

3KF switch disconnectors with fuses

3KF switch disconnectors with fuses

Definition and approvals 3KF

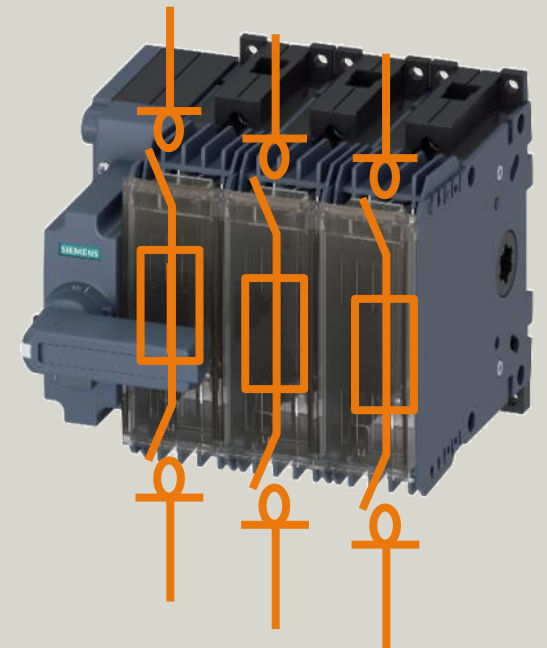
Function

A switch disconnector with fuses is a combination of load switches and disconnectors, and fulfills the requirements of both versions. They are used as main, EMERGENCY-STOP, and repair switches in industrial facilities, infrastructures, and buildings, as well as semiconductor protection. They protect the system from short circuit and overload through the selection of fuses.

Approvals

The 3KF switch disconnectors with fuses comply with the requirements of the standard IEC 60947-3 and with device-specific EC directives. All devices have a CE marking, along with CCC and EAC approval. The 3KF Sitor is a component recognized by UL (UL508).

SIEMENS
Ingenuity for life

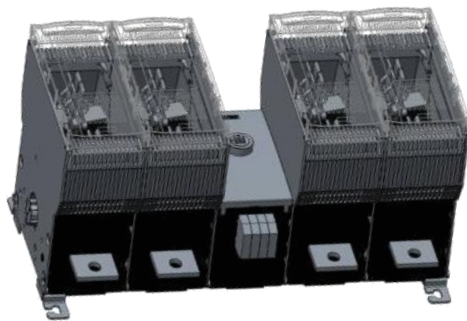


CE

3KF switch disconnectors with fuses Series

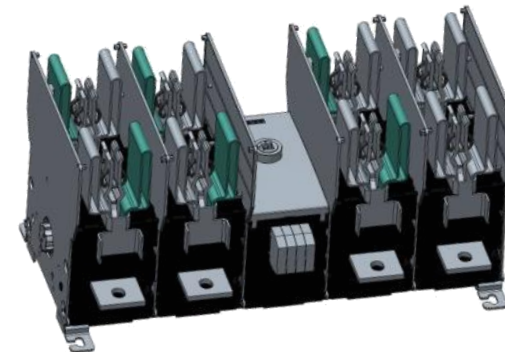
3KF LV HRC

- For standard applications such as cable and line protection
- Increased use case scenarios thanks to a variety of operating mechanism types
- Fuse cover for increased touch protection
- 3 and 4-pole versions



3KF SITOR

- Possible use of fuses with considerably higher power losses than normal
- The 3KF Sitor can be loaded at higher currents than the 3KF NH series
- Streamlined heat dissipation for protection of semiconductors of a frequency converter, for example
- Fuse covers available soon as accessories
- 3-pole version (4th contact element can be retrofitted)



3KF switch disconnectors with fuses

Portfolio overview

- 5 frame sizes
- 3- and 4¹⁾-pole versions
- **Mounting types:**
 - Floor mounting for all sizes
 - Standard rail mounting for size 1
- **Connection types:**
 - Box terminal for size 1
 - Flat terminal for sizes 2 to 5
 - Rear flat terminal¹⁾ for size 1 and 2
- **Operating mechanism types:**
 - Front operating mechanism at the center or side
 - Side operating mechanism¹⁾ left and right
 - Suitable for AC and DC applications

Size 1
(32 A - 80 A)



Size 2
(125 A - 160 A)



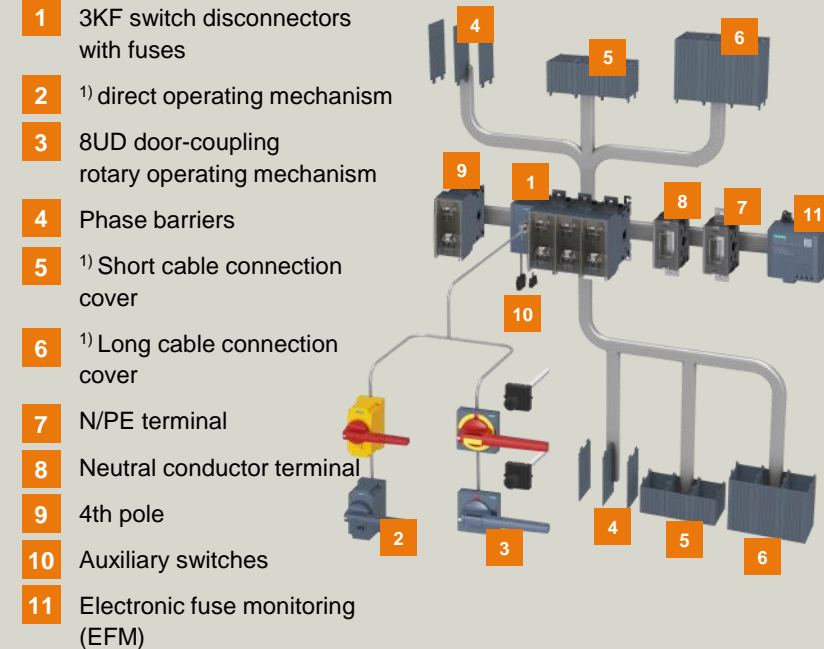
Size 3
(250 A)



Size 4
(400 A)



Size 5
(630 A - 800 A)



1) Only 3KF LV HRC

3KF switch disconnectors with fuses

3KF advantages (1/2)



- Multiple operating mechanism modules for versatile device implementations
- Retrofit capability for additional functions
- Enhanced touch protection of the 3KF LV HRC
- Clearly identifiable switching state of the fuses used
- Locked fuse covers in ON state
- Locking feature prevents unauthorized switching
- Enhanced inter-phase arcing protection
- 3KF Sitor Temperature-optimized for use of fuses for semiconductor protection in LV HRC design



3KF switch disconnectors with fuses

3KF advantages (2/2)



- Optimized heat dissipation for variable mounting positions of the 3KF switch disconnector with fuses
- Test function for safe commissioning
- Fuse monitoring indicates tripped fuses
- Sealable fuse cover
- Suitable for AC and DC applications
- Suitable for wind power applications thanks to the extended voltage tolerance 690 V+10%
- Comprehensive support based on CAx data provision



3KF switch disconnectors with fuses

3KF overview and technical features

3KF switch disconnectors with fuses: Box terminal									
3KF switch disconnectors with fuses: Flat terminal									
Size	1			2		3	4	5	
Type	3KF1			3KF2		3KF3	3KF4	3KF5	
3KF switch disconnectors with fuses									
Rated uninterrupted current/ I_u [A]	32	63	80	125	160	250	400	630	800
Rated operational current / I_e at...									
• AC-23A / 690V [A]	32	63	80	125	160	250	400	630	800
• DC-23A / 440V [A]	32	63	80	125	160	250	400	630	800
Number of poles									
• 3	✓	✓	✓	✓	✓	✓	✓	✓	✓
• 4 ¹⁾	✓	✓	✓	✓	✓	✓	✓	✓	✓
Connection									
• Box terminal	✓	✓	✓	-	-	-	-	-	-
• Flat terminal	-	-	-	✓	✓	✓	✓	✓	✓
• Rear flat terminal ¹⁾	✓	✓	✓	✓	-	-	-	-	-
Operating mechanism									
• Front operating mechanism	✓	✓	✓	✓	✓	✓	✓	✓	✓
• Seitenwandantrieb ¹⁾	✓	✓	✓	✓	✓	✓	✓	✓	✓
Operating and short circuit behavior									
Rated short-time withstand current I_{cw} (1-s-current, rms value) [kA]	2.5	2.5	2.5	5	5	8	12	22	22
Rated conditional short-circuit current with fuses at 690 V ²⁾ [kA]	100	100	100	100	100	100	100	80	80

1) Only 3KF LV HRC

2) Valid for the combination of 3KD switch disconnector and 3NA... fuse type, characteristic gG

✓ available
- not available

3KF switch disconnectors with fuses 3KF type of delivery

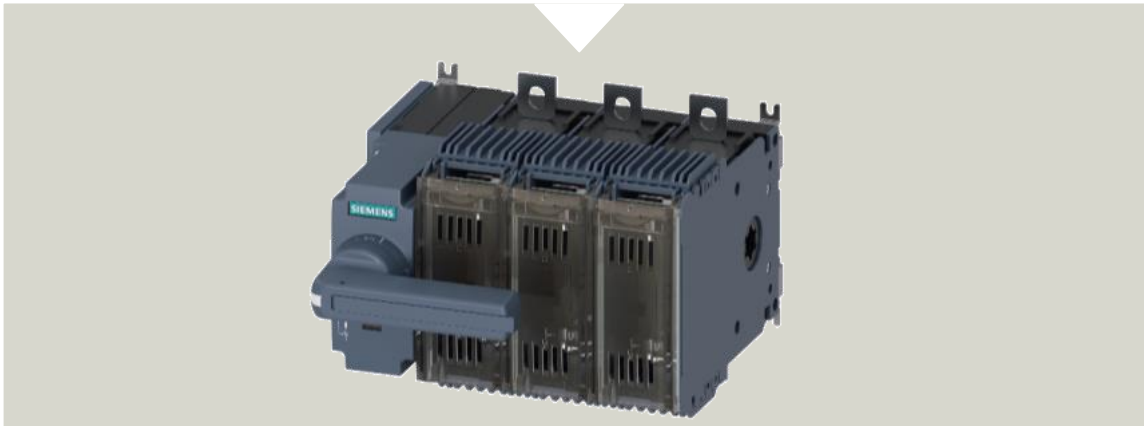
Complete unit with direct operating mechanism

- 3- and 4-pole versions with front operating mechanism (operating mechanism on the left) ¹⁾

