hz 380-440V	VA	-	127-188	127-188	125-181	43-68	1193-1641
AC50/60Hz 380-600V	VA	278-700	-	-	-	-	-
AC50/60Hz 480-600V	VA	-	34-60	34-60	43-79	41-69	197-312
DC12-24V	W	54-400	164-631	164-631	79-1000	46-405	289-865
DC48-60V	W	100-160	830-1580	830-1580	18-31	58-94	468-696
DC110-125V	W	55-71	112-150	112-150	112-150	74-98	363-473
DC220-250V	W	110-140	40-58	40-58	38-52	38-49	513-665
最长通电时间 / Max. in-service period	s	自动断电 / interrupts automatically					
最长断开时间 / Max. opening time	ms	50	50	50	50	62	62

3VF3 至 3VF8 断路器, 3 极和 4 极, 至 2500A
3VF3 to 3VF8 Circuit-Breakers, 3 and 4-pole, up to 2500A

技术参数		Technical data					
		3VF3	3VF4	3VF5	3VF6	3VF7	3VF8
电动机操作机构 / Motorized operating mechanism							
功率消耗 / Power consumption	W	200	200	200	300	1000	2000
额定工作电压 U_s	AC 50/60Hz V	-	42	-	110/127	220/240	110/127 220/240
Rated operating voltage	DC V	24	48	60	110	220	48 - 48 -
后备熔断器 Back-up fuse 或小型断路器 or miniature circuit-breaker	A	10 (at 3VF6: 16A)	6 (at 3VF6: 10A)	6	6	25 (at 16 DC 32A)	32 20
工作范围 Operating range	V	0.85 ~ 1.1 U_s	0.85 ~ 1.1 U_s	0.85 ~ 1.1 U_s	0.85 ~ 1.1 U_s	0.85 ~ 1.1 U_s	0.85 ~ 1.1 U_s
U_s 时最短操作持续时间 Minimum command duration at U_s	s	1	1	1	1	0.5	0.03
全部闭合或断开时间 Total make or break time	s	1	1	1	1	0.5	0.5
重合闸间隙 Reclosing after approx.	s	2	2	2	2	2	60
最大允许开关频率 Max permissible switching frequency	1/h	120	120	60	60 (4-pole: 20)	60	20
最长操作持续时间 Max command duration	s	微动开关, 按钮或持续指令(随线路而定) Jog key, pushbutton or persistant command (depending on circuit)					
同步电动机操作机构 / Synchronizable motorized operating mechanism							
功率消耗 Power consumption	W	-	200	200	300	-	-
额定工作电压 U_s	AC 50/60 Hz V	-	-	42	-	110/127 220/240	-
Rated operating voltage	DC V	-	24	48	60	110 220	-
后备熔断器 / Back-up fuse 或小型断路器 / or miniature circuit-breaker	A	-	10	6	6	6	-
			(3VF6: 10A)				
工作范围 Operating range	V	-	0.85~1.1 U_s	0.85~1.1 U_s	0.85~1.1 U_s	-	-
U_s 时最短操作持续时间 Minimum command duration at U_s	ms	-	45	45	45	-	-
全部闭合时间 Total switching on time	ms	-	50	50	50	-	-
断开时间 Switching off time	s	-	1	1	1	-	-
储能时间 Charging time	s	-	2	2	2	-	-
重合闸间隙 Reclosing after approx.	s	-	3	3	3	-	-
最大允许开关频率 Max permissible switching frequency	1/h	-	60	60	30 (4-pole: 20)	-	-
最长操作持续时间 Max command duration	s	-	微动开关, 按钮或持续指令(随线路而定) Jog key, pushbutton or persistant command (depending on circuit)				
电磁线圈操作机构 / Solenoid operated mechanism							
闭合电流 Making current							
在额定工作电压 at rated operating voltage							
AC 110/120V, DC 110/120V	A	20	-	-	-	-	-
AC 220/240V, DC 220/240V	A	11					
后备熔断器 Backup fuse							
在额定工作电压 at rated operating voltage							
AC 110/120V, DC 110/120V	A	6					
AC 220/240V, DC 220/240V	A	4					
工作范围 / 线圈电压误差 Operating range / Coil voltage tolerance	V	0.85 ~ 1.1 U_s	-	-	-	-	-
U_s 时最短操作持续时间 Minimum command duration at U_s	ms	30					
全部闭合或断开时间 Total make or break time	ms	80					
一次操作后所需最短间隔时间 Required min. time after one switching cycle	s	15					

3VF3 至 3VF8 断路器, 3 极和 4 极, 至 2500A
3VF3 to 3VF8 Circuit-Breakers, 3 and 4-pole, up to 2500A

技术参数 Technical data

直流开关负载
具有“an”型脱扣器的线路保护型 3VF3 至 3VF6 断路器可用来通断直流负载。
具有“azn”型脱扣器的线路保护型 3VF5 至 3VF8 断路器, 及电动机保护型 3VF 断路器不能用于直流回路, 因为这些断路器采用带微处理器电子式过电流脱扣器。
在通断直流时, 必须考虑每个导通回路的最大允许直流电压。
在电压较高时, 应将 2 个或 3 个导电回路串联使用。
为了保证热脱扣特性不变, 当电流流过所有导电回路时, 推荐采用下列线路方案。

对于直流应用场合, 短路瞬时脱扣值(“n”脱扣器)会增加 30 ~ 40%。

DC Switching
3VF3 to 3VF6 circuit-breakers for line protection with overcurrent release version “an” are also suitable for DC switching.
3VF5 to 3VF8 circuit-breakers for line protection with overcurrent release version “azn” and 3VF for motor protection are not suitable for DC switching because of the electronic overload release.
For switching DC, the max. permissible DC voltage per conducting path must be considered.
At higher voltages, 2 or 3 conducting paths must be connected in series.
As the current has to flow through all the conducting paths so as to maintain the thermal tripping characteristics, the following circuit arrangements are recommended. With DC, the trip values of the instantaneous short-circuit release(“n” 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 极短路器 /For 3 and 4 pole circuit-breakers		
	DC250V	双极通断 / Double pole switching 如果没有对地故障危险, 或任何对地故障能够马上消除, 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.
	DC440V	双极通断(接地系统) / Double pole switching (earthed system) 接地极必须始终是单独极, 因而出现接地故障时, 另两极始终是串联的。 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.
	DC600V	单极通断(接地系统) / Single pole switching (earthed system) 3 个极串联, 接地极必须指定为非开关极。 3 conducting paths in series. The earthed pole must be assigned to the non-switched conducting path.
	DC750V	单极通断(接地系统) / Single pole switching (earthed system) 4 个极串联, 接地极必须指定为非开关极。 4 conducting paths in series. The earth pole must be assigned to the non-switched conducting path

短路接通能力, 短路分断能力和相应的功率因数的关系(按照 IEC60947-2)
Relation between the short-circuit making capacity, short-circuit breaking capacity and the related power factor.
(acc. IEC60947-2)

短路分断能力 Short-circuit breaking capacity I A	功率因数 Power factor $\cos\phi$	短路接通能力的最小值 Minimum value for short-circuit making capacity (短路分断能力的 n 倍) (n times short-circuit breaking capacity) $n \times I$
$4\,500 < I \leq 6\,000$	0.7	$1.5 \times I$
$5\,000 < I \leq 10\,000$	0.5	$1.7 \times I$
$10\,000 < I \leq 20\,000$	0.3	$2.0 \times I$
$20\,000 < I \leq 50\,000$	0.25	$2.1 \times I$
$50\,000 < I$	0.2	$2.2 \times I$

3VF3 至 3VF8 断路器, 3 极和 4 极, 至 2500A
3VF3 to 3VF8 Circuit-Breakers, 3 and 4-pole, up to 2500A

技术参数													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}																			
3VF 电动机保护型断路器 / 3VF circuit-breakers for motor protection																						
型号 / Type			3VF3					3VF5					3VF6									
额定电流 / Rated current I_n A			200					315					500									
up to AC 220/240V I_{cu} kA I_{cs} kA			85	100				65	100				65	100								
			85	100				33	50				33	50								
up to AC 380/415V I_{cu} kA I_{cs} kA			40	70				40	65				40	65								
			40	70				20	33				20	33								
up to AC 440V I_{cu} kA I_{cs} kA			25	40				35	50				35	50								
			13	20				18	25				18	25								
up to AC 500V I_{cu} kA I_{cs} kA			18	25				30	42				30	42								
			9	13				15	21				15	21								
up to AC 690V I_{cu} kA I_{cs} kA			12	14				20	25				20	25								
			6	7				10	13				10	13								
3VF 线路保护型断路器 / 3VF circuit-breakers for line protection																						
型号 / Type		3VF2	3VF3	3VF3 ¹⁾			3VF4			3VF5			3VF6			3VF6	3VF7		3VF8			
额定电流 / Rated current I_n A		100	160	160/200 ⁵⁾ /225 ⁵⁾			250			400			630			800	800/1250		1600/2000 /2500			
up to AC 220/240V I_{cu} kA I_{cs} kA		65 33	40 40	85 85	100 100	200 150	85 85	100 100	200 150	85 85	100 100	200 150	85 85	100 100	200 150	65 33	85 85	100 100	200 100	135 100	200 100	
up to AC 380/415V I_{cu} kA I_{cs} kA		18 9	25 25	40 40	70 70	100 75	40 40	70 70	100 75	45 45	70 70	100 75	45 45	70 70	100 75	50 25	50 50	70 50	100 50	70 50	100 50	
up to AC 440V I_{cu} kA I_{cs} kA		- -	- -	25 ¹⁾ 13 ¹⁾	40 ¹⁾ 20 ¹⁾	65 ¹⁾ 33 ¹⁾	25 13	50 25	80 40	35 18	50 25	80 40	35 18	50 25	80 40	35 18	35 18	50 25	80 40	50 25	80 40	
up to AC 500V I_{cu} kA I_{cs} kA		- -	- -	18 ¹⁾ 9 ¹⁾	25 ¹⁾ 13 ¹⁾	50 ¹⁾ 25 ¹⁾	20 10	42 21	65 33	30 15	42 21	65 33	30 15	42 21	65 33	35 18	30 15	42 21	65 33	42 21	65 33	
up to AC 690V I_{cu} kA I_{cs} kA		- -	- -	12 ¹⁾ 6 ¹⁾	14 ¹⁾ 7 ¹⁾	18 ¹⁾ 9 ¹⁾	14 7	18 9	22 11	20 10	25 13	35 18	20 10	25 13	35 18	20 10	20 10	25 13	35 18	25 13	35 18	
3VF 起动器组合用断路器 / 3VF circuit-breakers for starter combinations																						
3VF 隔离型断路器 / 3VF switch disconnectors with short-circuit protection																						
型号 / Type			3VF3					3VF4			3VF5			3VF6			3VF7			3VF8		
额定电流 / Rated current I_n A			160/225 ⁴⁾					250(200) ²⁾			315/400			500/630			800/1250			1600/2000		
up to AC 220/240V I_{cu} kA I_{cs} kA				100			85 ³⁾ 85 ³⁾	100 100		65 ³⁾ 33 ³⁾	100 50		65 ³⁾ 33 ³⁾	100 50		85 ³⁾ 85 ³⁾	100 ³⁾ 100 ³⁾		125 ³⁾ 63 ³⁾			
up to AC 380/415V I_{cu} kA I_{cs} kA				70			40 ³⁾ 40 ³⁾	70 70		40 ³⁾ 20 ³⁾	65 33		40 ³⁾ 20 ³⁾	65 33		50 ³⁾ 50 ³⁾	70 ³⁾ 50 ³⁾		65 ³⁾ 33 ³⁾			
up to AC 440V I_{cu} kA I_{cs} kA				40 20			25 ³⁾ 13 ³⁾	50 25		35 ³⁾ 18 ³⁾	50 25		35 ³⁾ 18 ³⁾	50 25		35 ³⁾ 18 ³⁾	50 ³⁾ 25 ³⁾		50 ³⁾ 25 ³⁾			
up to AC 500V I_{cu} kA I_{cs} kA				25 13			20 ³⁾ 10 ³⁾	42 21		30 ³⁾ 15 ³⁾	42 21		30 ³⁾ 15 ³⁾	42 21		30 ³⁾ 15 ³⁾	42 ³⁾ 21 ³⁾		42 ³⁾ 21 ³⁾			
up to AC 690V I_{cu} kA I_{cs} kA				14 7			14 ³⁾ 7 ³⁾	18 9		20 ³⁾ 10 ³⁾	25 13		20 ³⁾ 10 ³⁾	25 13		20 ³⁾ 10 ³⁾	25 ³⁾ 13 ³⁾		25 ³⁾ 13 ³⁾			

- 1) 额定电流 I_n 至 40A 的 3VF3 断路器的最大额定工作电压 $U_e = AC415V$
- 2) 括号中的数值仅适用于起动器组合用断路器
- 3) 仅适用于隔离型断路器的数值
- 4) 225A: 仅适用于隔离型断路器的数值
- 5) 200/225A: 在 AC 690V: $I_{cu}=14kA$, $I_{cs}=7kA$
- 1) 3VF3 circuit-breakers with rated currents I_n up to 40A: Maximum rated operational voltage $U_e = AC 415V$
- 2) Values in brackets are only valid for circuit-breakers for starter combinations.
- 3) Values are only valid for isolating circuit-breakers.
- 4) 225A: only for isolating circuit-breakers.

3VF2 断路器, 3 极和 4 极
3VF2 Circuit-Breakers, 3 and 4-pole

特性曲线, 示意图

Characteristics, circuit diagrams

反时限过电流脱扣器(热过载脱扣器, a-脱扣器)所标定的动作值是在冷态下和每极有一致的负载时的一簇曲线的平均值。

瞬时(电磁式)短路脱扣器(n-脱扣器)的脱扣特性是根据额定电流 I_n 的倍数, 对于带有可调热脱扣器, 指可调范围的上限。对于下限值, n-脱扣器的动作电流倍数会相应增加。

The operating values specified for the inverse time overcurrent releases (thermal overload releases, "a" 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 ("n" 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 "n" release.

- “a” 热过载脱扣器
- “n” 瞬时(电磁式)短路脱扣器
- “a” thermal overload release
- “n” instantaneous (electromagnetic) short-circuit release

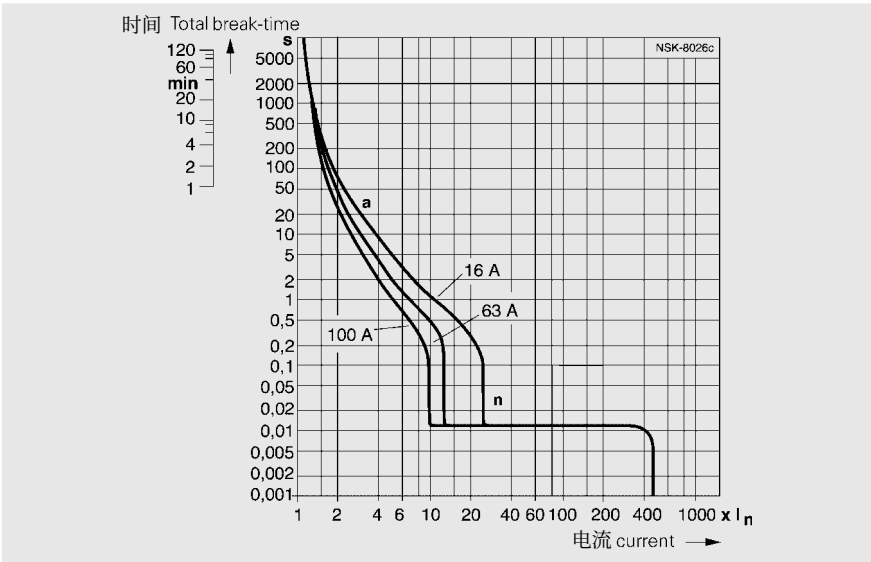


图 16 3VF2 断路器的脱扣特性
Fig. 16 Tripping characteristics of 3VF2 circuit-breakers.

