Catalog
HG 11.02
2022

MEDIUM-VOLTAGE EQUIPMENT

SION Vacuum Circuit-Breaker 3AE5

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SION Vacuum Circuit-Breaker 3AE5

Medium-Voltage Equipment
Catalog HG 11.02 · 2022

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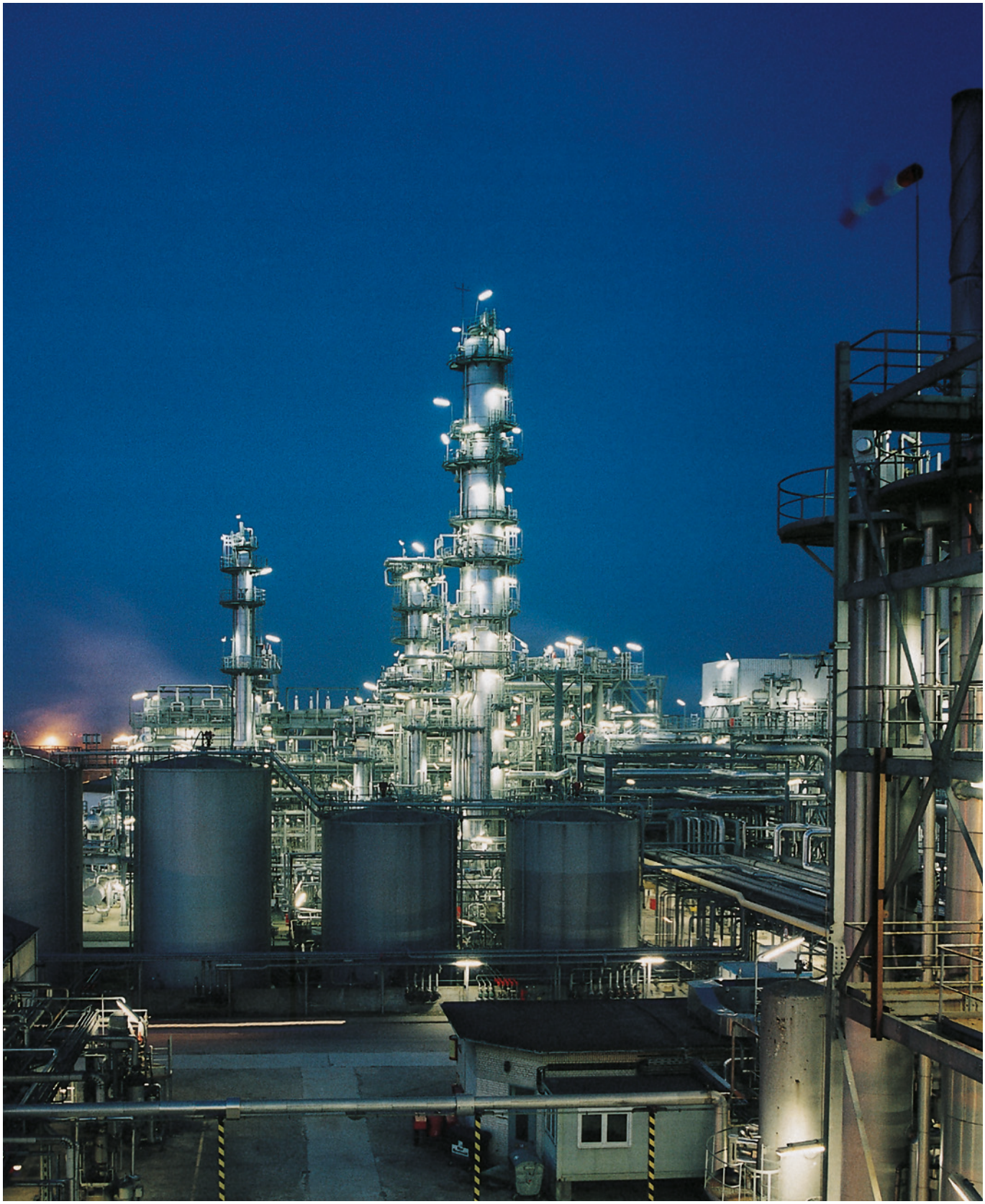

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Industrial application: Refinery

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SION Vacuum Circuit-Breaker 3AE5 from 7.2 kV to 24 kV – The Modular Devices

1

Applications

SION vacuum circuit-breakers control all standard switching duties in medium-voltage distribution systems and industrial networks: from switching of load and short-circuit currents up to coupling of network or busbar sections. They are applicable for operation of, for example, overhead lines, cables, transformers, capacitors, and motors.

The comprehensive range of SION vacuum circuit-breakers offers a wide selection of pole-center distances and vertical distances between terminals as well as various equipment options for the voltage levels from 7.2 kV to 24 kV. They are suitable for installation in all established and new air-insulated medium-voltage switchgear as well as for retrofitting existing switchgear.

All SION vacuum circuit-breakers are characterized by their high level of reliability and availability. Up to 10,000 operating cycles are possible without maintenance.

Installation options

SION vacuum circuit-breakers 3AE5 are suitable for fixed mounting and can be upgraded with additional installation components. The comprehensive installation accessories consisting of withdrawable part, contact arms, contact systems (tulips), insulating shells, bushings, and fixed contacts enable easy integration into switchgear panels, and, maximally equipped as a withdrawable module with an earthing switch, form almost the complete circuit-breaker compartment inside the switchgear.

SION vacuum circuit-breakers 3AE5 are equipped either with a compact and narrow or a wide housing. Generally, every 3AE5 with a narrow housing can optionally also be ordered with a wide housing.

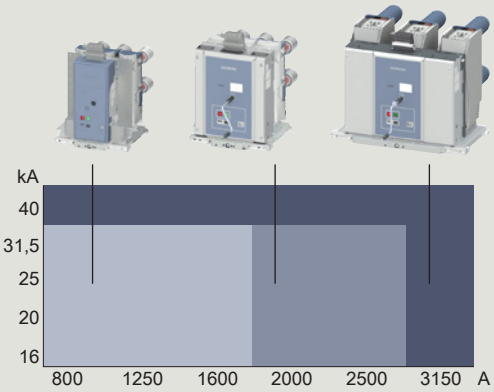
Identical compact dimensions and connection dimensions across several voltage levels reduce planning costs and the variety of panel versions.

The SION family

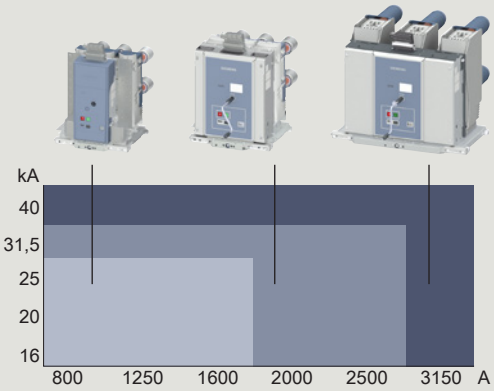
The 3AE5 is a part of the SION family, and his functions cover all general applications in medium-voltage networks. Moreover, the following SION products are available for further typical applications:

- 3AE2: for generator switching applications
- 3AE3: for IEEE/ANSI
- 3AE6: with lateral operating mechanism

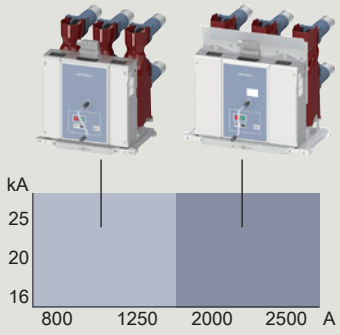
SION vacuum circuit-breaker 3AE5 for 7.2 kV up to 12 kV



SION vacuum circuit-breaker 3AE5 for 17.5 kV



SION vacuum circuit-breaker 3AE5 for 24 kV



Installation options

Thanks to a variety of installation equipment, SION vacuum circuit-breakers can be flexibly tailored to individual requirements. They are available as mere fixed-mounted versions and can also be optionally supplied with additional installation components.

The modular system of these components ranges from withdrawable parts with a racking mechanism, contacts, fixed contacts, and bushings, up to a complete withdrawable module. The different installation options are selected via the 13th position of the article number.

Fixed mounting | With contacts | With contacts, fixed contacts, and bushings | On withdrawable part | On withdrawable part, with contacts | On withdrawable part, with contacts, fixed contacts, and bushings | On withdrawable part, with contacts, fixed contacts, and bushings, in mounting frame | On withdrawable part, with contacts, fixed contacts, and bushings, in mounting frame with earthing switch

SION withdrawable module

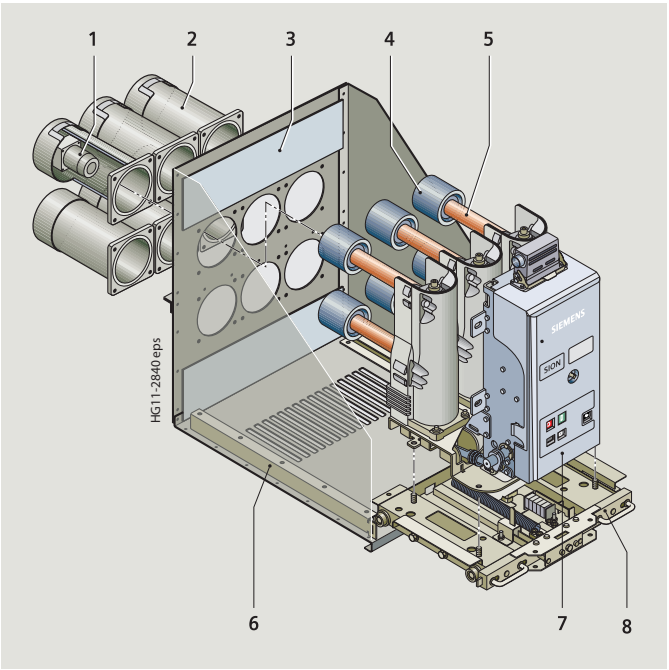
The maximally equipped SION withdrawable module (with the Siemens racking concept) contains all components required for the circuit-breaker compartment in the switchgear. It consists of a circuit-breaker mounted on a withdrawable part with contact arms and contact systems, installed in a mounting frame with side and rear walls. The withdrawable module is equipped with bushings, fixed contacts, shutters, and a shutter mechanism. The side walls and the rear wall form the tested connection compartment. For the withdrawable module, only Siemens installation components are available.

Optionally, the withdrawable module is also available with a make-proof earthing switch. This device was tested in the withdrawable module, features a defined making capacity up to the values stated on the circuit-breaker nameplate, and fulfils the standards that are relevant for the switchgear. The earthing switch is characterized by a compact design with spring-operated mechanism and a switching angle of 90°, low torques for closing and opening, as well as low maintenance. Interlocks with the withdrawable circuit-breaker are included.

The withdrawable circuit-breaker is racked into the mounting frame with the handle by rotating the spindle of the withdrawable part. Lateral gates are provided to control the shutter mechanism and to open the shutters for contacting. Signals for the service and disconnected positions are transmitted to the low-voltage interface of the circuit-breaker via the position switches of the withdrawable part.

The SION withdrawable module is available for the following connection geometries:

	≤17.5 kV				24 kV	
PCD	150		210		210	275
VDT	275	310	275	310	310	



1 Fixed contact
2 Bushing
3 Shutter
4 Contact system (tulip)
5 Contact arm
6 Mounting frame
7 Circuit-breaker
8 Withdrawable part

1

Switching medium

Proven and fully developed for more than 40 years, vacuum switching technology is the principal arc-quenching medium used in vacuum interrupters.

Pole assemblies

The pole assemblies consist of vacuum interrupters and pole shells. The vacuum interrupters are air-insulated and freely accessible. The pole assemblies are fixed on the mechanism mounting plate and supported by means of the pole shell (6). The vacuum interrupter (5) is mounted rigidly to the upper interrupter support. The lower part of the interrupter is guided into the lower interrupter support, allowing axial movement. The pole shell (6) absorbs external forces resulting from switching operations and the contact pressure. Some specific pole assemblies require additional insulating shells towards the contact arm side; the latter must absolutely be ordered for the relevant designs. Alternatively, the insulating measures may also be ensured by the customer (details in section "Device configuration" and "Additional equipment").

Operating mechanism

The whole operating mechanism with spring energy store, motor (13), releases (11), indicators, and actuating devices is mounted on the mechanism mounting plate (9). This compact design enables very fast operating times.

The circuit-breaker operating mechanism is a stored-energy spring mechanism. The force is transmitted from the operating mechanism to the pole assemblies via operating levers. The closing spring (15) can be charged either electrically or manually, and latches in automatically when charging is complete. The closing spring (15) acts as an energy store.

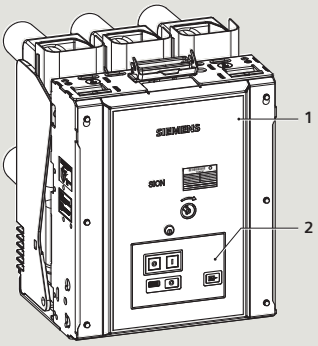
To close the circuit-breaker, the closing spring (15) can be unlatched either mechanically at the device (ON pushbutton), or electrically by remote control. The closing spring (15) charges the opening and/or contact-pressure springs (17) as the circuit-breaker closes. The now discharged closing spring (15) is charged again automatically by the motor (13).

In this way, the stored-energy spring mechanism stores the OPEN-CLOSE-OPEN operating sequence that is required for an auto-reclosing operation on the system side. All stored-energy spring mechanisms perform the switching duties: synchronizing, rapid load transfer, and auto-reclosing.

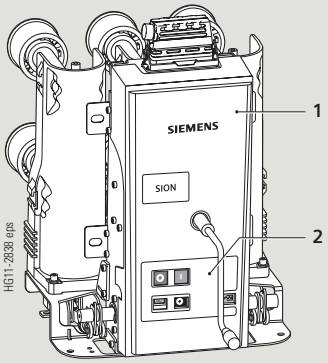
Trip-free mechanism

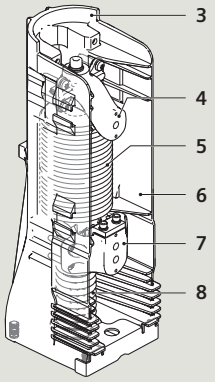
The circuit-breakers have a trip-free mechanism. In the event of an opening command being given after a closing operation has been initiated, the moving contacts of the vacuum interrupters return to the open position and remain there even if the closing command is sustained. However, the vacuum circuit-breaker contacts are momentarily in the closed position.

For charging the closing spring (15), the motor (13) operates in short-time duty. For this reason, the voltage and power consumption might differ from the data of the motor nameplate.

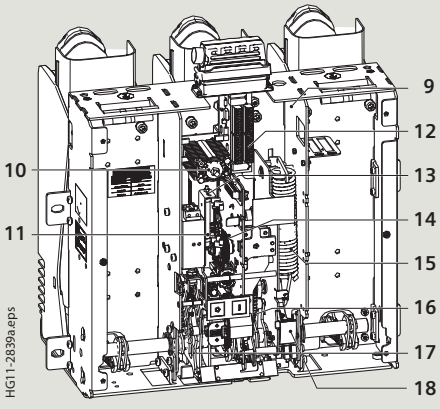


Front view
- **1** Cover of low-voltage interface
- **2** Central control board





Pole structure
- **3** Insulating shell to the operating mechanism
- **4** Upper connection
- **5** Vacuum interrupter
- **6** Pole shell
- **7** Lower connection
- **8** Insulator



Operating mechanism 3AE5 without cover
- **9** Mechanism mounting plate
- **10** Auxiliary switch
- **11** Area for releases
- **12** Connection strip
- **13** Motor
- **14** Closing solenoid
- **15** Closing spring
- **16** Gear
- **17** Opening spring
- **18** Spring charged indicator

Releases

A release is a device that transfers electrical commands from an external source, such as a control room, to the latching mechanism of the circuit-breaker so that it can be opened or closed. The releases are designed for short-time duty up to 1 minute and are reset internally. The various types of releases available are described in detail below:

Closing solenoid

The closing solenoid unlatches the charged closing spring of the circuit-breaker, closing it by electrical means.

Shunt releases

Shunt releases are used for automatic tripping of the circuit-breaker by suitable protection relays and by electrical operation. They are intended for connection to an external power supply (DC or AC voltage).

C.t.-operated releases

C.t.-operated releases consist of a mechanical energy store, an unlatching mechanism, and an electromagnetic system. They are used when there is no external source of auxiliary power (battery) available. Tripping is effected by means of a protection relay (e. g. time-overcurrent protection) acting on the c.t.-operated release.

Undervoltage releases

Undervoltage releases consist of a mechanical energy store, an unlatching mechanism, and an electromagnetic system that is permanently connected to the secondary or auxiliary voltage while the circuit-breaker is closed. If the voltage falls below a predetermined value, unlatching of the undervoltage release is enabled and the circuit-breaker is opened via the mechanical energy store.

A maximum of three releases can be equipped in accordance with page 24–26. The consumption data of the releases is listed on page 65.

Closing and anti-pumping

In the basic version, the circuit-breakers can be closed electrically from remote. In addition, they can be mechanically closed locally by direct unlatching of the closing spring. If constant electrical signals for CLOSE and OPEN commands are present at the circuit-breaker at the same time, the circuit-breaker will carry out an OPEN-CLOSE-OPEN or a CLOSE-OPEN operating sequence. A new closing operation only takes place after a brief interruption of the closing signal. This prevents continuous closing and opening (= "pumping") operations.

Closing spring charged indication

SION circuit-breakers have a mechanically operated spring charged indicator. The charging status can also be queried electrically by means of an integrated position switch.

Circuit-breaker tripping signal

During electrical opening, the NO contact-S6 makes brief contact. This is often used to operate a hazard warning system, which should respond to automatic tripping of the circuit-breaker. In case of local control, the NO contact-S6 does not close.

The corresponding circuit diagrams can be found in the associated circuit manuals. See also page 64.

Interlocking

Mechanical interlocking

At the interface of the mechanical interlocking of the circuit-breaker, sensors on the switchgear side can check the switch position. This prevents the associated disconnector from being operated while the circuit-breaker is closed. The system also prevents the circuit-breaker from being closed while the associated disconnector is in fault position.

Circuit-breakers mounted on withdrawable parts are mechanically interlocked so that the hand crank for racking the withdrawable part can only be inserted while the circuit-breaker is in the OPEN position. The locked condition of the withdrawable part can only be released in the disconnected position by operating the pushing handles.

If the circuit-breaker on the withdrawable part is in an intermediate position (neither in the service nor in the disconnected position), switching is prevented by the mechanical interlocking.

An optional key-operated interlock enables mechanical and electrical closing only in combination with the operated switching lock.

Electrical interlocking

The auxiliary and signaling contacts which query the switch position of the circuit-breaker or the position of the withdrawable part can be integrated in the switchgear interlocking concept. Furthermore, mechanical and electrical closing can also be prevented by means of an optional, electrical closing interlock. This makes it possible to exclude impermissible switching sequences.

Standards

The vacuum circuit-breakers 3AE5 conform to the following standards:

- IEC 62271-1
- IEC 62271-100

All vacuum circuit-breakers 3AE5 comply with the following classes:

- C2, E2, M2 and S1 according to IEC 62271-100, as well as the shortest rated operating sequence O - 0.3s - CO - 15 s - CO
- Class M1 for operation without a motor

The withdrawable modules have been tested according to

- IEC 62271-200, 62271-1 and 62271-102 regarding:
  - Dielectric strength
  - Temperature rise
  - Switching capacity.

For class C2, all circuit-breakers fulfil the following values according to IEC 62271-100:

	Line	Cable	Capacitors	Back-to-back capacitor bank	
Rated voltage	Rated line-charging breaking current	Rated cable-charging breaking current	Rated single capacitor bank breaking current	Rated back-to-back capacitor bank breaking current	Frequency of the inrush current
U_r	I_l	I_c	I_{sb}	I_{bb}	f_{bi}
kV, r.m.s.	A, r.m.s.	A, r.m.s.	A, r.m.s.	A, r.m.s.	Hz
7.2	10	10	400	400	4250
12	10	25	400	400	4250
17.5	10	31.5	400	400	4250
24	10	31.5	400	400	4250

The rated single capacitor bank breaking current is generally tested according to IEC 62271-100 at 400 A.

Generally, vacuum circuit-breakers 3AE5 can break capacitive currents up to 0.7 * I_r.

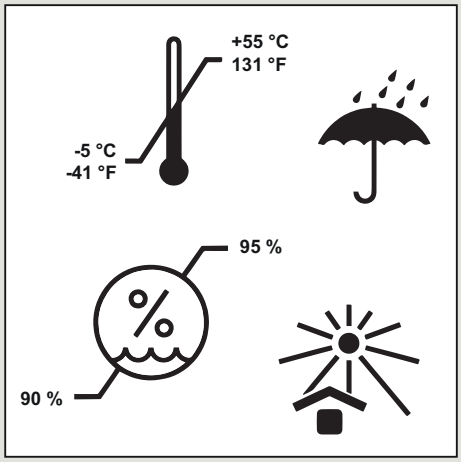
Rated back-to-back-capacitor bank inrush making current – see chapter 3: Technical data

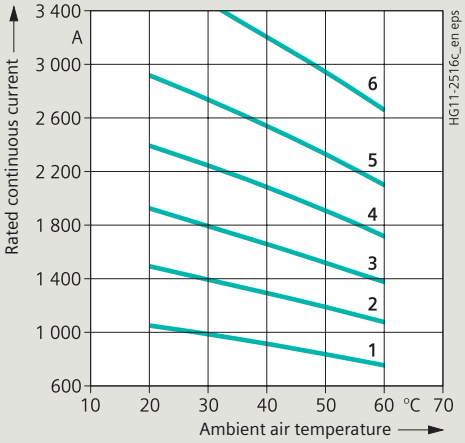
Maintenance-free design

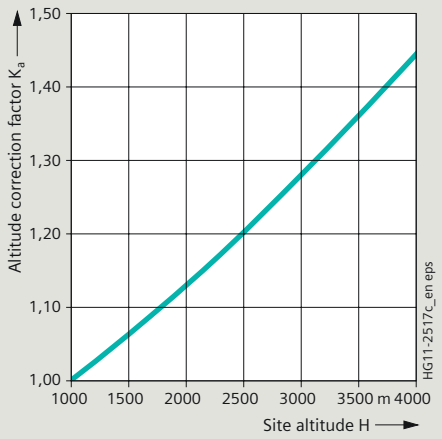
Vacuum circuit-breakers 3AE5 are maintenance-free:

- Under normal ambient conditions according to IEC 62271-1
- Maintenance-free up to 10,000 operating cycles:
  - No regreasing
  - No readjusting
- With maintenance work, up to 30,000 operating cycles

The ratings are independent – within their tolerances – of the switching rate or standing times without switching.







Ambient conditions

The circuit-breakers are designed for normal service conditions as defined in IEC 62271-100. Condensation can occasionally occur under the ambient conditions shown opposite.

The circuit-breakers are suitable for use in the following climatic classes according to IEC 60721, Part 3-3 (2019):

Climatic environmental conditions:	Class 3K22 [1]
Biological environmental conditions:	Class 3B1
Mechanical environmental conditions:	Class 3M11
Chemically active substances:	Class C3 [3]
Mechanically active substances:	Class 3S6 [2]

1) Lower temperature limit: –5 °C (with order code A40 down to –25 °C)
2) Restriction: Clean insulation parts
3) Without appearance of saline fog and simultaneous condensation

Current-carrying capacity

The rated continuous currents specified in the diagram have been defined according to IEC 62271-100 for an ambient air temperature of +40 °C and apply to open switchgear.

For enclosed switchgear, the data of the switchgear manufacturer applies.

At ambient air temperatures below +40 °C, higher continuous currents can be carried (see diagram):

Characteristics curve **1** = Rated continuous current 800 A
Characteristics curve **2** = Rated continuous current 1250 A
Characteristics curve **3** = Rated continuous current 1600 A
Characteristics curve **4** = Rated continuous current 2000 A
Characteristics curve **5** = Rated continuous current 2500 A
Characteristics curve **6** = Rated continuous current 3150 A

Dielectric strength

The dielectric strength of air insulation decreases with increasing altitude due to the lower air density. According to IEC 62271-1, the values of the rated lightning impulse withstand voltage and the rated short-duration power-frequency withstand voltage specified in the chapter "Technical data" apply to a site altitude of up to 1000 m above sea level. For altitudes above 1000 m, the insulation level must be corrected according to the opposite diagram.

The characteristics curve shown applies to both rated withstand voltages.