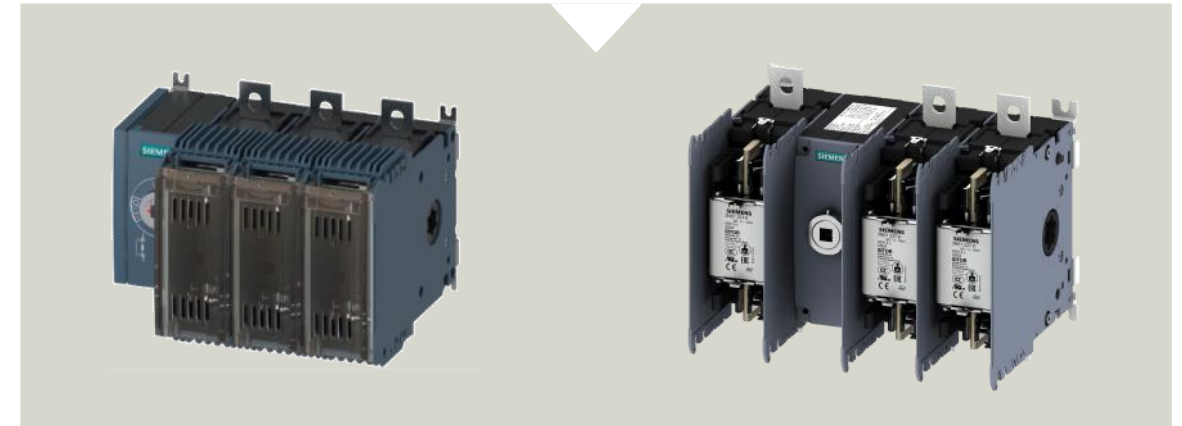
Basic unit without handle

For the equipment with an operating mechanism to specifications:

- Direct operating mechanism¹⁾
- 8UD door-coupling rotary operating mechanism
- with front operating mechanism:
 - 3-, 4¹⁾-pole versions (operating mechanism on the left or in the center)
- Side operating mechanism¹⁾ left and right



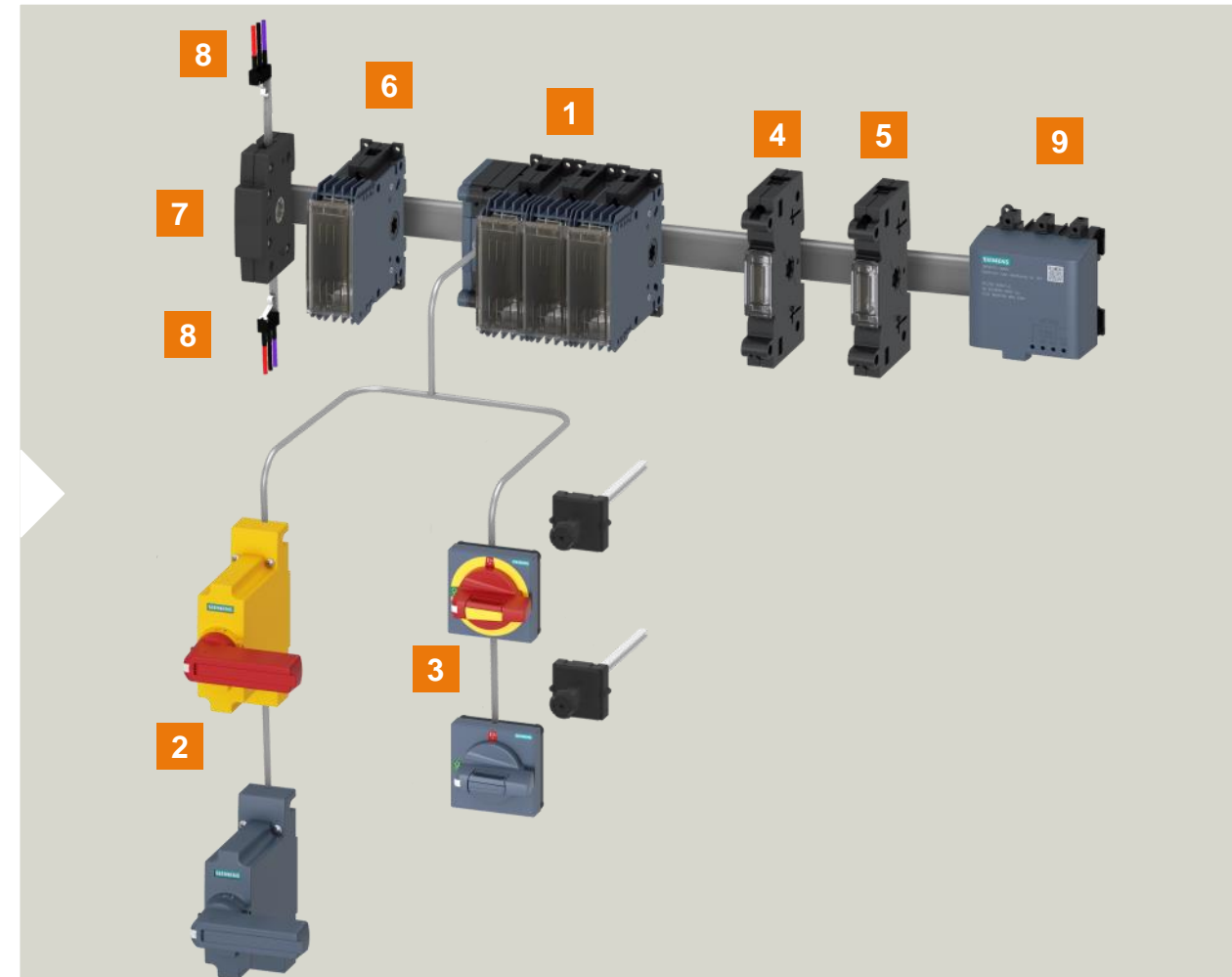
1) Only 3KF LV HRC



3KF switch disconnectors with fuses – Size 1 Components and accessory parts

- 1 3KF switch disconnectors with fuses
- 2 1)Direct operating mechanism
- 3 8UD door-coupling rotary operating mechanism
- 4 N-/PE terminal (with fixed jumper)
- 5 Neutral conductor terminal (with removable jumper)
- 6 4th pole
- 7 Auxiliary switch module
- 8 Auxiliary switches
- 9 Electronic fuse monitoring

1) Only 3KF LV HRC

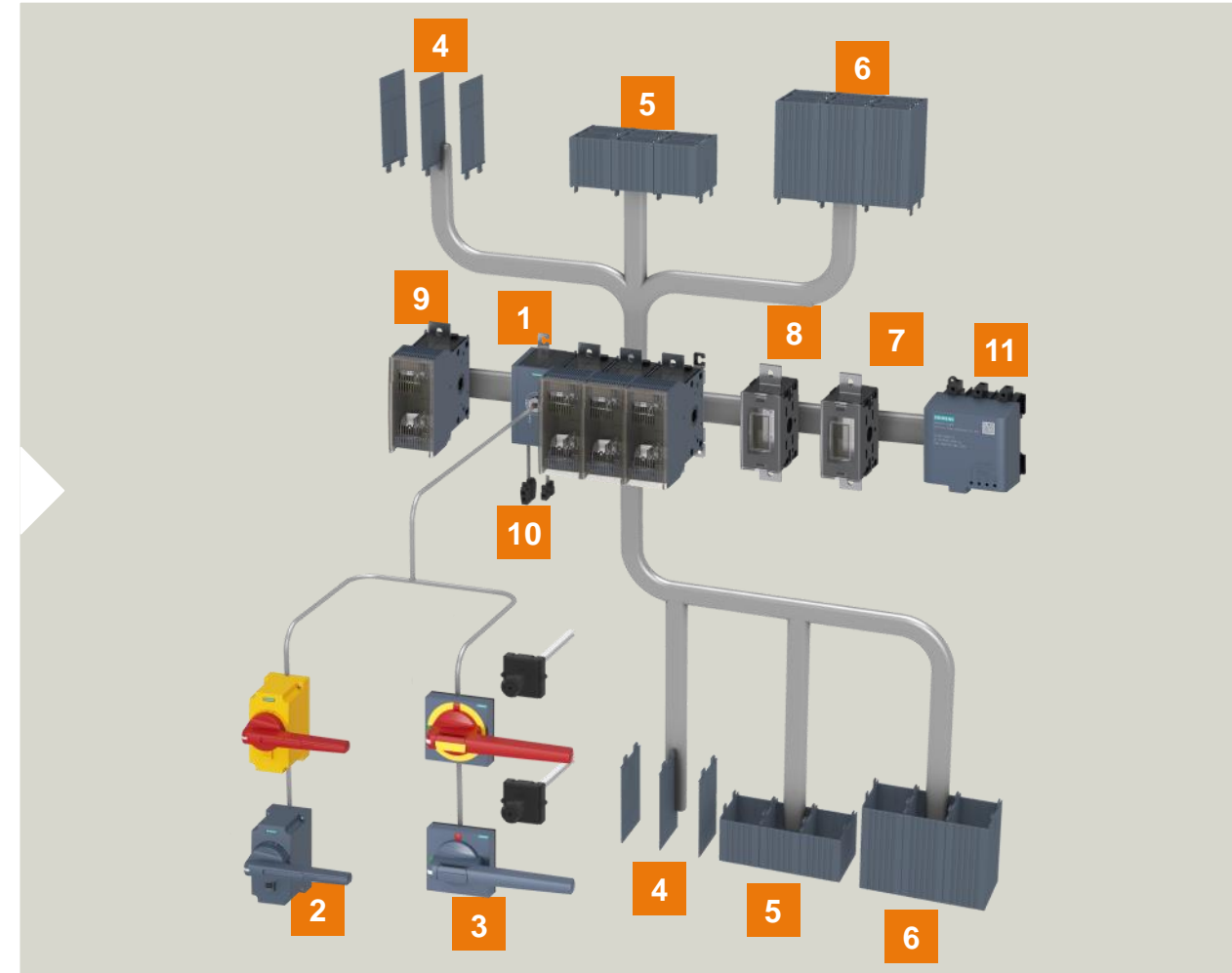


3KF switch disconnectors with fuses – Sizes 2 to 5

Components and accessory parts

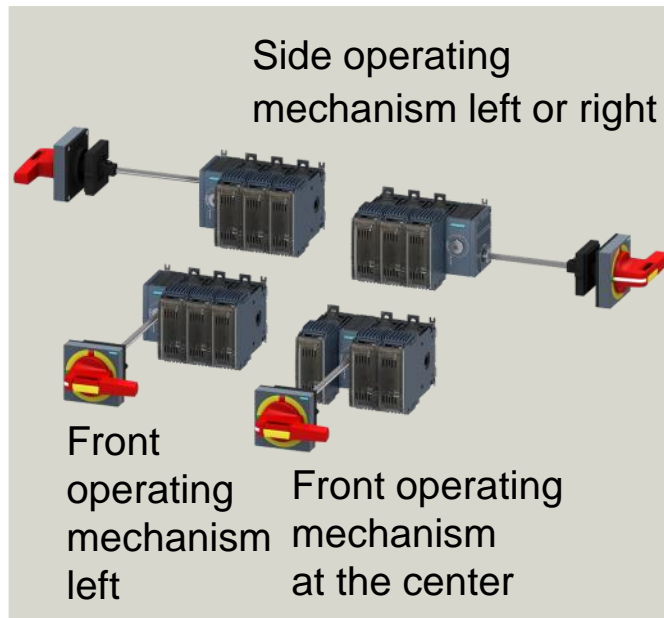
- 1 3KF switch disconnectors with fuses
- 2 1)8UD direct operating mechanism
- 3 8UD door-coupling rotary operating mechanism
- 4 Phase barriers
- 5 1)Cable connection cover - short
- 6 1)Cable connection cover
- 7 N/PE terminal (with fixed jumper)
- 8 Neutral conductor terminal (with removable jumper)
- 9 4th pole
- 10 Auxiliary switches
- 11 Electronic fuse monitoring EFM

1) Only 3KF LV HRC



3KF switch disconnectors with fuses Operating mechanism modules

3KF switch disconnectors with fuses come with a front operating mechanism (in the middle or on the side) and with a side operating mechanism (left and right) for optimized use of the available installation space.