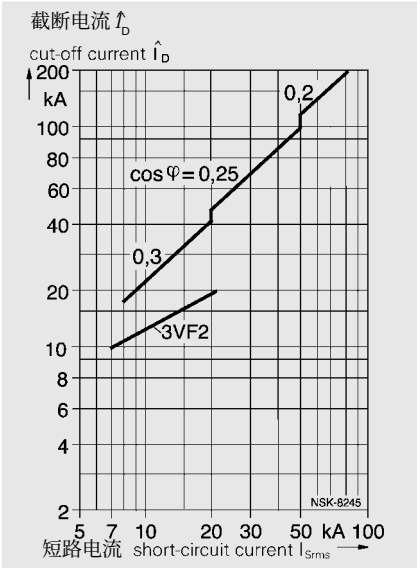


图 17 3VF2 在 AC50/60Hz 380/415V 时的限流特性
Fig. 17 Current-limiting characteristics for 3VF2, AC 50/60 Hz 380/415 V.

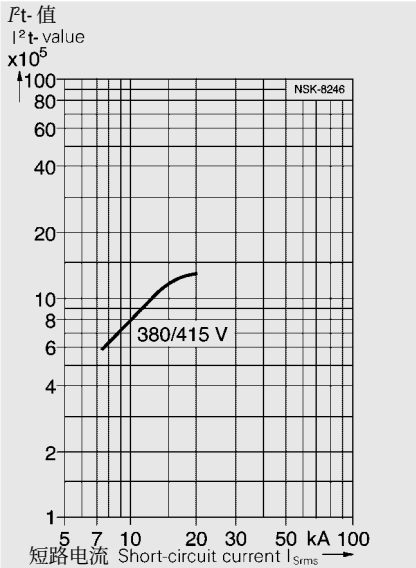


图 18 3VF2 在 AC 50/60Hz 380/415V 时的最大 P_t 值
Fig. 18 Maximum P_t values for 3VF2, AC 50/60 Hz 380/415 V.

图 19 表示按照 DIN40713 标准, 断路器工作原理及接线端子标记示意图, 并非实际结构。还有其它的附件组合形式。

The symbols used in the 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 exhaustive. For versions different from those shown, the diagrams should be modified or supplemented accordingly.

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

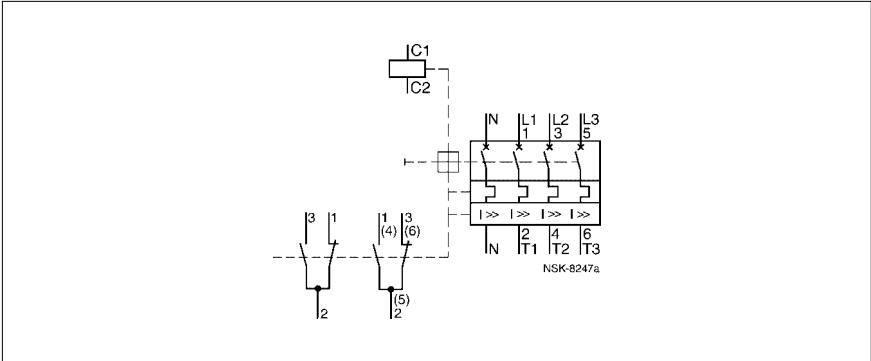


图 19 3 极和 4 极 3VF2 的端子示意图
Fig. 19 Terminal diagram for 3VF2 3 and 4-pole circuit-breakers.

特性曲线

Characteristics

“a” 热过载脱扣器
“n” 瞬时(电磁式)短路脱扣器
“a” thermal overload release
“n” instantaneous (electromagnetic) short-circuit release

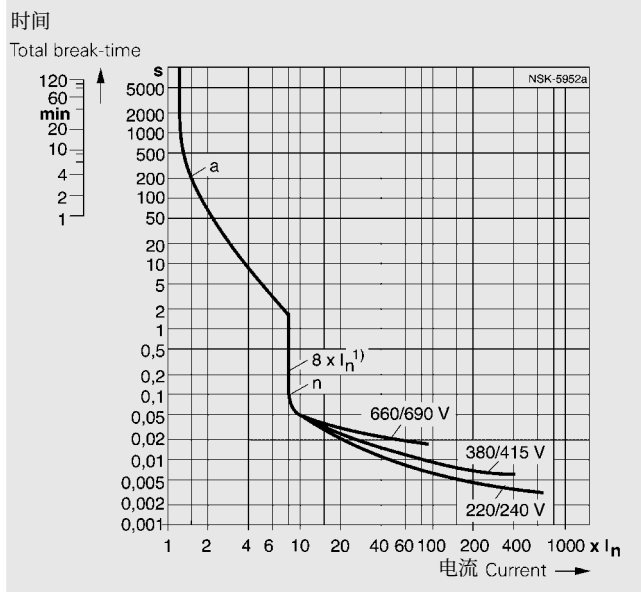


图 20 线路保护型 3VF3 断路器的脱扣特性
 I_{cu} 25/40/70kA, 固定式 “n”-脱扣器
Fig. 20 Tripping characteristics of 3VF3 circuit-breakers for plant protection,
 I_{cu} 25/40/70 kA, “n”-release, with fixed setting

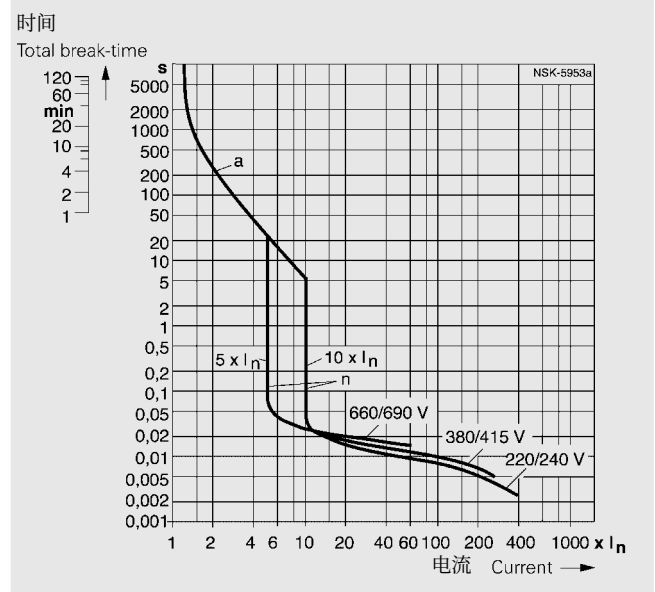


图 22 线路保护型 3VF4 断路器的脱扣特性
 I_{cu} 40/70kA, 固定式 “n”-脱扣器
Fig. 22 Tripping characteristics of 3VF4 circuit-breakers for plant protection,
 I_{cu} 40/70 kA, “n”-release, with fixed setting

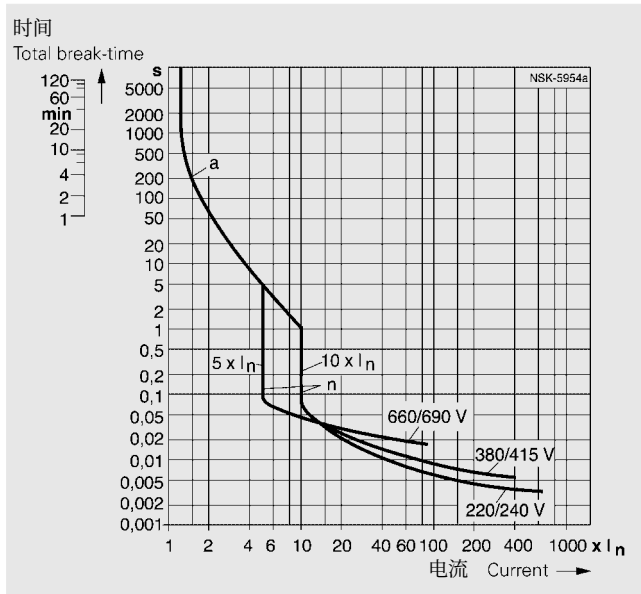


图 21 线路保护型 3VF3 断路器的脱扣特性
 I_{cu} 25/70kA, 可调节 “n”-脱扣器
Fig. 21 Tripping characteristics of 3VF3 circuit-breakers for plant protection,
 I_{cu} 25/70 kA, “n”-release, with adjustable setting

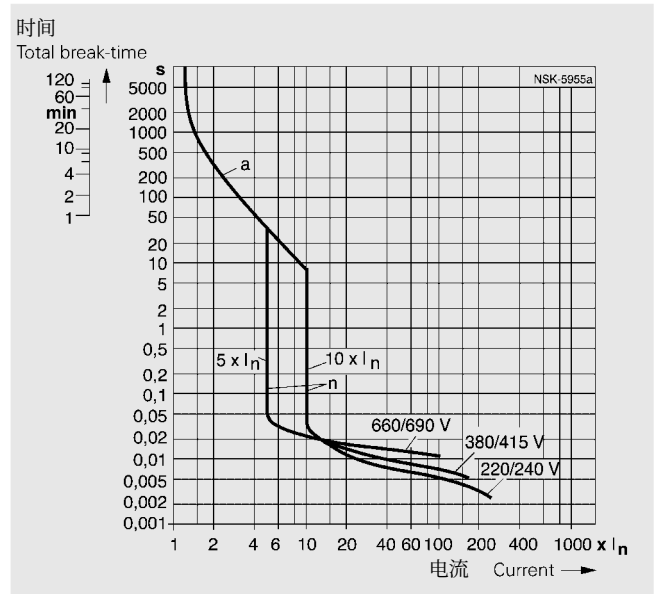


图 23 线路保护型 3VF5 断路器的脱扣特性
 I_{cu} 45/70kA, 可调节 “n”-脱扣器
Fig. 23 Tripping characteristics of 3VF5 circuit-breakers for plant protection,
 I_{cu} 45/70 kA, “n”-release, with adjustable setting

¹⁾ 在 $I_n < 50A$ 时, “n”-脱扣器固定为 400A

¹⁾ At $I_n < 50 A$: “n”-release fixed-setting to 400 A

3VF3 至 3VF8 断路器, 3 极和 4 极 3VF3 to 3VF8 Circuit-Breakers, 3 and 4-pole

特性曲线

Characteristics

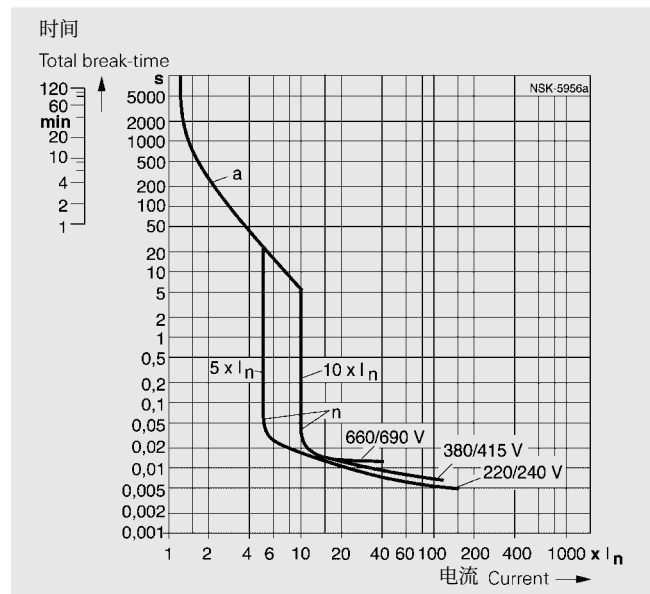


图 24 线路保护型 3VF6 断路器的脱扣特性,
 I_{cu} 45/70kA, 可调节 "n"-脱扣器
 Fig. 24 Tripping characteristics of 3VF6 circuit-breakers for plant protection,
 I_{cu} 45/70 kA, "n"-release, with adjustable setting

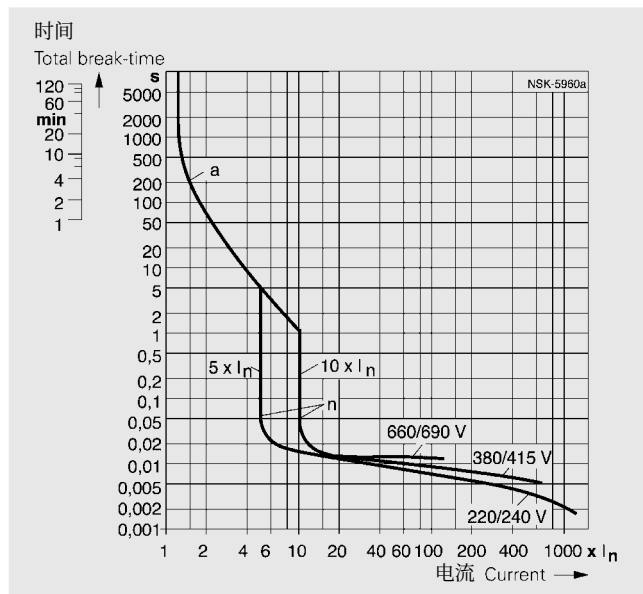


图 26 线路保护型 3VF3 断路器的脱扣特性
 I_{cu} 100kA, 可调节 "n"-脱扣器
 Fig. 26 Tripping characteristics of 3VF3 circuit-breakers for plant protection,
 I_{cu} 100 kA, "n"-release, with adjustable setting

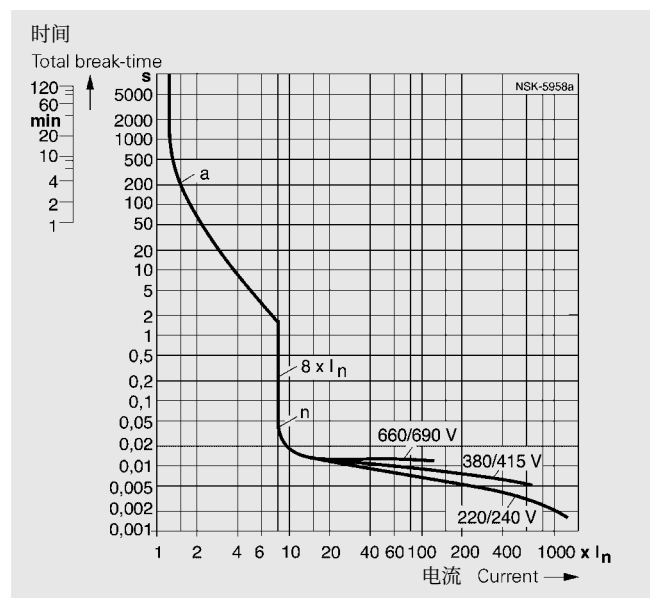


图 25 线路保护型 3VF3 断路器的脱扣特性,
 I_{cu} 100kA, 固定式 "n"-脱扣器
 Fig. 25 Tripping characteristics of 3VF3 circuit-breakers for plant protection,
 I_{cu} 100 kA, "n"-release, with fixed setting