When selecting the devices, the following applies:

$U \geq U_0 \times K_a$

U	Rated withstand voltage under reference atmosphere
U_0	Rated withstand voltage requested for the place of installation
K_a	Altitude correction factor according to the opposite diagram

Example

For a requested rated lightning impulse withstand voltage of 75 kV at an altitude of 2500 m, an insulation level of at least 90 kV under reference atmosphere is required:

90 kV ≥75 kV x 1.2

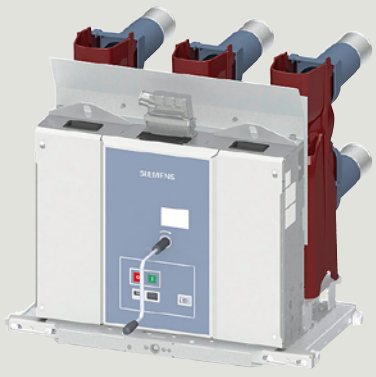
1

Overview of primary data

Type	Rated voltage kV	Rated short-circuit breaking current kA	Rated continuous current A	Pole-center distance (in mm)									
				150			160			210			275
				Vertical distance between terminals (in mm)									
				205	275	310	205	275	310	205	275	310	310
3AE50	7.2	16/20/25/31.5	800/1250	■	■	■	■	■	■	■	■	■	
3AE50	7.2	16/20/25/31.5	1600									■	
3AE50	7.2	25/31.5	2000/2500									■	
3AE50	7.2	40	1250/2000/ 2500/3150									■	
3AE51	12	16/20/25/31.5	800/1250	■	■	■	■	■	■	■	■	■	
3AE51	12	16/20/25/31.5	1600									■	
3AE51	12	20/25/31.5	2000/2500									■	■
3AE51	12	40	1250/2000/ 2500/3150									■	■
3AE52	17.5	16/25/31.5	800/1250	■	■	■	■	■	■	■	■	■	
3AE52	17.5	16/25/31.5	1600			■			■			■	■
3AE52	17.5	25/31.5	2000/2500									■	■
3AE52	17.5	40	1250/2000/ 2500/3150									■	■
3AE53	24	16/20/25	800/1250									■	■
3AE53	24	16	800/1250/2000									■	■
3AE53	24	20/25	2000/2500									■	■

Equipment

Features	Basic equipment	Configuration	Remarks
Operating mechanism	Electrical operating mechanism	Without motor, but prepared for retrofitting	Also for manual operation
Closing	Closing solenoid and mechanical manual closing	None	–
1st release	Shunt release	None	–
2nd release	Without	Shunt release, undervoltage release, c.-t.-operated release	–
3rd release	Without	Shunt release, c.t.-operated release	–
Varistor circuit	Standard for ≥DC 60 V	None	For limiting switching overvoltages; interlocking solenoids do not have a protection circuit
Auxiliary switch	6 NO + 6 NC	12 NO + 12 NC	The actual number of available auxiliary switch contacts varies depending on the equipment level and the selected wiring option.
Low-voltage interface	Internal 20-pole connection strip	64-pole plug, extended cable harness with 64-pole plug	–
Anti-pumping	Available	None	–
Circuit-breaker tripping signal	Available	None	–
Operation counter	Available	None	–
Position switches for withdrawable part	4 position switches per position	None	–
Interlocking	Mechanical interlocking towards withdrawable part available	Electrical closing interlock, key-operated interlock	Interlock to prevent reclosing
Installation type	Fixed mounting	On withdrawable part, with/without contact arms and contact systems, fixed contacts and bushings, in mounting frame with/without make-proof earthing switch	–



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Article number structure

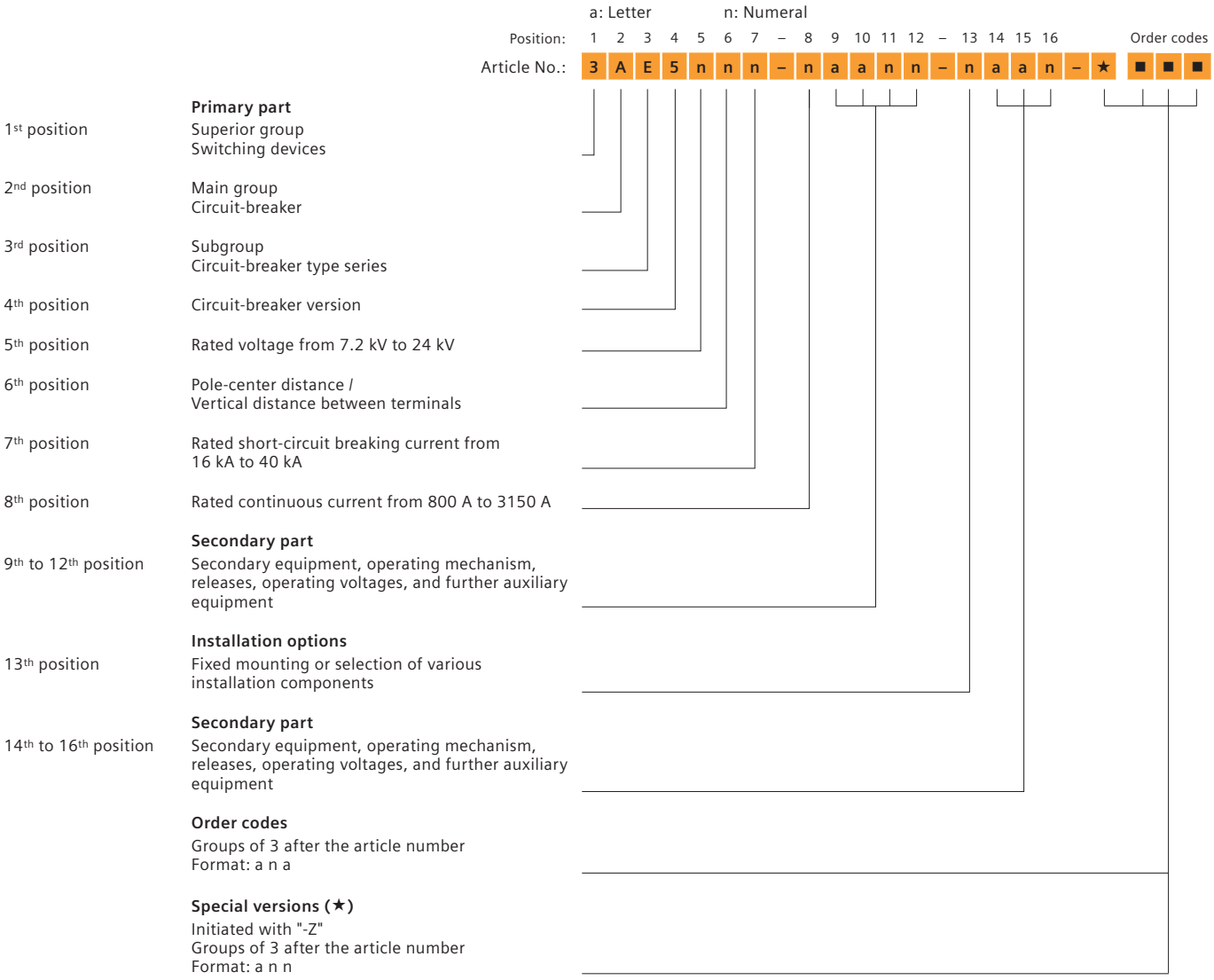
The vacuum circuit-breakers consist of a primary and a secondary part. The primary part of the article number covers the electrical and dimensional data of the circuit-breaker poles. The secondary part covers all auxiliary devices which are necessary for operating and controlling the circuit-breaker. The relevant data makes up the 16-digit article number.

Order codes

Individual equipment versions, marked with **9** or **Z** in the 9th to 16th position, are explained in more detail by a 3-digit order code. Several order codes can be added to the article number in succession and in any sequence.

Special versions (★)

In case of special versions, "-**Z**" is added to the article number and a descriptive order code follows. If several special versions are required, the suffix "-**Z**" is listed only once. If a requested special version is not in the catalog and can therefore not be ordered via order code, it has to be identified with **Y 9 9** after consultation. The agreement hereto is made directly between your responsible sales partner and the order processing department at Siemens. With **B99**, special wiring designs can also be ordered.



Configuration example

To help you select the correct article number for the circuit-breaker type that you require, you will find a configuration example below. A complete circuit-breaker has been configured as an example.

On the foldout page, you can enter the article number determined for your circuit-breaker. Based on the article number, you can request an offer from your Siemens partner.

Configuration example 1: SION 3AE5 withdrawable module (vacuum circuit-breaker on withdrawable part in mounting frame)

Position:	1	2	3	4	5	6	7	–	8	9	10	11	12	–	13	14	15	16		Order codes		
Article No.:	3	A	E	5	■	■	■	–	■	■	■	■	■	–	■	■	■	■	–	★	■	■	■
Configuration example																						
SION vacuum circuit-breaker	3	A	E	5																		
Rated voltage U_r = **12 kV, 50/60 Hz**																						
Rated lightning impulse withstand voltage U_p = **75 kV**																						
Rated short-circuit breaking current I_{sc} = **25 kA**																						
Rated continuous current I_r = **1250 A**																						
Pole-center distance = **150 mm**																						
Vertical distance between terminals = **310 mm**					1	2	4	–	2													
1st shunt release (only one shunt release)										A												
Operating voltage of the closing solenoid **DC 48 V**											C											
Operating voltage of the 1st release **DC 32 V**												9								L	1	B
Without 2nd release													0	–								
On withdrawable part, with mounting frame, contact arms, contact systems (tulips), fixed contacts, bushings, shutters, earthing switch with short-circuit making capacity															6							
Operating voltage of the drive motor **AC 230 V**																K						
With mechanical interlocking, circuit-breaker tripping signal, auxiliary switch 12 NO + 12 NC, and 64-pole plug																	N					
Frequency of the operating voltage 50 Hz and DC, operating instructions and nameplate in German																		0				
Hand crank																			–	Z	F	3	0

Example for Article No.:	3	A	E	5	1	2	4	–	2	A	C	9	0	–	6	K	N	0	–	Z			
Order codes:	L	1	B	+	F	3	0																

Device configuration

Selection of primary data

7.2 kV

Position:					1 – 8	9 – 16	-Z	Order codes									
Rated voltage for 50/60 Hz U_r	Rated short-circuit breaking current at 50% DC component I_{sc}	Pole-center distance PCD	Vertical distance between terminals VDT	Rated continuous current I_r		See page 24 onwards	See page 31 onwards	See page 31	Wide housing		For SIMOPRIME	With third-party components (requires insulating shell D93)		With third-party withdrawable part and Siemens contacts (requires insulating shell D93)		30,000 operating cycles (low-maintenance)
									Standard	D59 Optional	W66	W88		W89		M30
												With-drawable part manual	With-drawable part motorized	With-drawable part manual	With-drawable part motorized	
kV	kA	mm	mm	A												
7.2	16	150	205	800	3AE5002-1					■		13 = 1, 2	13 = 1, 2	13 = 1, 2	13 = 1, 2	
			205	1250	3AE5002-2					■		13 = 1, 2	13 = 1, 2	13 = 1, 2	13 = 1, 2	
			275	800	3AE5012-1					■						
			275	1250	3AE5012-2					■						
			310	800	3AE5022-1					■						
			310	1250	3AE5022-2					■						
			310	1600	3AE5022-3					■						
		160	205	800	3AE5032-1					■						
			205	1250	3AE5032-2					■						
			275	800	3AE5042-1					■						
			275	1250	3AE5042-2					■						
			310	800	3AE5052-1					■						
			310	1250	3AE5052-2					■						
			310	1600	3AE5052-3					■						
		210	205	800	3AE5062-1					■						
			205	1250	3AE5062-2					■						
			275	800	3AE5072-1					■						
			275	1250	3AE5072-2					■						
			310	800	3AE5082-1					■						
			310	1250	3AE5082-2					■						
			310	1600	3AE5082-3					■		13 = 1, 2	13 = 1, 2	13 = 1, 2	13 = 1, 2	
	20	150	205	800	3AE5003-1					■		13 = 1, 2	13 = 1, 2	13 = 1, 2	13 = 1, 2	
			205	1250	3AE5003-2					■		13 = 1, 2	13 = 1, 2	13 = 1, 2	13 = 1, 2	
			275	800	3AE5013-1					■						
			275	1250	3AE5013-2					■						
			310	800	3AE5023-1					■						
			310	1250	3AE5023-2					■						
			310	1600	3AE5023-3					■						
		160	205	800	3AE5033-1					■						
			205	1250	3AE5033-2					■						
			275	800	3AE5043-1					■						
			275	1250	3AE5043-2					■						
			310	800	3AE5053-1					■						
			310	1250	3AE5053-2					■						
			310	1600	3AE5053-3					■						
		210	205	800	3AE5063-1					■						
			205	1250	3AE5063-2					■						
			275	800	3AE5073-1					■						
			275	1250	3AE5073-2					■						
			310	800	3AE5083-1					■						
			310	1250	3AE5083-2					■						
			310	1600	3AE5083-3					■		13 = 1, 2	13 = 1, 2	13 = 1, 2	13 = 1, 2	
	25	150	205	800	3AE5004-1					■		13 = 1, 2	13 = 1, 2	13 = 1, 2	13 = 1, 2	
			205	1250	3AE5004-2					■		13 = 1, 2	13 = 1, 2	13 = 1, 2	13 = 1, 2	
			275	800	3AE5014-1					■						
			275	1250	3AE5014-2					■						
			310	800	3AE5024-1					■						
Special version [1]			U_d = 32 kV					E16, D9x								

[1] Requires an insulating shell via order code D9x

7.2 kV

Rated voltage for 50/60 Hz U_r	Rated short-circuit breaking current at 50% DC component I_{sc}	Pole-center distance	Vertical distance between terminals	Rated continuous current	Position:	1 – 8	9 – 16	-Z	Order codes								
							See page 24 onwards	See page 31 onwards	See page 31	Wide housing		For SIMOPRIME	With third-party components (requires insulating shell D93)		With third-party withdrawable part and Siemens contacts (requires insulating shell D93)		30,000 operating cycles (low-maintenance)
										Standard	D59 Optional	W66	W88		W89		M30
													With-drawable part manual	With-drawable part motorized	With-drawable part manual	With-drawable part motorized	
kV	kA	mm	mm	A													
7.2	25	150	310	1250		3AE5024-2					■						
			310	1600		3AE5024-3					■						
		160	205	800		3AE5034-1					■						
			205	1250		3AE5034-2					■						
			275	800		3AE5044-1					■						
			275	1250		3AE5044-2					■						
			310	800		3AE5054-1					■						
			310	1250		3AE5054-2					■						
			310	1600		3AE5054-3					■						
		210	205	800		3AE5064-1					■						
			205	1250		3AE5064-2					■						
			275	800		3AE5074-1					■						
			275	1250		3AE5074-2					■						
			310	800		3AE5084-1					■						
			310	1250		3AE5084-2					■						
			310	1600		3AE5084-3					■		13 = 1, 2	13 = 1, 2	13 = 1, 2	13 = 1, 2	
			310	2000		3AE5084-4				■			13 = 1, 2	13 = 1, 2	13 = 1, 2	13 = 1, 2	■
			310	2500		3AE5084-6				■							■
	31.5	150	205	800		3AE5005-1					■		13 = 1, 2	13 = 1, 2	13 = 1, 2	13 = 1, 2	
			205	1250		3AE5005-2					■		13 = 1, 2	13 = 1, 2	13 = 1, 2	13 = 1, 2	
			275	800		3AE5015-1					■						
			275	1250		3AE5015-2					■						
			310	800		3AE5025-1					■						
			310	1250		3AE5025-2					■						
			310	1600		3AE5025-3					■						
		160	205	800		3AE5035-1					■						
			205	1250		3AE5035-2					■						
			275	800		3AE5045-1					■						
			275	1250		3AE5045-2					■						
			310	800		3AE5055-1					■						
			310	1250		3AE5055-2					■						
			310	1600		3AE5055-3					■						
		210	205	800		3AE5065-1					■						
			205	1250		3AE5065-2					■						
			275	800		3AE5075-1					■						
			275	1250		3AE5075-2					■						
			310	800		3AE5085-1					■						
			310	1250		3AE5085-2					■						
			310	1600		3AE5085-3					■		13 = 1, 2	13 = 1, 2	13 = 1, 2	13 = 1, 2	
			310	2000		3AE5085-4				■			13 = 1, 2	13 = 1, 2	13 = 1, 2	13 = 1, 2	■
			310	2500		3AE5085-6				■							■
	40	210	310	1250		3AE5086-2				■			13 = 1	13 = 1	13 = 1, 2	13 = 1, 2	
			310	2000		3AE5086-4				■			13 = 1	13 = 1	13 = 1, 2	13 = 1, 2	
			310	2500		3AE5086-6				■							
			310	3150		3AE5086-7				■							
Special version [1]			U_d = 32 kV						E16, D9x								

[1] Requires an insulating shell via order code D9x

Device configuration

Selection of primary data

12 kV

Position:					1 – 8	9 – 16	-Z	Order codes									
Rated voltage for 50/60 Hz U_r	Rated short-circuit breaking current at 50% DC component I_{sc}	Pole-center distance PCD	Vertical distance between terminals VDT	Rated continuous current I_r		See page 24 onwards	See page 31 onwards	See page 31	Wide housing		For SIMOPRIME	With third-party components (requires insulating shell D93)		With third-party withdrawable part and Siemens contacts (requires insulating shell D93)		30,000 operating cycles (low-maintenance)
									Standard	D59 Optional	W66	W88		W89		M30
												With-drawable part manual	With-drawable part motorized	With-drawable part manual	With-drawable part motorized	
kV	kA	mm	mm	A												
12	16	150	205	800	3AE5102-1					■		13 = 1, 2	13 = 1, 2	13 = 1, 2	13 = 1, 2	
			205	1250	3AE5102-2					■		13 = 1, 2	13 = 1, 2	13 = 1, 2	13 = 1, 2	
			275	800	3AE5112-1					■						
			275	1250	3AE5112-2					■						
			310	800	3AE5122-1					■						
			310	1250	3AE5122-2					■						
			310	1600	3AE5122-3					■						
		160	205	800	3AE5132-1					■						
			205	1250	3AE5132-2					■						
			275	800	3AE5142-1					■						
			275	1250	3AE5142-2					■						
			310	800	3AE5152-1					■						
			310	1250	3AE5152-2					■						
			310	1600	3AE5152-3					■						
		210	205	800	3AE5162-1					■						
			205	1250	3AE5162-2					■						
			275	800	3AE5172-1					■						
			275	1250	3AE5172-2					■						
			310	800	3AE5182-1					■						
			310	1250	3AE5182-2					■						
			310	1600	3AE5182-3					■		13 = 1, 2	13 = 1, 2	13 = 1, 2	13 = 1, 2	
	20	150	205	800	3AE5103-1					■		13 = 1, 2	13 = 1, 2	13 = 1, 2	13 = 1, 2	
			205	1250	3AE5103-2					■		13 = 1, 2	13 = 1, 2	13 = 1, 2	13 = 1, 2	
			275	800	3AE5113-1					■						
			275	1250	3AE5113-2					■						
			310	800	3AE5123-1					■						
			310	1250	3AE5123-2					■						
			310	1600	3AE5123-3					■						
		160	205	800	3AE5133-1					■						
			205	1250	3AE5133-2					■						
			275	800	3AE5143-1					■						
			275	1250	3AE5143-2					■						
			310	800	3AE5153-1					■						
			310	1250	3AE5153-2					■						
			310	1600	3AE5153-3					■						
		210	205	800	3AE5163-1					■						
			205	1250	3AE5163-2					■						
			275	800	3AE5173-1					■						
			275	1250	3AE5173-2					■						
			310	800	3AE5183-1					■						
			310	1250	3AE5183-2					■						
			310	1600	3AE5183-3					■		13 = 1, 2	13 = 1, 2	13 = 1, 2	13 = 1, 2	
			310	2000	3AE5183-4				■			13 = 1, 2	13 = 1, 2	13 = 1, 2	13 = 1, 2	■
			310	2500	3AE5183-6				■							■
		275	310	2000	3AE5583-4				■			13 = 1, 2		13 = 1, 2		■
			310	2500	3AE5583-6				■			13 = 1		13 = 1, 2		■
Special version [1]			U_d = 42 kV					E13, D9x								
			U_p = 95 kV					E95, D9x								

[1] Requires an insulating shell via order code D9x

12 kV

Rated voltage for 50/60 Hz U_r	Rated short-circuit breaking current at 50% DC component I_{sc}	Pole-center distance	Vertical distance between terminals	Rated continuous current	Position:	1 – 8	9 – 16	-Z	Order codes								
							See page 24 onwards	See page 31 onwards	See page 31	Wide housing		For SIMOPRIME	With third-party components (requires insulating shell D93)		With third-party withdrawable part and Siemens contacts (requires insulating shell D93)		30,000 operating cycles (low-maintenance)
										Standard	D59 Optional	W66	W88		W89		M30
													With-drawable part manual	With-drawable part motorized	With-drawable part manual	With-drawable part motorized	
kV	kA	mm	mm	A													
12	25	150	205	800		3AE5104-1					■		13 = 1, 2	13 = 1, 2	13 = 1, 2	13 = 1, 2	
			205	1250		3AE5104-2					■		13 = 1, 2	13 = 1, 2	13 = 1, 2	13 = 1, 2	
			275	800		3AE5114-1					■						
			275	1250		3AE5114-2					■						
			310	800		3AE5124-1					■	■					
			310	1250		3AE5124-2					■	■					
			310	1600		3AE5124-3					■						
		160	205	800		3AE5134-1					■						
			205	1250		3AE5134-2					■						
			275	800		3AE5144-1					■						
			275	1250		3AE5144-2					■						
			310	800		3AE5154-1					■						
			310	1250		3AE5154-2					■						
			310	1600		3AE5154-3					■						
		210	205	800		3AE5164-1					■						
			205	1250		3AE5164-2					■						
			275	800		3AE5174-1					■						
			275	1250		3AE5174-2					■						
			310	800		3AE5184-1					■						
			310	1250		3AE5184-2					■	■					
			310	1600		3AE5184-3					■	■	13 = 1, 2	13 = 1, 2	13 = 1, 2	13 = 1, 2	
			310	2000		3AE5184-4				■			13 = 1, 2	13 = 1, 2	13 = 1, 2	13 = 1, 2	■
			310	2500		3AE5184-6				■		■					■
		275	310	2000		3AE5584-4				■			13 = 1, 2		13 = 1, 2		■
			310	2500		3AE5584-6				■			13 = 1		13 = 1, 2		■
	31.5	150	205	1250		3AE5105-1					■		13 = 1, 2	13 = 1, 2	13 = 1, 2	13 = 1, 2	
			205	1250		3AE5105-2					■		13 = 1, 2	13 = 1, 2	13 = 1, 2	13 = 1, 2	
			275	800		3AE5115-1					■						
			275	800		3AE5115-2					■						
			310	800		3AE5125-1					■	■					
			310	1250		3AE5125-2					■	■					
			310	1600		3AE5125-3					■						
		160	205	800		3AE5135-1					■						
			205	1250		3AE5135-2					■						
			275	800		3AE5145-1					■						
			275	1250		3AE5145-2					■						
			310	800		3AE5155-1					■						
			310	1250		3AE5155-2					■						
			310	1600		3AE5155-3					■						
		210	205	800		3AE5165-1					■						
			205	1250		3AE5165-2					■						
			275	800		3AE5175-1					■						
			275	1250		3AE5175-2					■						
			310	800		3AE5185-1					■						
			310	1250		3AE5185-2					■	■					
			310	1600		3AE5185-3					■	■	13 = 1, 2	13 = 1, 2	13 = 1, 2	13 = 1, 2	
Special version [1]			U_d = 42 kV						E13, D9x								
			U_p = 95 kV						E95, D9x								

[1] Requires an insulating shell via order code D9x

Device configuration

Selection of primary data

12 kV

Position:					1 – 8	9 – 16	-Z	Order codes									
Rated voltage for 50/60 Hz U_r	Rated short-circuit breaking current at 50% DC component I_{sc}	Pole-center distance PCD	Vertical distance between terminals VDT	Rated continuous current I_r		See page 24 onwards	See page 31 onwards	See page 31	Wide housing		For SIMOPRIME	With third-party components (requires insulating shell D93)		With third-party withdrawable part and Siemens contacts (requires insulating shell D93)		30,000 operating cycles (low-maintenance)
									Standard	D59 Optional	W66	W88		W89		M30
												With-drawable part manual	With-drawable part motorized	With-drawable part manual	With-drawable part motorized	
kV	kA	mm	mm	A												
12	31.5	210	310	2000	3AE5185-4				■			13 = 1, 2	13 = 1, 2	13 = 1, 2	13 = 1, 2	■
			310	2500	3AE5185-6				■		■					■
		275	310	1250	3AE5585-2				■							■
			310	2000	3AE5585-4				■			13 = 1, 2		13 = 1, 2		■
			310	2500	3AE5585-6				■			13 = 1		13 = 1, 2		■
	40	210	310	1250	3AE5186-2				■			13 = 1	13 = 1	13 = 1, 2	13 = 1, 2	
			310	2000	3AE5186-4				■			13 = 1	13 = 1	13 = 1, 2	13 = 1, 2	
			310	2500	3AE5186-6				■							
			310	3150	3AE5186-7				■							
			310	4000 [3]	3AE5186-8				■							
		275	310	1250	3AE5586-2				■			13 = 1		13 = 1, 2		
			310	2000	3AE5586-4				■			13 = 1		13 = 1, 2		
			310	2500	3AE5586-6				■			13 = 1		13 = 1, 2		
			310	3150	3AE5586-7				■			13 = 1		13 = 1, 2		
			310	4000 [3]	3AE5586-8				■							
Special version [1]			U_d = 42 kV					E13, D9x								
			U_p = 95 kV					E95, D9x								
Circuit-breaker for installation in NXAIR World [2]																
12	25	160	275	800	3AE5554-1			W63								
			275	1250	3AE5554-2			W63								
		210	275	800	3AE5564-1			W63								
			275	1250	3AE5564-2			W63								
			275	1600	3AE5564-3			W63								
	31.5	160	275	800	3AE5555-1			W63								
			275	1250	3AE5555-2			W63								
		210	275	1250	3AE5565-2			W63								
			275	1600	3AE5565-3			W63								
			275	2500	3AE5565-6			W63	■							■
	40	210	275	1250	3AE5566-2			W63	■							
			275	2500	3AE5566-6			W63	■							
			275	3150	3AE5566-7			W63	■							
			275	4000 [3]	3AE5566-8			W63	■							
Special version [1]			U_d = 42 kV					E13, D9x								