	Front operating mechanism on the side	Front operating mechanism in the middle	Side panel-mounted operating mechanism right (LV HRC)	Side panel-mounted operating mechanism left (LV HRC)
3-pole				
4-pole (LV HRC)				

Multiple operating mechanism modules for versatile device implementations



3KF switch disconnectors with fuses

Rotary operating mechanisms

Gray

→ as main or repair switch

8UD door-coupling rotary operating mechanism



Direct operating mechanism



Red / yellow

→ as EMERGENCY-STOP switch



3KF switch disconnectors with fuses Locking feature

- The locking feature ensures secure separation in accordance with IEC 60947-3 when switched off.

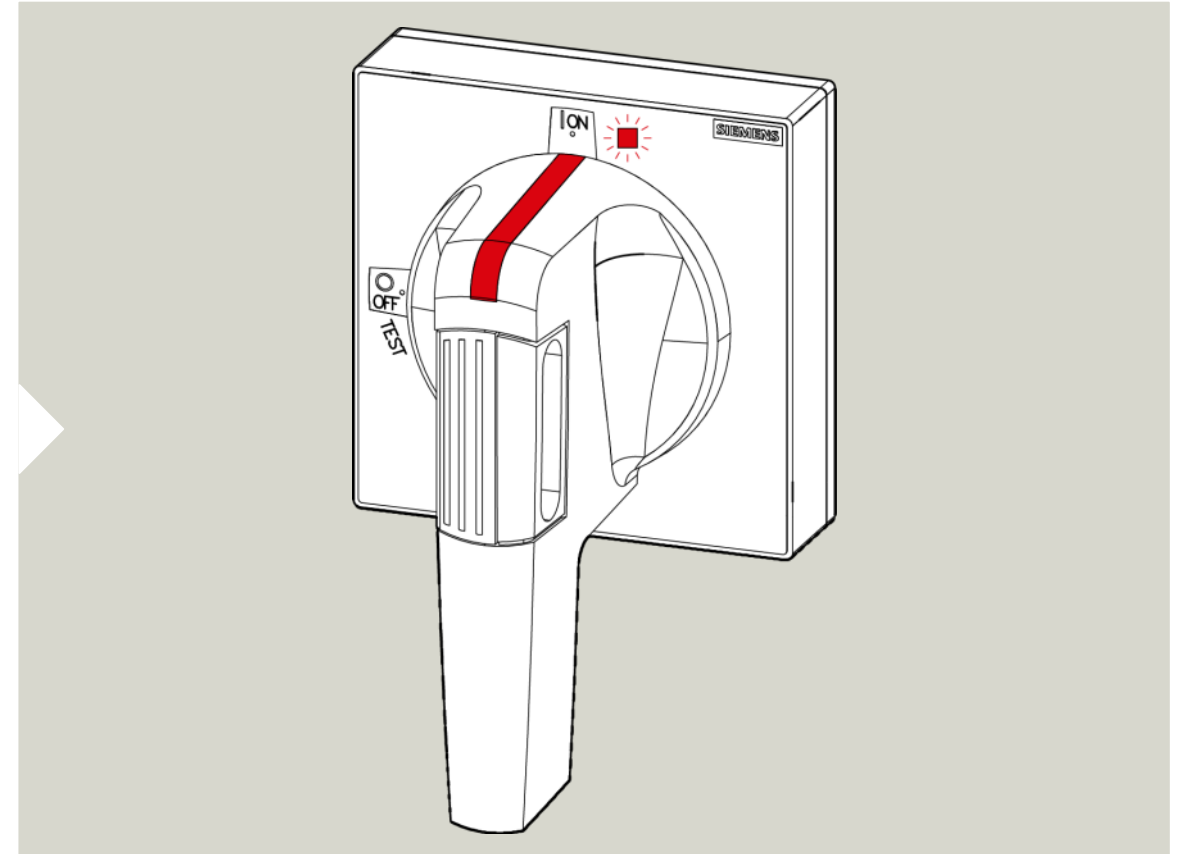


Locking feature prevents unauthorized switching



3KF switch disconnectors with fuses 8UD door-coupling rotary operating mechanism

- The switch position is easily visible through the optionally illuminated handles of the 8UD door-coupling rotary operating mechanism.

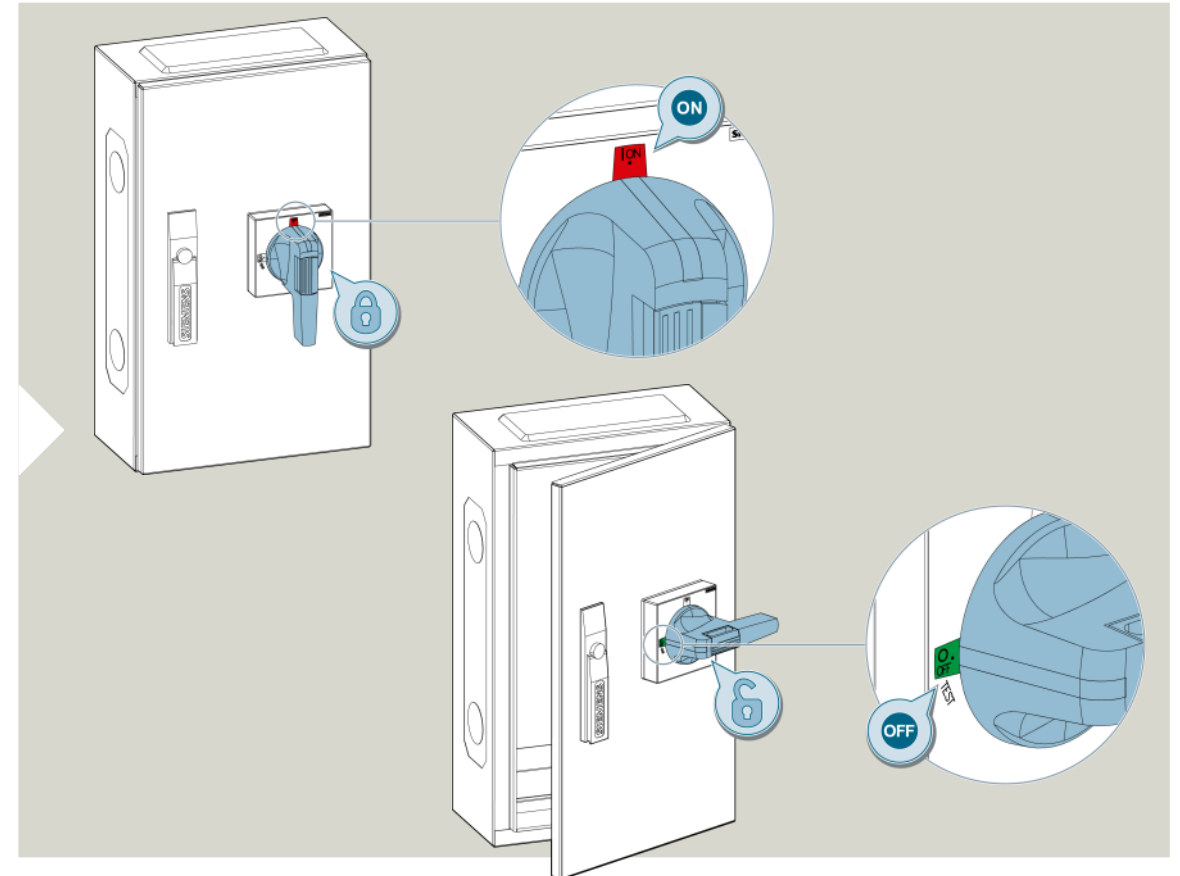


Reliable detectability of the switch position



3KF switch disconnectors with fuses 8UD door-coupling rotary operating mechanism

- Interlocking of the control cabinet door when the 3KF switch disconnectors with fuses are switched on provides reliable protection against electrical accidents.



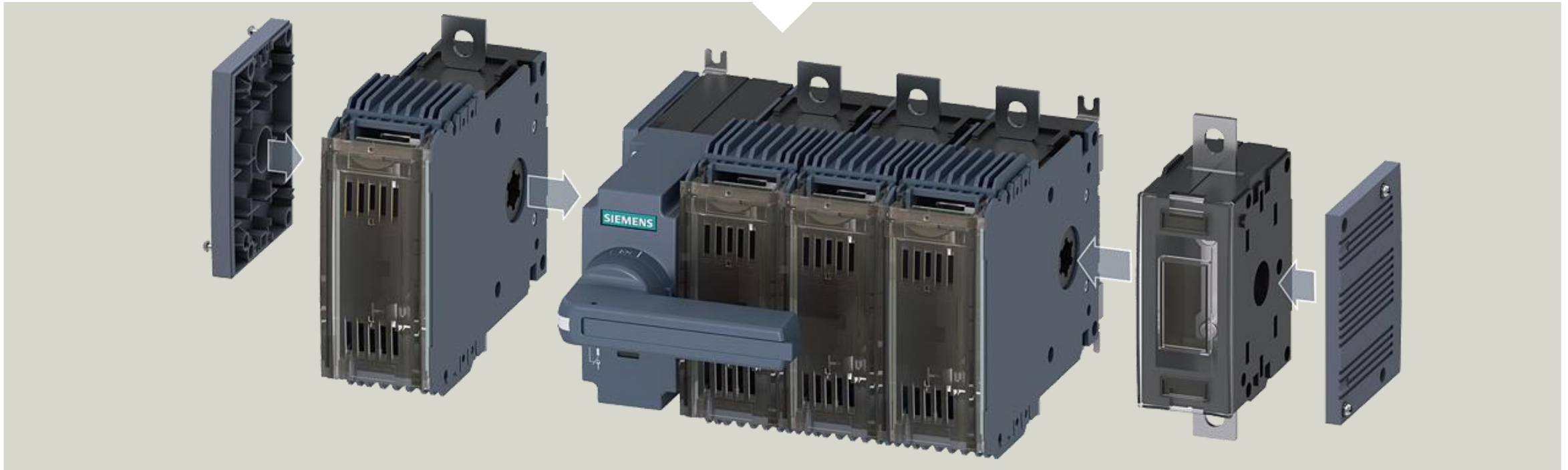
Increased safety through interlock function



3KF switch disconnectors with fuses

Additional poles

Additional poles can be retrofitted as a fourth contact, N or N/PE terminal.