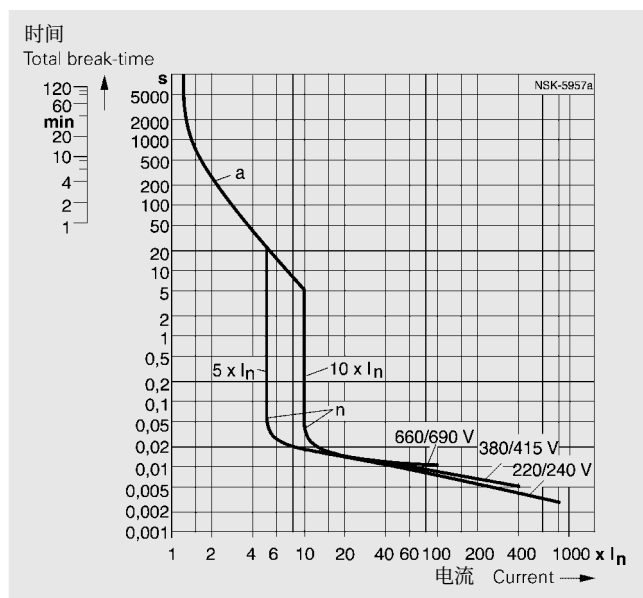


图 27 线路保护型 3VF4 断路器的脱扣特性,
 I_{cu} 100kA, 可调节 "n"-脱扣器
 Fig. 27 Tripping characteristics of 3VF4 circuit-breakers for plant protection,
 I_{cu} 100 kA, "n"-release, with adjustable setting

特性曲线

Characteristics

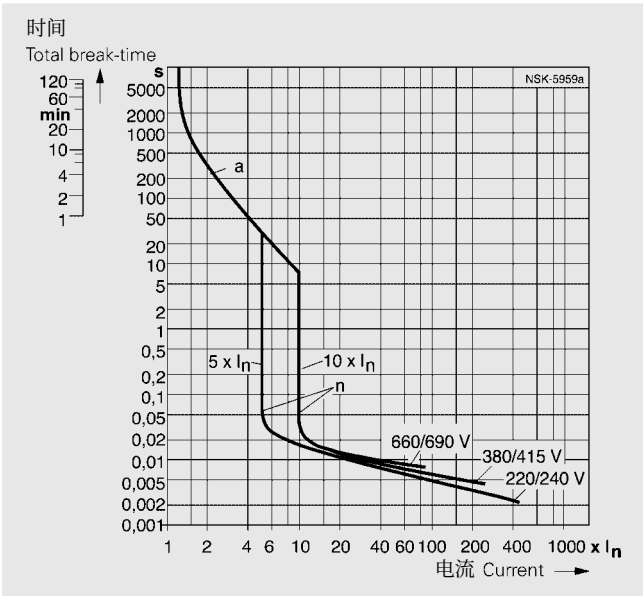


图 28 线路保护型 3VF5 断路器的脱扣特性,
 I_{cu} 100kA, 可调节 "n"-脱扣器
Fig. 28 Tripping characteristics of 3VF5 circuit-breakers for
plant protection,
 I_{cu} 100 kA, "n"-release, with adjustable setting

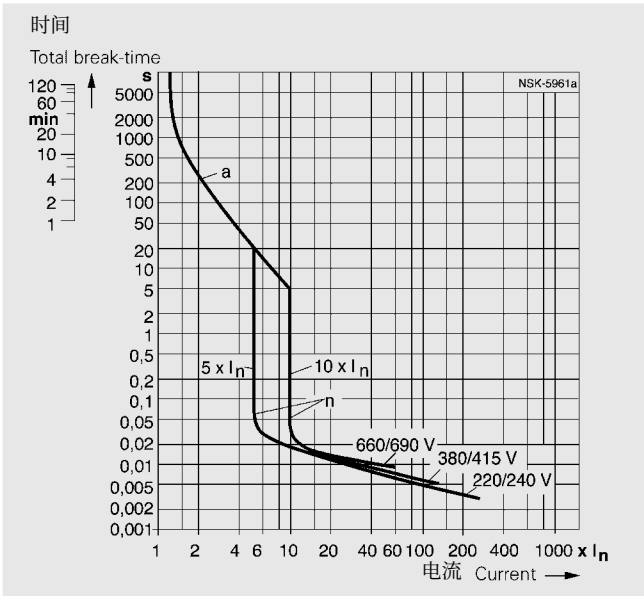


图 29 线路保护型 3VF6 断路器的脱扣特性
 I_{cu} 100kA, 可调节 "n"-脱扣器
Fig. 29 Tripping characteristics of 3VF6 circuit-breakers for
plant protection,
 I_{cu} 100 kA, "n"-release, with adjustable setting

3VF3 至 3VF8 断路器, 3 极和 4 极

3VF3 to 3VF8 Circuit-Breakers, 3 and 4-pole

特性曲线

Characteristics

工作温度范围

给出的误差范围适用于断路器周围温度 $-5 \sim +60^{\circ}\text{C}$ 。

Working temperature range

The tolerance bands shown apply to an ambient temperature range of -5 to $+60^{\circ}\text{C}$ at the circuit-breaker.

过载反时限脱扣器 “a”

I_r 设定电流(可调节)

过电流短延时脱扣器 “z”

I_d 脱扣电流(可调节)

t_d 延时时间(可调节)

过电流瞬时脱扣器 “n”

I_i 脱扣电流(可调节)

Inverse-time overload release “a”

I_r Set current(adjustable)

Short-time delayed overcurrent release “z”

I_d Tripping current (adjustable)

t_d Delay time (adjustable)

Instantaneous overcurrent release “n”

I_i Tripping current (adjustable)

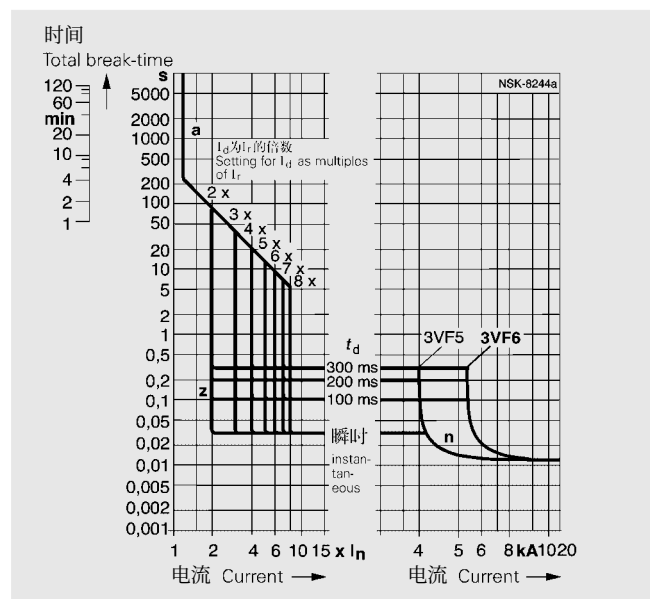


图 30 带电子式过电流脱扣器的
3VF5 和 3VF6 断路器的脱扣特性, I_{cu} 50/70kA
Fig. 30 Tripping characteristics of 3VF5 and 3VF6 circuit-breakers,
 I_{cu} 50/70 kA, with electronic overcurrent release

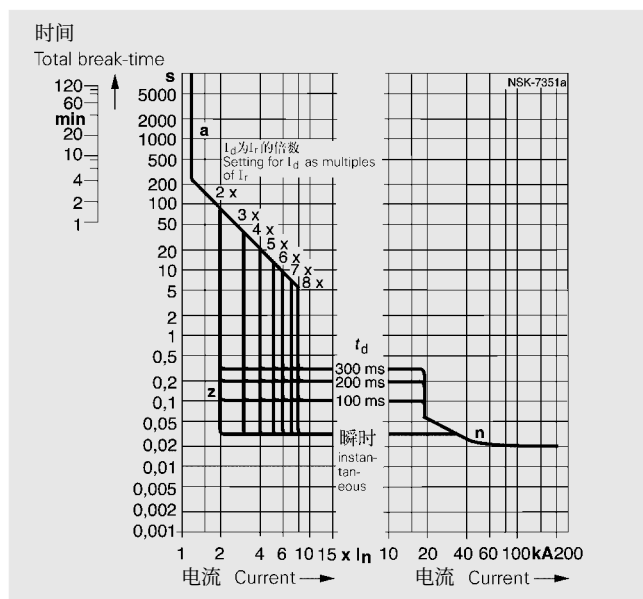


图 31 带电子式过电流脱扣器的
3VF7 断路器的脱扣特性, I_{cu} 50/70kA
Fig. 31 Tripping characteristics of 3VF7 circuit-breakers,
 I_{cu} 50/70 kA, with electronic overcurrent release

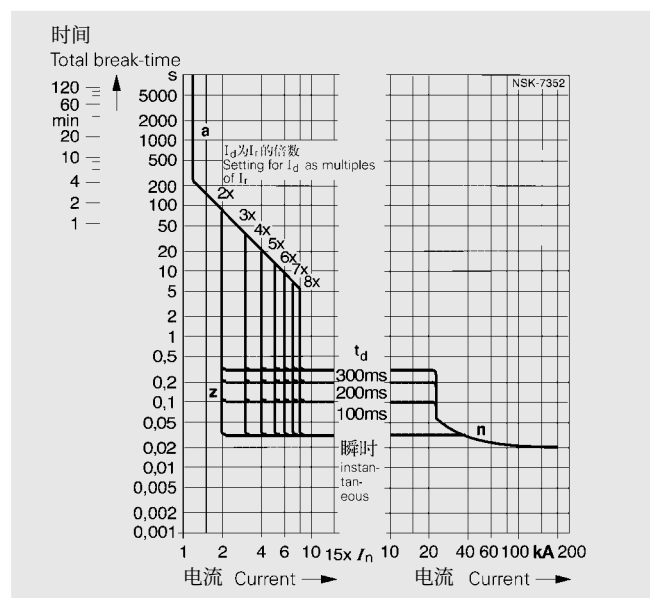


图 32 带电子式过电流脱扣器的
3VF8 断路器的脱扣特性, I_{cu} 70/100kA
Fig. 32 Tripping characteristics of 3VF8 circuit-breakers,
 I_{cu} 70/100 kA, with electronic overcurrent release

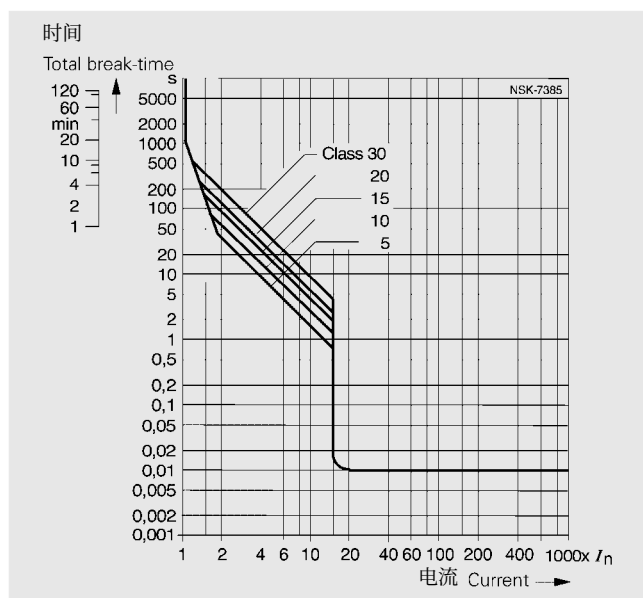


图 33 带电子式过电流脱扣器的电动机保护型 3VF3,
3VF5 和 3VF6 断路器的脱扣特性
Fig. 33 Tripping characteristics of 3VF3, 3VF5 and 3VF6 circuit-breakers
for motor protection, with electronic overcurrent release

特性曲线

Characteristics

带电子式过电流脱扣器的电动机保护型 3VF3, 3VF5 和 3VF6 断路器的特性

过载反时限脱扣器的脱扣时间在预先无负载(冷态)的情况下有效。在热态(接通额定电流一段时间后), 脱扣时间会减少约 33%。过电流脱扣后, 脱扣时间按脱扣时间特性(见图 34)会减少。因而在重新启动电动机前应冷却几分钟。在刚脱扣后, 不能马上使断路器合闸。

Characteristics of the 3VF3, 3VF5 and 3VF6 circuit-breakers for motor protection with solid-state overcurrent releases

The tripping times of the inverse-time delayed overcurrent releases are only valid for the non-preloaded (cold) 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. 34). A cooling down time of a few minutes is necessary before the motor can be restarted. During the first minute after tripping, reclosing of the circuit-breaker is blocked.

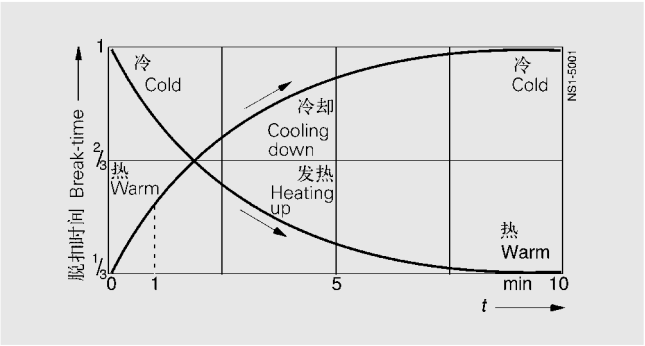


图 34 脱扣时间特性(热记忆)
Fig. 34 Tripping time characteristics (thermal memory)

3VF3 至 3VF8 断路器，3 极和 4 极 3VF3 to 3VF8 Circuit-Breakers, 3 and 4-pole

特性曲线

Characteristics

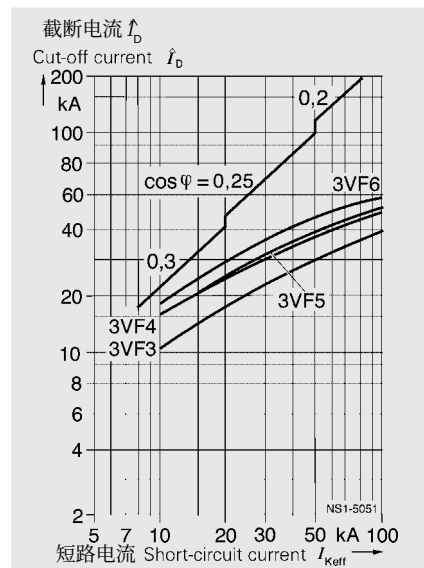


图 35 3VF3 至 3VF6 在 AC50/60Hz 380/415V 时的限流特性

Fig. 35 Current-limiting characteristics for 3VF3 to 3VF6, AC 50/60 Hz 380/415 V

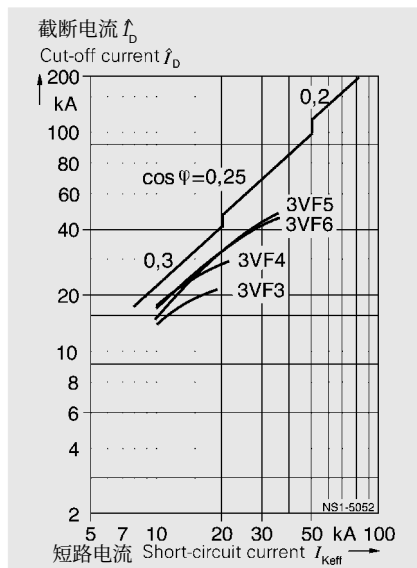


图 36 3VF3 至 3VF6 在 AC50/60Hz 660/690V 时的限流特性

Fig. 36 Current-limiting characteristics for 3VF3 to 3VF6, AC 50/60 Hz 660/690 V

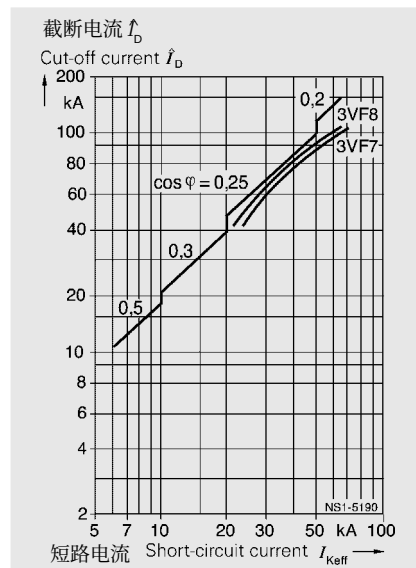


图 37 3VF7 和 3VF8 在 AC50/60Hz 380/415V 时的限流特性

Fig. 37 Current-limiting characteristics for 3VF7 and 3VF8, AC 50/60 Hz 380/415 V