[1] Requires an insulating shell via order code D9x
[2] W63 is absolutely necessary as order code
[3] Active cooling necessary

17.5 kV

Position:					1 – 8	9 – 16	-Z	Order codes								
Rated voltage for 50/60 Hz U_r	Rated short-circuit breaking current at 50% DC component I_{sc}	Pole-center distance	Vertical distance between terminals	Rated continuous current		See page 24 onwards	See page 31 onwards	See page 31	Wide housing		For SIMOPRIME	with third-party components (requires insulating shell D93)		with third-party withdrawable part and Siemens contacts (requires insulating shell D93)		30,000 operating cycles (low-maintenance)
									standard	D59 optional	W66	W88		W89		M30
												With-drawable part manual	With-drawable part motorized	With-drawable part manual	With-drawable part motorized	
kV	kA	mm	mm	A												
17.5	16	150	205	800	3AE5202-1					■		13 = 1, 2	13 = 1, 2	13 = 1, 2	13 = 1, 2	
			205	1250	3AE5202-2					■		13 = 1, 2	13 = 1, 2	13 = 1, 2	13 = 1, 2	
			275	800	3AE5212-1					■						
			275	1250	3AE5212-2					■						
			310	800	3AE5222-1					■						
			310	1250	3AE5222-2					■						
			310	1600	3AE5222-3					■						
		160	205	800	3AE5232-1					■						
			205	1250	3AE5232-2					■						
			275	800	3AE5242-1					■						
			275	1250	3AE5242-2					■						
			310	800	3AE5252-1					■						
			310	1250	3AE5252-2					■						
			310	1600	3AE5252-3					■						
		210	205	800	3AE5262-1					■						
			205	1250	3AE5262-2					■						
			275	800	3AE5272-1					■						
			275	1250	3AE5272-2					■						
			310	800	3AE5282-1					■						
			310	1250	3AE5282-2					■						
			310	1600	3AE5282-3					■		13 = 1, 2	13 = 1, 2	13 = 1, 2	13 = 1, 2	
	25	150	205	800	3AE5204-1					■		13 = 1, 2	13 = 1, 2	13 = 1, 2	13 = 1, 2	
			205	1250	3AE5204-2					■		13 = 1, 2	13 = 1, 2	13 = 1, 2	13 = 1, 2	
			275	800	3AE5214-1					■						
			275	1250	3AE5214-2					■						
			310	800	3AE5224-1					■	■					
			310	1250	3AE5224-2					■	■					
			310	1600	3AE5224-3					■						
		160	205	800	3AE5234-1					■						
			205	1250	3AE5234-2					■						
			275	800	3AE5244-1					■						
			275	1250	3AE5244-2					■						
			310	800	3AE5254-1					■						
			310	1250	3AE5254-2					■						
			310	1600	3AE5254-3					■						
		210	205	800	3AE5264-1					■						
			205	1250	3AE5264-2					■						
			275	800	3AE5274-1					■						
			275	1250	3AE5274-2					■						
			310	800	3AE5284-1					■						
			310	1250	3AE5284-2					■	■					
			310	1600	3AE5284-3					■	■	13 = 1, 2	13 = 1, 2	13 = 1, 2	13 = 1, 2	
			310	2000	3AE5284-4				■			13 = 1, 2	13 = 1, 2	13 = 1, 2	13 = 1, 2	■
			310	2500	3AE5284-6				■		■					■
		275	310	2000	3AE5654-4				■			13 = 1, 2		13 = 1, 2		■
			310	2500	3AE5654-6				■			13 = 1		13 = 1, 2		■
	31.5	150	205	800	3AE5205-1				■			13 = 1, 2	13 = 1, 2	13 = 1, 2	13 = 1, 2	■
			205	1250	3AE5205-2				■			13 = 1, 2	13 = 1, 2	13 = 1, 2	13 = 1, 2	■
			275	800	3AE5215-1				■							■
			275	1250	3AE5215-2				■							■

2

Device configuration

Selection of primary data

17.5 kV

Position:					1 – 8	9 – 16	-Z	Order codes								
Rated voltage for 50/60 Hz U_r	Rated short-circuit breaking current at 50% DC component I_{sc}	Pole-center distance	Vertical distance between terminals	Rated continuous current I_r		See page 24 onwards	See page 31 onwards	See page 31	Wide housing		For SIMOPRIME	with third-party components (requires insulating shell D93)		with third-party withdrawable part and Siemens contacts (requires insulating shell D93)		30,000 operating cycles (low-maintenance)
									standard	D59 optional	W66	W88		W89		M30
												With-drawable part manual	With-drawable part motorized	With-drawable part manual	With-drawable part motorized	
kV	kA	mm	mm	A												
17.5	31.5	150	310	800	3AE5225-1				■		■					■
			310	1250	3AE5225-2				■		■					■
			310	1600	3AE5225-3				■							■
		160	205	800	3AE5235-1				■							■
			205	1250	3AE5235-2				■							■
			275	800	3AE5245-1				■							■
			275	1250	3AE5245-2				■							■
			310	800	3AE5255-1				■							■
			310	1250	3AE5255-2				■							■
			310	1600	3AE5255-3				■							■
		210	205	800	3AE5265-1				■							■
			205	1250	3AE5265-2				■							■
			275	800	3AE5275-1				■							■
			275	1250	3AE5275-2				■							■
			310	800	3AE5285-1				■							■
			310	1250	3AE5285-2				■		■					■
			310	1600	3AE5285-3				■		■	13 = 1, 2	13 = 1, 2	13 = 1, 2	13 = 1, 2	■
			310	2000	3AE5285-4				■			13 = 1, 2	13 = 1, 2	13 = 1, 2	13 = 1, 2	■
			310	2500	3AE5285-6				■		■					■
		275	310	1250	3AE5655-2				■							■
			310	1600	3AE5655-3				■			13 = 1, 2		13 = 1, 2		■
			310	2000	3AE5655-4				■			13 = 1, 2		13 = 1, 2		■
			310	2500	3AE5655-6				■			13 = 1		13 = 1, 2		■
	40	210	310	1250	3AE5286-2				■			13 = 1	13 = 1	13 = 1, 2	13 = 1, 2	
			310	2000	3AE5286-4				■			13 = 1	13 = 1	13 = 1, 2	13 = 1, 2	
			310	2500	3AE5286-6				■							
			310	3150	3AE5286-7				■							
			310	4000 [2]	3AE5286-8											
		275	310	1250	3AE5656-2				■			13 = 1		13 = 1, 2		
			310	2000	3AE5656-4				■			13 = 1		13 = 1, 2		
			310	2500	3AE5656-6				■			13 = 1		13 = 1, 2		
			310	3150	3AE5656-7				■			13 = 1		13 = 1, 2		
			310	4000 [2]	3AE5656-8											
Circuit-breaker for installation in NXAIR World [1]																
17.5	25	160	275	800	3AE5624-1			W63		■						
			275	1250	3AE5624-2			W63		■						
		210	275	800	3AE5664-1			W63		■						
			275	1250	3AE5664-2			W63		■						
			275	1600	3AE5664-3			W63		■						
	31.5	160	275	800	3AE5625-1			W63	■							■
			275	1250	3AE5625-2			W63	■							■
		210	275	1250	3AE5665-2			W63	■							■
			275	1600	3AE5665-3			W63	■							■
			275	2500	3AE5665-6			W63	■							■
	40	210	275	1250	3AE5666-2			W63	■							
			275	2500	3AE5666-6			W63	■							
			275	3150	3AE5666-7			W63	■							
			275	4000 [2]	3AE5666-8			W63	■							

All SION vacuum circuit-breakers for 17.5 kV require an insulating shell via order code D9x; for NXAIR via order code D90 or D91.

[1] W63 is absolutely necessary as order code

[2] Active cooling necessary


24 kV

Position:					1 – 8	9 – 16	-Z	Order codes								
Rated voltage for 50/60 Hz U_r	Rated short-circuit breaking current at 50% DC component I_{sc}	Pole-center distance	Vertical distance between terminals	Rated continuous current		See page 24 onwards	See page 31 onwards	See page 31	Wide housing		For SIMOPRIME	With third-party components (requires insulating shell D93)		With third-party withdrawable part and Siemens contacts (requires insulating shell D93)		30,000 operating cycles (low-maintenance)
									Standard	D59 Optional	W66	W88		W89		M30
												With-drawable part manual	With-drawable part motorized	With-drawable part manual	With-drawable part motorized	
kV	kA	mm	mm	A												
24	16	210	310	800	3AE5322-1					■		13 = 1		13 = 1		
			310	1250	3AE5322-2					■		13 = 1		13 = 1		
			310	2000	3AE5322-4				■							
		275	310	800	3AE5352-1					■		13 = 1	13 = 1	13 = 1	13 = 1	
			310	1250	3AE5352-2					■		13 = 1	13 = 1	13 = 1	13 = 1	
			310	2000	3AE5352-4				■			13 = 1	13 = 1	13 = 1	13 = 1	
	20	210	310	800	3AE5323-1					■		13 = 1		13 = 1		
			310	1250	3AE5323-2					■		13 = 1		13 = 1		
			310	2000	3AE5323-4				■							
			310	2500	3AE5323-6				■							
		275	310	800	3AE5353-1					■		13 = 1	13 = 1	13 = 1	13 = 1	
			310	1250	3AE5353-2					■		13 = 1	13 = 1	13 = 1	13 = 1	
			310	2000	3AE5353-4				■			13 = 1	13 = 1	13 = 1	13 = 1	
			310	2500	3AE5353-6				■			13 = 1	13 = 1	13 = 1	13 = 1	
	25	210	310	800	3AE5324-1					■	■	13 = 1		13 = 1		
			310	1250	3AE5324-2					■	■	13 = 1		13 = 1		
			310	2000	3AE5324-4				■							
			310	2500	3AE5324-6				■							
		275	310	800	3AE5354-1					■		13 = 1	13 = 1	13 = 1	13 = 1	
			310	1250	3AE5354-2					■	■	13 = 1	13 = 1	13 = 1	13 = 1	
			310	2000	3AE5354-4				■		■	13 = 1	13 = 1	13 = 1	13 = 1	
			310	2500	3AE5354-6				■		■	13 = 1	13 = 1	13 = 1	13 = 1	
Special version U_d = 65 kV								E65								
Circuit-breaker for installation in NXAIR World [1]																
24	25	210	310	800	3AE5714-1			W63		■						
				1250	3AE5714-2			W63		■						
		275	310	2000	3AE5744-4			W63								
				2500	3AE5744-6			W63								
Special version U_d = 65 kV								E65								

All SION vacuum circuit-breakers for 24 kV require an insulating shell via order code D9x; for NXAIR via order code D91.
[1] W63 is absolutely necessary as order code

2

Position:	1	2	3	4	5	6	7	–	8	9	10	11	12	–	13	14	15	16		Order codes		
Release combination [1] Article No.:	3	A	E	■	■	■	■	–	■	■	■	■	■	–	■	■	■	■	–	★	■	■	■
1st release [1]	2nd release [1]		3rd release [2]								See page 25	See page 26				See page 28	See page 29	See page 29		See page 31			
☐										A													
☐	☐									B									–	Z	G	3	9
☐	■									B													
☐	▼									F													
☐	●	0.5 A								G													
☐	●	5.0 A								G									–	Z	A	4	9
☐	●	1.0 A								H													
☐	○									C													
☐	■		■	[3]						B									–	Z	F	1	5
☐	■		●	0.5 A						T													
☐	■		●	5.0 A						T									–	Z	A	4	9
☐	■		●	1.0 A						T									–	Z	A	4	6
☐	■		○							T									–	Z	A	4	5
☐	▼		■	[3]						S													
☐	▼		●	0.5 A						V													
☐	▼		●	5.0 A						V									–	Z	A	4	9
☐	▼		●	1.0 A						V									–	Z	A	4	6
☐	▼		○							V									–	Z	A	4	5
☐	●	0.5 A	●	0.5 A						U													
☐	●	5.0 A	●	5.0 A						U									–	Z	A	4	9

☐ Shunt release 30 ms
■ Shunt release 45 ms
▼ Undervoltage release
● C.t.-operated release
○ C.t.-operated release with tripping pulse ≥0.1 Ws (20 Ω)

[1] The operating voltage for the 1st and 2nd release is selected at the positions 11 and 12.
[2] A 3rd release is only available for circuit-breakers with a wide housing.
[3] The operating voltage for the shunt release is selected with the order code Jxx (see page 31)

Other release combinations on request.

Position:	1	2	3	4	5	6	7	–	8	9	10	11	12	–	13	14	15	16		Order codes		
Operating voltage of the closing solenoid Article No.:	3	A	E	■	■	■	■	–	■	■	■	■	■	–	■	■	■	■	–	★	■	■	■
Standard voltages	Special voltages															See page 27	See page 28	See page 29		See page 31			
DC 24 V											B												
DC 48 V											C												
DC 60 V											D												
DC 110 V											E												
DC 220 V											F												
AC 100 V	50/60 Hz [1]										H												
AC 110 V	50/60 Hz [1]										J												
AC 230 V	50/60 Hz [1]										K												
	DC 30 V										M												
	DC 32 V										N												
	DC 120 V										P												
	DC 125 V										Q												
	DC 127 V										R												
	DC 240 V										S												
	AC 120 V	50/60 Hz [1]									U												
	AC 125 V	50/60 Hz [1]									V												
	AC 240 V	50/60 Hz [1]									W												

Position:	1	2	3	4	5	6	7	–	8	9	10	11	12	–	13	14	15	16		Order codes		
Operating voltage of the 1st release Article No.:	3	A	E	■	■	■	■	–	■	■	■	■	■	–	■	■	■	■	–	★	■	■	■
Standard voltages	Special voltages															See page 27	See page 28	See page 29		See page 31			
DC 24 V												1											
DC 48 V												2											
DC 60 V												3											
DC 110 V												4											
DC 220 V												5											
AC 100 V	50/60 Hz [1]											6											
AC 110 V	50/60 Hz [1]											7											
AC 230 V	50/60 Hz [1]											8											
	DC 30 V											9									L	1	A
	DC 32 V											9									L	1	B
	DC 120 V											9									L	1	C
	DC 125 V											9									L	1	D
	DC 127 V											9									L	1	E
	DC 240 V											9									L	1	F
	AC 120 V	50/60 Hz [1]										9									L	1	K
	AC 125 V	50/60 Hz [1]										9									L	1	L
	AC 240 V	50/60 Hz [1]										9									L	1	M

[1] The power frequency 50 or 60 Hz is selected at the 16th position.

2

Operating voltage of the 2nd release

Position:	1	2	3	4	5	6	7	–	8	9	10	11	12	–	13	14	15	16	–		Order codes		
Article No.:	3	A	E	■	■	■	■	–	■	■	■	■	■	–	■	■	■	■	–	★	■	■	■
Standard voltages	Special voltages															See page 27	See page 28	See page 29		See page 31			
None or c.t.-operated release													0										
DC 24 V													1										
DC 48 V													2										
DC 60 V													3										
DC 110 V													4										
DC 220 V													5										
AC 100 V 50/60 Hz [1]													6										
AC 110 V 50/60 Hz [1]													7										
AC 230 V 50/60 Hz [1]													8										
	DC 30 V												9								M	1	A
	DC 32 V												9								M	1	B
	DC 120 V												9								M	1	C
	DC 125 V												9								M	1	D
	DC 127 V												9								M	1	E
	DC 240 V												9								M	1	F
	AC 120 V 50/60 Hz [1]												9								M	1	K
	AC 125 V 50/60 Hz [1]												9								M	1	L
	AC 240 V 50/60 Hz [1]												9								M	1	M

Operating voltage of the 3rd release

Position:	1	2	3	4	5	6	7	–	8	9	10	11	12	–	13	14	15	16	–	★	Order codes		
Article No.:	3	A	E	■	■	■	■	–	■	■	■	■	■	–	■	■	■	■	–	★	■	■	■
Standard voltages	Special voltages																						
DC 24 V																			–	Z	J	8	0
DC 48 V																			–	Z	J	8	3
DC 60 V																			–	Z	J	8	4
DC 110 V																			–	Z	J	8	5
DC 220 V																			–	Z	J	8	9
AC 100 V 50/60 Hz [1]																			–	Z	J	9	2
AC 110 V 50/60 Hz [1]																			–	Z	J	9	3
AC 230 V 50/60 Hz [1]																			–	Z	J	9	7
	DC 30 V																		–	Z	J	8	1
	DC 32 V																		–	Z	J	8	2
	DC 120 V																		–	Z	J	8	6
	DC 125 V																		–	Z	J	8	7
	DC 127 V																		–	Z	J	8	8
	DC 240 V																		–	Z	J	9	0
	AC 120 V 50/60 Hz [1]																		–	Z	J	9	5
	AC 125 V 50/60 Hz [1]																		–	Z	J	9	6
	AC 240 V 50/60 Hz [1]																		–	Z	J	9	8

[1] The power frequency 50 or 60 Hz is selected at the 16th position.

			Position:	1	2	3	4	5	6	7	–	8	9	10	11	12	–	13	14	15	16			Order codes		
Operating voltage of the drive motor			Article No.:	3	A	E	■	■	■	■	–	■	■	■	■	■	–	■	■	■	■	–	★	■	■	■
Standard voltages		Special voltages																		See page 28	See page 29		See page 31			
DC 24 V																			B							
DC 48 V																			C							
DC 60 V																			D							
DC 110 V																			E							
DC 220 V																			F							
AC 100 V	50/60 Hz [1]																		H							
AC 110 V	50/60 Hz [1]																		J							
AC 230 V	50/60 Hz [1]																		K							
		DC 30 V																	M							
		DC 32 V																	N							
		DC 120 V																	P							
		DC 125 V																	Q							
		DC 127 V																	R							
		DC 240 V																	S							
		AC 120 V	50/60 Hz [1]																U							
		AC 125 V	50/60 Hz [1]																V							
		AC 240 V	50/60 Hz [1]																W							

[1] The power frequency 50 or 60 Hz is selected at the 16th position.

2

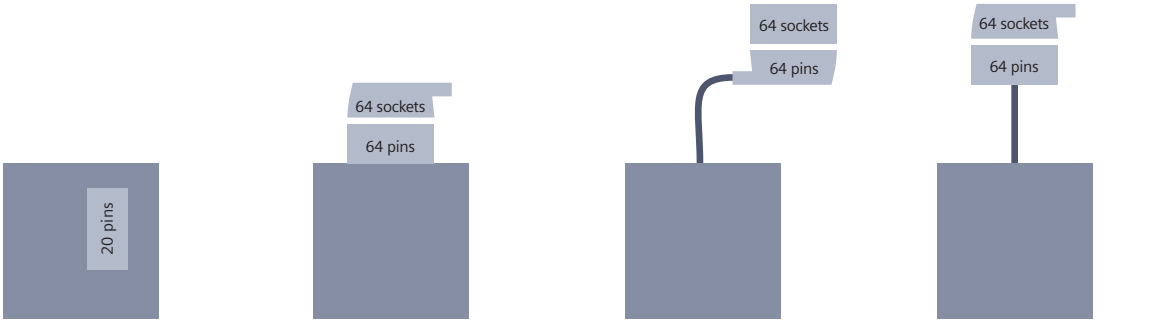
Low-voltage interface, auxiliary switch

Position:	1	2	3	4	5	6	7	–	8	9	10	11	12	–	13	14	15	16			Order codes		
Article No.:	3	A	E	5	■	■	■	–	■	■	■	■	■	–	■	■	■	■	–	★	■	■	■

Low-voltage interface			Auxiliary switch [1]																				
Internal 20-pole connection strip	64-pole plug	Extended cable harness with 64-pole plug	6 NO + 6 NC	12 NO + 12 NC													See page 29		See page 31				
■			■														A						
■				■													J						
	■		■														V						
	■			■													N						
		■		■													X [2]		–	Z	B	x	x

The mechanical interlocking and circuit-breaker tripping signal are included as standard in all configurations shown above.

The removable cover of the SION vacuum circuit-breaker 3AE5 allows easy access to the low-voltage interface. All options for customer-side control and signal connections are concentrated here.



	Internal 20-pole connection strip	64-pole plug	Extended cable harness and 64-pole plug	Extended cable harness and 64-pole plug
		Lower part of plug at the switching device, upper part of plug in the material pack	Upper part of plug at the end of the cable harness, lower part of plug in the material pack	Lower part of plug at the end of the cable harness, upper part of plug in the material pack
Article No.	15th position = A or J	15th position = N or V	15th position = X [2]	15th position = X [2] Order code B17

The actual number of available auxiliary switch contacts varies depending on the equipment level and the selected wiring option:

		Internal 20-pole connection strip (15th position = A or J)		**64-pole plug** (15th position = V, N or X)			
		Standard configuration		Standard configuration		Fully wired with Z=S49 [3]	
		Wired up to the low-voltage interface	Not wired, directly at the auxiliary switch	Wired up to the low-voltage interface	Not wired, directly at the auxiliary switch	Wired up to the low-voltage interface	Not wired, directly at the auxiliary switch
Auxiliary switch 6NO/6NC	Normally open contacts	-	3	2	1	-	-
	Normally closed contacts	-	5	4	1	-	-
Auxiliary switch 12NO/12NC	Normally open contacts	-	9	7	2	9	0
	Normally closed contacts	-	11	6	5	10	1

[1] The actual number of available auxiliary switch contacts varies depending on the equipment level and the selected wiring option.
[2] The length of the extended cable harness has to be selected via one of the order codes B01-B08. For details, see page 31.
[3] Due to the limitation to 64 pins, a fully wired auxiliary switch (Z=S49) is only possible in the fixed-mounted design.

Languages of operating instructions and nameplate; power frequency of low-voltage operating voltages

	Position:	1	2	3	4	5	6	7	–	8	9	10	11	12	–	13	14	15	16			Order codes		
	Article No.:	3	A	E	■	■	■	■	–	■	■	■	■	■	–	■	■	■	■	–	★	■	■	■
Language selection: German	Frequency selection: DC or AC 50 Hz																		0					
Language selection: German	Frequency selection: 60 Hz																		1					
Language selection: English	Frequency selection: DC or AC 50 Hz																		2					
Language selection: English	Frequency selection: 60 Hz																		3					
Language selection: French	Frequency selection: DC or AC 50 Hz																		4					
Language selection: French	Frequency selection: 60 Hz																		5					
Language selection: Spanish	Frequency selection: DC or AC 50 Hz																		6					
Language selection: Spanish	Frequency selection: 60 Hz																		7					
Special versions																								
Portuguese, 50 Hz or DC																			9			R	1	C
Portuguese, 60 Hz																			9			R	1	D
Italian, DC or AC 50 Hz																			9			R	1	F
Russian, DC or AC 50 Hz																			9			R	1	G
Russian, 60 Hz																			9			R	1	H
Polish, DC or AC 50 Hz																			9			R	1	K
Other languages on request																								

See page 31

Installation options

Position:	1	2	3	4	5	6	7	–	8	9	10	11	12	–	13	14	15	16			Order codes		
Article No.:	3	A	E	■	■	■	■	–	■	■	■	■	■	–	■	■	■	■	–	★	■	■	■

Scope of installation [1]	Circuit-breaker	Withdrawable part	Contacts [2]	Bushings	Fixed contacts	Mounting frame [3]	Earthing switch	13	See page 27	See page 28	See page 29	–	See page 31			
For fixed mounting	■							0								
With installation components	■		■					2				–	Z	M	2	2
	■		■	■	■			3				–	Z	M	2	3
	■	■						1								
	■	■	■					2								
	■	■	■	■	■			3								
In mounting frame	■	■	■	■	■	■		5								
	■	■	■	■	■	■	■	6								

2

Configuration of installation components

For SION vacuum circuit-breakers, two different versions of installation components are available: Original Siemens components and third-party components. The use and adequacy of these two versions mainly depends on the racking concept of the switchgear in which the circuit-breaker shall be installed.

Siemens installation components can be used universally and are primarily intended for applications following the Siemens racking concept, e.g. for use in the SION withdrawable module. The third-party components are suitable for implementing also the typical switchgear panel concepts of other manufacturers with a SION vacuum circuit-breaker.

In the normal initial configuration, the 3AE5 is delivered with original Siemens components. For deliveries with third-party components, the article number has to be extended with one of the following order codes:

W89 Third-party withdrawable part and Siemens contacts
W88 Third-party withdrawable part and third-party contacts

With W89 and W88, always use the order code D93 to obtain the insulating shell matching with the racking concept of other manufacturers.