Increased flexibility through the retrofitting of additional poles at any time



3KF switch disconnectors with fuses

Additional poles

Fourth contact element



The 4th contact contains the same contact system as the main contacts of the 3KF switch disconnector with fuses.

Neutral conductor terminal



The N terminal does not contain any contact system. The electric connection between the two contact points can be opened by removing a jumper.

N/PE terminal



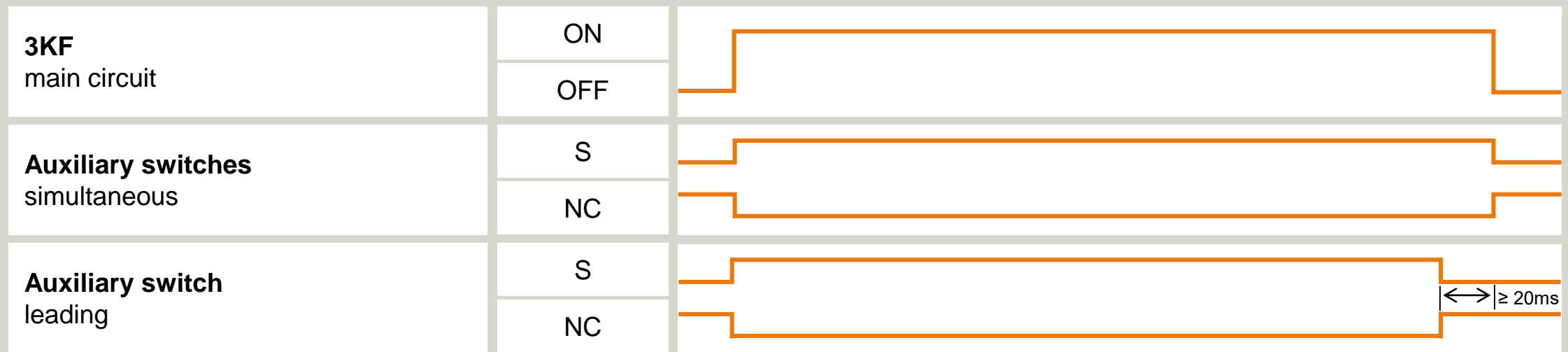
The N/PE terminal matches the neutral conductor terminal. The electric connection between the two contact points **cannot** be opened by removing a jumper.

3KF switch disconnectors with fuses

Auxiliary switch

Auxiliary switches report the switching state of the 3KF switch disconnector with fuses (ON/OFF) to a superordinate control system, e.g. in a control center. All sizes allow optional simultaneous switching on or leading switching off via main contacts.

Example: Suitable for leading deactivation of a converter.



Tim

Auxiliary switches allow remote querying of the switch position of the 3KF switch disconnector with fuses.



3KF switch disconnectors with fuses

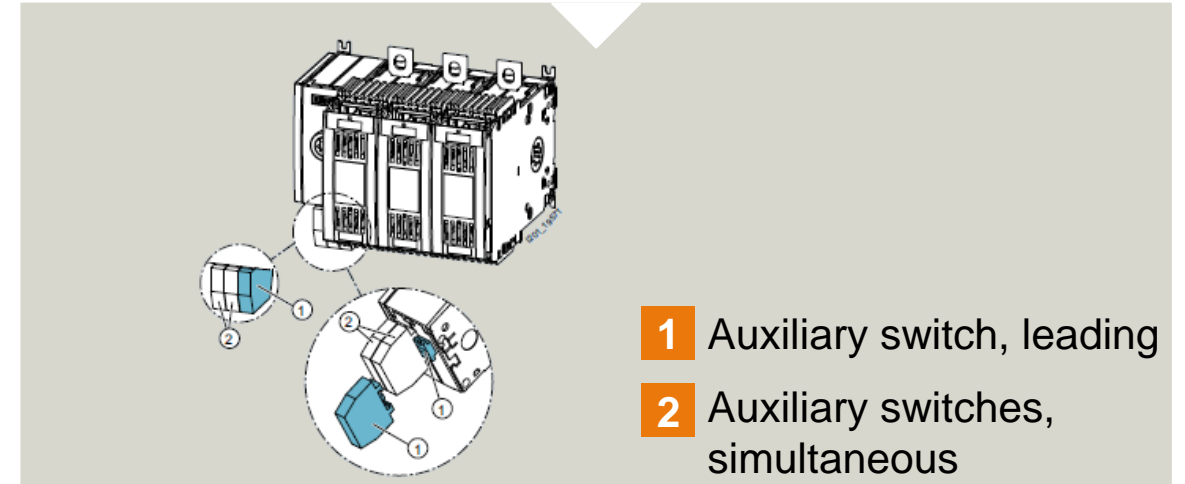
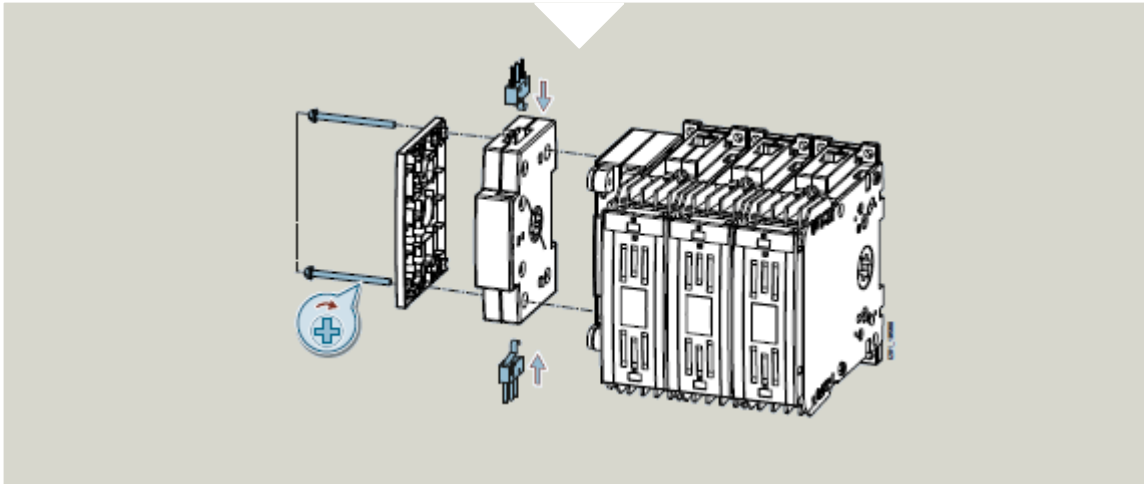
Mounting the auxiliary switches

Size 1

- The auxiliary switch module determines the switching function of HS (simultaneous, leading, test)
- Max. two auxiliary switch modules can be mounted with two microswitches each

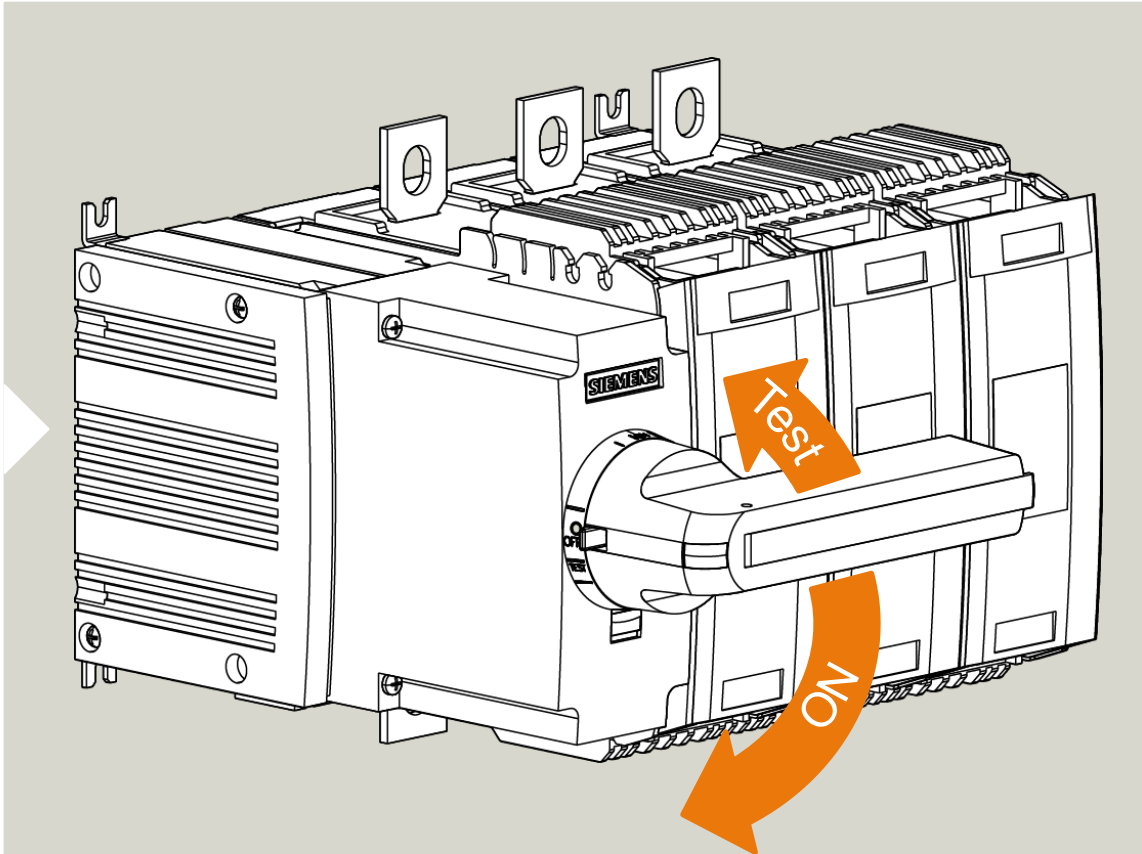
Sizes 2 to 5

- Up to four 3SU auxiliary switches can be mounted directly to the 3KF switch disconnector with fuses
- The switching function is determined by its mounting position
- Test functions available at all mounting positions



3KF switch disconnectors with fuses

Test function for auxiliary switches



The test function allows a check of the auxiliary switch wiring without the need to close the main contacts of the 3KF switch disconnector with fuses.