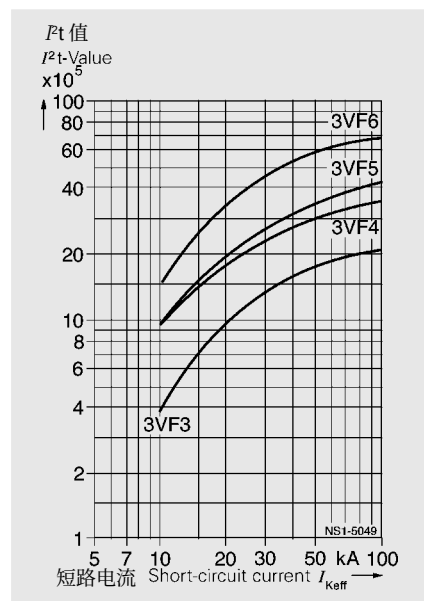


图 38 3VF3 至 3VF6 在 AC50/60Hz 380/415V 时的最大 P_t 值

Fig. 38 Maximum P_t -values for 3VF3 to 3VF6, AC 50/60 Hz 380/415 V

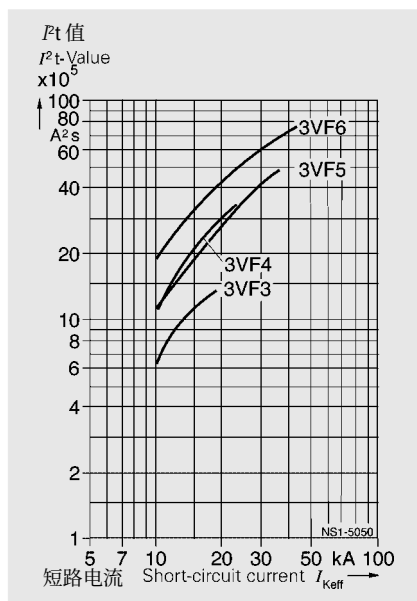


图 39 3VF3 至 3VF6 在 AC50/60Hz 660/690V 时的最大 P_t 值

Fig. 39 Maximum P_t -values for 3VF3 to 3VF6, AC 50/60 Hz 660/690 V

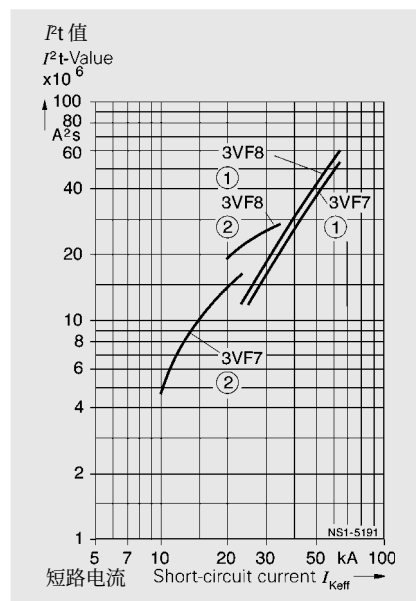


图 40 3VF7 和 3VF8 在
① AC 50/60Hz 380/415V
② AC 50/60Hz 660/690V 时的最大 P_t 值

Fig. 40 Maximum P_t -values for 3VF7 and 3VF8,
① AC 50/60 Hz 380/415 V
② AC 50/60 Hz 660/690 V

线路示意图

Circuit diagrams

下列示意图表示断路器的工作原理、附件的类型等信息,并非实际结构,还有其它的附件组合形式。
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.

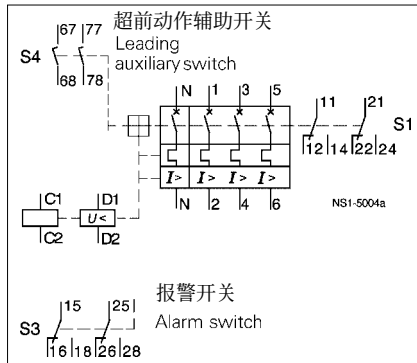


图 41 线路保护型 3 极和 4 极 3VF3 至 3VF6 断路器的端子示意图

Fig. 41 Terminal diagram for 3VF3 to 3VF6 3 and 4-pole circuit-breakers for plant protection.

- Q1 主触头
- A1 电子式过电流脱扣器
- F1 脱扣线圈
- F2 欠电压脱扣器
- F3 分励脱扣器
- S1 第 1 对 + 第 2 对辅助开关
- S2 第 3 对 + 第 4 对辅助开关
- S3 报警开关
- S4 超前动作辅助开关 (包含在旋转驱动机构中)
- T1...T4 电流互感器
- T5...T8 中间电流互感器

- Q1 Main contacts
- A1 Electronic overcurrent release
- F1 Release solenoid for A1
- F2 Undervoltage release
- F3 Shunt trip
- S1 1st + 2nd auxiliary switches
- S2 3rd + 4th auxiliary switches
- S3 Alarm switch
- S4 Leading auxiliary switch + after ON (integrated in the rotary drive)
- T1 - T4 Current Transformers
- T5 - T8 Intermediate transformers

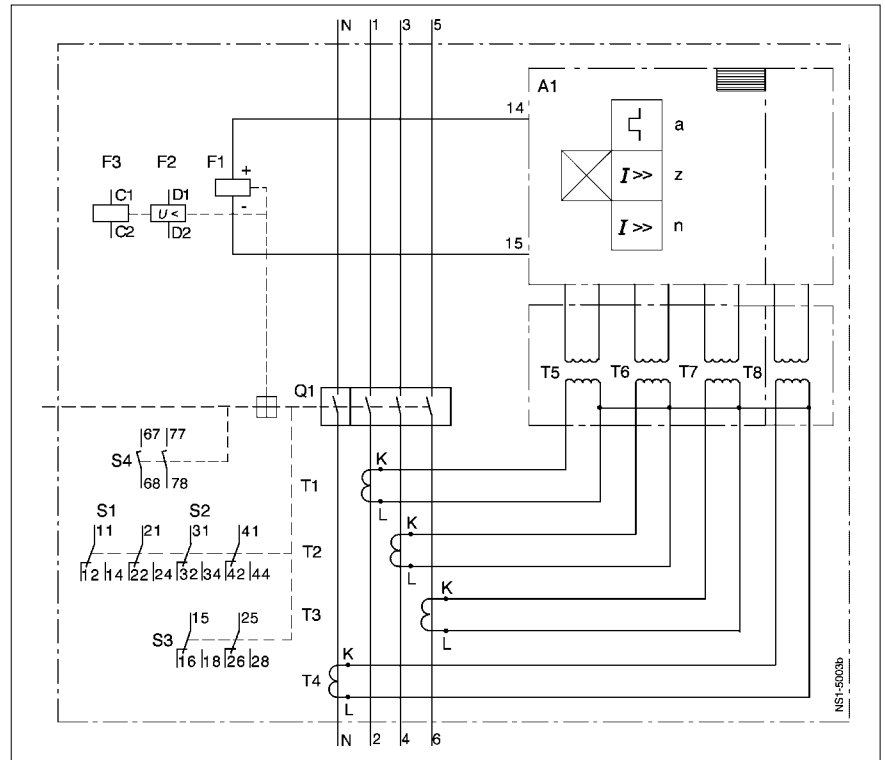


图 42 电动机保护型 3VF3, 3VF5 和 3VF6 及 3 极和 4 极 3VF7 和 3VF8 断路器的线路示意图 (3VF7 无 S2)

Fig. 42 Circuit diagram for 3VF3 and 3VF6 circuit-breakers for motor protection and for 3VF7 and 3VF8 3- and 4-pole circuit-breakers (3VF7 without S2)

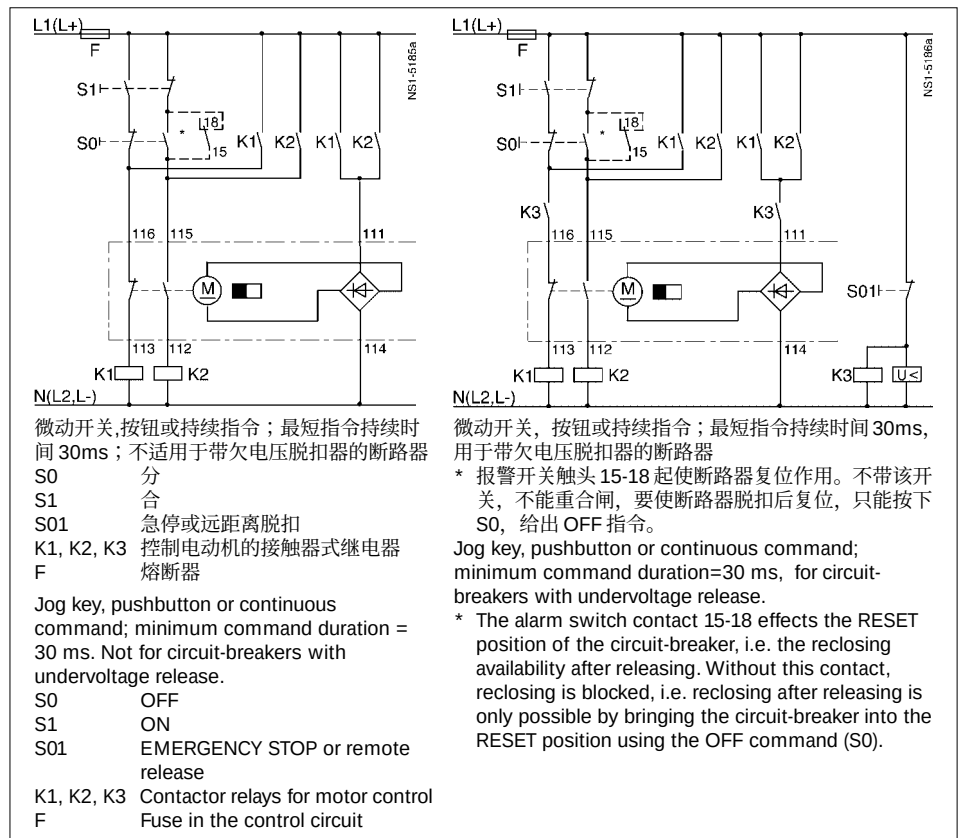


图 43 3VF3 至 3VF6 的电动机操作机构

Fig. 43 Motorized operating mechanism for 3VF3 to 3VF6

3VF3 至 3VF8 断路器, 3 极和 4 极
3VF3 to 3VF8 Circuit-Breakers, 3 and 4-pole

线路示意图 Circuit diagrams

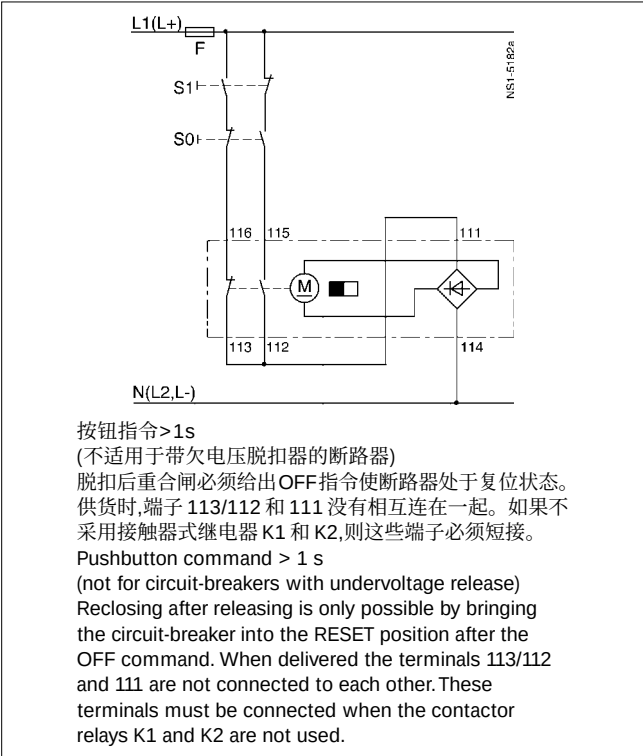
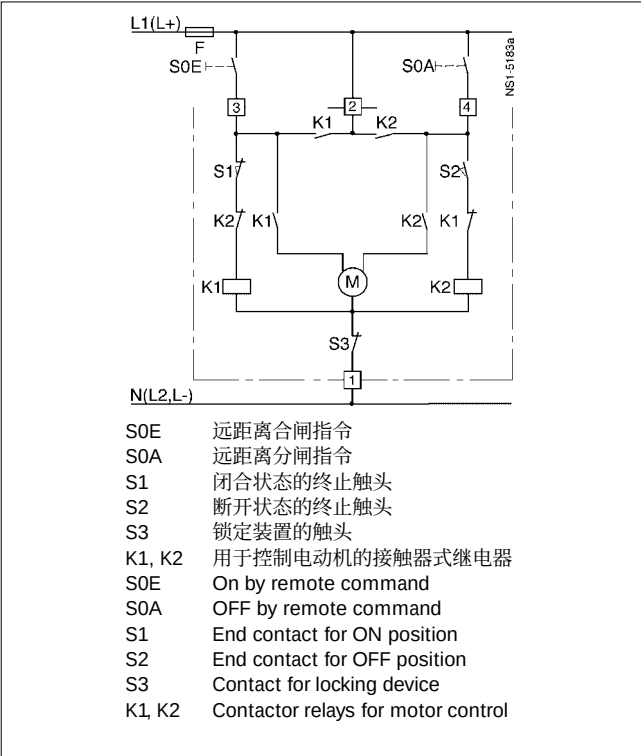


图 44 用于 3VF3 至 3VF6 的电动机操作机构
Fig. 44 Motorized operating mechanism for 3VF3 to 3VF6



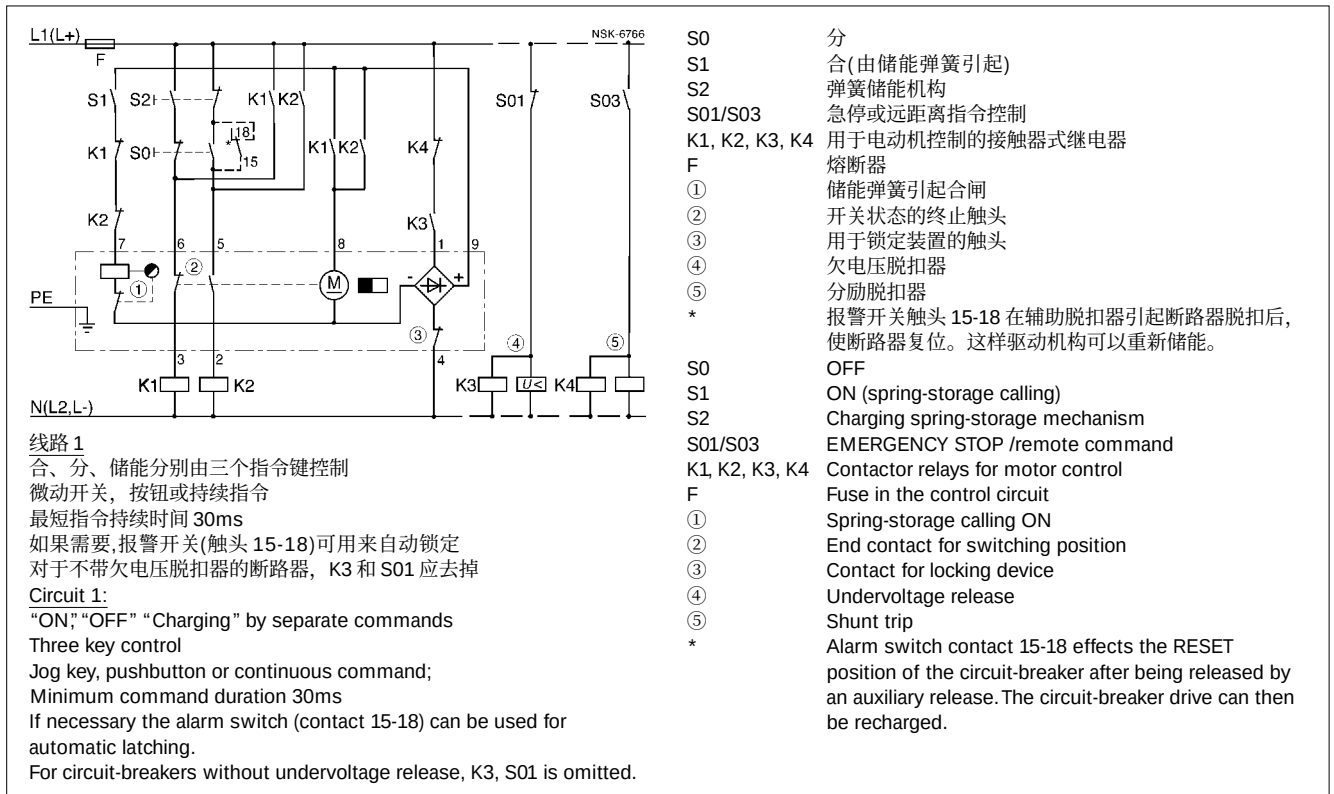


图 48 用于 3VF4, 3VF5 和 3VF6 的同步电动机操作机构

Fig. 48 Synchronizable motorized operating mechanisms for 3VF4, 3VF5 and 3VF6.