	Siemens racking concept	Racking concept of other manufacturers [4]	
			
Order code	**Without**	**W89**	**W88**
13th position	**All**	**1 or 2**	**1 or 2**
Withdrawable part	**Siemens**	**Third party**	
Racking path	180 [5]/200 [6]/220 mm (≤17.5 kV) 220 [7]/260 mm (24 kV)	200 mm (≤17.5 kV) 300 mm (24 kV)	
Hand crank interface	Hexagon	Square	
Motorized racking [8]	No	Yes	
Shutter operation	Specifically for Siemens concept	Specifically for switchgear from other manufacturers	
Interlocking with earthing switch	Specifically for Siemens concept	Specifically for switchgear from other manufacturers	
Kinematic train	Yes	No	
Suitable for mounting frame	Yes	No	
Contacts	**Siemens**	**Siemens**	**Third party**
For fixed contact with a diameter of	60 mm	60 mm	35/79/109 mm
Contact arm length	Specifically for Siemens concept	Specifically for switchgear from other manufacturers	
Insulating shell	D90	D93	

1) See page 7 for further information
2) Special version with 13 contact fingers (only up to 1250 A and 31.5 kA) can be ordered with order code M13
3) Mounting frame available for the following connection dimensions: pole-center distance 150/210 mm and vertical distance between terminals 275/310 mm (≤17.5 kV); pole-center distance 210/275 mm and vertical distance between terminals 310 mm (24 kV)
4) See section "Device configuration" for available ratings; insulating shell D93 is always required
5) Via order code D24 (see section "Order codes" for details)
6) Via order code D23 (see section "Order codes" for details)
7) Via order code D22 (see section "Order codes" for details)
8) Via order code M04 or M05 (for details, see page 32)

Options	Remarks	Available for 13th position		Order codes
Cable ends with destination marking	Only with 64-pole plug or 20-pole connection strip, not together with A11	All	-Z	A05
Wiring cables halogen-free and flame-retardant		All	-Z	A10
Flat connector with insulating sleeve		All	-Z	A13
Gold-plated auxiliary switch 12 NO + 12 NC and 64-pole plug		All	-Z	A21
Anti-condensation heating, heater for 110 V AC, 50 W	Not together with A30	All	-Z	A29
Anti-condensation heating, heater for 230 V AC, 50 W	Not together with A29	All	-Z	A30
Version free of silicone emissions		All	-Z	A31
Circuit-breaker for operation down to –25 °C		All	-Z	A40
Electrical closing lockout	Not together with J60	All	-Z	A47
Additional nameplate, loose delivery		All	-Z	B00
Extended cable harness 800 mm	Only together with 15th position = X	All	-Z	B01
Extended cable harness 500 mm	Only together with 15th position = X	All	-Z	B02
Extended cable harness 2000 mm	Only together with 15th position = X	All	-Z	B03
Extended cable harness 1200 mm	Only together with 15th position = X	All	-Z	B04
Extended cable harness 1500 mm	Only together with 15th position = X	All	-Z	B05
Extended cable harness 2500 mm	Only together with 15th position = X, not with operating voltage 24 V DC	All	-Z	B06
Extended cable harness 3000 mm	Only together with 15th position = X, not with operating voltage 24 V DC	All	-Z	B07
Extended cable harness 3500 mm	Only together with 15th position = X, not with operating voltage 24 V DC	All	-Z	B08
Lower part of plug (with pins) at the end of the extended cable harness and upper part of plug (with sockets), both enclosed	Only together with 15th position = X	All	-Z	B17
Without upper part of plug		All	-Z	B23
Without material pack		All	-Z	B24
Special circuit diagram	On request (requires number of circuit diagram)	All	-Z	B99
Siemens withdrawable part with 220 mm racking path instead of 260 mm	For 24 kV and pole-center distance 210 mm	1, 2, 3	-Z	D22
Siemens withdrawable part with 200 mm racking path instead of 220 mm	For ≤17.5 kV and pole-center distance 150, 160, 210 mm	1, 2, 3	-Z	D23
Siemens withdrawable part with 180 mm racking path instead of 220 mm	For ≤17.5 kV and pole-center distance 150, 160, 210 mm	1, 2, 3	-Z	D24
Protective barrier angled at the top	For 24 kV, at <2000 A only together with D59	All	-Z	D28
Protective barrier between pole side and operating mechanism side	Not together with D59	All	-Z	D55
Circuit-breaker shaft cover	Not together with D59	All	-Z	D56
Circuit-breaker with wide housing	See chapter "General information"	All	-Z	D59
Insulating shell, normal design		All	-Z	D90
Insulating shell, shortened design	Only for selected ratings	All	-Z	D91
Insulating shell, GT4 design	Only for selected ratings	0	-Z	D92
Insulating shell for racking concept of other manufacturers	Only together with J64, W88 or W89	2	-Z	D93
Insulating shell, fully shortened design	Only for selected ratings	All	-Z	D94
Insulating shell, only lower part	For 24 kV, only together with D90 or D91	All	-Z	D98
2 kV/1 min test for secondary systems instead of 1 kV/1 s		All	-Z	E02
Rated short-duration power-frequency withstand voltage 42 kV	For 12 kV, requires insulating shell D9x	All	-Z	E13
Rated short-duration power-frequency withstand voltage 32 kV	For 7.2 kV, requires insulating shell D9x	All	-Z	E16
Rated short-circuit breaking current I_{sc} = 21 or 26.3 kA	For 12 kV/20 or 25 kA	All	-Z	E46
Rated short-duration power-frequency withstand voltage 65 kV	For 24 kV, requires insulating shell D9x	All	-Z	E65
Rated lightning impulse withstand voltage 95 kV	For 12 kV, requires insulating shell D9x	All	-Z	E95
Extended routine test certificate		All	-Z	F17
Routine test certificate enclosed		All	-Z	F20
Routine test certificate enclosed (with stamp and signature)		All	-Z	F21
Routine test certificate sent electronically to customer		All	-Z	F23
Rated operating sequence O - 3 min - CO - 3 min - CO		All	-Z	F27

Options	Remarks	Available for 13th position		Order codes
Hand crank for manual charging of the closing spring	Scope of supply: one hand crank per circuit-breaker	All	-Z	F30
Hand crank (long) for manual charging of the closing spring	Scope of supply: one hand crank per circuit-breaker	All	-Z	F31
Hand crank for racking the circuit-breaker on the withdrawable part	Scope of supply: one hand crank per circuit-breaker, only required when a withdrawable part is ordered	1, 2, 3, 5, 6	-Z	F32
Rated operating sequence O - 0.3 s - CO - 3 min - CO		All	-Z	F38
Fixing bracket for fixed mounting		0	-Z	J18
Key-operated interlock	Not together with A47	All	-Z	J60
Third-party withdrawable part, motorized racking 110 V DC	Only with W88 or W89, not together with A47, A30, A29	1, 2	-Z	M04
Third-party withdrawable part, motorized racking 220 V DC	Only with W88 or W89, not together with A47, A30, A29	1, 2	-Z	M05
Contact system (tulip) with 13 contact fingers	For ≤1250 A/31.5 kA, not together with W88	2, 3, 5, 6	-Z	M13
Frequent operation with up to 30,000 operating cycles	See chapter "Device selection" for available ratings	All	-Z	M30
Auxiliary switch fully wired	Only for fixed mounting	0	-Z	S49
Circuit-breaker for NXAIR		0	-Z	W63
Circuit-breaker for SIMOPRIME		0	-Z	W66
Warranty 24 months		All	-Z	W70
Warranty 36 months		All	-Z	W71
Warranty 60 months		All	-Z	W72
Warranty 84 months		All	-Z	W73
Circuit-breaker for racking concept of other manufacturers, with third-party components	See chapter "Device selection" for available ratings and configurations, requires insulating shell D93	1.2	-Z	W88
Circuit-breaker for racking concept of other manufacturers, with third-party withdrawable part	See chapter "Device selection" for available ratings and configurations, requires insulating shell D93	1, 2	-Z	W89
Operating instructions and special labels for USA		All	-Z	Y40
Other special versions that are not listed	Only after consultation with order processing department, additional specifications required in clear text	All	-Z	Y99

Ordering information for accessories and spare parts

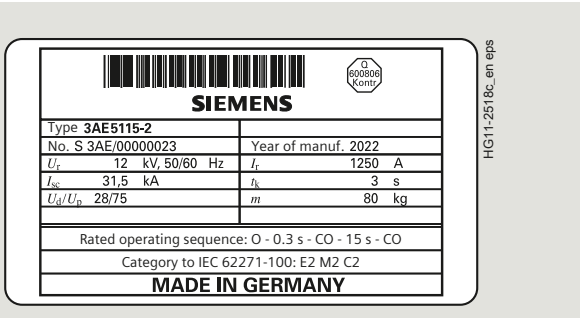
The article numbers in the spare part overviews are valid for currently manufactured vacuum circuit-breakers. When mounting parts or spare parts are being ordered for existing vacuum circuit-breakers, always quote the type designation, serial number, and the year of manufacture of the circuit-breaker to be sure to get the correct parts.

Retrofitting

When releases/solenoids are retrofitted, the article numbers of the mounting parts must also be specified. For other additional equipment, the required mounting parts are included in the scope of supply.

Spare parts may only be replaced by qualified personnel.

Nameplate



Note:
The following 3 details are necessary for any query regarding spare parts, subsequent deliveries, etc.:
– Type designation
– Serial No.
– Year of manufacture

2

Position: 1 – 9

Designation	Description		Spare parts	Mounting parts	Article No.
Hand cranks	Hand crank for manual charging of the closing spring				3AX1530-4B
	Hand crank (long) for manual charging of the closing spring				3AX1430-2B
	Hand crank for racking the circuit-breaker on the Siemens withdrawable part				3AX1430-2C
	Hand crank for racking the circuit-breaker on the third-party withdrawable part (W88/W89)				3AX1430-8A
	Hand crank (long) for racking the circuit-breaker on the third-party withdrawable part (W88/W89)				3AX1430-8B
Lubricants	180 g of Klüber-Isoflex Topas L32N				3AX1133-3H
	1 kg of Klüber-Isoflex Topas L32N				3AX1133-3E
	1 kg of Molykote grease				3AX1133-2L
	1 kg of Vaseline, Atlantic				3AX1133-4A
Operating solenoid for closing solenoid and shunt release 30 ms	DC 24 – 32 V		■	■	3AY1410-0B
	DC 48 V		■	■	3AY1410-0C
	DC 60 V		■	■	3AY1410-0D
	DC 110 – 127 V		■	■	3AY1410-0E
	DC 220 – 240 V		■	■	3AY1410-0F
	AC 100/125 V, 50/60 Hz		■	■	3AY1410-0J
	AC 230/240 V, 50/60 Hz		■	■	3AY1410-0K
Mounting parts	For 2nd shunt release 30 ms			■	3AX1411-7A
Shunt release 45 ms	DC 24 – 32 V		■	■	3AX1101-2B
	DC 48 – 60 V		■	■	3AX1101-2C
	DC 110 – 127 V		■	■	3AX1101-2E
	DC 220 – 240 V		■	■	3AX1101-2F
	AC 100 – 125 V, 50 Hz		■	■	3AX1101-2G
	AC 230 – 240 V, 50 Hz		■	■	3AX1101-2J
	AC 100 – 125 V, 60 Hz		■	■	3AX1101-3G
	AC 230 – 240 V, 60 Hz		■	■	3AX1101-3J
C.t.-operated release	For rated continuous current 0.5 A		■	■	3AX1102-2A
	For rated continuous current 1 A		■	■	3AX1102-2B
	For tripping pulse ≥0.1 Ws, 20 Ω for protection system 7SJ45		■	■	3AX1104-2B
	For rated continuous current 5 A incl. rectifier		■	■	3AX1402-2E
Mounting parts	For 2nd shunt release 45 ms / c.t.-operated release			■	3AX1411-5A
	For 2nd and 3rd release (not for shunt release 30 ms)			■	3AX1411-5B

					Position: 1 – 9
Designation	Description		Spare parts	Mounting parts	Article No.
Undervoltage release	DC 24 V		■	■	3AX1103-2B
	DC 30/32 V		■	■	3AX1103-2L
	DC 48 V		■	■	3AX1103-2C
	DC 60 V		■	■	3AX1103-2D
	DC 110 V		■	■	3AX1103-2E
	DC 120/127 V		■	■	3AX1103-2N
	DC 220 V		■	■	3AX1103-2F
	AC 100 V, 50 Hz		■	■	3AX1103-2G
	AC 110/125 V, 50 Hz		■	■	3AX1103-2H
	AC 230 V, 50 Hz		■	■	3AX1103-2J
	AC 240 V, 50 Hz		■	■	3AX1103-2M
	AC 100 V, 60 Hz		■	■	3AX1103-3G
	AC 110/125 V, 60 Hz		■	■	3AX1103-3H
	AC 230 V, 60 Hz		■	■	3AX1103-3J
	AC 240 V, 60 Hz		■	■	3AX1103-3M
Mounting parts	For undervoltage release			■	3AX1413-5A
Drive motor	DC 24 – 32 V		■	■	3AY1411-1B
	DC 48 – 60 V		■	■	3AY1411-1C
	DC 110 – 127 V AC 100 – 125 V		■	■	3AY1411-1E
	DC 220 – 240 V AC 220 – 240 V		■	■	3AY1411-1F
Electronic module for anti-pumping (for SION devices since 2022) [1]	DC 24 – 32 V		■	■	3AY1420-2A
	DC 48 – 60 V		■	■	3AY1420-2C
	DC 110 – 127 V AC 100 – 125 V		■	■	3AY1420-2E
	DC 220 – 240 V AC 230 – 240 V		■	■	3AY1420-2G
Position switch	Type SE4 without fixing accessories		■	■	3AX4206-0A
	Used for:	Quantity			
	- Electrical anti-pumping (-S3)	1			
	Electrical interlocking (-S12)	1			
	– Motor control (-S21, -S22)	2			
	– Closing spring charged (-S4)	1			
	– Circuit-breaker tripping signal (-S6)	1			
	– Electrical closing lockout (-S5) 1	1			
	– Withdrawable part (-S1.0 to -S1.9)	10			
	– Electrical closing lockout (-S5) 1	1			
	– Key-operated interlock				
Auxiliary switch (-S1)	6 NO + 6 NC		■		3SV9473-2AA0
	12 NO + 12 NC		■		3SV9474-2AA0
Electrical closing lockout (for SION devices since 03/2022) [1]	DC 24 V – 32 V		■	■	3AX1405-4B
	DC 48 V – 60 V		■	■	3AX1405-4C
	DC 110 V – 127 V		■	■	3AX1405-4E
	DC 220 V – 240 V		■	■	3AX1405-4F
	AC 100 V – 125 V, 50/60 Hz		■	■	3AX1405-4G
	AC 230 V – 240 V, 50/60 Hz		■	■	3AX1405-4J
Anti-condensation heating	Heater for 230 V AC, 50 W		■		3AX1457-5A
	Heater for 110 V AC, 50 W		■		3AX1457-5B
Key-operated interlock			■	■	3AX1437-4A
PG cable gland			■		3AX1458-0A
Accessories for 64-pole plug	Crimp pins (for lower part of plug, 64-pole)			■	3AX1134-4B
	Crimp sockets (for upper part of plug, 64-pole)			■	3AX1134-4C
	Crimping pliers			■	3AX1134-4D
	Disassembly tool			■	3AX1134-4G

[1] For older SION devices, please contact the Technical Support

					Position: 1 – 9
Designation	Description		Spare parts	Mounting parts	Article No.
Accessories for 64-pole plug (continued)	64-pole plug (upper and lower part, with pins and sockets)			■	3AX1134-6A
	Lower part of plug, 64-pole (with pins)			■	3AX1134-5B
	Lower part of plug, 64-pole (with sockets)			■	3AX1134-5N
	Upper part of plug, 64-pole (with sockets)			■	3AX1134-5A
Cover [2]	Plastic cover		■		3AX1470-5A
	Plastic cover (suitable for key-operated interlock)		■		3AX1470-6A
	Plastic cover, neutral		■		3AX1470-5B
	Metal cover, PCD 150 mm		■		3AX1470-5C
	Metal cover, PCD 160 mm		■		3AX1470-5D
	Metal cover, PCD 210 mm		■		3AX1470-5E
	Metal cover, PCD 275 mm		■		3AX1470-5F
CLOSE/OPEN operation	Operating pushbutton		■		3AX1470-5K
Protective barrier between pole side and operating mechanism side	150 mm pole-center distance and I_{sc} ≤25 kA		■		3AX1456-0A
	160 mm pole-center distance and I_{sc} ≤25 kA		■		3AX1456-0B
	210 mm pole-center distance		■		3AX1456-0C
	275 mm pole-center distance		■		3AX1456-0D
	150 mm pole-center distance and I_{sc} ≤31.5 kA		■		3AX1456-1A
	160 mm pole-center distance and I_{sc} ≤31.5 kA		■		3AX1456-1B
Circuit-breaker shaft cover	150/160 mm pole-center distance		■		3AX1466-0A
	210 mm pole-center distance		■		3AX1466-0B
	275 mm pole-center distance		■		3AX1466-0D
Protective barrier angled at the top (for 24 kV)	210 mm pole-center distance		■	■	3AX1456-2H
	275 mm pole-center distance		■	■	3AX1456-2J
Insulating shell towards contact arm side	OEM standard design D90 (166 mm) for vertical distance between terminals 205 mm	7.2 – 12 kV/≤31.5 kA/ ≤1600 A 17.5 kV/25 kA	■		3AX1438-5J
	OEM standard design D90 (166 mm) for vertical distance between terminals 275 mm	7.2 – 12 kV/≤31.5 kA/ ≤1600 A 17.5 kV/25 kA	■		3AX1438-5H
	OEM standard design D90 (166 mm) for vertical distance between terminals 310 mm	7.2 – 12 kV/≤31.5 kA/ ≤1600 A 17.5 kV/25 kA			3AX1438-5K
	OEM standard design D90 (171 mm) for vertical distance between terminals 205 mm	17.5 kV/31.5 kA/800 – 1250 A	■		3AX1438-2D
	OEM standard design D90 (171 mm) for vertical distance between terminals 275 mm	17.5 kV/31.5 kA/800 – 1250 A	■		3AX1438-2C
	OEM standard design D90 (171 mm) for vertical distance between terminals 310 mm	7.2 – 12 kV/≤31.5 kA/2000 – 2500 A 17.5 kV/25 kA/2000 – 2500 A 17.5 kV/31.5 kA	■		3AX1438-2A
	OEM standard design D90 (213 mm) for vertical distance between terminals 310 mm	7.2 – 17.5 kV/40 kA	■		3AX1438-2E
	OEM standard design D90 (188 mm) at the top	24 kV	■		3AX1438-4B
	OEM standard design D90 (188 mm) at the bottom	24 kV	■		3AX1438-5B
	NXAIR standard design D90 (171 mm) for vertical distance between terminals 275 mm	7.2 – 12 kV/≤31.5 kA/ ≤1600 A 17.5 kV/25 kA	■		3AX1438-6M
	NXAIR standard design D90 (160 mm) for vertical distance between terminals 275 mm	12 kV/31.5 kA/2500 A 17.5 kV/ 31.5 kA/800 – 2500 A	■		3AX1438-2F
	NXAIR standard design D90 (95 mm) for vertical distance between terminals 275 mm	12 – 17.5 kV/40 kA	■		3AX1438-2N
	NXAIR shortened design D91 (121 mm) for vertical distance between terminals 275 mm	12 kV/≤31.5 kA/≤1600 A	■		3AX1438-5M
	NXAIR shortened design D91 (110 mm) for vertical distance between terminals 275 mm	12 kV/31.5 kA/2500 A 17.5 kV/31.5 kA/800 – 2500 A	■		3AX1438-3F
	OEM + NXAIR shortened design D91 at the top (78 mm)	24 kV	■		3AX1438-6B
	OEM + NXAIR shortened design D91 at the bottom (78 mm)	24 kV	■		3AX1438-8B
	GT4 design D92 (166 mm) for vertical distance between terminals 205 mm	7.2 – 12 kV/≤31.5 kA/ ≤1600 A 17.5 kV/25 kA	■		3AX1438-5J
	GT4 design D92 (20 mm) for all vertical distances between terminals	7.2 – 12 kV/≤31.5 kA/ ≤1600 A 17.5 kV/25 kA	■		3AX1438-5N
	GT4 design D92 (20 mm) for vertical distance between terminals 350 mm	7.2 – 12 kV/≤31.5 kA/ ≤1600 A 17.5 kV/≤25 kA	■		3AX1438-5Q

[2] Serial number required for label printing

				Position:	1 – 9
Designation	Description		Spare parts	Mounting parts	Article No.
Insulating shell towards contact arm side (continued)	OEM design D93 (156 mm) for vertical distance between terminals 205 mm	7.2 – 12 kV/16 – 31.5 kA/ 800 – 1250 A 7.2 – 17.5 kV/ 16 – 25 kA/800 – 1250 A	■		**3AX1438-7H**
	OEM design D93 (161 mm) for vertical distance between terminals 205 mm	17.5 kV/31.5 kA/1250 A	■		**3AX1438-4K**
	OEM design D93 (144 mm) for vertical distance between terminals 310 mm	7.2 – 12 kV/16 – 31.5 kA/1600 A 7.2 – 17.5 kV/16 – 25 kA/1600 A	■		**3AX1438-8H**
	OEM design D93 (149 mm) for vertical distance between terminals 310 mm	7.2 – 17.5 kV/16 – 31.5 kA/ 1600 – 2500 A	■		**3AX1438-4H**
	OEM design D93 (213 mm) for vertical distance between terminals 310 mm	7.2 – 17.5 kV/40 kA	■		**3AX1438-2E**
	OEM fully shortened design D94 (20 mm) for vertical distance between terminals 205 mm	7.2 – 12 kV/≤31.5 kA/ ≤1600 A 17.5 kV/25 kA	■		**3AX1438-6J**
	OEM fully shortened design D94 (20 mm) for vertical distance between terminals 275 mm	7.2 – 12 kV/≤31.5 kA/ ≤1600 A 17.5 kV/25 kA	■		**3AX1438-6H**
	OEM fully shortened design D94 (20 mm) for vertical distance between terminals 310 mm	7.2 – 12 kV/≤31.5 kA/ ≤1600 A 17.5 kV/25 kA	■		**3AX1438-6K**

						Position:	1 – 9	10	
Rated voltage for 50/60 Hz U_r kV	Pole-center distance (PCD) mm	Vertical distance between terminals (VDT) mm	Rated short-circuit breaking current I_{sc} A	Rated continuous current I_r A	Feature		Article No.	Language*	Order code
Contacts (contact arm and contact system) for fixed contact 60 mm									
7.2/12	275		≤31.5	800 to 1250	13 contact fingers		3AX1443-2L		
7.2/12			≤31.5	800 to 1250	13 contact fingers		3AX1443-2R		
7.2/12			≤31.5	800 to 1250	26 contact fingers		3AX1443-2A		
7.2/12			≤31.5	800 to 1600	26 contact fingers		3AX1443-2P		
7.2/12			≤31.5	2000 to 2500	26 contact fingers		3AX1443-2B		
7.2/12			40	1250	26 contact fingers		3AX1443-2G		
7.2/12			40	2000 to 3150	26 contact fingers		3AX1443-2H		
17.5			≤25	800 to 1250	13 contact fingers		3AX1443-2S		
17.5			≤31.5	800 to 1250	13 contact fingers		3AX1443-2M		
17.5			≤31.5	800 to 1250	26 contact fingers		3AX1443-2C		
17.5			≤31.5	800 to 1600	26 contact fingers		3AX1443-2Q		
17.5			≤31.5	2000 to 2500	26 contact fingers		3AX1443-2D		
17.5			40	1250	26 contact fingers		3AX1443-2J		
17.5			40	2000 to 3150	26 contact fingers		3AX1443-2K		
24			≤25	800 to 1250	13 contact fingers		3AX1443-2N		
24			≤25	800 to 1250	26 contact fingers		3AX1443-2E		
24			≤25	2000 to 2500	26 contact fingers		3AX1443-2T		
Contacts (contact arm and contact system) for fixed contact 60 mm, for circuit-breaker with J64/W89									
7.2/12		205	≤31.5	800 to 1250	13 contact fingers		3AX1443-5C		
7.2/12		205	≤31.5	800 to 1250	26 contact fingers		3AX1443-5A		
7.2/12	275	310	≤31.5	800 to 1250	13 contact fingers		3AX1443-4V		
7.2/12		310	≤31.5	800 to 1250	13 contact fingers		3AX1443-5J		
7.2/12		310	≤31.5	800 to 1250	26 contact fingers		3AX1443-4T		
7.2/12		310	≤31.5	800 to 1600	26 contact fingers		3AX1443-5G		
7.2/12		310	≤31.5	2000 to 2500	26 contact fingers		3AX1443-4B		
7.2/12		310	40	1250	26 contact fingers		3AX1443-4G		
7.2/12		310	40	2000 to 3150	26 contact fingers		3AX1443-4H		
17.5		205	≤25	800 to 1250	13 contact fingers		3AX1443-5D		
17.5		205	≤31.5	800 to 1250	13 contact fingers		3AX1443-4M		
17.5		205	≤25	800 to 1250	26 contact fingers		3AX1443-5B		
17.5		205	≤31.5	800 to 1250	26 contact fingers		3AX1443-4C		
17.5		310	≤25	800 to 1250	13 contact fingers		3AX1443-5K		
17.5		310	≤31.5	800 to 1250	13 contact fingers		3AX1443-4W		
17.5		310	≤31.5	800 to 1250	26 contact fingers		3AX1443-4U		
17.5		310	≤31.5	800 to 1600	26 contact fingers		3AX1443-5H		
17.5		310	≤31.5	2000 to 2500	26 contact fingers		3AX1443-4D		
17.5		310	40	1250	26 contact fingers		3AX1443-4J		
17.5		310	40	2000 to 3150	26 contact fingers		3AX1443-4K		
Contacts (contact arm and contact system) for circuit-breaker with W88									
7.2/12/17.5		205	≤31.5	800 to 1250	for fixed contact 35 mm		3AX1443-7C		
7.2/12/17.5		310	≤31.5	1600 to 2000	For fixed contact 79 mm		3AX1443-7P		