Test function for speedy plant commissioning



3KF switch disconnectors with fuses

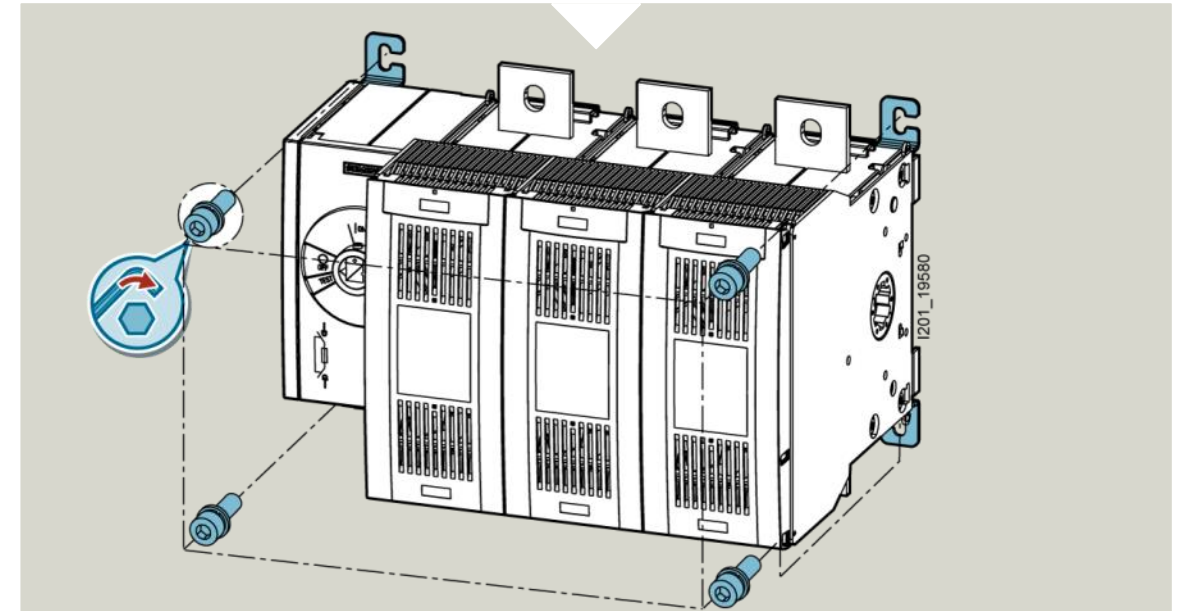
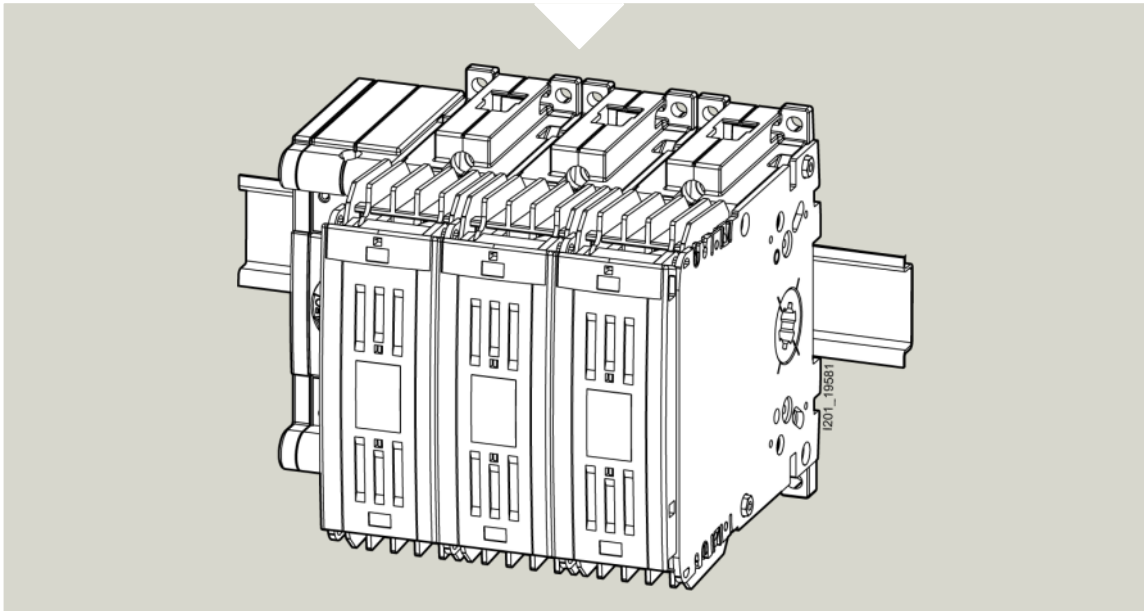
Mounting types

Mounting on standard mounting rail (32A - 80A)

The size 1 can easily be snapped onto a standard mounting rail. Optional floor mounting (mounting plate included in the scope of delivery).

Floor mounting (up to 800A)

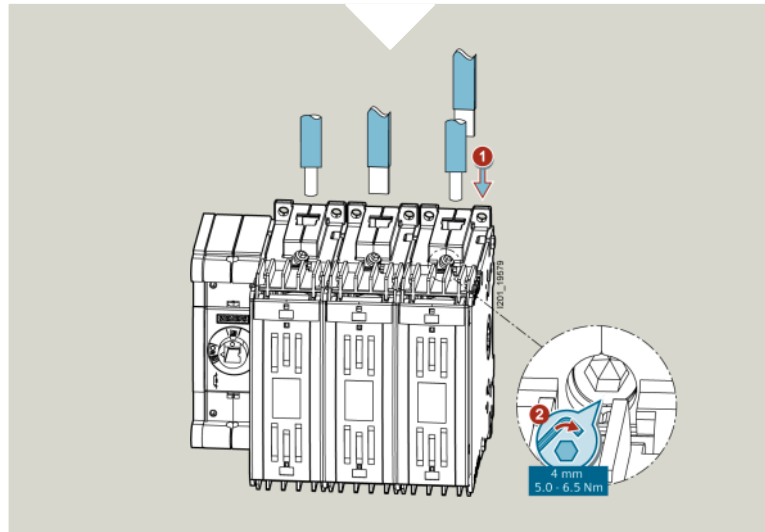
3KF switch disconnectors with fuses are designed for floor mounting. The mounting plate can be rotated by 90° to allow for a more flexible adjustment to actual installation conditions.



3KF switch disconnectors with fuses Connection technology

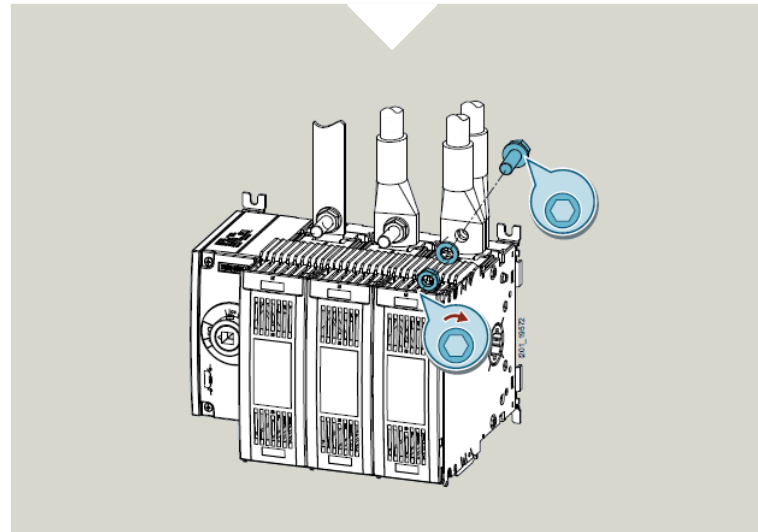
Box terminal (32A - 80A)

The box terminals for size 1 (rated currents 32A - 80A) allow a quick connection of bared conductors.



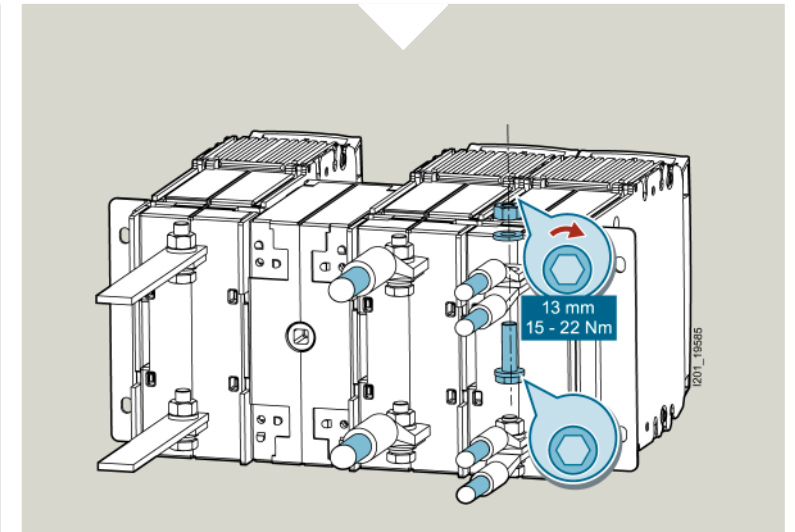
Flat terminal (125A - 800A)

The sizes 2 to 5 (rated currents 125A - 800A) are available with flat connectors for cable lugs or busbars.



Rear terminal (32A - 125A)

The sizes 1 to 2 (rated currents 32A - 125A) are available with rear flat connectors for cable lugs or busbars.



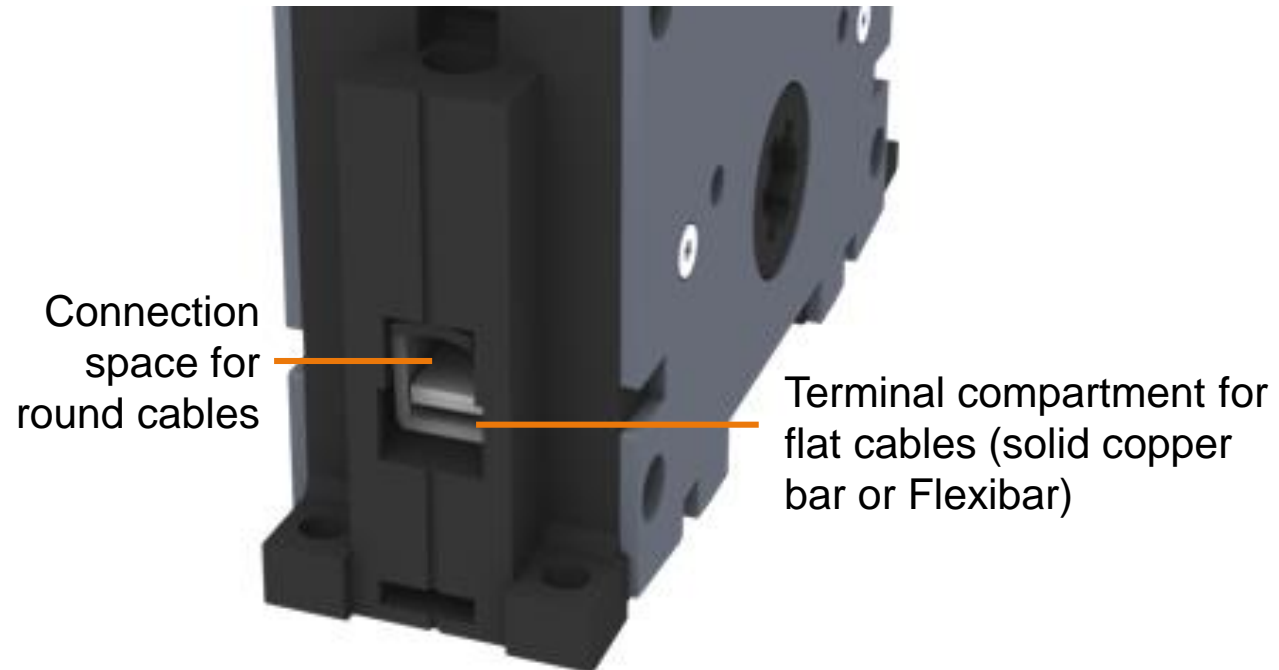
3KF switch disconnectors with fuses come with various connection options.