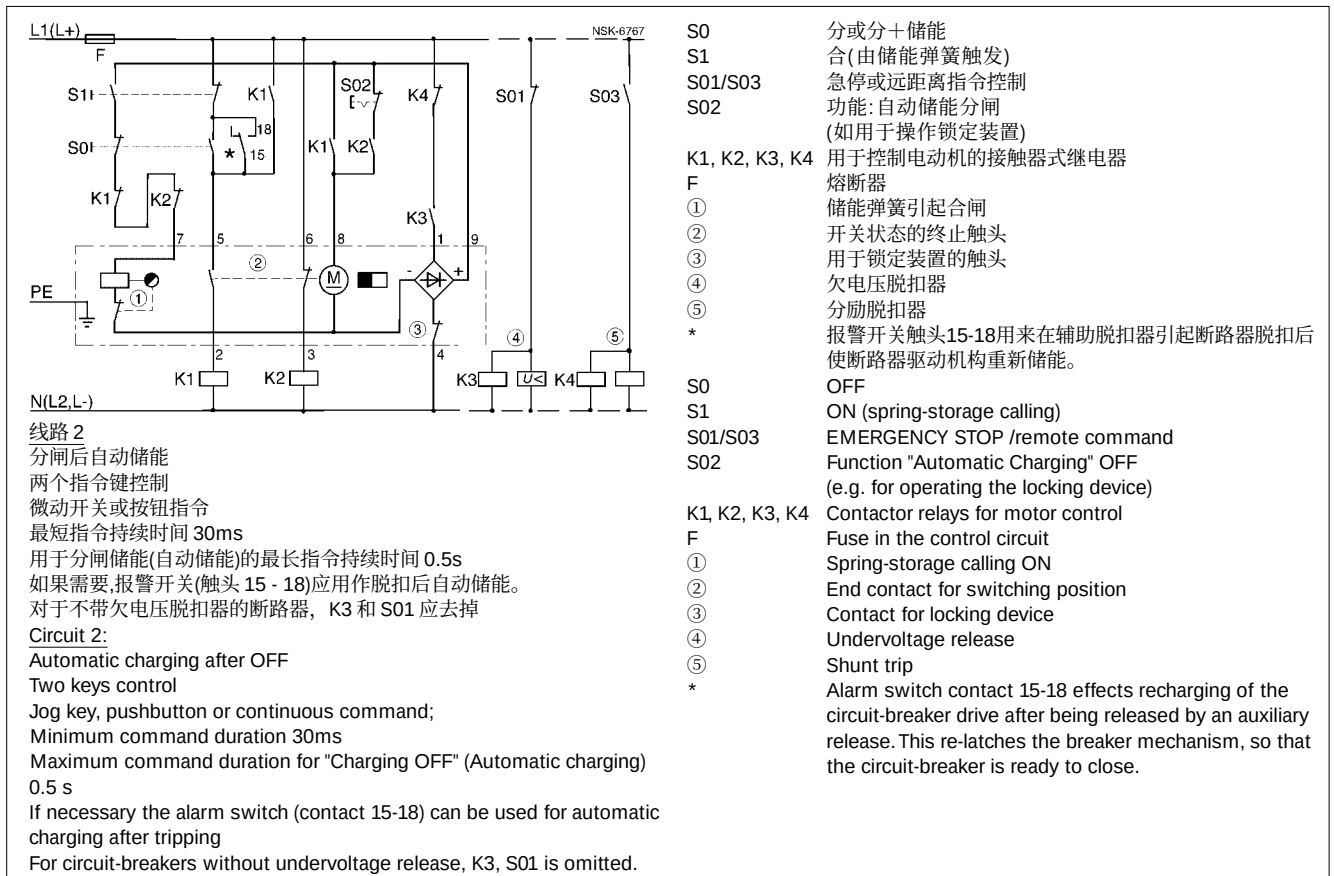


图 49 用于 3VF4, 3VF5 和 3VF6 的同步电动机操作机构

Fig. 49 Synchronizable motorized operating mechanisms for 3VF4, 3VF5 and 3VF6

3VF2 至 3VF8 断路器，3 极和 4 极
3VF2 to 3VF8 Circuit-Breakers, 3 and 4-pole

线路示意图 Circuit diagrams

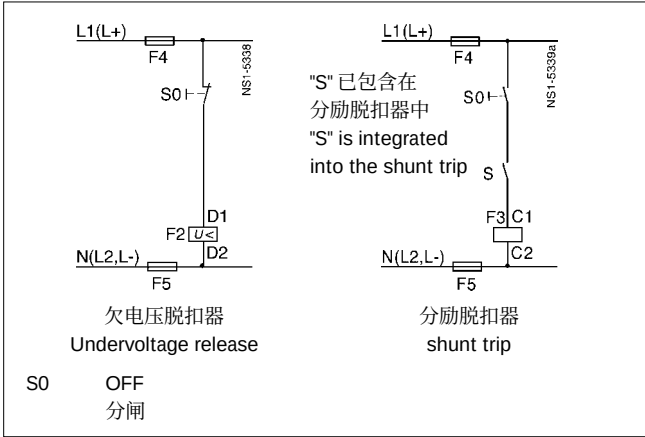
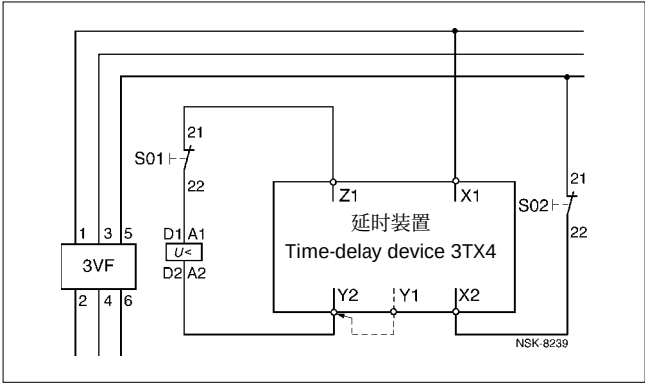


图 50 用于 3VF2 至 3VF8 的辅助脱扣器
Fig. 50 Auxiliary releases for 3VF2 to 3VF8



S01 用于急停回路(如果需要)的瞬时脱扣按钮
S02 用于延时脱扣的按钮
图 51 用于 3VF3 至 3VF8 欠电压脱扣器的延时装置
S01 Instantaneous release for EMERGENCY STOP loop (if necessary)
S02 Delayed release
Fig. 51 Time-delay device for undervoltage releases for 3VF3 to 3VF8

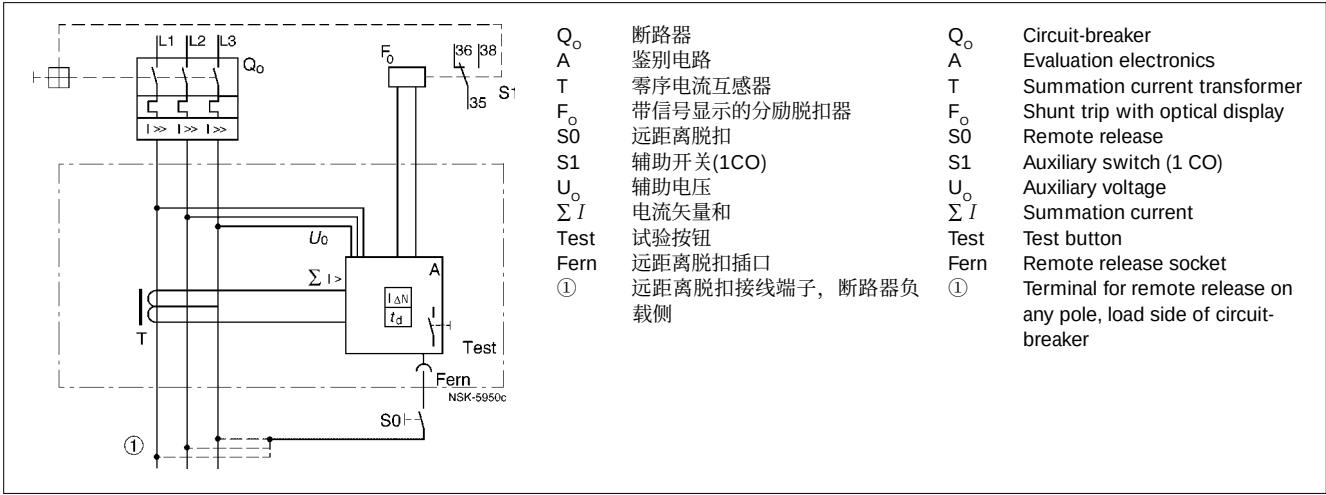


图 52 带 DI 模块的 3 极断路器的远距离脱扣
Fig. 52 Remote release of a 3-pole circuit-breaker with DI module

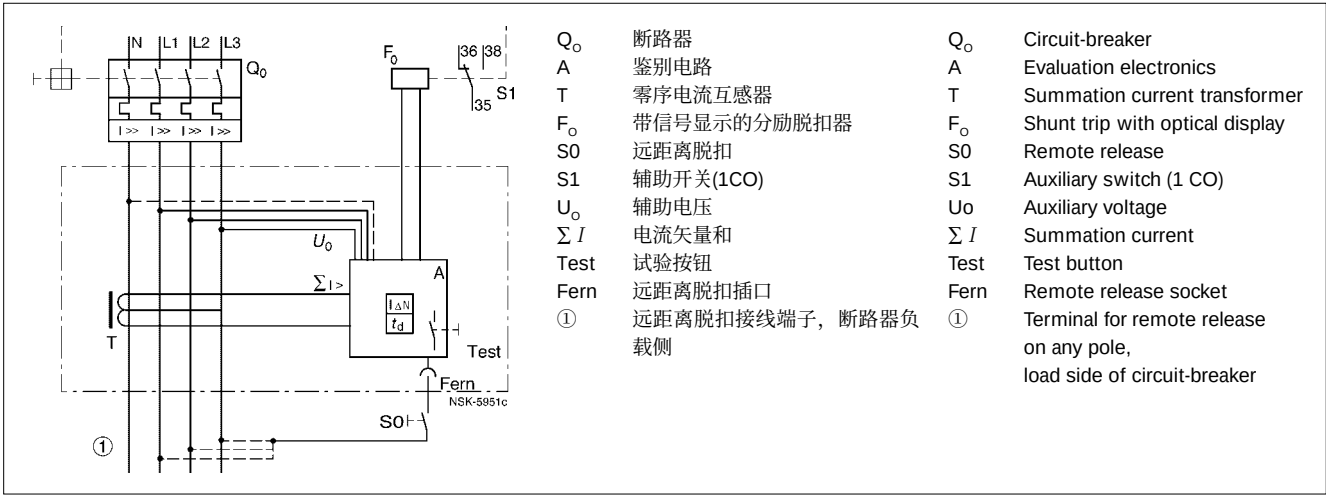
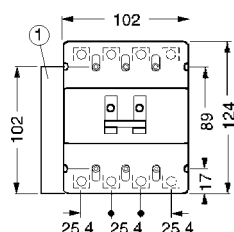


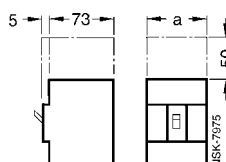
图 53 带 DI 模块的 4 极断路器的远距离脱扣
Fig. 53 Remote release of a 4-pole circuit-breaker with DI module

3VF2 Circuit-Breakers, 3 and 4-pole



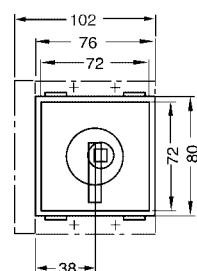
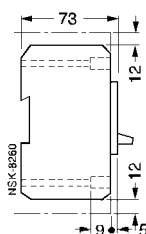
①分励脱扣器或辅助开关或报警开关(见附件)
① Shunt trip or Auxiliary or alarm switch (see Accessories)

☐ ☐ NSK

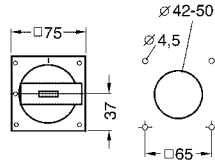
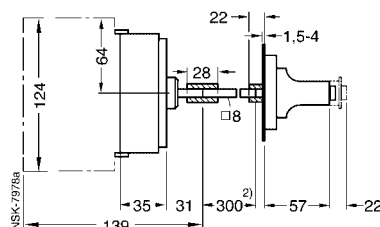


型号 /Type	a
3VF2, 3 极 /3 pole	78
3VF2, 4 极 /4 pole	101

Accessories for 3VF2 circuit-breakers, 3 and 4-pole



8UC61 .2-.BD22 complete rotary drive with door coupling and 3VF9 223-1JA00 front rotary drive with shaft stub for 3VF2



for 3VF2



View A

View B

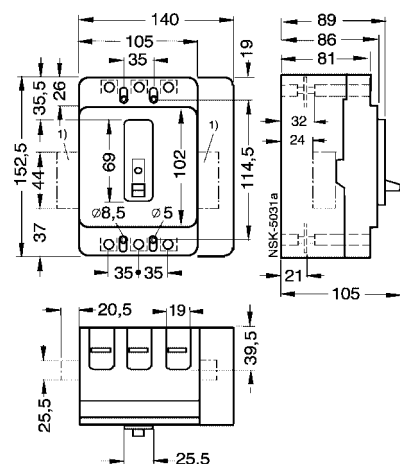
© 2005 Blackwell Publishing Ltd

As-delivered condition, adapt if necessary by shortening shaft

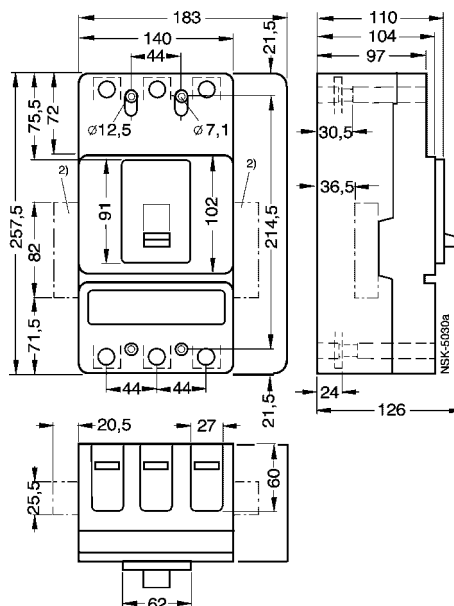
3VF3 至 3VF8 断路器, 3 极和 4 极 3VF3 to 3VF8 Circuit-Breakers, 3 and 4-pole