With the article numbers 3AX1442, 3AX1443, 3AX1444 and 3AX1452, parts for one of the total of six connections are always supplied each

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						Position:	1 – 9	10	
Rated voltage for 50/60 Hz U_r kV	Pole-center distance (PCD) mm	Vertical distance between terminals (VDT) mm	Rated short-circuit breaking current I_{sc} A	Rated continuous current I_r A	Feature		Article No.	Language*	Order code
Contact system (tulip) for fixed contact 60 mm									
7.2/12/24				800 to 1250	13 contact fingers		3AX1442-2E		
7.2/12/24				800 to 1600	26 contact fingers		3AX1442-2A		
17.5				800 to 1250	13 contact fingers		3AX1442-2F		
17.5				800 to 1600	26 contact fingers		3AX1442-2B		
7.2/12/24				2000 to 3150	26 contact fingers		3AX1442-2C		
17.5				2000 to 3150	26 contact fingers		3AX1442-2D		
Contact system (tulip) for circuit-breaker with W88									
7.2/12/17.5		205	≤31.5	800 to 1250	For fixed contact 35 mm		3AX1442-7C		
7.2/12/17.5		310	≤31.5	1600 to 2000	For fixed contact 79 mm		3AX1442-7P		
					Fitting tool for 3AX1442-7C		3AX1445-1A		
Fixed contacts 60 mm									
7.2/12/17.5			≤31.5	800 to 1250			3AX1444-2A		
7.2/12/17.5			≤31.5 40	2000 to 2500 to 3150			3AX1444-2B		
7.2/12/17.5			≤31.5 40	2000 to 2500 to 3150	For circuit-breaker with J64/W89		3AX1444-2D		
24			≤25	800 to 2500			3AX1444-2C		
Bushings and fixed contacts 60 mm									
7.2/12/17.5	150/160		≤31.5	800 to 1600			3AX1452-2A		
7.2/12/17.5	210		≤31.5	800 to 1600			3AX1452-2B		
7.2/12/17.5	210	310	≤31.5	2000 to 2500			3AX1452-2C		
7.2/12/17.5	210/275	310	40	800 to 3150			3AX1452-2H		
24	210	310	≤25	800 to 1250			3AX1452-2D		
24	210	310	≤25	2000 to 2500			3AX1452-2E		
24	275	310	≤25	800 to 1250			3AX1452-2F		
24	275	310	≤25	2000 to 2500			3AX1452-2G		
Withdrawable parts									
7.2/12/17.5	150/160				Racking path 180 mm, without cable harness		3AX7112-2E	■	
7.2/12/17.5	150/160				Racking path 180 mm, with cable harness		3AX7112-4E	■	
7.2/12/17.5	150/160				Racking path 200 mm, without cable harness		3AX7112-2G	■	
7.2/12/17.5	150/160				Racking path 200 mm, with cable harness		3AX7112-4G	■	
7.2/12/17.5	150/160				Racking path 220 mm, without cable harness		3AX7112-2A	■	
7.2/12/17.5	150/160				Racking path 220 mm, with cable harness		3AX7112-4A	■	
7.2/12/17.5	210				Racking path 180 mm, without cable harness		3AX7112-2F	■	
7.2/12/17.5	210				Racking path 180 mm, with cable harness		3AX7112-4F	■	
7.2/12/17.5	210				Racking path 200 mm, without cable harness		3AX7112-2H	■	
7.2/12/17.5	210				Racking path 200 mm, with cable harness		3AX7112-4H	■	
7.2/12/17.5	210				Racking path 220 mm, without cable harness		3AX7112-2B	■	
7.2/12/17.5	210				Racking path 220 mm, with cable harness		3AX7112-4B	■	
24	210				Racking path 260 mm, without cable harness		3AX7112-2C	■	
24	210				Racking path 260 mm, with cable harness		3AX7112-4C	■	
24	275				Racking path 260 mm, without cable harness		3AX7112-2D	■	
24	275				Racking path 260 mm, with cable harness		3AX7112-4D	■	

With the article numbers 3AX1442, 3AX1443, 3AX1444 and 3AX1452, parts for one of the total of six connections are always supplied each

						Position:	1 – 9	10	
Rated voltage for 50/60 Hz U_r kV	Pole-center distance (PCD) mm	Vertical distance between terminals (VDT) mm	Rated short-circuit breaking current I_{sc} A	Rated continuous current I_r A	Feature		Article No.	Language*	Order code
Withdrawable parts for circuit-breakers with J64									
7.2/12/17.5	150	205			Racking path 200 mm, without cable harness		3AX7110-2P	■	
7.2/12/17.5	150	205			Racking path 200 mm, with cable harness		3AX7110-4P	■	
7.2/12/17.5	210	205			Racking path 200 mm, without cable harness		3AX7110-2Q	■	
7.2/12/17.5	210	205			Racking path 200 mm, with cable harness		3AX7110-4Q	■	
7.2/12/17.5	210	310			Racking path 200 mm, without cable harness		3AX7110-2S	■	
7.2/12/17.5	210	310			Racking path 200 mm, with cable harness		3AX7110-4S	■	
7.2/12/17.5	275	310			Racking path 200 mm, without cable harness		3AX7110-2R	■	
7.2/12/17.5	275	310			Racking path 200 mm, with cable harness		3AX7110-4R	■	
Withdrawable parts for circuit-breakers with W88/W89									
7.2/12/17.5	150	205	≤31.5		Racking path 200 mm, with cable harness		3AX7112-8F	■	
7.2/12/17.5	210	310	≤31.5		Racking path 200 mm, with cable harness		3AX7112-8N	■	
7.2/12/17.5	275	310	≤31.5		Racking path 200 mm, with cable harness		3AX7112-8H	■	
7.2/12/17.5	210	310	40		Racking path 200 mm, with cable harness		3AX7112-8J	■	
7.2/12/17.5	275	310	40		Racking path 200 mm, with cable harness		3AX7112-8K	■	
24	210	310	≤25		Racking path 200 mm [1], with cable harness		3AX7112-8L	■	
24	275	310	≤25		Racking path 200 mm [1], with cable harness		3AX7112-8M	■	
Withdrawable parts (motorized) for circuit-breakers with W88/W89									
7.2/12/17.5	150	205	≤31.5		Racking path 200 mm, with cable harness, 110 V DC		3AX7112-8F	■	M04
7.2/12/17.5	150	205	≤31.5		Racking path 200 mm, with cable harness, 220 V DC		3AX7112-8F	■	M05
7.2/12/17.5	210	310	≤31.5		Racking path 200 mm, with cable harness, 110 V DC		3AX7112-8N	■	M04
7.2/12/17.5	210	310	≤31.5		Racking path 200 mm, with cable harness, 220 V DC		3AX7112-8N	■	M05
7.2/12/17.5	210	310	40		Racking path 200 mm, with cable harness, 110 V DC		3AX7112-8J	■	M04
7.2/12/17.5	210	310	40		Racking path 200 mm, with cable harness, 220 V DC		3AX7112-8J	■	M05
24	275	310	≤25		Racking path 200 mm [1], with cable harness, 110 V DC		3AX7112-8M	■	M04
24	275	310	≤25		Racking path 200 mm [1], with cable harness, 220 V DC		3AX7112-8M	■	M05

[1] Delivery without shutter operation

2

						Position:	1 – 9	10	
Rated voltage for 50/60 Hz U_r kV	Pole-center distance (PCD) mm	Vertical distance between terminals (VDT) mm	Rated short-circuit breaking current I_{sc} A	Rated continuous current I_r A	Feature		Article No.	Language*	Order code
Mounting frame without earthing switch (contains bushings, fixed contacts, no withdrawable part)									
7.2/12/17.5	150	275	≤31.5	≤1250			3AX7111-5A	■	
7.2/12/17.5	150	310	≤31.5	≤1250			3AX7111-5B	■	
7.2/12/17.5	210	275	≤31.5	≤1250			3AX7111-5C	■	
7.2/12/17.5	210	310	≤31.5	≤1250			3AX7111-5D	■	
7.2/12/17.5	210	310	≤31.5	>1250			3AX7111-5G	■	
7.2/12/17.5	210	310	40	All			3AX7111-5H	■	
24	210	310	≤25	≤1250			3AX7111-5E	■	
24	275	310	≤25	≤1250			3AX7111-5F	■	
24	210	310	≤25	>1250			3AX7111-5J	■	
24	275	310	≤25	>1250			3AX7111-5K	■	
Mounting frame with earthing switch (contains bushings, fixed contacts, no withdrawable part)									
7.2/12/17.5	150	275	≤31.5	≤1250	With partition		3AX7111-6A	■	
7.2/12/17.5	150	310	≤31.5	≤1250	With partition		3AX7111-6B	■	
7.2/12/17.5	210	275	≤31.5	≤1250	Without partition		3AX7111-6C	■	
7.2/12/17.5	210	310	≤31.5	≤1250	Without partition		3AX7111-6D	■	
7.2/12/17.5	210	310	≤31.5	>1250	Without partition		3AX7111-6G	■	
7.2/12/17.5	210	310	40	All	Without partition		3AX7111-6H	■	
24	210	310	≤25	≤1250	With partition		3AX7111-6E	■	
24	275	310	≤25	≤1250	With partition		3AX7111-6 F	■	
24	210	310	≤25	>1250	Without partition		3AX7111-6J	■	
24	275	310	≤25	>1250	Without partition		3AX7111-6K	■	
Shutter operation for mounting frame (mounting parts left and right for withdrawable parts for use in mounting frame)									
7.2/12/17.5	150	275/310	≤31.5	≤1600			3AX1462-2A		
7.2/12/17.5	210	275/310	≤31.5	≤2500			3AX1462-2B		
7.2/12/17.5	210	310	40	≤3150			3AX1462-2D		
24	210/275	310	≤25	≤2500			3AX1462-2C		

* The language of the nameplates of withdrawable parts and mounting frames has to be selected via an additional 10th position of the article number

					German		A	
					English		B	
					French		C	
					Spanish		D	
					Italian		E	
					Russian		F	
					Portuguese		G	
					Polish		H	

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7.2 kV 50/60 Hz Article No.	Rated continuous current I_r A	Pole-center distance (PCD) mm	Vertical distance between terminals (VDT) mm	Rated short-circuit breaking current I_{sc} kA	DC component in % of the rated short-circuit breaking current %	Asymmetrical breaking current kA	Rated short-circuit making current (at 50/60 Hz) I_{ma} kA	Rated back-to-back-capacitor-bank inrush making current i_{bi} kA, peak	Rated lightning impulse withstand voltage U_p kV	Rated short-duration power-frequency withstand voltage U_d kV	Voltage drop ΔU between connections (acc. to IEC 62271-1 at 100 A DC) mV	Minimum creepage distance, interrupter mm	Minimum creepage distance, phase-to-earth mm	Minimum clearance, phase-to-phase mm	Minimum clearance, phase-to-earth mm	Weight [1] (fixed-mounted circuit-breaker/ withdrawable module) kg	Detailed dimensional drawing (must be explicitly requested)	Operating cycle diagram no. (see page 60)
3AE5002-1	800	150	205	16	50	19.6	40/42	▲	60	20	3	93	245	93	97	49/-	A7E10900005	1
3AE5002-2	1250	150	205	16	50	19.6	40/42	▲	60	20	3	93	245	93	97	49/-	A7E10900005	1
3AE5003-1	800	150	205	20	50	24.5	50/52	▲	60	20	3	93	245	93	97	49/-	A7E10900005	2
3AE5003-2	1250	150	205	20	50	24.5	50/52	▲	60	20	3	93	245	93	97	49/-	A7E10900005	2
3AE5004-1	800	150	205	25	50	30.6	63/65	▲	60	20	3	93	245	93	97	49/-	A7E10900005	3a
3AE5004-2	1250	150	205	25	50	30.6	63/65	▲	60	20	3	93	245	93	97	49/-	A7E10900005	3a
3AE5005-1	800	150	205	31.5	50	38.6	80/82	20	60	20	2.5	90	255	98	97	53.5/-	A7E10900006	4a
3AE5005-2	1250	150	205	31.5	50	38.6	80/82	20	60	20	2.5	90	255	98	97	53.5/-	A7E10900006	4a
3AE5012-1	800	150	275	16	50	19.6	40/42	▲	60	20	3	93	245	93	97	49/85	A7E10900005	1
3AE5012-2	1250	150	275	16	50	19.6	40/42	▲	60	20	3	93	245	93	97	49/85	A7E10900005	1
3AE5013-1	800	150	275	20	50	24.5	50/52	▲	60	20	3	93	245	93	97	49/85	A7E10900005	2
3AE5013-2	1250	150	275	20	50	24.5	50/52	▲	60	20	3	93	245	93	97	49/85	A7E10900005	2
3AE5014-1	800	150	275	25	50	30.6	63/65	▲	60	20	3	93	245	93	97	49/85	A7E10900005	3a
3AE5014-2	1250	150	275	25	50	30.6	63/65	▲	60	20	3	93	245	93	97	49/85	A7E10900005	3a
3AE5015-1	800	150	275	31.5	50	38.6	80/82	20	60	20	2.5	90	255	98	122	53.5/89.5	A7E10900006	4a
3AE5015-2	1250	150	275	31.5	50	38.6	80/82	20	60	20	2.5	90	255	98	122	53.5/89.5	A7E10900006	4a
3AE5022-1	800	150	310	16	50	19.6	40/42	▲	60	20	3	93	245	93	97	49/85	A7E10900005	1
3AE5022-2	1250	150	310	16	50	19.6	40/42	▲	60	20	3	93	245	93	97	49/85	A7E10900005	1
3AE5022-3	1600	150	310	16	50	19.6	40/42	20	60	20	2.5	90	255	98	122	59.5/95.5	A7E10900006	1a
3AE5023-1	800	150	310	20	50	24.5	50/52	▲	60	20	3	93	245	93	97	49/85	A7E10900005	2
3AE5023-2	1250	150	310	20	50	24.5	50/52	▲	60	20	3	93	245	93	97	49/85	A7E10900005	2
3AE5023-3	1600	150	310	20	50	24.5	50/52	20	60	20	2.5	90	255	98	122	59.5/95.5	A7E10900006	2a
3AE5024-1	800	150	310	25	50	30.6	63/65	▲	60	20	3	93	245	93	97	49/85	A7E10900005	3a
3AE5024-2	1250	150	310	25	50	30.6	63/65	▲	60	20	3	93	245	93	97	49/85	A7E10900005	3a
3AE5024-3	1600	150	310	25	50	30.6	63/65	20	60	20	2.5	90	255	98	122	59.5/95.5	A7E10900006	3b
3AE5025-1	800	150	310	31.5	50	38.6	80/82	20	60	20	2.5	90	255	98	122	53.5/89.5	A7E10900006	4a

▲ On request

[1] When fitted on a withdrawable part, the weight of a fixed-mounted device increases by the values specified in the dimensional drawing (dimensional drawings as from page 61)

7.2 kV 50/60 Hz Article No.	Rated continuous current I_r A	Pole-center distance (PCD) mm	Vertical distance between terminals (VDT) mm	Rated short-circuit breaking current I_{sc} kA	DC component in % of the rated short-circuit breaking current %	Asymmetrical breaking current kA	Rated short-circuit making current (at 50/60 Hz) I_{ma} kA	Rated back-to-back-capacitor-bank inrush making current i_{bi} kA, peak	Rated lightning impulse withstand voltage U_p kV	Rated short-duration power-frequency withstand voltage U_d kV	Voltage drop ΔU between connections (acc. to IEC 62271-1 at 100 A DC) mV	Minimum creepage distance, interrupter mm	Minimum creepage distance, phase-to-earth mm	Minimum clearance, phase-to-phase mm	Minimum clearance, phase-to-earth mm	Weight [1] (fixed-mounted circuit-breaker/ withdrawable module) kg	Detailed dimensional drawing (must be explicitly requested)	Operating cycle diagram no. (see page 60)
3AE5025-2	1250	150	310	31.5	50	38.6	80/82	20	60	20	2.5	90	255	98	122	53.5/89.5	A7E10900006	4a
3AE5025-3	1600	150	310	31.5	50	38.6	80/82	20	60	20	2.5	90	255	98	122	59.5/95.5	A7E10900006	4a
3AE5032-1	800	160	205	16	50	19.6	40/42	▲	60	20	3	93	245	93	129	49/-	A7E10900005	1
3AE5032-2	1250	160	205	16	50	19.6	40/42	▲	60	20	3	93	245	93	129	49/-	A7E10900005	1
3AE5033-1	800	160	205	20	50	24.5	50/52	▲	60	20	3	93	245	93	129	49/-	A7E10900005	2
3AE5033-2	1250	160	205	20	50	24.5	50/52	▲	60	20	3	93	245	93	129	49/-	A7E10900005	2
3AE5034-1	800	160	205	25	50	30.6	63/65	▲	60	20	3	93	245	93	129	49/-	A7E10900005	3a
3AE5034-2	1250	160	205	25	50	30.6	63/65	▲	60	20	3	93	245	93	129	49/-	A7E10900005	3a
3AE5035-1	800	160	205	31.5	50	38.6	80/82	20	60	20	2.5	90	255	98	122	53.5/-	A7E10900006	4a
3AE5035-2	1250	160	205	31.5	50	38.6	80/82	20	60	20	2.5	90	255	98	122	53.5/-	A7E10900006	4a
3AE5042-1	800	160	275	16	50	19.6	40/42	▲	60	20	3	93	245	93	129	49/-	A7E10900005	1
3AE5042-2	1250	160	275	16	50	19.6	40/42	▲	60	20	3	93	245	93	129	49/-	A7E10900005	1
3AE5043-1	800	160	275	20	50	24.5	50/52	▲	60	20	3	93	245	93	129	49/-	A7E10900005	2
3AE5043-2	1250	160	275	20	50	24.5	50/52	▲	60	20	3	93	245	93	129	49/-	A7E10900005	2
3AE5044-1	800	160	275	25	50	30.6	63/65	▲	60	20	3	93	245	93	129	49/-	A7E10900005	3a
3AE5044-2	1250	160	275	25	50	30.6	63/65	▲	60	20	3	93	245	93	129	49/-	A7E10900005	3a
3AE5045-1	800	160	275	31.5	50	38.6	80/82	20	60	20	2.5	90	255	98	122	53.5/-	A7E10900006	4a
3AE5045-2	1250	160	275	31.5	50	38.6	80/82	20	60	20	2.5	90	255	98	122	53.5/-	A7E10900006	4a
3AE5052-1	800	160	310	16	50	19.6	40/42	▲	60	20	3	93	245	93	129	49/-	A7E10900005	1
3AE5052-2	1250	160	310	16	50	19.6	40/42	▲	60	20	3	93	245	93	129	49/-	A7E10900005	1
3AE5052-3	1600	160	310	16	50	19.6	40/42	20	60	20	2.5	90	255	98	122	59.5/-	A7E10900006	1a
3AE5053-1	800	160	310	20	50	24.5	50/52	▲	60	20	3	93	245	93	129	49/-	A7E10900005	2
3AE5053-2	1250	160	310	20	50	24.5	50/52	▲	60	20	3	93	245	93	129	49/-	A7E10900005	2
3AE5053-3	1600	160	310	20	50	24.5	50/52	20	60	20	2.5	90	255	98	122	59.5/-	A7E10900006	2a
3AE5054-1	800	160	310	25	50	30.6	63/65	▲	60	20	3	93	245	93	129	49/-	A7E10900005	3a
3AE5054-2	1250	160	310	25	50	30.6	63/65	▲	60	20	3	93	245	93	129	49/-	A7E10900005	3a

▲ On request

[1] When fitted on a withdrawable part, the weight of a fixed-mounted device increases by the values specified in the dimensional drawing (dimensional drawings as from page 61)

Technical data

Electrical data, weights, operating cycle diagrams

7.2 kV 50/60 Hz Article No.	Rated continuous current I_r A	Pole-center distance (PCD) mm	Vertical distance between terminals (VDT) mm	Rated short-circuit breaking current I_{sc} kA	DC component in % of the rated short-circuit breaking current %	Asymmetrical breaking current kA	Rated short-circuit making current (at 50/60 Hz) I_{ma} kA	Rated back-to-back-capacitor-bank inrush making current i_{bi} kA, peak	Rated lightning impulse withstand voltage U_p kV	Rated short-duration power-frequency withstand voltage U_d kV	Voltage drop ΔU between connections (acc. to IEC 62271-1 at 100 A DC) mV	Minimum creepage distance, interrupter mm	Minimum creepage distance, phase-to-earth mm	Minimum clearance, phase-to-phase mm	Minimum clearance, phase-to-earth mm	Weight [1] (fixed-mounted circuit-breaker/ withdrawable module) kg	Detailed dimensional drawing (must be explicitly requested)	Operating cycle diagram no. (see page 60)
3AE5054-3	1600	160	310	25	50	30.6	63/65	20	60	20	2.5	90	255	98	122	59.5/-	A7E10900006	3b
3AE5055-1	800	160	310	31.5	50	38.6	80/82	20	60	20	2.5	90	255	98	122	53.5/-	A7E10900006	4a
3AE5055-2	1250	160	310	31.5	50	38.6	80/82	20	60	20	2.5	90	255	98	122	53.5/-	A7E10900006	4a
3AE5055-3	1600	160	310	31.5	50	38.6	80/82	20	60	20	2.5	90	255	98	122	59.5/-	A7E10900006	4a
3AE5062-1	800	210	205	16	50	19.6	40/42	▲	60	20	3	93	245	93	129	51.5/91.5	A7E10900005	1
3AE5062-2	1250	210	205	16	50	19.6	40/42	▲	60	20	3	93	245	93	129	51.5/91.5	A7E10900005	1
3AE5063-1	800	210	205	20	50	24.5	50/52	▲	60	20	3	93	245	93	129	51.5/-	A7E10900005	2
3AE5063-2	1250	210	205	20	50	24.5	50/52	▲	60	20	3	93	245	93	129	51.5/-	A7E10900005	2
3AE5064-1	800	210	205	25	50	30.6	63/65	▲	60	20	3	93	245	93	129	51.5/-	A7E10900005	3a
3AE5064-2	1250	210	205	25	50	30.6	63/65	▲	60	20	3	93	245	93	129	51.5/-	A7E10900005	3a
3AE5065-1	800	210	205	31.5	50	38.6	80/82	20	60	20	2.5	90	255	98	122	56.5/-	A7E10900006	4a
3AE5065-2	1250	210	205	31.5	50	38.6	80/82	20	60	20	2.5	90	255	98	122	56.5/-	A7E10900006	4a
3AE5072-1	800	210	275	16	50	19.6	40/42	▲	60	20	3	93	245	93	129	51.5/91.5	A7E10900005	1
3AE5072-2	1250	210	275	16	50	19.6	40/42	▲	60	20	3	93	245	93	129	51.5/91.5	A7E10900005	1
3AE5073-1	800	210	275	20	50	24.5	50/52	▲	60	20	3	93	245	93	129	51.5/91.5	A7E10900005	2
3AE5073-2	1250	210	275	20	50	24.5	50/52	▲	60	20	3	93	245	93	129	51.5/91.5	A7E10900005	2
3AE5074-1	800	210	275	25	50	30.6	63/65	▲	60	20	3	93	245	93	129	51.5/91.5	A7E10900005	3a
3AE5074-2	1250	210	275	25	50	30.6	63/65	▲	60	20	3	93	245	93	129	51.5/91.5	A7E10900005	3a
3AE5075-1	800	210	275	31.5	50	38.6	80/82	20	60	20	2.5	90	255	98	122	56.5/96.5	A7E10900006	4a
3AE5075-2	1250	210	275	31.5	50	38.6	80/82	20	60	20	2.5	90	255	98	122	56.5/96.5	A7E10900006	4a
3AE5082-1	800	210	310	16	50	19.6	40/42	▲	60	20	3	93	245	93	129	51.5/91.5	A7E10900005	1
3AE5082-2	1250	210	310	16	50	19.6	40/42	▲	60	20	3	93	245	93	129	51.5/91.5	A7E10900005	1
3AE5082-3	1600	210	310	16	50	19.6	40/42	20	60	20	2.5	90	255	98	122	62.5/102.5	A7E10900006	1a
3AE5083-1	800	210	310	20	50	24.5	50/52	▲	60	20	3	93	245	93	129	51.5/91.5	A7E10900005	2
3AE5083-2	1250	210	310	20	50	24.5	50/52	▲	60	20	3	93	245	93	129	51.5/91.5	A7E10900005	2
3AE5083-3	1600	210	310	20	50	24.5	50/52	20	60	20	2.5	90	255	98	122	62.5/102.5	A7E10900006	2a