3KF switch disconnectors with fuses

Connection technology: Box terminal

Terminal Design



Both cable types can be held in one terminal.

3KF switch disconnectors with fuses

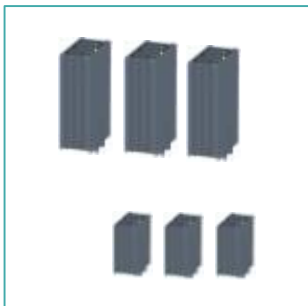
Connection technology: Flat terminal



The sizes 2 to 5 (rated currents 125 A - 800 A) are available with flat connectors → for cable lug or busbar connections.



Phase barriers offer additional arcing protection where long, non-insulated cable lugs or copper bars are used.

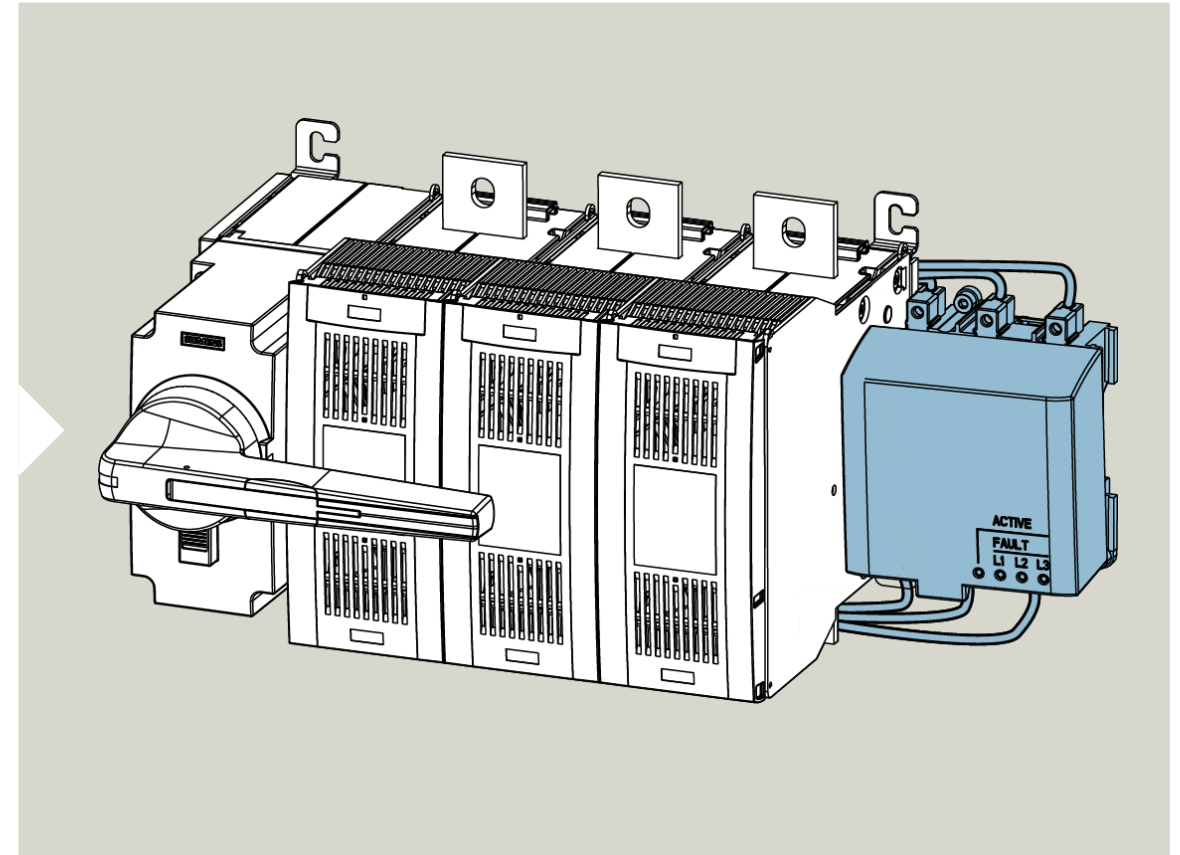


Terminal covers offer additional touch protection.

3KF switch disconnectors with fuses

Electronic fuse monitoring EFM

The optionally available fuse monitoring EFM allows for remote signaling of tripped fuses. There is a phase-precise display on-site via LEDs, indicating which fuse has tripped.



Remote signaling of tripped fuses via electronic fuse monitoring EFM

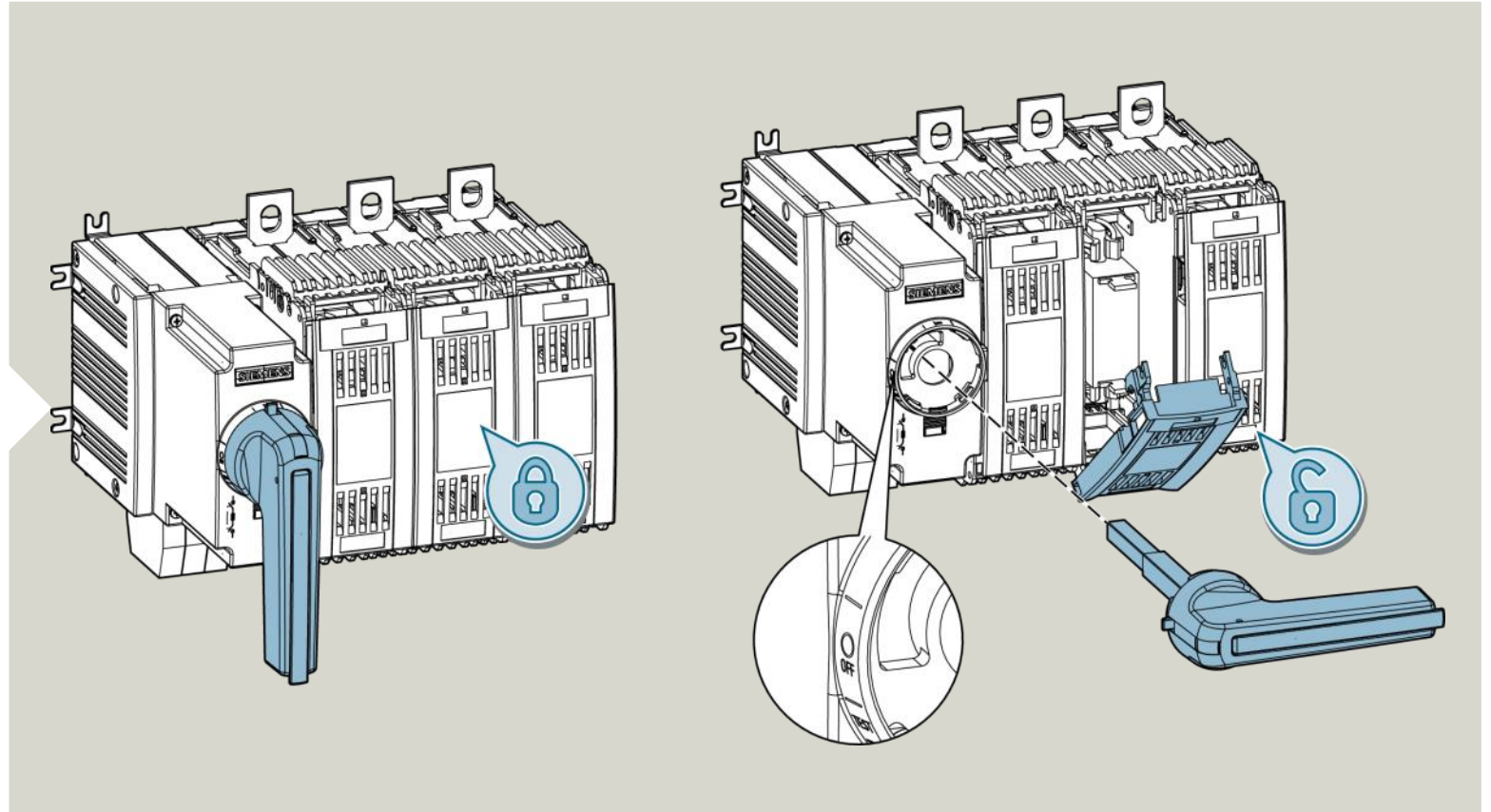


3KF switch disconnectors with fuses

Fuse cover

If the 3KF switch disconnector is in ON state, the fuse cover is automatically locked.

This ensures that the switch disconnector must be de-energized before tripped fuses can be replaced.

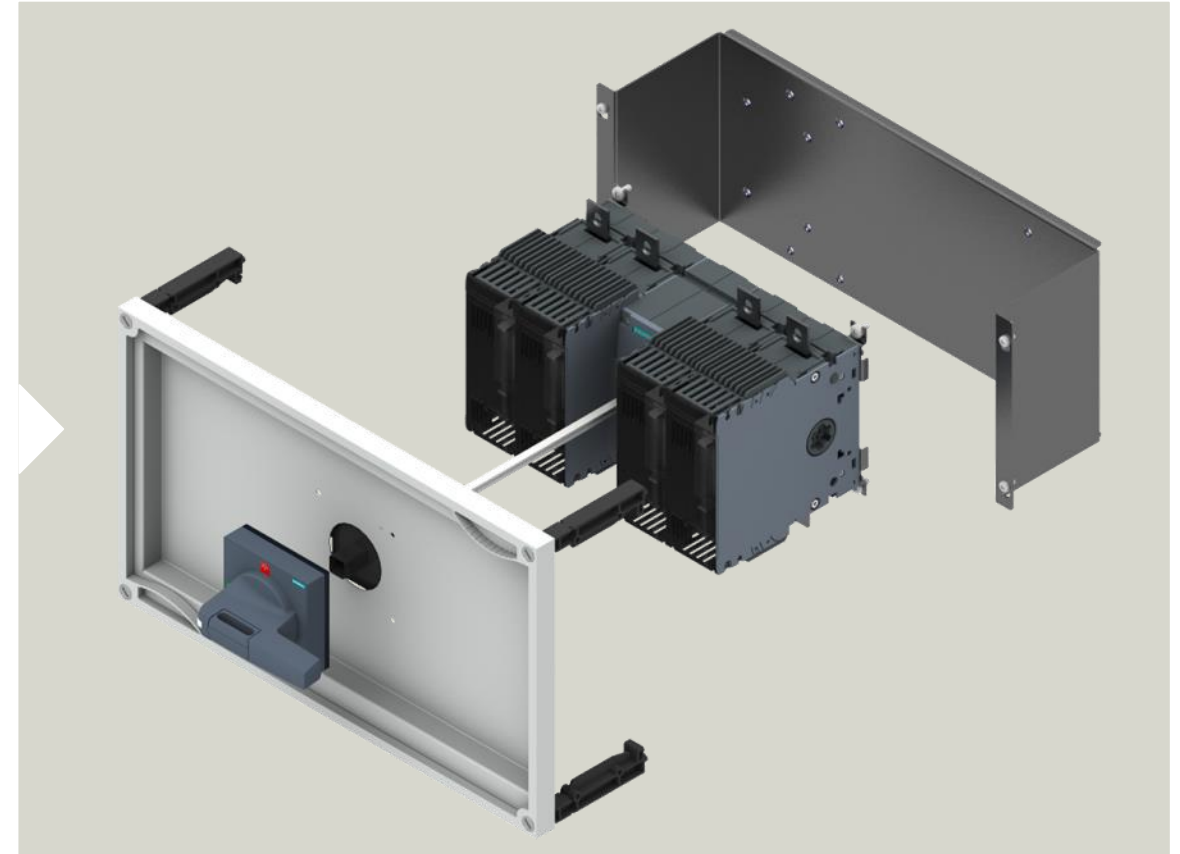


Reliable protection against electrical accidents



3KF switch disconnectors with fuses Assembly kit for distribution board ALPHA 400/630/1250