3VF 断路器, 3 极和 4 极

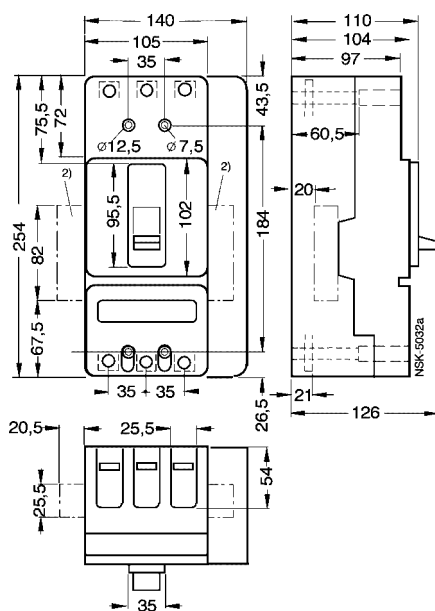
3VF circuit-breakers, 3 and 4-pole



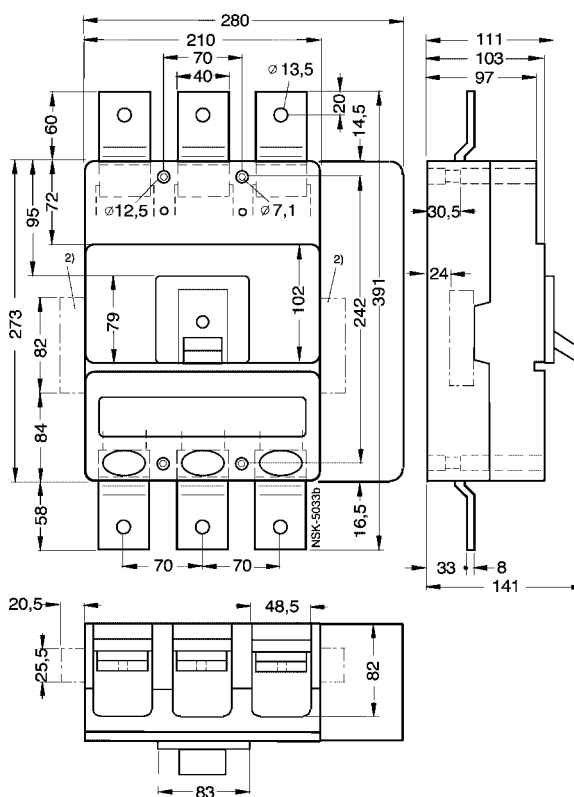
3VF3



3VF5



3VF4



3VF6

- 1) 内部附件的 3 路接线端子盒 (辅助脱扣器和辅助触头)
- 2) 内部附件的 6 路接线端子盒 (辅助脱扣器和辅助触头)
- 1) 3-way terminal block for integrated accessories (auxiliary releases and auxiliary contacts).
- 2) 6-way terminal block for integrated accessories (auxiliary releases and auxiliary contacts).

—— 4 极

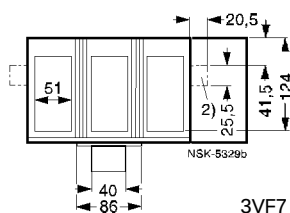
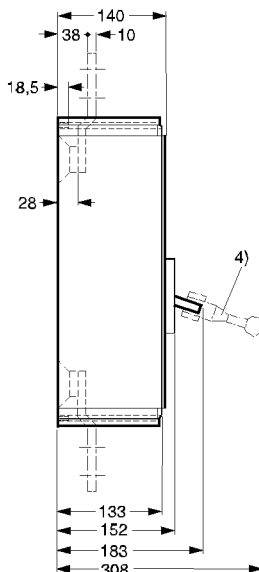
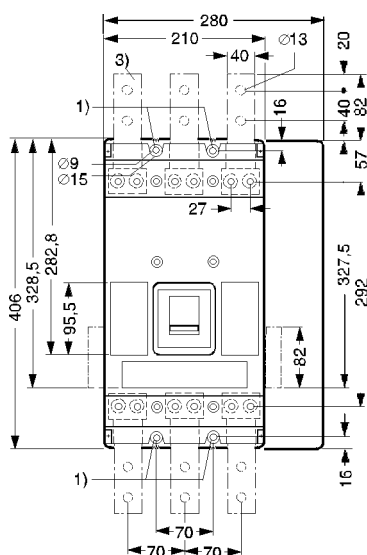
4-pole version

注意: 对于 4 极断路器, 第 4 极(N 线)总是在左侧!

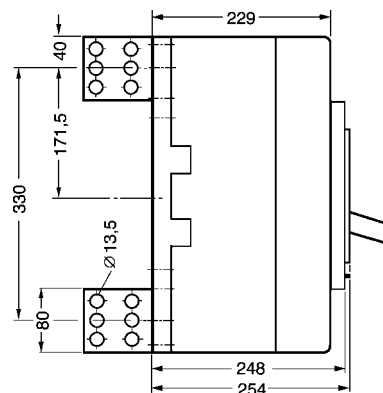
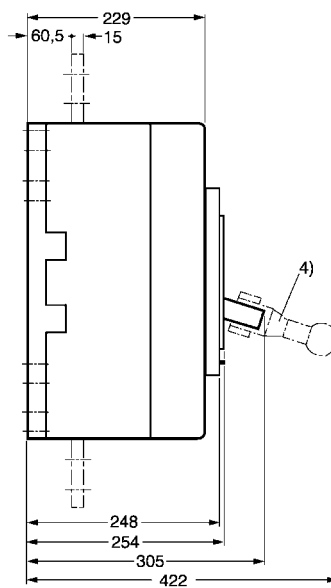
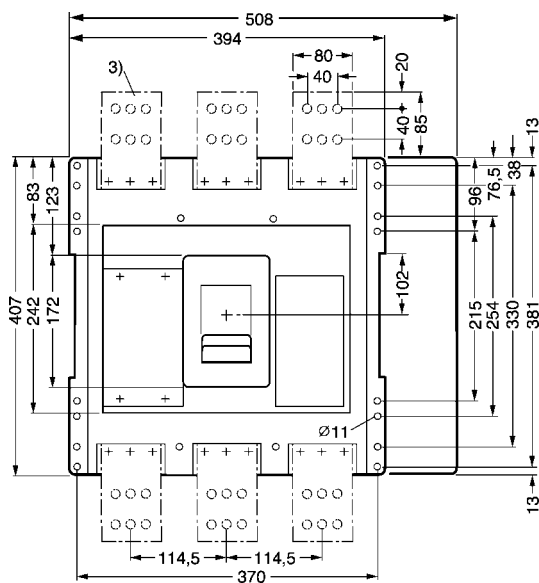
Note: With 4-pole circuit-breakers, the 4th pole (N) is always on the left!

3VF 断路器, 3 极和 4 极

3VF circuit-breakers, 3 and 4-pole



3VF7



3VF84, 2500A

后置母排连接件, 必须垂直安装
Rear-mounting terminal bars for 2500 A
(3VF84) can only be mounted vertically

—— 4 极

4-pole version

注意: 对于 4 极断路器, 第 4 极(N 线)总是在左侧!

Note: With 4-pole circuit-breakers, the 4th pole is always on the left!

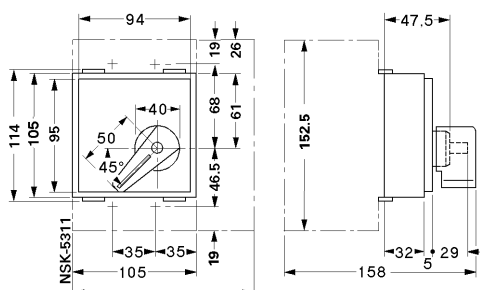
- 1) 断路器固定螺栓孔
- 2) 侧面安装的接线端子盒
- 3) 母排连接件不随断路器一起提供, 需另外订购。
- 4) 加长扳动手柄(随断路器一起提供)

- 1) Hole for fixing screws
- 2) Terminal strip for lateral mounting
- 3) Busbar connection pieces are not included in the scope of supply
- 4) Toggle extension (included in the scope of supply)

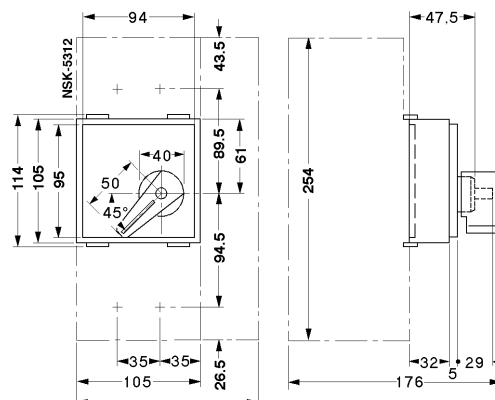
3VF3 至 3VF8 断路器, 3 极和 4 极 3VF3 to 3VF8 Circuit-Breakers, 3 and 4-pole

用于 3 极和 4 极 3VF 断路器的附件

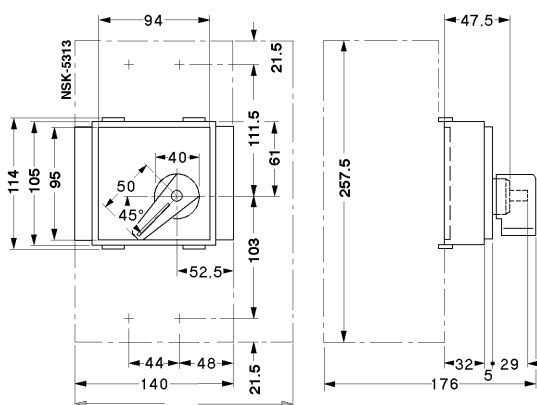
Accessories for 3VF circuit-breakers, 3 and 4-pole



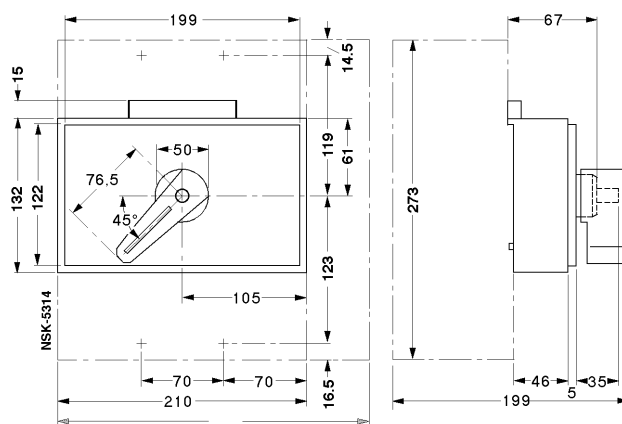
用于 3VF3
3VF9 323-1..00 带手柄的正面直接旋转驱动机构
3VF9 323-1.00 front rotary drive with knob
for 3VF3



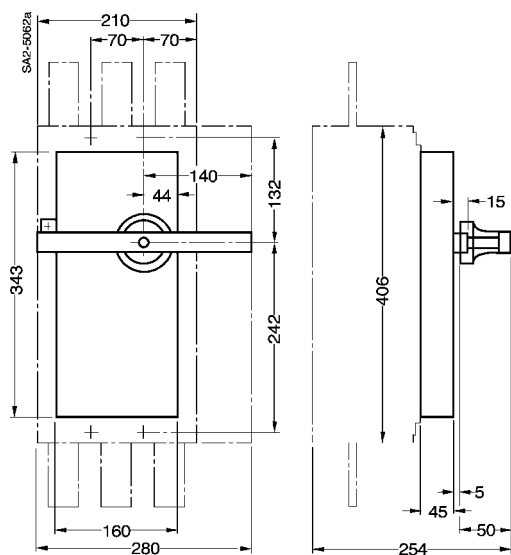
用于 3VF4
3VF9 423-1..00 带手柄的正面直接旋转驱动机构
3VF9 423-1.00 front rotary drive with knob
for 3VF4



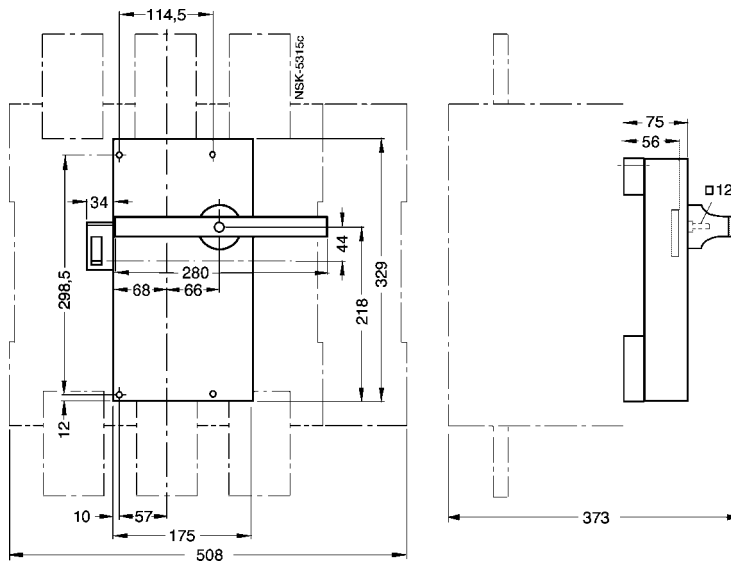
用于 3VF5
3VF9 523-1..00 带手柄的正面直接旋转驱动机构
3VF9 523-1.00 front rotary drive with knob
for 3VF5



用于 3VF6
3VF9 623-1..00 带手柄的正面直接旋转驱动机构
3VF9 623-1.00 front rotary drive with knob
for 3VF6



用于 3VF7
3VF9 723-1..00 带手柄的正面直接旋转驱动机构
3VF9 723-1.00 front rotary drive with knob
for 3VF7

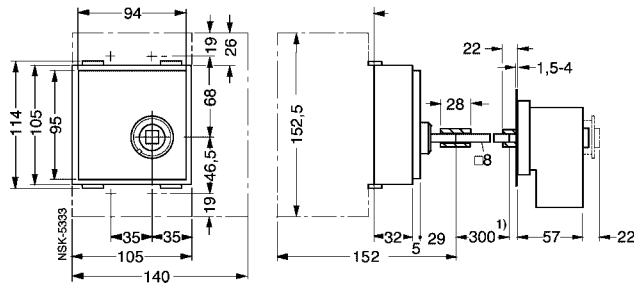


用于 3VF8
3VF9 823-1..00 带手柄的正面直接旋转驱动机构
3VF9 823-1.01 front rotary drive with knob
for 3VF8