▲ On request

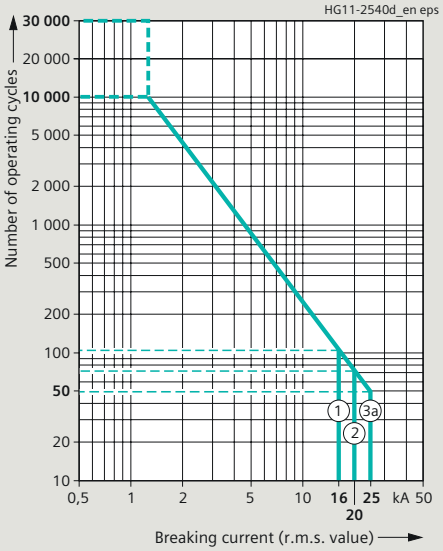
[1] When fitted on a withdrawable part, the weight of a fixed-mounted device increases by the values specified in the dimensional drawing (dimensional drawings as from page 61)

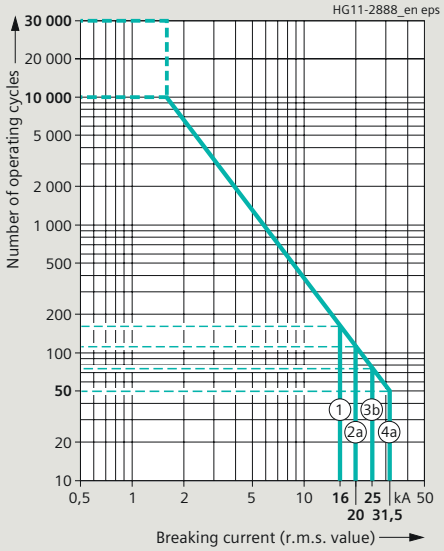
7.2 kV 50/60 Hz Article No.	**Rated continuous current** I_r A	**Pole-center distance (PCD)** mm	**Vertical distance between terminals (VDT)** mm	Rated short-circuit breaking current I_{sc} kA	DC component in % of the rated short-circuit breaking current % kA	Asymmetrical breaking current kA	Rated short-circuit making current (at 50/60 Hz) I_{ma} kA	Rated back-to-back-capacitor-bank inrush making current i_{bi} kA, peak	Rated lightning impulse withstand voltage U_p kV	Rated short-duration power-frequency withstand voltage U_d kV	Voltage drop ΔU between connections (acc. to IEC 62271-1 at 100 A DC) mV	Minimum creepage distance, interrupter mm	Minimum creepage distance, phase-to-earth mm	Minimum clearance, phase-to-phase mm	Minimum clearance, phase-to-earth mm	Weight [1] (fixed-mounted circuit-breaker/ withdrawable module) kg	Detailed dimensional drawing (must be explicitly requested)	Operating cycle diagram no. (see page 60)
3AE5084-1	800	210	310	25	50	30.6	63/65	▲	60	20	3	93	245	93	129	51.5/91.5	A7E10900005	3a
3AE5084-2	1250	210	310	25	50	30.6	63/65	▲	60	20	3	93	245	93	129	51.5/91.5	A7E10900005	3a
3AE5084-3	1600	210	310	25	50	30.6	63/65	20	60	20	2.5	90	255	98	122	62.5/102.5	A7E10900006	3b
3AE5084-4	2000	210	310	25	50	30.6	63/65	20	60	20	1.8	130	240	125	138	100	A7E10907000	3c
3AE5084-6	2500	210	310	25	50	30.6	63/65	20	60	20	1.8	130	240	125	138	100	A7E10907000	3c
3AE5085-1	800	210	310	31.5	50	38.6	80/82	20	60	20	2.5	90	255	98	122	56.5/96.5	A7E10900006	4a
3AE5085-2	1250	210	310	31.5	50	38.6	80/82	20	60	20	2.5	90	255	98	122	56.5/96.5	A7E10900006	4a
3AE5085-3	1600	210	310	31.5	50	38.6	80/82	20	60	20	2.5	90	255	98	122	62.5/102.5	A7E10900006	4a
3AE5085-4	2000	210	310	31.5	50	38.6	80/82	20	60	20	1.8	130	240	125	138	100	A7E10907000	4b
3AE5085-6	2500	210	310	31.5	50	38.6	80/82	20	60	20	1.8	130	240	125	138	100	A7E10907000	4b
3AE5086-2	1250	210	310	40	50	49.0	100/104	20	60	20	1.8	140	240	150	130	125/165	A7E10910000	5
3AE5086-4	2000	210	310	40	50	49.0	100/104	20	60	20	1.1	140	240	150	130	140/190	A7E10910000	5
3AE5086-6	2500	210	310	40	50	49.0	100/104	20	60	20	1.1	140	240	150	130	140/190	A7E10910000	5
3AE5086-7	3150	210	310	40	50	49.0	100/104	20	60	20	0.9	140	240	150	130	160/210	A7E10910000	5

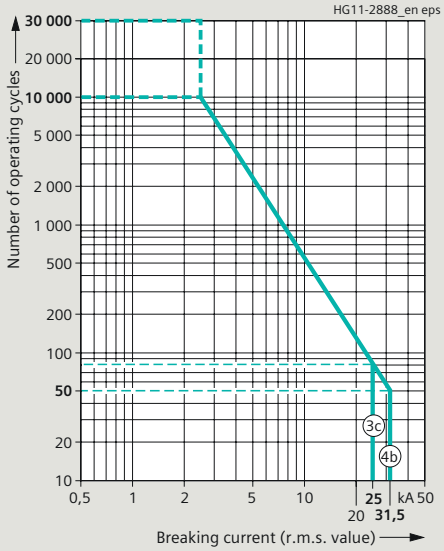
▲ On request

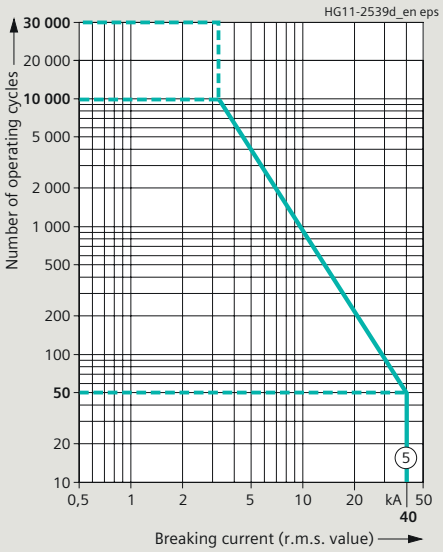
[1] When fitted on a withdrawable part, the weight of a fixed-mounted device increases by the values specified in the dimensional drawing (dimensional drawings as from page 61)

Operating cycle diagrams for 7.2 kV









The permissible number of electrical operating cycles is shown as a function of the breaking current (r.m.s. value). All SION vacuum circuit-breakers fulfil the classes E2, M2 and C2 according to IEC 62271-100.
The curve shape beyond the parameters defined in IEC 62271-100 is based on average empirical data. The number of operating cycles that can actually be reached may be different depending on the respective application.

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12 kV 50/60 Hz Article No.	Rated continuous current I_r A	Pole-center distance (PCD) mm	Vertical distance between terminals (VDT) mm	Rated short-circuit breaking current I_{sc} kA	DC component in % of the rated short-circuit breaking current %	Asymmetrical breaking current kA	Rated short-circuit making current (at 50/60 Hz) I_{ma} kA	Rated back-to-back-capacitor-bank inrush making current i_{bi} kA, peak	Rated lightning impulse withstand voltage U_p kV	Rated short-duration power-frequency withstand voltage U_d kV	Voltage drop ΔU between connections (acc. to IEC 62271-1 at 100 A DC) mV	Minimum creepage distance, interrupter mm	Minimum creepage distance, phase-to-earth mm	Minimum clearance, phase-to-phase mm	Minimum clearance, phase-to-earth mm	Weight [1] (fixed-mounted circuit-breaker/ withdrawable module) kg	Detailed dimensional drawing (must be explicitly requested)	Operating cycle diagram no. (see page 60)
3AE5102-1	800	150	205	16	50	19.6	40/42	▲	75	28	3	93	245	93	129	49/-	A7E10900005	6
3AE5102-2	1250	150	205	16	50	19.6	40/42	▲	75	28	3	93	245	93	129	49/-	A7E10900005	6
3AE5103-1	800	150	205	20	50	24.5	50/52	▲	75	28	3	93	245	93	129	49/-	A7E10900005	7
3AE5103-2	1250	150	205	20	50	24.5	50/52	▲	75	28	3	93	245	93	129	49/-	A7E10900005	7
3AE5104-1	800	150	205	25	50	30.6	63/65	▲	75	28	3	93	245	93	129	49/-	A7E10900005	8a
3AE5104-2	1250	150	205	25	50	30.6	63/65	▲	75	28	3	93	245	93	129	49/-	A7E10900005	8a
3AE5105-1	1250	150	205	31.5	50	38.6	80/82	20	75	28	2.5	90	255	98	122	53.5/-	A7E10900006	9a
3AE5105-2	1250	150	205	31.5	50	38.6	80/82	20	75	28	2.5	90	255	98	122	53.5/-	A7E10900006	9a
3AE5112-1	800	150	275	16	50	19.6	40/42	▲	75	28	3	93	245	93	129	49/85	A7E10900005	6
3AE5112-2	1250	150	275	16	50	19.6	40/42	▲	75	28	3	93	245	93	129	49/85	A7E10900005	6
3AE5113-1	800	150	275	20	50	24.5	50/52	▲	75	28	3	93	245	93	129	49/85	A7E10900005	7
3AE5113-2	1250	150	275	20	50	24.5	50/52	▲	75	28	3	93	245	93	129	49/85	A7E10900005	7
3AE5114-1	800	150	275	25	50	30.6	63/65	▲	75	28	3	93	245	93	129	49/85	A7E10900005	8a
3AE5114-2	1250	150	275	25	50	30.6	63/65	▲	75	28	3	93	245	93	129	49/85	A7E10900005	8a
3AE5115-1	800	150	275	31.5	50	38.6	80/82	20	75	28	2.5	90	255	98	122	53.5/89.5	A7E10900006	9a
3AE5115-2	800	150	275	31.5	50	38.6	80/82	20	75	28	2.5	90	255	98	122	53.5/89.5	A7E10900006	9a
3AE5122-1	800	150	310	16	50	19.6	40/42	▲	75	28	3	93	245	93	129	49/85	A7E10900005	6
3AE5122-2	1250	150	310	16	50	19.6	40/42	▲	75	28	3	93	245	93	129	49/85	A7E10900005	6
3AE5122-3	1600	150	310	16	50	19.6	40/42	20	75	28	2.5	90	255	98	122	59.5/95.5	A7E10900006	6a
3AE5123-1	800	150	310	20	50	24.5	50/52	▲	75	28	3	93	245	93	129	49/85	A7E10900005	7
3AE5123-2	1250	150	310	20	50	24.5	50/52	▲	75	28	3	93	245	93	129	49/85	A7E10900005	7
3AE5123-3	1600	150	310	20	50	24.5	50/52	20	75	28	2.5	90	255	98	122	59.5/95.5	A7E10900006	7a
3AE5124-1	800	150	310	25	50	30.6	63/65	▲	75	28	3	93	245	93	129	49/85	A7E10900005	8a
3AE5124-2	1250	150	310	25	50	30.6	63/65	▲	75	28	3	93	245	93	129	49/85	A7E10900005	8a

▲ On request

[1] When fitted on a withdrawable part, the weight of a fixed-mounted device increases by the values specified in the dimensional drawing (dimensional drawings as from page 61)

Technical data

Electrical data, weights, operating cycle diagrams

12 kV 50/60 Hz Article No.	Rated continuous current I_r A	Pole-center distance (PCD) mm	Vertical distance between terminals (VDT) mm	Rated short-circuit breaking current I_{sc} kA	DC component in % of the rated short-circuit breaking current %	Asymmetrical breaking current kA	Rated short-circuit making current (at 50/60 Hz) I_{ma} kA	Rated back-to-back-capacitor-bank inrush making current i_{bi} kA, peak	Rated lightning impulse withstand voltage U_p kV	Rated short-duration power-frequency withstand voltage U_d kV	Voltage drop ΔU between connections (acc. to IEC 62271-1 at 100 A DC) mV	Minimum creepage distance, interrupter mm	Minimum creepage distance, phase-to-earth mm	Minimum clearance, phase-to-phase mm	Minimum clearance, phase-to-earth mm	Weight [1] (fixed-mounted circuit-breaker/ withdrawable module) kg	Detailed dimensional drawing (must be explicitly requested)	Operating cycle diagram no. (see page 60)
3AE5124-3	1600	150	310	25	50	30.6	63/65	20	75	28	2.5	90	255	98	122	59.5/95.5	A7E10900006	8b
3AE5125-1	800	150	310	31.5	50	38.6	80/82	20	75	28	2.5	90	255	98	122	53.5/89.5	A7E10900006	9a
3AE5125-2	1250	150	310	31.5	50	38.6	80/82	20	75	28	2.5	90	255	98	122	53.5/89.5	A7E10900006	9a
3AE5125-3	1600	150	310	31.5	50	38.6	80/82	20	75	28	2.5	90	255	98	122	59.5/95.5	A7E10900006	9a
3AE5132-1	800	160	205	16	50	19.6	40/42	▲	75	28	3	93	245	93	129	49/-	A7E10900005	6
3AE5132-2	1250	160	205	16	50	19.6	40/42	▲	75	28	3	93	245	93	129	49/-	A7E10900005	6
3AE5133-1	800	160	205	20	50	24.5	50/52	▲	75	28	3	93	245	93	129	49/-	A7E10900005	7
3AE5133-2	1250	160	205	20	50	24.5	50/52	▲	75	28	3	93	245	93	129	49/-	A7E10900005	7
3AE5134-1	800	160	205	25	50	30.6	63/65	▲	75	28	3	93	245	93	129	49/-	A7E10900005	8a
3AE5134-2	1250	160	205	25	50	30.6	63/65	▲	75	28	3	93	245	93	129	49/-	A7E10900005	8a
3AE5135-1	800	160	205	31.5	50	38.6	80/82	20	75	28	2.5	90	255	98	122	53.5/-	A7E10900006	9a
3AE5135-2	1250	160	205	31.5	50	38.6	80/82	20	75	28	2.5	90	255	98	122	53.5/-	A7E10900006	9a
3AE5142-1	800	160	275	16	50	19.6	40/42	▲	75	28	3	93	245	93	129	49/-	A7E10900005	6
3AE5142-2	1250	160	275	16	50	19.6	40/42	▲	75	28	3	93	245	93	129	49/-	A7E10900005	6
3AE5143-1	800	160	275	20	50	24.5	50/52	▲	75	28	3	93	245	93	129	49/-	A7E10900005	7
3AE5143-2	1250	160	275	20	50	24.5	50/52	▲	75	28	3	93	245	93	129	49/-	A7E10900005	7
3AE5144-1	800	160	275	25	50	30.6	63/65	▲	75	28	3	93	245	93	129	49/-	A7E10900005	8a
3AE5144-2	1250	160	275	25	50	30.6	63/65	▲	75	28	3	93	245	93	129	49/-	A7E10900005	8a
3AE5145-1	800	160	275	31.5	50	38.6	80/82	20	75	28	2.5	90	255	98	122	53.5/-	A7E10900006	9a
3AE5145-2	1250	160	275	31.5	50	38.6	80/82	20	75	28	2.5	90	255	98	122	53.5/-	A7E10900006	9a
3AE5152-1	800	160	310	16	50	19.6	40/42	▲	75	28	3	93	245	93	129	49/-	A7E10900005	6
3AE5152-2	1250	160	310	16	50	19.6	40/42	▲	75	28	3	93	245	93	129	49/-	A7E10900005	6
3AE5152-3	1600	160	310	16	50	19.6	40/42	20	75	28	2.5	90	255	98	122	59.5/-	A7E10900006	6a
3AE5153-1	800	160	310	20	50	24.5	50/52	▲	75	28	3	93	245	93	129	49/-	A7E10900005	7

▲ On request

[1] When fitted on a withdrawable part, the weight of a fixed-mounted device increases by the values specified in the dimensional drawing (dimensional drawings as from page 61)

12 kV 50/60 Hz Article No.	Rated continuous current I_r A	Pole-center distance (PCD) mm	Vertical distance between terminals (VDT) mm	Rated short-circuit breaking current I_{sc} kA	DC component in % of the rated short-circuit breaking current %	Asymmetrical breaking current kA	Rated short-circuit making current (at 50/60 Hz) I_{ma} kA	Rated back-to-back-capacitor-bank inrush making current i_{bi} kA, peak	Rated lightning impulse withstand voltage U_p kV	Rated short-duration power-frequency withstand voltage U_d kV	Voltage drop ΔU between connections (acc. to IEC 62271-1 at 100 A DC) mV	Minimum creepage distance, interrupter mm	Minimum creepage distance, phase-to-earth mm	Minimum clearance, phase-to-phase mm	Minimum clearance, phase-to-earth mm	Weight [1] (fixed-mounted circuit-breaker/ withdrawable module) kg	Detailed dimensional drawing (must be explicitly requested)	Operating cycle diagram no. (see page 60)
3AE5153-2	1250	160	310	20	50	24.5	50/52	▲	75	28	3	93	245	93	129	49/-	A7E10900005	7
3AE5153-3	1600	160	310	20	50	24.5	50/52	20	75	28	2.5	90	255	98	122	59.5/-	A7E10900006	7a
3AE5154-1	800	160	310	25	50	30.6	63/65	▲	75	28	3	93	245	93	129	49/-	A7E10900005	8a
3AE5154-2	1250	160	310	25	50	30.6	63/65	▲	75	28	3	93	245	93	129	49/-	A7E10900005	8a
3AE5154-3	1600	160	310	25	50	30.6	63/65	20	75	28	2.5	90	255	98	122	59.5/-	A7E10900006	8b
3AE5155-1	800	160	310	31.5	50	38.6	80/82	20	75	28	2.5	90	255	98	122	53.5/-	A7E10900006	9a
3AE5155-2	1250	160	310	31.5	50	38.6	80/82	20	75	28	2.5	90	255	98	122	53.5/-	A7E10900006	9a
3AE5155-3	1600	160	310	31.5	50	38.6	80/82	20	75	28	2.5	90	255	98	122	59.5/-	A7E10900006	9a
3AE5162-1	800	210	205	16	50	19.6	40/42	▲	75	28	3	93	245	93	129	51.5/-	A7E10900005	6
3AE5162-2	1250	210	205	16	50	19.6	40/42	▲	75	28	3	93	245	93	129	51.5/-	A7E10900005	6
3AE5163-1	800	210	205	20	50	24.5	50/52	▲	75	28	3	93	245	93	129	51.5/-	A7E10900005	7
3AE5163-2	1250	210	205	20	50	24.5	50/52	▲	75	28	3	93	245	93	129	51.5/-	A7E10900005	7
3AE5164-1	800	210	205	25	50	30.6	63/65	▲	75	28	3	93	245	93	129	49/-	A7E10900005	8a
3AE5164-2	1250	210	205	25	50	30.6	63/65	▲	75	28	3	93	245	93	129	49/-	A7E10900005	8a
3AE5165-1	800	210	205	31.5	50	38.6	80/82	20	75	28	2.5	90	255	98	122	56.5/-	A7E10900006	9a
3AE5165-2	1250	210	205	31.5	50	38.6	80/82	20	75	28	2.5	90	255	98	122	56.5/-	A7E10900006	9a
3AE5172-1	800	210	275	16	50	19.6	40/42	▲	75	28	3	93	245	93	129	51.5/91.5	A7E10900005	6
3AE5172-2	1250	210	275	16	50	19.6	40/42	▲	75	28	3	93	245	93	129	51.5/91.5	A7E10900005	6
3AE5173-1	800	210	275	20	50	24.5	50/52	▲	75	28	3	93	245	93	129	51.5/91.5	A7E10900005	7
3AE5173-2	1250	210	275	20	50	24.5	50/52	▲	75	28	3	93	245	93	129	51.5/91.5	A7E10900005	7
3AE5174-1	800	210	275	25	50	30.6	63/65	▲	75	28	3	93	245	93	129	51.5/91.5	A7E10900005	8a
3AE5174-2	1250	210	275	25	50	30.6	63/65	▲	75	28	3	93	245	93	129	51.5/91.5	A7E10900005	8a
3AE5175-1	800	210	275	31.5	50	38.6	80/82	20	75	28	2.5	90	255	98	122	56.5/96.5	A7E10900006	9a
3AE5175-2	1250	210	275	31.5	50	38.6	80/82	20	75	28	2.5	90	255	98	122	56.5/96.5	A7E10900006	9a

▲ On request

[1] When fitted on a withdrawable part, the weight of a fixed-mounted device increases by the values specified in the dimensional drawing (dimensional drawings as from page 61)

Technical data

Electrical data, weights, operating cycle diagrams

12 kV 50/60 Hz Article No.	Rated continuous current I_r A	Pole-center distance (PCD) mm	Vertical distance between terminals (VDT) mm	Rated short-circuit breaking current I_{sc} kA	DC component in % of the rated short-circuit breaking current %	Asymmetrical breaking current kA	Rated short-circuit making current (at 50/60 Hz) I_{ma} kA	Rated back-to-back-capacitor-bank inrush making current i_{bi} kA, peak	Rated lightning impulse withstand voltage U_p kV	Rated short-duration power-frequency withstand voltage U_d kV	Voltage drop ΔU between connections (acc. to IEC 62271-1 at 100 A DC) mV	Minimum creepage distance, interrupter mm	Minimum creepage distance, phase-to-earth mm	Minimum clearance, phase-to-phase mm	Minimum clearance, phase-to-earth mm	Weight [1] (fixed-mounted circuit-breaker/ withdrawable module) kg	Detailed dimensional drawing (must be explicitly requested)	Operating cycle diagram no. (see page 60)
3AE5182-1	800	210	310	16	50	19.6	40/42	▲	75	28	3	93	245	93	129	51.5/91.5	A7E10900005	6
3AE5182-2	1250	210	310	16	50	19.6	40/42	▲	75	28	3	93	245	93	129	51.5/91.5	A7E10900005	6
3AE5182-3	1600	210	310	16	50	19.6	40/42	20	75	28	2.5	90	255	98	122	62.5/102.5	A7E10900006	6a
3AE5183-1	800	210	310	20	50	24.5	50/52	▲	75	28	3	93	245	93	129	51.5/91.5	A7E10900005	7
3AE5183-2	1250	210	310	20	50	24.5	50/52	▲	75	28	3	93	245	93	129	51.5/91.5	A7E10900005	7
3AE5183-3	1600	210	310	20	50	24.5	50/52	20	75	28	2.5	90	255	98	122	62.5/102.5	A7E10900006	7a
3AE5183-4	2000	210	310	20	50	24.5	50/52	20	75	28	1.8	130	240	125	138	100	A7E10907000	7b
3AE5183-6	2500	210	310	20	50	24.5	50/52	20	75	28	1.8	130	240	125	138	100	A7E10907000	7b
3AE5184-1	800	210	310	25	50	30.6	63/65	▲	75	28	3	93	245	93	129	51.5/91.5	A7E10900005	8a
3AE5184-2	1250	210	310	25	50	30.6	63/65	▲	75	28	3	93	245	93	129	51.5/91.5	A7E10900005	8a
3AE5184-3	1600	210	310	25	50	30.6	63/65	20	75	28	2.5	90	255	98	122	62.5/102.5	A7E10900006	8b
3AE5184-4	2000	210	310	25	50	30.6	63/65	20	75	28	1.8	130	240	125	138	100	A7E10907000	8c
3AE5184-6	2500	210	310	25	50	30.6	63/65	20	75	28	1.8	130	240	125	138	100	A7E10907000	8c
3AE5185-1	800	210	310	31.5	50	38.6	80/82	20	75	28	2.5	90	255	98	122	56.5/96.5	A7E10900006	9a
3AE5185-2	1250	210	310	31.5	50	38.6	80/82	20	75	28	2.5	90	255	98	122	56.5/96.5	A7E10900006	9a
3AE5185-3	1600	210	310	31.5	50	38.6	80/82	20	75	28	2.5	90	255	98	122	62.5/102.5	A7E10900006	9a
3AE5185-4	2000	210	310	31.5	50	38.6	80/82	20	75	28	1.8	130	240	125	138	100	A7E10907000	9b
3AE5185-6	2500	210	310	31.5	50	38.6	80/82	20	75	28	1.8	130	240	125	138	100	A7E10907000	9b
3AE5186-2	1250	210	310	40	50	49.0	100/104	20	75	28	1.8	140	240	150	130	125/165	A7E10910000	10
3AE5186-4	2000	210	310	40	50	49.0	100/104	20	75	28	1.1	140	240	150	130	140/190	A7E10910000	10
3AE5186-6	2500	210	310	40	50	49.0	100/104	20	75	28	1.1	140	240	150	130	140/190	A7E10910000	10
3AE5186-7	3150	210	310	40	50	49.0	100/104	20	75	28	0.9	140	240	150	130	160/210	A7E10910000	10
3AE5186-8	4000_{fc}	210	310	40	50	49.0	100/104	20	75	28	0.9	140	240	150	130	160/210	A7E10910000	10
3AE5554-1	800	160	275	25	50	30.6	63/65	▲	75	28	3	93	245	93	129	49/-	A7E10900005	8a