- Easy and quick mounting through self-tapping screws of up to two 3KF switch disconnectors
- Lower stock keeping through the option of using both 3- and 4-pole switches with the same assembly kit
- The mounting is easy and quick thanks to device-specific support plates
- Easy and quick planning and placement of different assembly kits and switch disconnectors through full integration into the configuration of SIMARIS configuration software



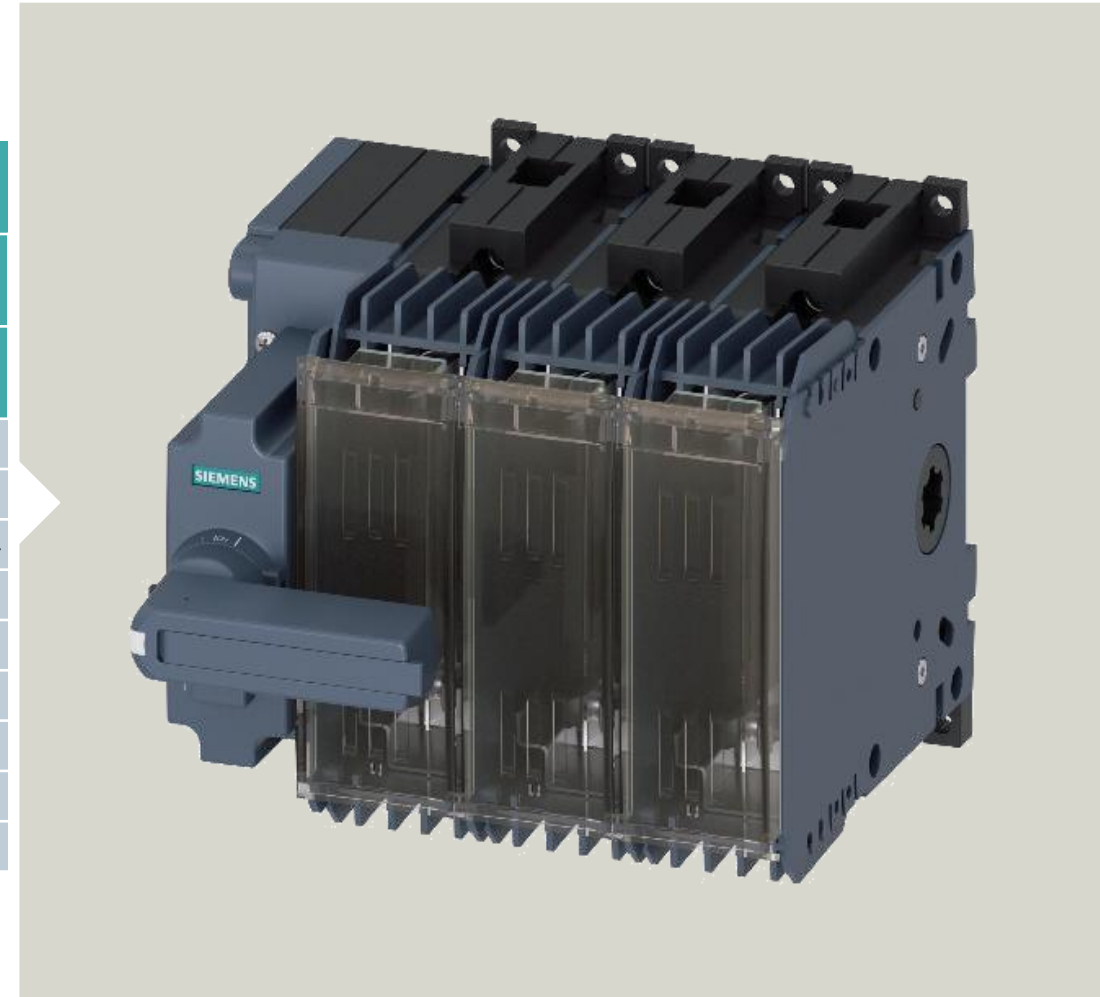
Easy and quick installation through versatile use of assembly kits



3KF switch disconnectors with fuses

Rated operational current I_e

Rated current	Rated operational current I_e at														
	AC-21A			AC-22A			AC-23A			DC-21A		DC-22A		DC-23A	
	400 V	500 V	690 V	400 V	500 V	690 V	400 V	500 V	690 V	220 V	440 V	220 V	440 V	220 V	440 V
32A	32A														
63A	63A														
80A	80A														
125A	125A														
160A	160A														
250A	250A														
400A	400A														
630A	630A														
800A	800A														

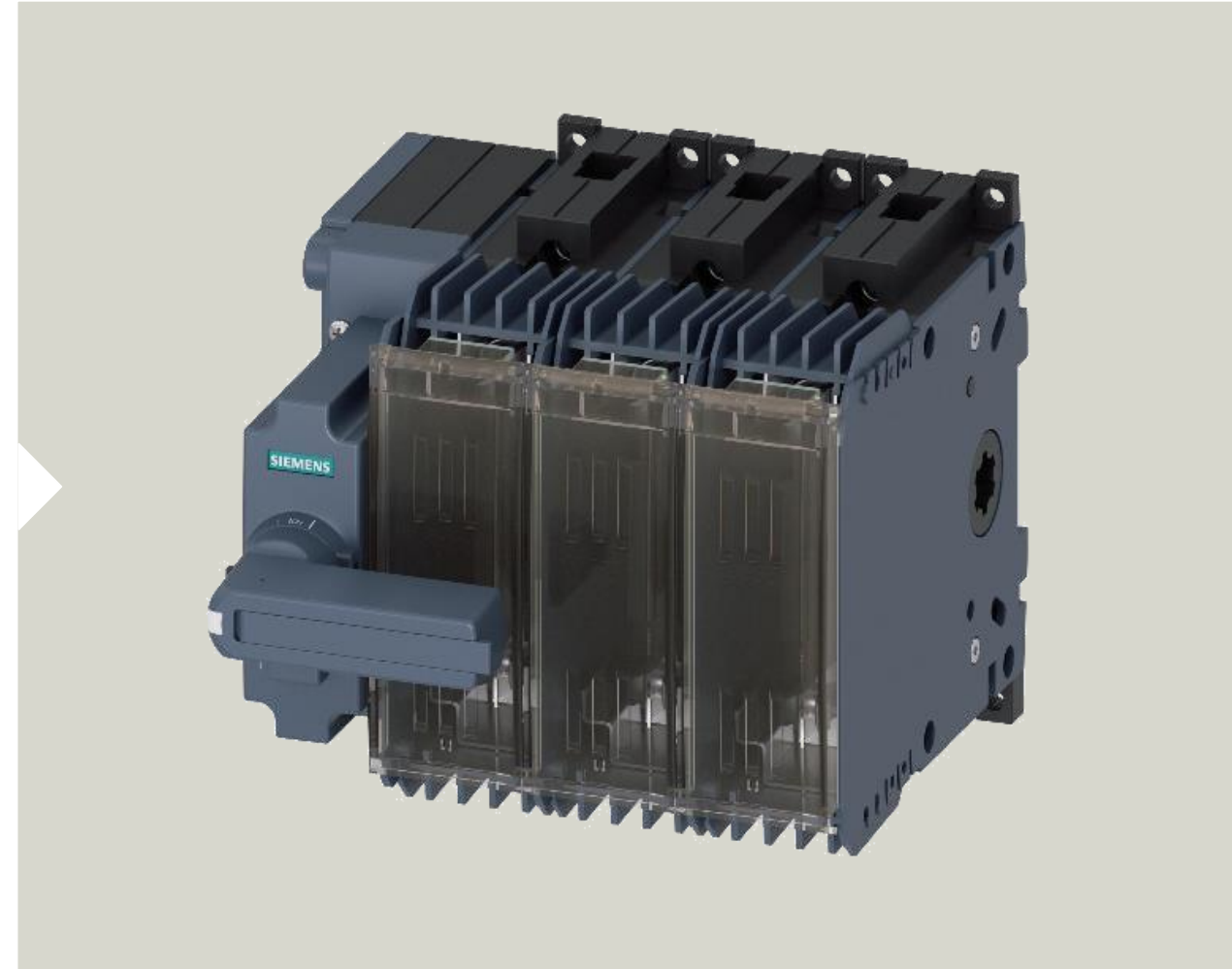


Values for AC tested to within a +10% tolerance of the mains voltage (the standard requires only +5%)