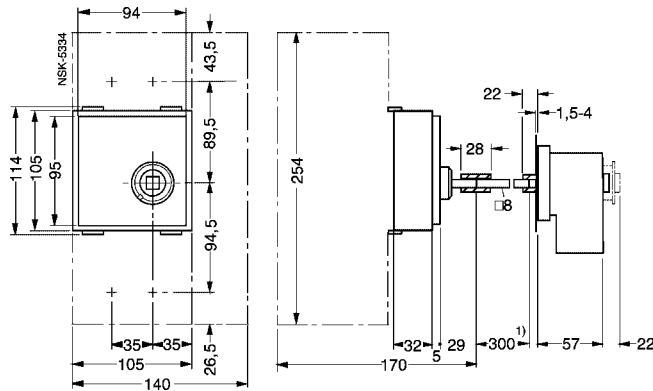
—— 4 极
4-pole version

用于 3 极和 4 极 3VF 断路器的附件

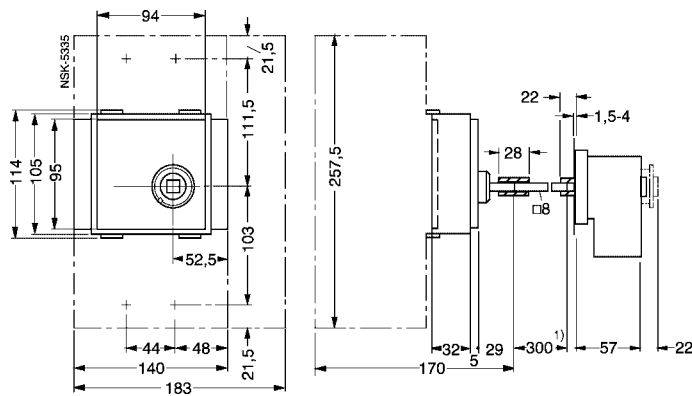
Accessories for 3VF circuit-breakers, 3 and 4-pole



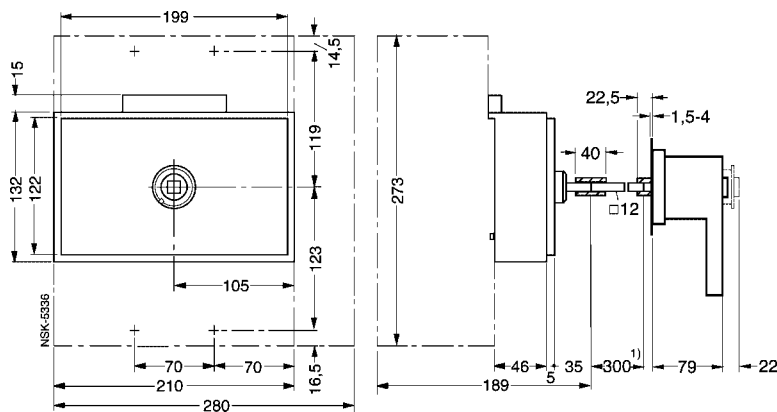
用于 3VF3
3VF9 323-1..00 门偶合旋转驱动机构, 整套
3VF9 323-1..00 complete rotary drive with door coupling
for 3VF3



用于 3VF4
3VF9 423-1..00 门偶合旋转驱动机构, 整套
3VF9 423-1..00 complete rotary drive with door coupling
for 3VF4



用于 3VF5
3VF9 523-1..00 门偶合旋转驱动机构, 整套
3VF9 523-1..00 complete rotary drive with door coupling
for 3VF5



用于 3VF6
3VF9 623-1..00 门偶合旋转驱动机构, 整套
3VF9 623-1..00 complete rotary drive with door coupling
for 3VF6

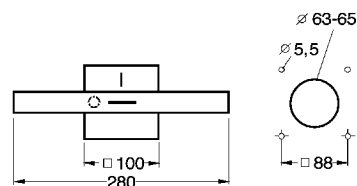
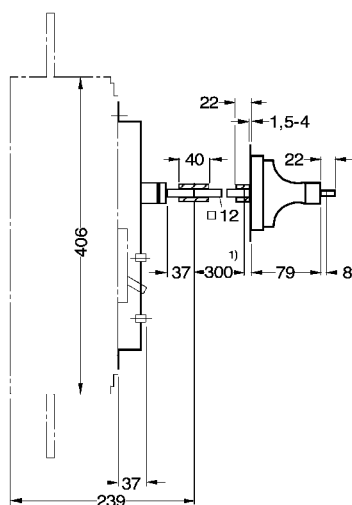
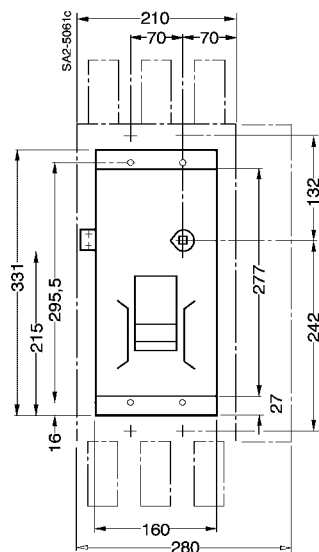
—— 4 极
4-pole version

1) 供货时的长度, 如需要可裁短。
As-delivered, adapt if necessary by shortening shaft.

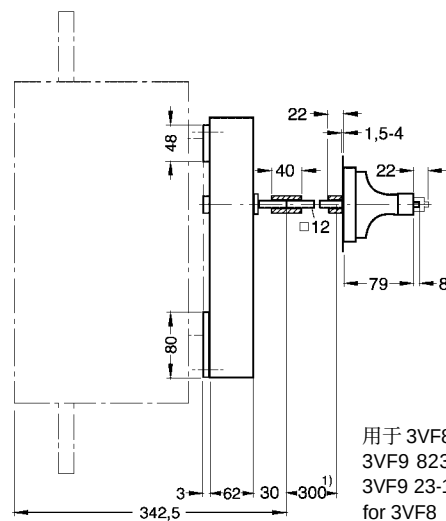
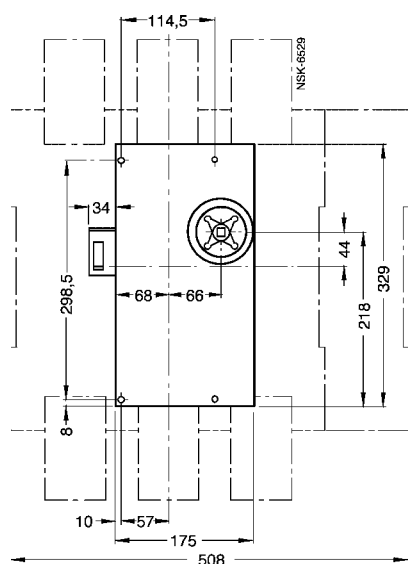
3VF3 至 3VF8 断路器, 3 极和 4 极 3VF3 to 3VF8 Circuit-Breakers, 3 and 4-pole

用于 3 极和 4 极 3VF 断路器的附件

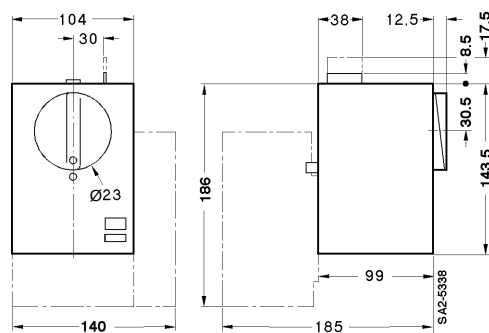
Accessories for 3VF circuit-breakers, 3 and 4-pole



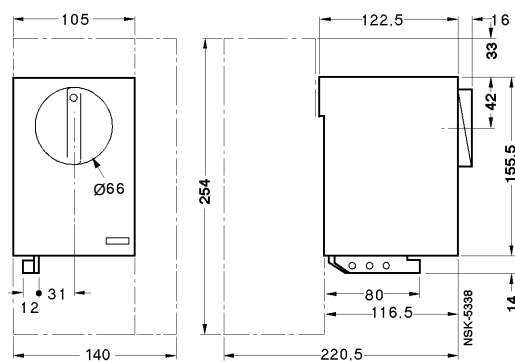
用于 3VF7
3VF9 723-1..00 门偶合旋转驱动机构, 整套
3VF9 723-1..00 complete rotary drive with door coupling
for 3VF7



用于 3VF8
3VF9 823-1..00 门偶合旋转驱动机构, 整套
3VF9 23-1..00 complete rotary drive with door coupling
for 3VF8



用于 3VF3
3VF9 323-1..00 电动机操作机构
3VF9 323-1..0 motorized operating mechanism
for 3VF3



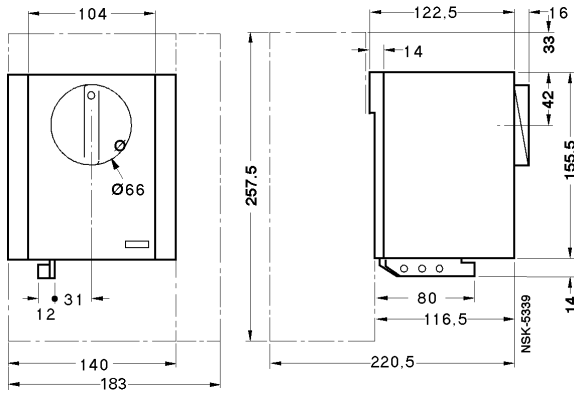
用于 3VF4
3VF9 423-1..0 电动机操作机构和
3VF9 423-1Q..0 同步电动机操作机构
3VF9 423-1..0 motorized operating mechanism and
3VF9 423-1Q..0 synchronizable motorized operating mechanism
for 3VF4

—— 4 极
4-pole version

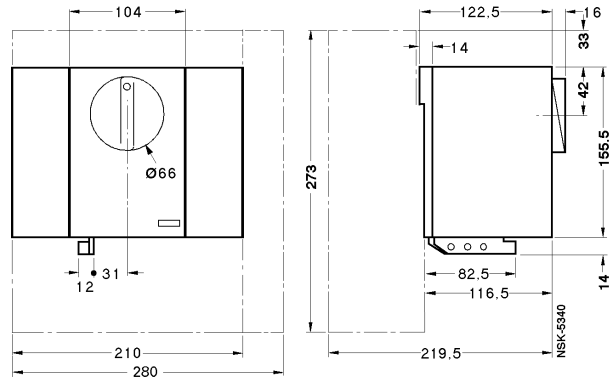
1) 供货时的长度, 如需要可裁短。
As-delivered, adapt if necessary by shortening shaft.

用于 3 极和 4 极 3VF 断路器的附件

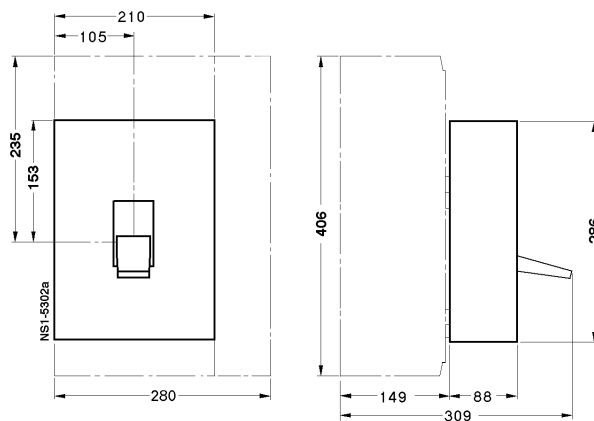
Accessories for 3VF circuit-breakers, 3 and 4-pole



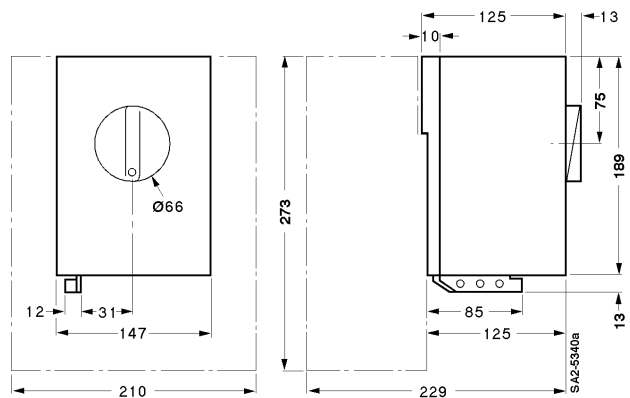
用于 3VF5
3VF9 523-1...0 电动机操作机构
3VF9 523-1Q..0 同步电动机操作机构
3VF9 523-1...0 motorized operating mechanism and
3VF9 523-1Q..0 synchronizable motorized operating mechanism
for 3VF5



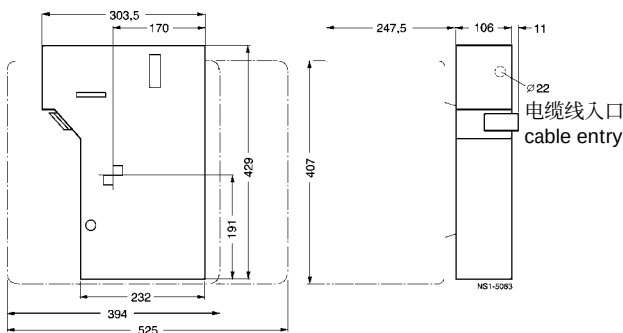
用于 3VF6
3VF9 623-1...0 电动机操作机构
3VF9 623-1..0 motorized operating mechanism
for 3VF6



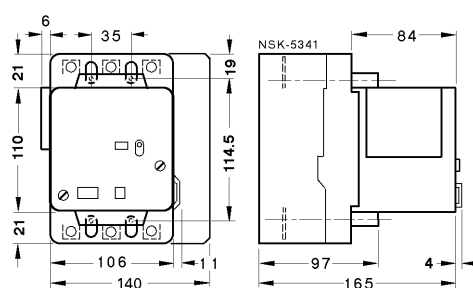
用于 3VF7
3VF9 723-1N..0 电动机操作机构
3VF9 723-1N..0 motorized operating mechanism
for 3VF7



用于 3VF6
3VF9 623-1Q..0 同步电动机操作机构
3VF9 623-1Q..0 synchronizable motorized operating mechanism
for 3VF6



用于 3VF8
3VF9 823-1..0 电动机操作机构
3VF9 823-1..0 motorized operating mechanism
for 3VF8

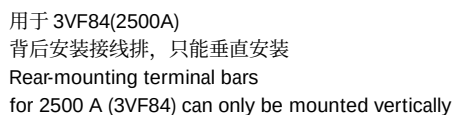


用于 3VF3
3VF9 323-1S.30 电磁线圈操作机构
3VF9 323-1S.30 solenoid operating mechanism
for 3VF3

用于3极和4极3VF断路器的附件

型号 Type	母排连接件 Busbar connection pieces									端子罩 Terminal covers			
	A	B	C	D	E	F	G	H	I	a	b	c	d
3VF3	207,5	187,5	17,5	17,4	9	20	35	3	33	40	103	81	138
3VF4	321	296	22,5	19,5	11	25	35	4	33	45	103	97	138
3VF5	326	296	17,5	21	11	30	44	5	33	50	136	97	180
3VF6*	380,5	340,5	35	32,5	13,5	40	70	8	33	70	208	97	279

Busbar connection pieces, terminal covers and toggle handle extensions for 3VF3 to 3VF6

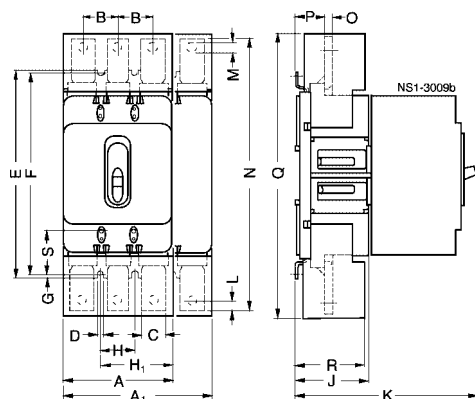


66

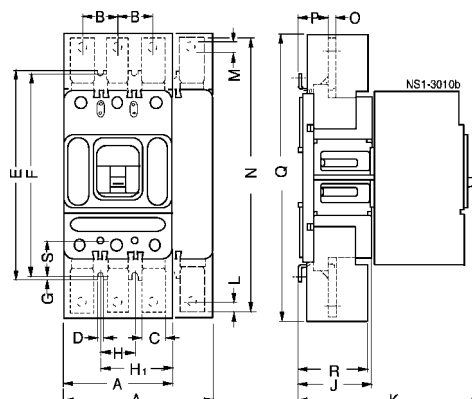
3VF3 至 3VF8 断路器, 3 极和 4 极
3VF3 to 3VF8 Circuit-Breakers, 3 and 4-pole