▲ On request

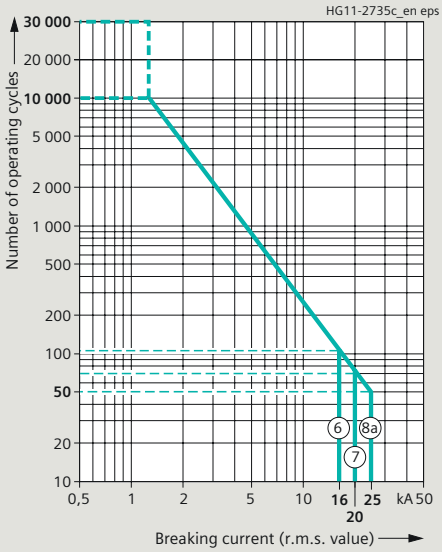
[1] When fitted on a withdrawable part, the weight of a fixed-mounted device increases by the values specified in the dimensional drawing (dimensional drawings as from page 61)

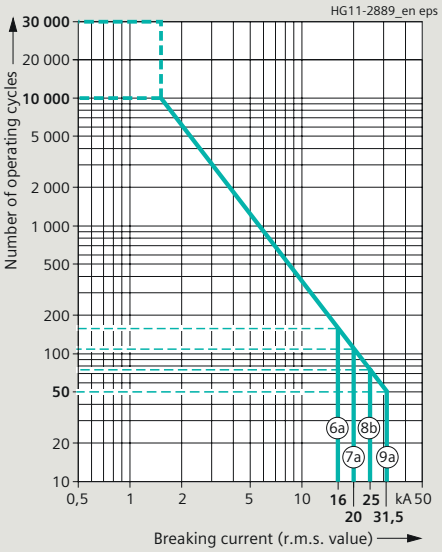
12 kV 50/60 Hz Article No.	Rated continuous current I_r A	Pole-center distance (PCD) mm	Vertical distance between terminals (VDT) mm	Rated short-circuit breaking current I_{sc} kA	DC component in % of the rated short-circuit breaking current %	Asymmetrical breaking current kA	Rated short-circuit making current (at 50/60 Hz) I_{ma} kA	Rated back-to-back-capacitor-bank inrush making current i_{bi} kA, peak	Rated lightning impulse withstand voltage U_p kV	Rated short-duration power-frequency withstand voltage U_d kV	Voltage drop ΔU between connections (acc. to IEC 62271-1 at 100 A DC) mV	Minimum creepage distance, interrupter mm	Minimum creepage distance, phase-to-earth mm	Minimum clearance, phase-to-phase mm	Minimum clearance, phase-to-earth mm	Weight [1] (fixed-mounted circuit-breaker/ withdrawable module) kg	Detailed dimensional drawing (must be explicitly requested)	Operating cycle diagram no. (see page 60)
3AE5554-2	1250	160	275	25	50	30.6	63/65	▲	75	28	3	93	245	93	129	49/-	A7E10900005	8a
3AE5555-1	800	160	275	31.5	50	38.6	80/82	20	75	28	2.5	90	255	130	135	66.5/-	-	9a
3AE5555-2	1250	160	275	31.5	50	38.6	80/82	20	75	28	2.5	90	255	130	135	66.5/-	-	9a
3AE5564-3	1600	210	275	25	50	30.6	63/65	20	75	28	2.5	90	255	98	122	74.5/-	-	8b
3AE5565-2	1250	210	275	31.5	50	38.6	80/82	20	75	28	2.5	90	255	130	135	69.5/-	-	9a
3AE5565-3	1600	210	275	31.5	50	38.6	80/82	20	75	28	2.5	90	255	130	135	74.5/-	-	9a
3AE5565-6	2500	210	275	31.5	50	38.6	80/82	20	75	28	1.8	130	240	125	138	110	A7E10907005	9b
3AE5566-2	1250	210	275	40	50	49.0	100/104	20	75	28	1.8	140	240	150	130	125/-	A7E10910005	10
3AE5566-6	2500	210	275	40	50	49.0	100/104	20	75	28	1.1	140	240	150	130	140/-	A7E10910005	10
3AE5566-7	3150	210	275	40	50	49.0	100/104	20	75	28	0.9	140	240	150	130	160/-	A7E10910005	10
3AE5566-8	4000_{fc}	210	275	40	50	49.0	100/104	20	75	28	0.9	140	240	150	130	160/-	A7E10910005	10
3AE5583-4	2000	275	310	20	50	24.5	50/52	20	75	28	1.8	130	240	190	138	105	A7E10907000	7b
3AE5583-6	2500	275	310	20	50	24.5	50/52	20	75	28	1.8	130	240	190	138	105	A7E10907000	7b
3AE5584-4	2000	275	310	25	50	30.6	63/65	20	75	28	1.8	130	240	190	138	105	A7E10907000	8c
3AE5584-6	2500	275	310	25	50	30.6	63/65	20	75	28	1.8	130	240	190	138	105	A7E10907000	8c
3AE5585-2	1250	275	310	31.5	50	38.6	80/82	20	75	28	1.8	130	240	225	143	105	A7E10907000	9b
3AE5585-4	2000	275	310	31.5	50	38.6	80/82	20	75	28	1.8	130	240	225	143	105	A7E10907000	9b
3AE5585-6	2500	275	310	31.5	50	38.6	80/82	20	75	28	1.8	130	240	225	143	105	A7E10907000	9b
3AE5586-2	1250	275	310	40	50	49.0	100/104	20	75	28	1.8	140	240	215	130	130/-	A7E10910000	10
3AE5586-4	2000	275	310	40	50	49.0	100/104	20	75	28	1.1	140	240	215	130	145/-	A7E10910000	10
3AE5586-6	2500	275	310	40	50	49.0	100/104	20	75	28	1.1	140	240	215	130	145/-	A7E10910000	10
3AE5586-7	3150	275	310	40	50	49.0	100/104	20	75	28	0.9	140	240	215	130	165/-	A7E10910000	10
3AE5586-8	4000_{fc}	275	310	40	50	49.0	100/104	20	75	28	0.9	140	240	215	130	165/-	A7E10910000	10

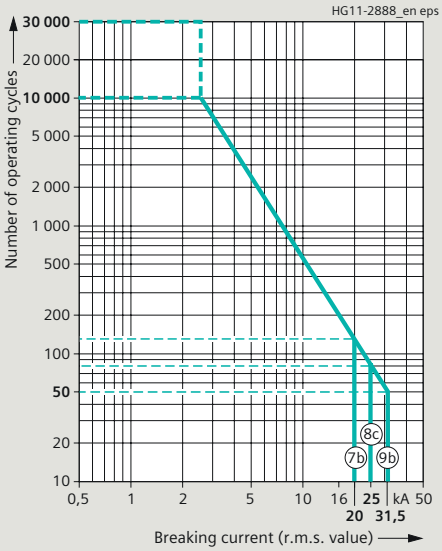
▲ On request

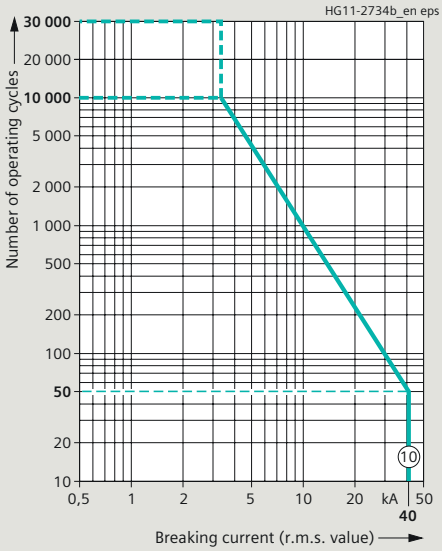
[1] When fitted on a withdrawable part, the weight of a fixed-mounted device increases by the values specified in the dimensional drawing (dimensional drawings as from page 61)

Operating cycle diagrams for 12 kV









The permissible number of electrical operating cycles is shown as a function of the breaking current (r.m.s. value). All SION vacuum circuit-breakers fulfil the classes E2, M2 and C2 according to IEC 62271-100.
The curve shape beyond the parameters defined in IEC 62271-100 is based on average empirical data. The number of operating cycles that can actually be reached may be different depending on the respective application.

3

17.5 kV 50/60 Hz Article No.	Rated continuous current I_r A	Pole-center distance (PCD) mm	Vertical distance between terminals (VDT) mm	Rated short-circuit breaking current I_{sc} kA	DC component in % of the rated short-circuit breaking current %	Asymmetrical breaking current kA	Rated short-circuit making current (at 50/60 Hz) I_{ma} kA	Rated back-to-back-capacitor-bank inrush making current i_{bi} kA, peak	Rated lightning impulse withstand voltage U_p kV	Rated short-duration power-frequency withstand voltage U_d kV	Voltage drop ΔU between connections (acc. to IEC 62271-1 at 100 A DC) mV	Minimum creepage distance, interrupter mm	Minimum creepage distance, phase-to-earth mm	Minimum clearance, phase-to-phase mm	Minimum clearance, phase-to-earth mm	Weight [1] (fixed-mounted circuit-breaker/ withdrawable module) kg	Detailed dimensional drawing (must be explicitly requested)	Operating cycle diagram no. (see page 60)
3AE5202-1	800	150	205	16	50	19.6	40/42	20	95	38	2.5	240	255	130	135	54/-	A7E10900006	12a
3AE5202-2	1250	150	205	16	50	19.6	40/42	20	95	38	2.5	240	255	130	135	54/-	A7E10900006	12a
3AE5204-1	800	150	205	25	50	30.6	63/65	20	95	38	2.5	240	255	130	135	54/-	A7E10900006	13a
3AE5204-2	1250	150	205	25	50	30.6	63/65	20	95	38	2.5	240	255	130	135	54/-	A7E10900006	13a
3AE5205-1	800	150	205	31.5	50	38.6	80/82	20	95	38	2	130	240	150	143	83	A7E10907000	14
3AE5205-2	1250	150	205	31.5	50	38.6	80/82	20	95	38	2	130	240	150	143	83	A7E10907000	14
3AE5212-1	800	150	275	16	50	19.6	40/42	20	95	38	2.5	240	255	130	135	54/94	A7E10900006	12a
3AE5212-2	1250	150	275	16	50	19.6	40/42	20	95	38	2.5	240	255	130	135	54/94	A7E10900006	12a
3AE5214-1	800	150	275	25	50	30.6	63/65	20	95	38	2.5	240	255	130	135	54/94	A7E10900006	13a
3AE5214-2	1250	150	275	25	50	30.6	63/65	20	95	38	2.5	240	255	130	135	54/94	A7E10900006	13a
3AE5215-1	800	150	275	31.5	50	38.6	80/82	20	95	38	2	130	240	150	143	83	A7E10907000	14
3AE5215-2	1250	150	275	31.5	50	38.6	80/82	20	95	38	2	130	240	150	143	83	A7E10907000	14
3AE5222-1	800	150	310	16	50	19.6	40/42	20	95	38	2.5	240	255	130	135	54/94	A7E10900006	12a
3AE5222-2	1250	150	310	16	50	19.6	40/42	20	95	38	2.5	240	255	130	135	54/94	A7E10900006	12a
3AE5222-3	1600	150	310	16	50	19.6	40/42	20	95	38	2.5	240	255	130	135	60/100	A7E10900006	12a
3AE5224-1	800	150	310	25	50	30.6	63/65	20	95	38	2.5	240	255	130	135	54/94	A7E10900006	13a
3AE5224-2	1250	150	310	25	50	30.6	63/65	20	95	38	2.5	240	255	130	135	54/94	A7E10900006	13a
3AE5224-3	1600	150	310	25	50	30.6	63/65	20	95	38	2.5	240	255	130	135	60/100	A7E10900006	13a
3AE5225-1	800	150	310	31.5	50	38.6	80/82	20	95	38	2	130	240	150	143	83	A7E10907000	14
3AE5225-2	1250	150	310	31.5	50	38.6	80/82	20	95	38	2	130	240	150	143	83	A7E10907000	14
3AE5225-3	1600	150	310	31.5	50	38.6	80/82	20	95	38	2	130	240	150	143	83	A7E10907000	14
3AE5232-1	800	160	205	16	50	19.6	40/42	20	95	38	2.5	240	255	130	135	54/-	A7E10900006	12a
3AE5232-2	1250	160	205	16	50	19.6	40/42	20	95	38	2.5	240	255	130	135	54/-	A7E10900006	12a
3AE5234-1	800	160	205	25	50	30.6	63/65	20	95	38	2.5	240	255	130	135	54/-	A7E10900006	13a
3AE5234-2	1250	160	205	25	50	30.6	63/65	20	95	38	2.5	240	255	130	135	54/-	A7E10900006	13a
3AE5235-1	800	160	205	31.5	50	38.6	80/82	20	95	38	2	130	240	160	143	83	A7E10907000	14

▲ On request

[1] When fitted on a withdrawable part, the weight of a fixed-mounted device increases by the values specified in the dimensional drawing (dimensional drawings as from page 61)

Technical data

Electrical data, weights, operating cycle diagrams

17.5 kV 50/60 Hz Article No.	Rated continuous current I_r A	Pole-center distance (PCD) mm	Vertical distance between terminals (VDT) mm	Rated short-circuit breaking current I_{sc} kA	DC component in % of the rated short-circuit breaking current %	Asymmetrical breaking current kA	Rated short-circuit making current (at 50/60 Hz) I_{ma} kA	Rated back-to-back-capacitor-bank inrush making current i_{bi} kA, peak	Rated lightning impulse withstand voltage U_p kV	Rated short-duration power-frequency withstand voltage U_d kV	Voltage drop ΔU between connections (acc. to IEC 62271-1 at 100 A DC) mV	Minimum creepage distance, interrupter mm	Minimum creepage distance, phase-to-earth mm	Minimum clearance, phase-to-phase mm	Minimum clearance, phase-to-earth mm	Weight [1] (fixed-mounted circuit-breaker/ withdrawable module) kg	Detailed dimensional drawing (must be explicitly requested)	Operating cycle diagram no. (see page 60)
3AE5235-2	1250	160	205	31.5	50	38.6	80/82	20	95	38	2	130	240	160	143	83	A7E10907000	14
3AE5242-1	800	160	275	16	50	19.6	40/42	20	95	38	2.5	240	255	130	135	54/-	A7E10900006	12a
3AE5242-2	1250	160	275	16	50	19.6	40/42	20	95	38	2.5	240	255	130	135	54/-	A7E10900006	12a
3AE5244-1	800	160	275	25	50	30.6	63/65	20	95	38	2.5	240	255	130	135	54/-	A7E10900006	13a
3AE5244-2	1250	160	275	25	50	30.6	63/65	20	95	38	2.5	240	255	130	135	54/-	A7E10900006	13a
3AE5245-1	800	160	275	31.5	50	38.6	80/82	20	95	38	2	130	240	160	143	83	A7E10907000	14
3AE5245-2	1250	160	275	31.5	50	38.6	80/82	20	95	38	2	130	240	160	143	83	A7E10907000	14
3AE5252-1	800	160	310	16	50	19.6	40/42	20	95	38	2.5	240	255	130	135	54/-	A7E10900006	12a
3AE5252-2	1250	160	310	16	50	19.6	40/42	20	95	38	2.5	240	255	130	135	54/-	A7E10900006	12a
3AE5252-3	1600	160	310	16	50	19.6	40/42	20	95	38	2.5	240	255	130	135	60/-	A7E10900006	12a
3AE5254-1	800	160	310	25	50	30.6	63/65	20	95	38	2.5	240	255	130	135	54/-	A7E10900006	13a
3AE5254-2	1250	160	310	25	50	30.6	63/65	20	95	38	2.5	240	255	130	135	54/-	A7E10900006	13a
3AE5254-3	1600	160	310	25	50	30.6	63/65	20	95	38	2.5	240	255	130	135	60/-	A7E10900006	13a
3AE5255-1	800	160	310	31.5	50	38.6	80/82	20	95	38	2	130	240	160	143	83	A7E10907000	14
3AE5255-2	1250	160	310	31.5	50	38.6	80/82	20	95	38	2	130	240	160	143	83	A7E10907000	14
3AE5255-3	1600	160	310	31.5	50	38.6	80/82	20	95	38	2	130	240	160	143	83	A7E10907000	14
3AE5262-1	800	210	205	16	50	19.6	40/42	20	95	38	2.5	240	255	130	135	57/-	A7E10900006	12a
3AE5262-2	1250	210	205	16	50	19.6	40/42	20	95	38	2.5	240	255	130	135	57/-	A7E10900006	12a
3AE5264-1	800	210	205	25	50	30.6	63/65	20	95	38	2.5	240	255	130	135	57/-	A7E10900006	13a
3AE5264-2	1250	210	205	25	50	30.6	63/65	20	95	38	2.5	240	255	130	135	57/-	A7E10900006	13a
3AE5265-1	800	210	205	31.5	50	38.6	80/82	20	95	38	2	130	240	210	143	88	A7E10907000	14
3AE5265-2	1250	210	205	31.5	50	38.6	80/82	20	95	38	2	130	240	210	143	88	A7E10907000	14
3AE5272-1	800	210	275	16	50	19.6	40/42	20	95	38	2.5	240	255	130	135	57/97	A7E10900006	12a
3AE5272-2	1250	210	275	16	50	19.6	40/42	20	95	38	2.5	240	255	130	135	57/97	A7E10900006	12a
3AE5274-1	800	210	275	25	50	30.6	63/65	20	95	38	2.5	240	255	130	135	57/97	A7E10900006	13a
3AE5274-2	1250	210	275	25	50	30.6	63/65	20	95	38	2.5	240	255	130	135	57/97	A7E10900006	13a

▲ On request

[1] When fitted on a withdrawable part, the weight of a fixed-mounted device increases by the values specified in the dimensional drawing (dimensional drawings as from page 61)

17.5 kV 50/60 Hz Article No.	Rated continuous current I_r A	Pole-center distance (PCD) mm	Vertical distance between terminals (VDT) mm	Rated short-circuit breaking current I_{sc} kA	DC component in % of the rated short-circuit breaking current %	Asymmetrical breaking current kA	Rated short-circuit making current (at 50/60 Hz) I_{ma} kA	Rated back-to-back-capacitor-bank inrush making current i_{bi} kA, peak	Rated lightning impulse withstand voltage U_p kV	Rated short-duration power-frequency withstand voltage U_d kV	Voltage drop ΔU between connections (acc. to IEC 62271-1 at 100 A DC) mV	Minimum creepage distance, interrupter mm	Minimum creepage distance, phase-to-earth mm	Minimum clearance, phase-to-phase mm	Minimum clearance, phase-to-earth mm	Weight [1] (fixed-mounted circuit-breaker/ withdrawable module) kg	Detailed dimensional drawing (must be explicitly requested)	Operating cycle diagram no. (see page 60)
3AE5275-1	800	210	275	31.5	50	38.6	80/82	20	95	38	2	130	240	210	143	88	A7E10907000	14
3AE5275-2	1250	210	275	31.5	50	38.6	80/82	20	95	38	2	130	240	210	143	88	A7E10907000	14
3AE5282-1	800	210	310	16	50	19.6	40/42	20	95	38	2.5	240	255	130	135	57/97	A7E10900006	12a
3AE5282-2	1250	210	310	16	50	19.6	40/42	20	95	38	2.5	240	255	130	135	57/97	A7E10900006	12a
3AE5282-3	1600	210	310	16	50	19.6	40/42	20	95	38	2.5	240	255	130	135	63/103	A7E10900006	12a
3AE5284-1	800	210	310	25	50	30.6	63/65	20	95	38	2.5	240	255	130	135	57/97	A7E10900006	13a
3AE5284-2	1250	210	310	25	50	30.6	63/65	20	95	38	2.5	240	255	130	135	57/97	A7E10900006	13a
3AE5284-3	1600	210	310	25	50	30.6	63/65	20	95	38	2.5	240	255	130	135	63/103	A7E10900006	13a
3AE5284-4	2000	210	310	25	50	30.6	63/65	20	95	38	1.8	130	240	196	138	100	A7E10907000	13
3AE5284-6	2500	210	310	25	50	30.6	63/65	20	95	38	1.8	130	240	196	138	100	A7E10907000	13
3AE5285-1	800	210	310	31.5	50	38.6	80/82	20	95	38	2	130	240	210	143	88	A7E10907000	14
3AE5285-2	1250	210	310	31.5	50	38.6	80/82	20	95	38	2	130	240	210	143	88	A7E10907000	14
3AE5285-3	1600	210	310	31.5	50	38.6	80/82	20	95	38	2	130	240	210	143	88	A7E10907000	14
3AE5285-4	2000	210	310	31.5	50	38.6	80/82	20	95	38	1.8	130	240	196	138	105	A7E10907000	14
3AE5285-6	2500	210	310	31.5	50	38.6	80/82	20	95	38	1.8	130	240	196	138	105	A7E10907000	14
3AE5286-2	1250	210	310	40	50	49.0	100/104	20	95	38	1.8	140	240	150	130	125/165	A7E10910000	15
3AE5286-4	2000	210	310	40	50	49.0	100/104	20	95	38	1.1	140	240	150	130	140/190	A7E10910000	15
3AE5286-6	2500	210	310	40	50	49.0	100/104	20	95	38	1.1	140	240	150	130	140/190	A7E10910000	15
3AE5286-7	3150	210	310	40	50	49.0	100/104	20	95	38	0.9	140	240	150	130	160/210	A7E10910000	15
3AE5286-8	4000_{fc}	210	310	40	50	49.0	100/104	20	95	38	0.9	140	240	150	130	160/210	A7E10910000	15
3AE5624-1	800	160	275	25	50	30.6	63/65	20	95	38	2.5	240	255	130	135	67/-	A7E10900006	13a
3AE5624-2	1250	160	275	25	50	30.6	63/65	20	95	38	2.5	240	255	130	135	67/-	A7E10900006	13a
3AE5625-1	800	160	275	31.5	50	38.6	80/82	20	95	38	2	130	240	160	143	85	A7E10907005	14
3AE5625-2	1250	160	275	31.5	50	38.6	80/82	20	95	38	2	130	240	160	143	85	A7E10907005	14
3AE5654-4	2000	275	310	25	50	30.6	63/65	20	95	38	1.8	130	240	261	138	105	A7E10907000	13
3AE5654-6	2500	275	310	25	50	30.6	63/65	20	95	38	1.8	130	240	261	138	105	A7E10907000	13

▲ On request

[1] When fitted on a withdrawable part, the weight of a fixed-mounted device increases by the values specified in the dimensional drawing (dimensional drawings as from page 61)

Technical data

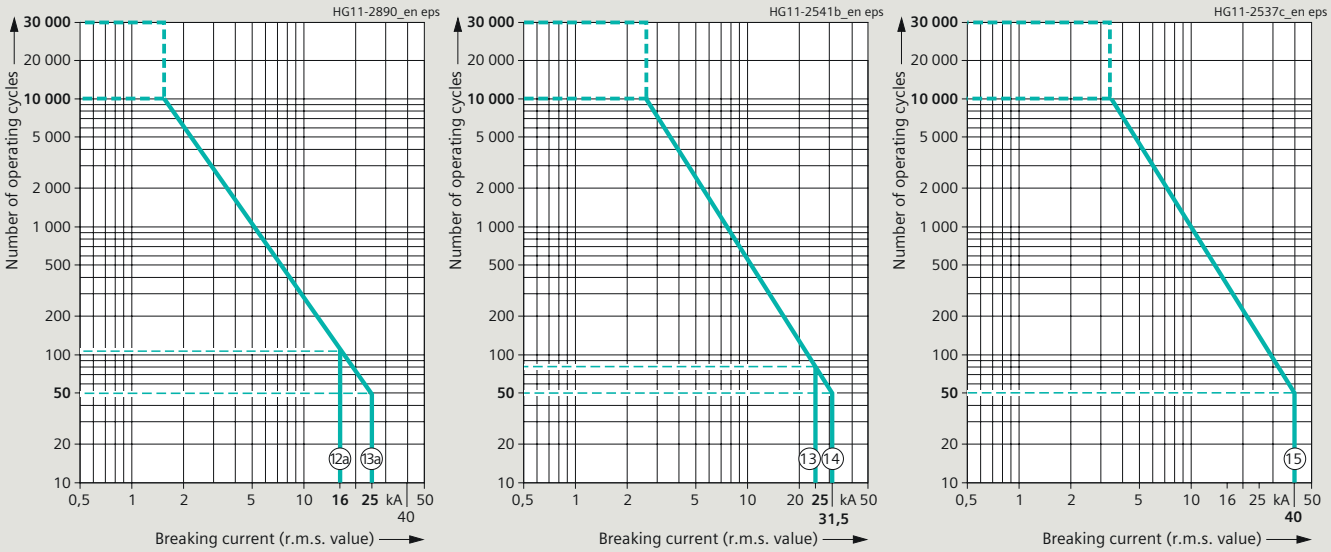
Electrical data, weights, operating cycle diagrams