3KF switch disconnectors with fuses

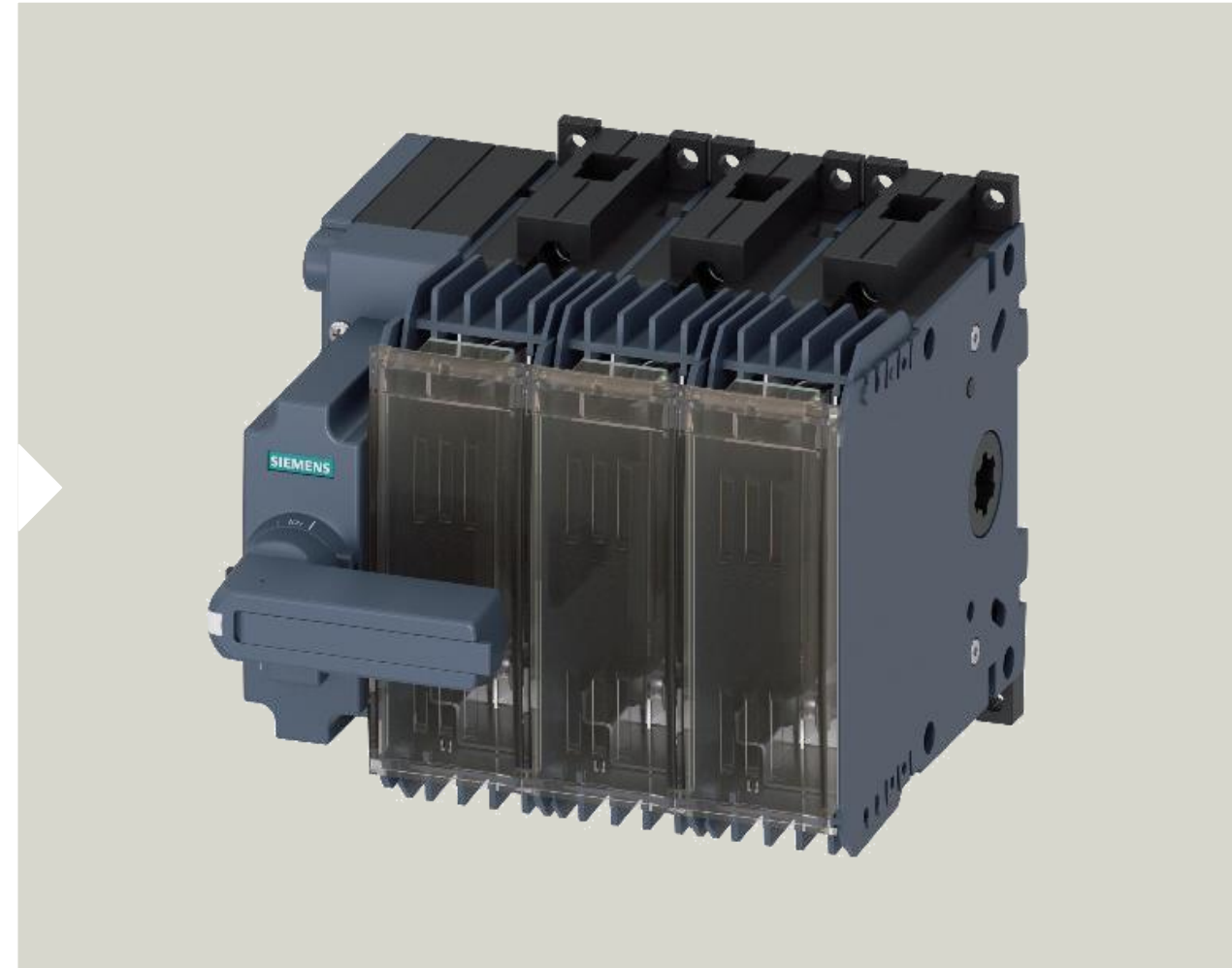
Short-circuit strength

Rated current	Rated short-term current resist capacity (1s) I_{CW}	Rated short-circuit making capacity I_{CM}	Rated conditional short-circuit current with fuse
32A	2.5 kA	3.55 kA	100 kA
63A			
80A			
125A	5 kA	7.65 kA	
160A			
250A	8 kA	13.6 kA	
400A	12 kA	24 kA	
630A	22 kA	44 kA	80 kA
800A			



3KF switch disconnectors with fuses Endurance

Rated current	Mechanical service life	Electrical service life	
		440 V, AC-23A	690 V, AC-23A
32A	15,000	10,000	6,000
63A			
80A			
125A	12,000	8,000	5,000
160A			
250A			
400A	10,000	5,000	4,000
630A	8,000	3,000	2,000
800A	6,000	1,500	1,000



3KF switch disconnectors with fuses

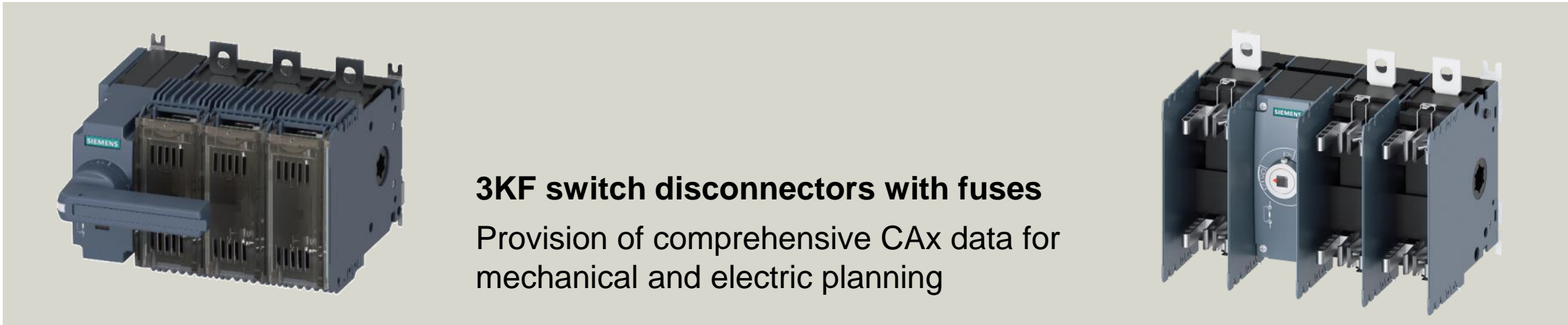
Order number structure

3			K			F			-			1		
	1	Size 1							0	Front operating mechanism, without handle				
	2	Size 2							2	Front operating mechanism, with gray direct op.mechanism				
	3	Size 3							4	Lateral operating mechanism, without handle				
	4	Size 4												
	5	Size 5								L	Operating mechanism on the left			
	9	Accessories								M	Operating mechanism at the center			
										R	Operating mechanism on the right			
			3	3-pole										
			4	4-pole							F	Flat terminal		
											B	Box terminal		
						0	3	32 A			R	Rear flat terminal		
						0	6	63 A						
						0	8	80 A			1	LV HRC		
						1	2	125 A			5	Sitor		
						1	6	160 A						
						2	5	250 A						
						4	0	400 A						
						6	3	630 A						
						8	0	800 A						

Note: This overview is meant for reading existing order numbers and not as a "configurator".





3KF switch disconnectors with fuses CAx data for efficient engineering





3KF switch disconnectors with fuses
Provision of comprehensive CAx data for mechanical and electric planning


11 CAx data types for efficient engineering


- 


Internal circuit diagrams
 - 


Dimensional drawings
 - 


Operating instructions
 - 


Characteristic curves
 - 


Connection diagrams
 - 


3D models
 - 

Product pictures
 - 

Certificates
 - 

Product master data
 - 

Manuals
 - 

Data sheets
 - 

EPLAN Electric P8 macros
- At the planning stage
- not relevant

The 3KF switch disconnecter with fuses – Reliable safety.

The 3KF switch disconnectors with fuses enable reliable personal safety and high system availability. Your projects are deployed with more efficiency, which will safeguard your competitive edge. The devices fulfill all requirements in buildings, infrastructures, and industrial facilities, as well as semiconductor protection.

Your requirements	Preventing electrical accidents	Ensuring system availability	Increasing productivity	Fulfilling requirements
Our solution	<ul style="list-style-type: none"> • Terminal covers for increased touch protection • Locking feature prevents unauthorized switching • Automatic lockable fuse covers 	<ul style="list-style-type: none"> • Enhanced inter-phase arcing protection • High reliability due to robust technology with a long service life 	<ul style="list-style-type: none"> • Simplified logistics and planning • The modular design of the switch disconnecter allows easy retrofitting of additional functions • Standardized technology for industrial plants, infrastructure and buildings • Space savings due to compact design • Fast mounting of switch disconnectors up to 80 A by simply snapping onto a standard mounting rail • Quick commissioning by way of a test function • Easy and safe planning • Comprehensive support by way of CAx data provisioning 	<ul style="list-style-type: none"> • Optional implementation as of the device as a main, EMERGENCY-STOP, and repair switch • Available in various connection options • Multiple operating mechanism modules for versatile device implementations • Optimized heat dissipation for variable mounting positions of the switch disconnecter • Safe protection even for wind turbines

More information

Find out more about 3KF switch disconnectors with fuses

Internet



More information
On switching devices:

[siemens.com/switching-devices](https://www.siemens.com/switching-devices)

Industry Mall



All the technical information about the
3KF switch disconnectors with fuses
can be found here:

[Industry Mall](#)

Support



We provide support from the planning
phase to commissioning and
operation:

[siemens.com/lowvoltage/support](https://www.siemens.com/lowvoltage/support)

Always well informed...

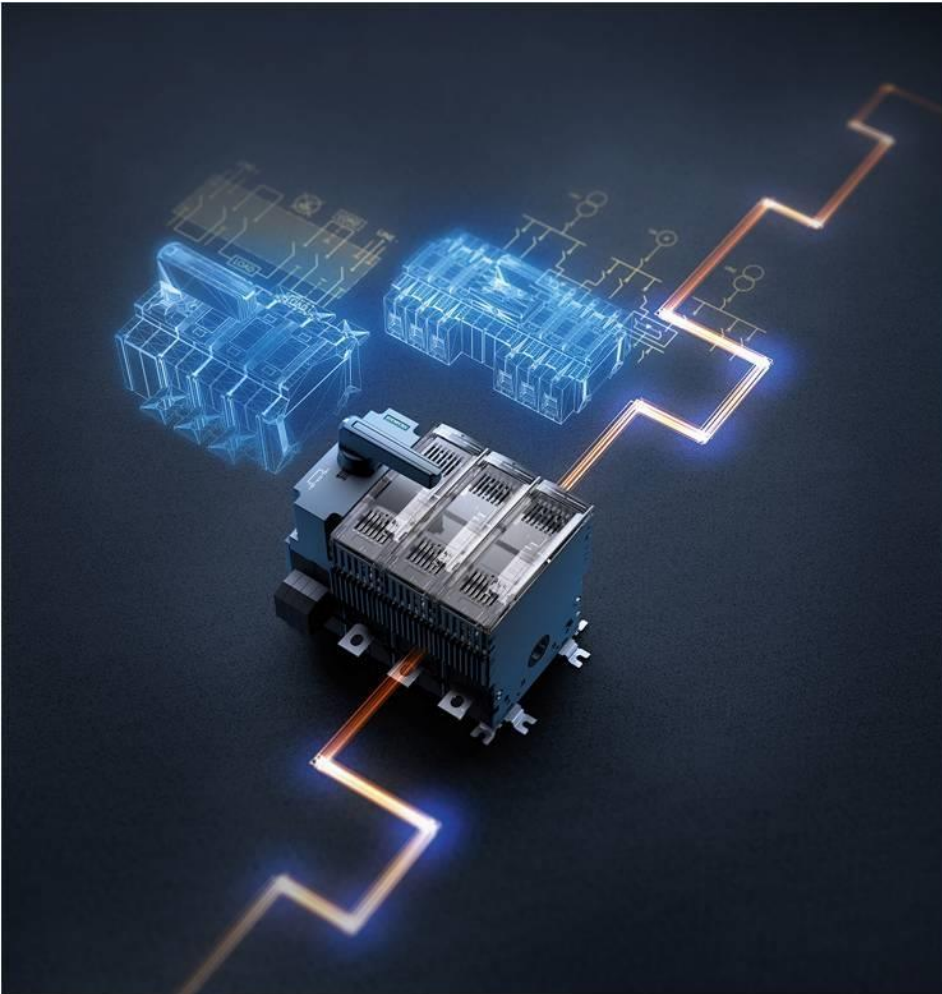


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