用于 3 极和 4 极 3VF 断路器的附件

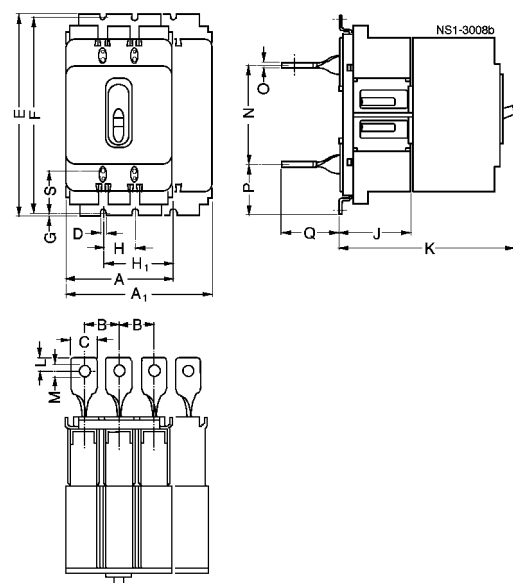
Accessories for 3VF circuit-breakers, 3 and 4-pole



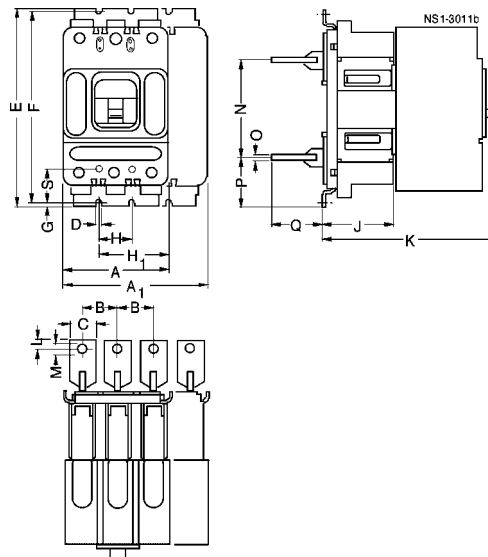
用于 3VF3 正向接线插入式插座
Plug-in socket for front connection for 3VF3



用于 3VF4 至 3VF6 正向接线插入式插座
Plug-in socket for front connection for 3VF4 to 3VF6



用于 3VF3 背后接线插入式插座
Plug-in socket for rear connection for 3VF3



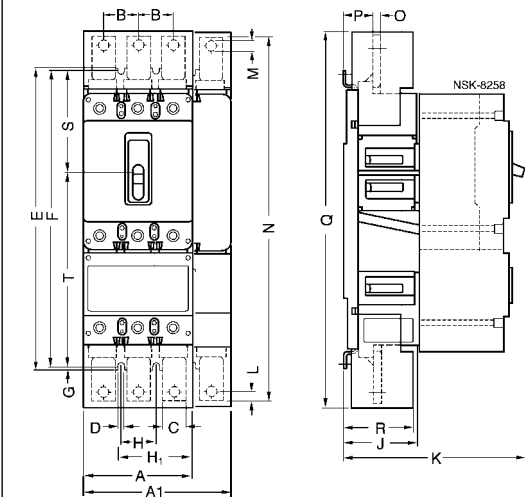
用于 3VF4 至 3VF6 背后接线插入式插座
Plug-in socket for rear connection for 3VF4 to 3VF6

	型号 Type	A	A1	B	C	D	E	F	G	H	H ₁	J	K	L	M	N	O	P	Q	R	S
正向接线插入式插座 Plug-in socket for front connection	3VF3	105	140	35	25	6	197,5	190	3,8	35	70	78	180,5	12,5	ø 11	266,5	6	37,5	417,5	73,5	38
	3VF4	105	140	35	25	6	281	270	5,5	35	70	78	202	12,5	ø 11	350	6	37,5	501	73,5	32,5
	3VF5	140	183	44	30	6	294,5	285	4,8	44	88	78	204,5	15	ø 11	363,5	8	35,5	538,5	73,5	35
	3VF6	210	280	70	40	6	312,5	303	4,8	70	140	78	216,5	20	ø 13,5	401,5	8	35,5	566,5	78,5	31
背后接线插入式插座 Plug-in socket for rear connection	3VF3	105	140	35	25	6	197,5	190	3,8	35	70	78	180,5	12,5	ø 11	98,5	5	49,5	49	—	38
	3VF4	105	140	35	25	6	281	270	5,5	35	70	78	202	12,5	ø 11	182	5	49,5	49	—	32,5
	3VF5	140	183	44	30	6	294,5	285	4,8	44	88	78	204,5	15	ø 11	195,5	8	49,5	49	—	35
	3VF6	210	280	70	40	6	312,5	303	4,8	70	140	78	216,5	20	ø 13,5	213,5	8	49,5	59	—	31

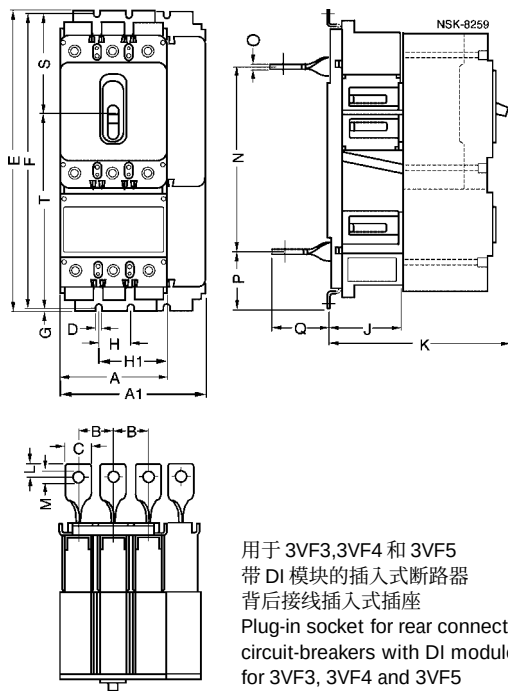
— 4 极
4-pole version

3VF3 至 3VF8 断路器, 3 极和 4 极
3VF3 to 3VF8 Circuit-Breakers, 3 and 4-pole

用于 3 极和 4 极 3VF 断路器的附件
Accessories for 3VF circuit-breakers, 3 and 4-pole

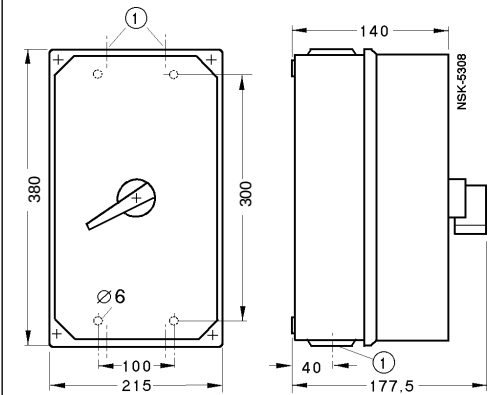


用于 3VF3, 3VF4 和 3VF5 带 DI 模块的插入式断路器
正向接线插入式插座
Plug-in socket for front connection
circuit-breakers with DI module
for 3VF3, 3VF4 and 3VF5



用于 3VF3, 3VF4 和 3VF5
带 DI 模块的插入式断路器
背后接线插入式插座
Plug-in socket for rear connection
circuit-breakers with DI module
for 3VF3, 3VF4 and 3VF5

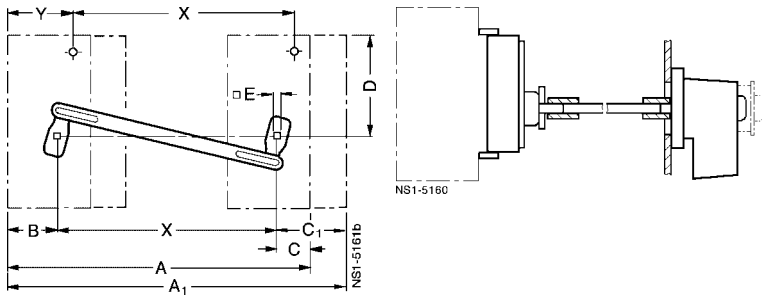
	型号 Type	A	A1	B	C	D	E	F	G	H	H1	J	K	L	M	N	O	P	Q	R	S	T
正向接线插 入式插座 Plug-in socket for front connection	3VF3	105	140	35	25	5.5	283	269	7	35	70	78	180.5	12.5	11	352	6	37.5	503	73.5	92.5	176.5
	3VF4	140	184	35	25	5.5	375	358	8.5	44	88	78	202	12.5	11	444	6	37.5	595	73.5	141	217
	3VF5	140	184	44	30	5.5	388	372	8	44	88	78	204.5	15	11	457	8	35.5	632	73.5	144.3	227.5
背后接线插 入式插座 Plug-in socket for rear connection	3VF3	105	140	35	25	5.5	283	269	7	35	70	78	180.5	12.5	11	184	5	49.5	49	—	92.5	176.5
	3VF4	140	184	35	25	5.5	375	358	8.5	44	88	78	202	12.5	11	276	5	49.5	49	—	141	217
	3VF5	140	184	44	30	5.5	388	372	8	44	88	78	204.5	15	11	189	8	49.5	49	—	144.3	227.5



用于 3VF3
3VF9324-1 DA00 薄钢板防护外罩
3VF9324-1 DA00 sheet-steel housing for 3VF3

- ① Pg36 线槽开孔
① Cutout for Pg36 thread

— 4 极
4 pole version



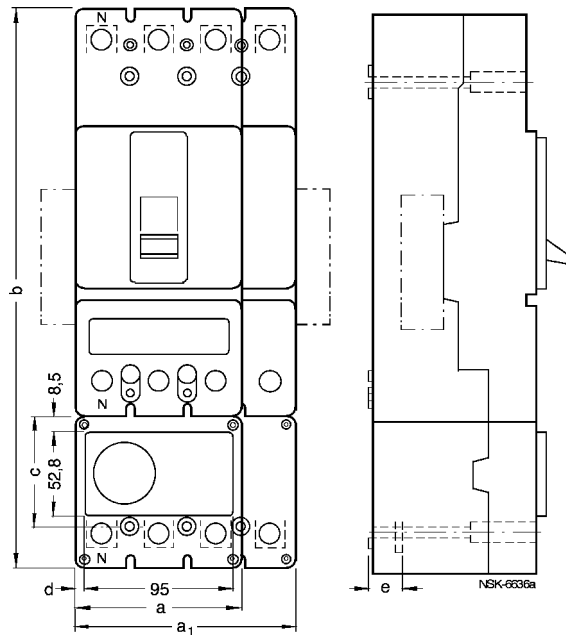
用于 3VF3 至 3VF7
带旋转驱动机构的两台断路器的相互联锁
Mutual interlocking for two circuit-breakers with rotary drive for
3VF3 to 3VF7

型号 Type	A	A ₁	B	C	C ₁	D	E	X	Y
3VF3	325	360	70	35	70	87	8	220	70
3VF4	325	360	70	35	70	133	8	220	70
3VF5	360	403	87.5	52.5	95.5	133	8	220	92
3VF6	520	590	105	105	175	133.5	12	310	140
3VF7	520	590	141	69	139	145	12	310	140

3VF3 至 3VF8 断路器, 3 极和 4 极
3VF3 to 3VF8 Circuit-Breakers, 3 and 4-pole

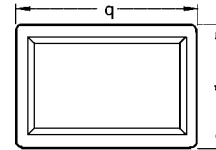
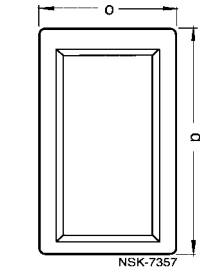
用于 3 极和 4 极 3VF 断路器的附件

Accessories for 3VF circuit-breakers, 3 and 4-pole

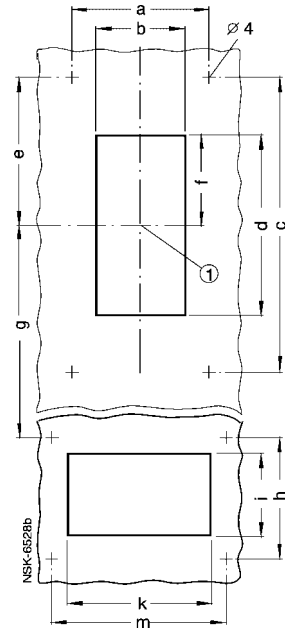


带 DI 模块的 3VF3 至 3VF5 固定式断路器
3VF3 to 3VF5 fixed-mounted circuit-breakers with DI module

型号 Type	a	a ₁	b	c	d	e
3VF3	105	140	238.5	66.5	5	21
3VF4	105	140	348	68	5	21
3VF5	140	183	351.5	72	22	24



用于带或不带 DI 模块的
3VF3 至 3VF8 断路器柜门
开孔的防护框
(只有 3VF3 至 3VF5 可带 DI
模块)
Cover frame for door
cutout
for 3VF3 to 3VF8 circuit-
breakers
with or without DI
module
(with DI module for 3VF3
to 3VF5 only)



用于带或不带 DI 模块的 3VF3 至 3VF8 断路
器防护框的柜门开孔尺寸
(只有 3VF3 至 3VF5 可带 DI 模块)
Door cutout for cover frame
for 3VF3 to 3VF8 circuit-breakers
with or without DI module
(with DI module for 3VF3 to 3VF5 only)

① 断路器中心线
① Centre-line of the circuit-breaker

型号 Type	a	b	c	d	e	f	g	h	i	k	m	o	p	q	r
3VF3	71	55	137	120	68.5	60	71	81	73	108	118	85	151	132	99
3VF4	71	55	137	120	72.5	60	121.5	81	73	108	118	85	151	132	99
3VF5	118	106	137	120	75.5	67	124	81	73	110	118	132	151	132	99
3VF6	118	106	137	120	81.5	73	-	-	-	-	-	132	151	-	-
3VF7	118	106	137	120	37	28.5	-	-	-	-	-	132	151	-	-
3VF8	161	148	218	205	109	95.5	-	-	-	-	-	174	231	-	-

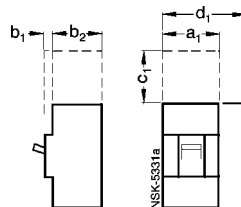
—— 4 极
4-pole version

注意: 对于 4 极断路器, 第 4 极(N 线)总是在左侧
Note: With 4-pole circuit-breakers, the 4th pole (N) is always on the
left!

飞弧距离

Arcing space

飞弧距离
至邻近接地体、无绝缘带电体的最小间隙。
在灭弧室上方的飞弧距离内无绝缘的带电体和
母排应用相间隔板绝缘。
Arcing space
Minimum clearance to adjacent earthed
parts as well as non-insulated live parts.
Uninsulated conductors and bars must be
insulated by means of phase-separating
barriers within the arcing space of the arc
chutes



型号 Type	a ₁	b ₁	b ₂	c ₁	d ₁
3VF3	105	15	86	86	140
3VF4	105	17	104	127	140
3VF5	140	18	104	164	183
3VF6	210	33	104	156	280
3VF7	210	43	140	100	280
3VF8	394	76	230	76	525

3VF3 至 3VF8 断路器，3 极和 4 极
3VF3 to 3VF8 Circuit-Breakers, 3 and 4-pole



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