17.5 kV 50/60 Hz Article No.	Rated continuous current I_r A	Pole-center distance (PCD) mm	Vertical distance between terminals (VDT) mm	Rated short-circuit breaking current I_{sc} kA	DC component in % of the rated short-circuit breaking current %	Asymmetrical breaking current kA	Rated short-circuit making current (at 50/60 Hz) I_{ma} kA	Rated back-to-back-capacitor-bank inrush making current i_{bi} kA, peak	Rated lightning impulse withstand voltage U_p kV	Rated short-duration power-frequency withstand voltage U_d kV	Voltage drop ΔU between connections (acc. to IEC 62271-1 at 100 A DC) mV	Minimum creepage distance, interrupter mm	Minimum creepage distance, phase-to-earth mm	Minimum clearance, phase-to-phase mm	Minimum clearance, phase-to-earth mm	Weight [1] (fixed-mounted circuit-breaker/ withdrawable module) kg	Detailed dimensional drawing (must be explicitly requested)	Operating cycle diagram no. (see page 60)
3AE5655-2	1250	275	310	31.5	50	38.6	80/82	20	95	38	2	130	240	275	143	96	A7E10907000	14
3AE5655-3	1600	275	310	31.5	50	38.6	80/82	20	95	38	2	130	240	275	143	96	A7E10907000	14
3AE5655-4	2000	275	310	31.5	50	38.6	80/82	20	95	38	1.8	130	240	261	138	105	A7E10907000	14
3AE5655-6	2500	275	310	31.5	50	38.6	80/82	20	95	38	1.8	130	240	261	138	108	A7E10907000	14
3AE5656-2	1250	275	310	40	50	49.0	100/104	20	95	38	1.8	140	240	215	130	130/-	A7E10910000	15
3AE5656-4	2000	275	310	40	50	49.0	100/104	20	95	38	1.1	140	240	215	130	145/-	A7E10910000	15
3AE5656-6	2500	275	310	40	50	49.0	100/104	20	95	38	1.1	140	240	215	130	145/-	A7E10910000	15
3AE5656-7	3150	275	310	40	50	49.0	100/104	20	95	38	0.9	140	240	215	130	165/-	A7E10910000	15
3AE5656-8	4000_{fc}	275	310	40	50	49.0	100/104	20	95	38	0.9	140	240	215	130	165/-	A7E10910000	15
3AE5664-1	800	210	275	25	50	30.6	63/65	20	95	38	2.5	240	255	130	135	70/-	A7E10900006	13a
3AE5664-2	1250	210	275	25	50	30.6	63/65	20	95	38	2.5	240	255	130	135	70/-	A7E10900006	13a
3AE5664-3	1600	210	275	25	50	30.6	63/65	20	95	38	2.5	240	255	130	135	75/-	A7E10900006	13a
3AE5665-2	1250	210	275	31.5	50	38.6	80/82	20	95	38	2	130	240	196	143	91	A7E10907005	14
3AE5665-3	1600	210	275	31.5	50	38.6	80/82	20	95	38	2	130	240	196	138	84	A7E10907005	14
3AE5665-6	2500	210	275	31.5	50	38.6	80/82	20	95	38	1.8	130	240	196	138	110	A7E10907005	14
3AE5666-2	1250	210	275	40	50	49.0	100/104	20	95	38	1.8	140	240	150	130	125/-	A7E10910005	15
3AE5666-6	2500	210	275	40	50	49.0	100/104	20	95	38	1.1	140	240	150	130	140/-	A7E10910005	15
3AE5666-7	3150	210	275	40	50	49.0	100/104	20	95	38	0.9	140	240	150	130	160/-	A7E10910005	15
3AE5666-8	4000_{fc}	210	275	40	50	49.0	100/104	20	95	38	0.9	140	240	150	130	160/-	A7E10910005	15

▲ On request

[1] When fitted on a withdrawable part, the weight of a fixed-mounted device increases by the values specified in the dimensional drawing (dimensional drawings as from page 61)


Operating cycle diagrams for 17.5 kV



The permissible number of electrical operating cycles is shown as a function of the breaking current (r.m.s. value).
All SION vacuum circuit-breakers fulfil the classes E2, M2 and C2 according to IEC 62271-100.
The curve shape beyond the parameters defined in IEC 62271-100 is based on average empirical data.
The number of operating cycles that can actually be reached may be different depending on the respective application.

Technical data

Electrical data, weights, operating cycle diagrams

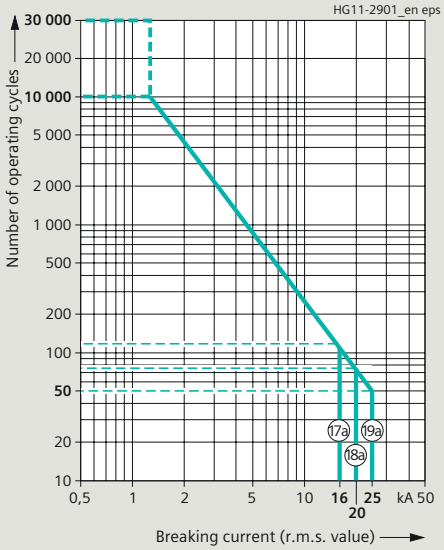
24 kV 50/60 Hz Article No.	Rated continuous current I_r A	Pole-center distance (PCD) mm	Vertical distance between terminals (VDT) mm	Rated short-circuit breaking current I_{sc} kA	DC component in % of the rated short-circuit breaking current %	Asymmetrical breaking current kA	Rated short-circuit making current (at 50/60 Hz) I_{ma} kA	Rated back-to-back-capacitor-bank inrush making current i_{bi} kA, peak	Rated lightning impulse withstand voltage U_p kV	Rated short-duration power-frequency withstand voltage U_d kV	Voltage drop ΔU between connections (acc. to IEC 62271-1 at 100 A DC) mV	Minimum creepage distance, interrupter mm	Minimum creepage distance, phase-to-earth mm	Minimum clearance, phase-to-phase mm	Minimum clearance, phase-to-earth mm	Weight [1] (fixed-mounted circuit-breaker/ withdrawable module) kg	Detailed dimensional drawing (must be explicitly requested)	Operating cycle diagram no. (see page 60)
3AE5322-1	800	210	310	16	50	19.6	40/42	20	125	50	2.4	240	250	180	185	65/105	A7E10905000	17a
3AE5322-2	1250	210	310	16	50	19.6	40/42	20	125	50	2.4	240	250	180	185	65/105	A7E10905000	17a
3AE5322-4	2000	210	310	16	50	19.6	40/42	20	125	50	1.3	240	248	194	152	126/176	A7E10908000	17
3AE5323-1	800	210	310	20	50	24.5	50/52	20	125	50	2.4	240	250	180	185	65/105	A7E10905000	18a
3AE5323-2	1250	210	310	20	50	24.5	50/52	20	125	50	2.4	240	250	180	185	65/105	A7E10905000	18a
3AE5323-4	2000	210	310	20	50	24.5	50/52	20	125	50	1.3	240	248	194	152	126/176	A7E10908000	18
3AE5323-6	2500	210	310	20	50	24.5	50/52	20	125	50	1.3	240	248	194	152	126/176	A7E10908000	18
3AE5324-1	800	210	310	25	50	30.6	63/65	20	125	50	2.4	240	250	180	185	65/105	A7E10905000	19a
3AE5324-2	1250	210	310	25	50	30.6	63/65	20	125	50	2.4	240	250	180	185	65/105	A7E10905000	19a
3AE5324-4	2000	210	310	25	50	30.6	63/65	20	125	50	1.3	240	248	194	152	126/176	A7E10908000	19
3AE5324-6	2500	210	310	25	50	30.6	63/65	20	125	50	1.3	240	248	194	152	126/176	A7E10908000	19
3AE5352-1	800	275	310	16	50	19.6	40/42	20	125	50	2.4	240	250	245	185	68/108	A7E10905000	17a
3AE5352-2	1250	275	310	16	50	19.6	40/42	20	125	50	2.4	240	250	245	185	68/108	A7E10905000	17a
3AE5352-4	2000	275	310	16	50	19.6	40/42	20	125	50	1.3	240	248	259	152	136/186	A7E10908000	17
3AE5353-1	800	275	310	20	50	24.5	50/52	20	125	50	2.4	240	250	245	185	68/108	A7E10905000	18a
3AE5353-2	1250	275	310	20	50	24.5	50/52	20	125	50	2.4	240	250	245	185	68/108	A7E10905000	18a
3AE5353-4	2000	275	310	20	50	24.5	50/52	20	125	50	1.3	240	248	259	152	136/186	A7E10908000	18
3AE5353-6	2500	275	310	20	50	24.5	50/52	20	125	50	1.3	240	248	259	152	136/186	A7E10908000	18
3AE5354-1	800	275	310	25	50	30.6	63/65	20	125	50	2.4	240	250	245	185	68/108	A7E10905000	19a
3AE5354-2	1250	275	310	25	50	30.6	63/65	20	125	50	2.4	240	250	245	185	68/108	A7E10905000	19a
3AE5354-4	2000	275	310	25	50	30.6	63/65	20	125	50	1.3	240	248	259	152	136/186	A7E10908000	19
3AE5354-6	2500	275	310	25	50	30.6	63/65	20	125	50	1.3	240	248	259	152	136/186	A7E10908000	19
3AE5714-0	1000	210	310	25	50	30.6	63/65	20	125	50	2.4	240	250	180	185	65/105	A7E10905005	19a
3AE5714-1	800	210	310	25	50	30.6	63/65	20	125	50	2.4	240	250	180	185	65/105	A7E10905005	19a
3AE5714-2	1250	210	310	25	50	30.6	63/65	20	125	50	2.4	240	250	180	185	65/105	A7E10905005	19a
3AE5744-4	2000	275	310	25	50	30.6	63/65	20	125	50	1.3	240	248	259	152	136/186	A7E10908005	19
3AE5744-6	2500	275	310	25	50	30.6	63/65	20	125	50	1.3	240	248	259	152	136/186	A7E10908005	19

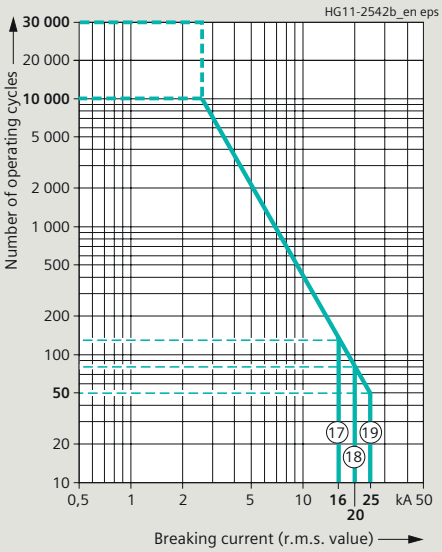
▲ On request

[1] When fitted on a withdrawable part, the weight of a fixed-mounted device increases by the values specified in the dimensional drawing

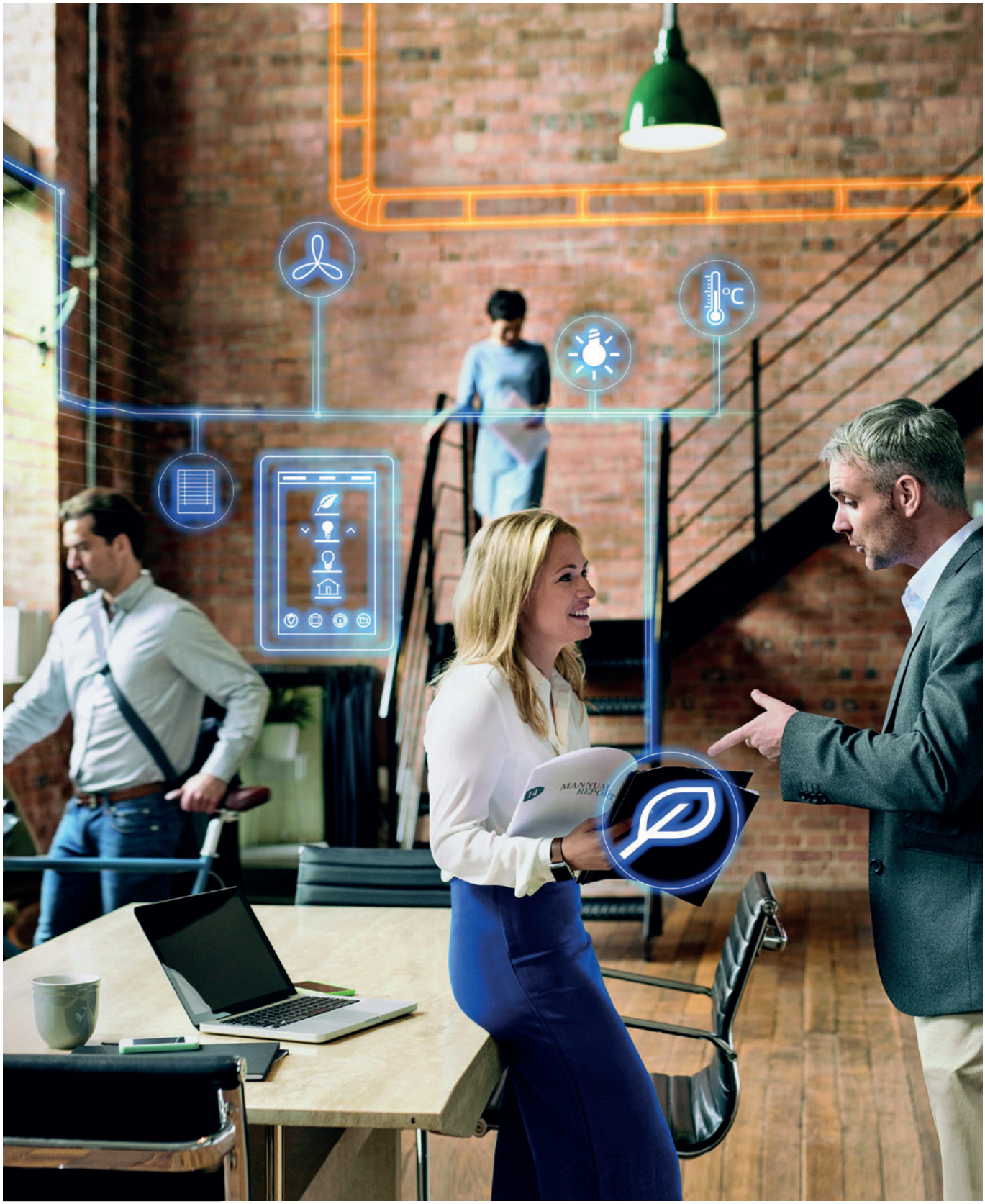
3

Operating cycle diagrams for 24 kV



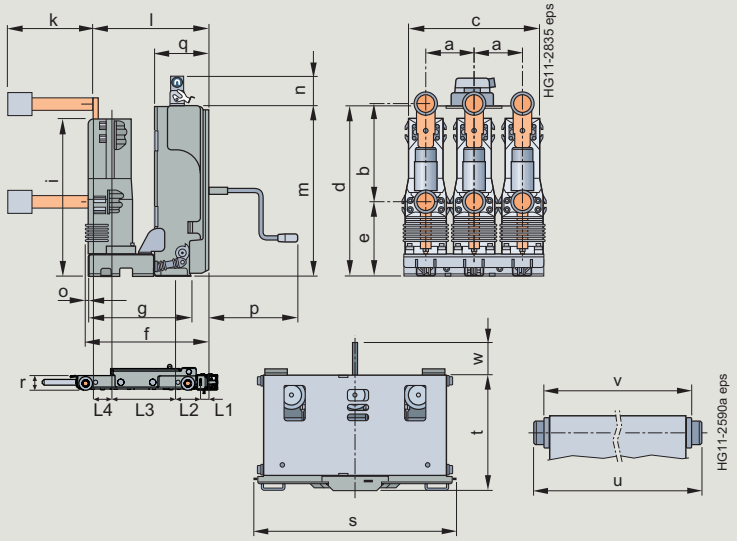


The permissible number of electrical operating cycles is shown as a function of the breaking current (r.m.s. value).
All SION vacuum circuit-breakers fulfil the classes E2, M2 and C2 according to IEC 62271-100.
The curve shape beyond the parameters defined in IEC 62271-100 is based on average empirical data.
The number of operating cycles that can actually be reached may be different depending on the respective application.



Dimensional drawings for 7.2 to 24 kV

Vacuum circuit-breaker on withdrawable part, with contacts

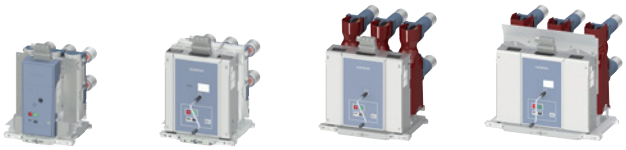


Description of dimensions

a Pole-center distance
b Vertical distance between terminals
c Overall width of circuit-breaker
e Height of lower connection from bottom edge of circuit-breaker
f Depth of circuit-breaker without contacts (outermost part of front to end of pole shell)
g Depth of circuit-breaker mounting surface
i Height from bottom edge of circuit-breaker to upper edge of pole assembly (incl. connection and insulating shell)
k Length of contact (contact arm + mounted contact system)
L1 Outermost part of front (cover or pushbutton) to panel interlocking
L2 Panel interlocking to front fixing stud
L3 Front fixing stud to pole center
L4 Pole center to connecting surface of contact arm
m Height of operating mechanism housing
n Height of 64-pole plug
o Rear end of pole shell to rear end of mounting surface
p Depth of hand crank for stored-energy spring mechanism (if inserted)
q Depth of operating mechanism housing
r Height of withdrawable part (bottom side of rollers to fixing surface for circuit-breaker)
s Width of withdrawable part including interlocking
t Depth of withdrawable part
u Width of withdrawable part with rollers
v Rail gauge of rollers
w Protrusion of spindle

Technical data

Dimensional drawings



Dimensional drawings for 7.2 to 24 kV

Vacuum circuit-breaker on withdrawable part, with contacts

Voltage level U_r	Pole-center distance a	Vertical distance between terminals b	c	e	f	g	i	k		L1	L2	L3	L4
	mm	mm	mm	mm	mm	mm	mm	Without J64/W88/W89	With J64/W89 / With W88	mm	mm	mm	mm
Rated short-circuit breaking current up to 31.5 kA													
7.2 kV	150	205	445	217.5	390 [3]	329	540 [2]	275	265 / 272	35 [6]	64	201 [7]	72 [8]
	150	275	445	217.5	390 [3]	329	540 [2]	275	– / –	35 [6]	64	201 [7]	72 [8]
	150	310	445	237.5	390 [3]	329	540 [2]	275	– / –	35 [6]	64	201 [7]	72 [8]
	160	205	465	217.5	390 [3]	329	540 [2]	275	– / –	35 [6]	64	201 [7]	72 [8]
	160	275	465	217.5	390 [3]	329	540 [2]	275	– / –	35 [6]	64	201 [7]	72 [8]
	160	310	465	237.5	390 [3]	329	540 [2]	275	– / –	35 [6]	64	201 [7]	72 [8]
	210	205	565	217.5	390 [3]	329	540 [2]	275	– / –	35 [6]	64	201 [7]	72 [8]
	210	275	565	217.5	390 [3]	329	540 [2]	275	– / –	35 [6]	64	201 [7]	72 [8]
	210	310	565	237.5	390 [3]	329	540 [2]	275	253 / 253	35 [6]	64	201 [7]	72 [8]
12 kV	150	205	445	217.5	390 [3]	329	540 [2]	275	265 / 272	35 [6]	64	201 [7]	72 [8]
	150	275	445	217.5	390 [3]	329	540 [2]	275	– / –	35 [6]	64	201 [7]	72 [8]
	150	310	445	237.5	390 [3]	329	540 [2]	275	– / –	35 [6]	64	201 [7]	72 [8]
	160	205	465	217.5	390 [3]	329	540 [2]	275	– / –	35 [6]	64	201 [7]	72 [8]
	160	275	465	217.5	390 [3]	329	540 [2]	275	– / –	35 [6]	64	201 [7]	72 [8]
	160	310	465	237.5	390 [3]	329	540 [2]	275	– / –	35 [6]	64	201 [7]	72 [8]
	210	205	565	217.5	390 [3]	329	540 [2]	275	– / –	35 [6]	64	201 [7]	72 [8]
	210	275	565	217.5	390 [3]	329	540 [2]	275	– / –	35 [6]	64	201 [7]	72 [8]
	210	310	565	237.5	390 [3]	329	540 [2]	275	253 / 253	35 [6]	64	201 [7]	72 [8]
	275	310	695	237.5	390 [3]	329	540 [2]	275	253 / 253	35 [6]	64	201 [7]	72 [8]
17.5 kV	150	205	445	217.5	390 [3]	329	540 [2]	275	265 / 272	35 [6]	64	201 [7]	72 [8]
	150	275	445	217.5	390 [3]	329	540 [2]	275	– / –	35 [6]	64	201 [7]	72 [8]
	150	310	445	237.5	390 [3]	329	540 [2]	275	– / –	35 [6]	64	201 [7]	72 [8]
	160	205	465	217.5	390 [3]	329	540 [2]	275	– / –	35 [6]	64	201 [7]	72 [8]
	160	275	465	217.5	390 [3]	329	540 [2]	275	– / –	35 [6]	64	201 [7]	72 [8]
	160	310	465	237.5	390 [3]	329	540 [2]	275	– / –	35 [6]	64	201 [7]	72 [8]
	210	205	565	217.5	390 [3]	329	540 [2]	275	– / –	35 [6]	64	201 [7]	72 [8]
	210	275	565	217.5	390 [3]	329	540 [2]	275	– / –	35 [6]	64	201 [7]	72 [8]
	210	310	565	237.5	390 [3]	329	540 [2]	275	253 / 253	35 [6]	64	201 [7]	72 [8]
	275	310	695	237.5	390 [3]	329	540 [2]	275	253 / 253	35 [6]	64	201 [7]	72 [8]
24 kV	210	310	570	283	459	399	667 [4]	325	361 / 361	35	64	240	82
	275	310	695	283	459	399	667 [4]	325	361 [9] / 361 [9]	35	64	240	82
Rated short-circuit breaking current up to 40 kA													
7.2 kV	210	275	600	237.5	448	397	610	275	– / –	30.5	64	223	100
	210	310	600	237.5	448	397	610	275	235 / 203	30.5	64	223	100
12 kV	210	275	600	237.5	448	397	610	275	– / –	30.5	64	223	100
	210	310	600	237.5	448	397	610	275	235 / 203	30.5	64	223	100
	275	310	730	237.5	448	397	610	275	235 / 203	30.5	64	223	100
17.5 kV	210	275	600	237.5	448	397	610	275	– / –	30.5	64	223	100
	210	310	600	237.5	448	397	610	275	235 / 203	30.5	64	223	100
	275	310	730	237.5	448	397	610	275	235 / 203	30.5	64	223	100

[2] At I_r ≥1600 A or 17.5 kV with 31.5 kA: 590 mm
[3] At I_r >1600 A or 17.5 kV with 31.5 kA: 380 mm
[4] At I_r >1250 A: 697 mm
[6] At I_r >1600 A or 17.5 kV with 31.5 kA: 30.5 mm
[7] At I_r >1600 A or 17.5 kV with 31.5 kA: 191 mm
[8] At I_r >1600 A or 17.5 kV with 31.5 kA: 82 mm
[9] At I_r >1250 A: 346 mm

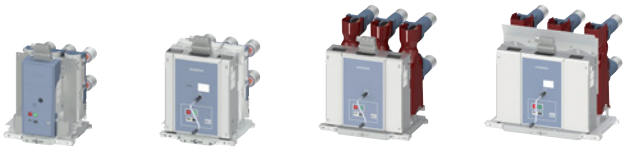
Dimensional drawings for 7.2 to 24 kV

Vacuum circuit-breaker on withdrawable part, with contacts

Voltage level	Pole-center distance	Vertical distance between terminals																
U_r	a	b	m	n	o	p	q	r	s		t		u		v		w	
	mm	mm	mm	mm	mm	mm	mm	mm	Siemens mm	Third party mm	Siemens mm	Third party mm	Siemens mm	Third party mm	Siemens mm	Third party mm	Siemens mm	Third party mm
Rated short-circuit breaking current up to 31.5 kA																		
7.2 kV	150	205	540	105	12 [1]	305	169	42.5	530	530	424	433	500	500	470	466	107	32
	150	275	540	105	12 [1]	305	169	42.5	530	–	424	–	500	–	470	–	107	–
	150	310	540	105	12 [1]	305	169	42.5	530	–	424	–	500	–	470	–	107	–
	160	205	540	105	12 [1]	305	169	42.5	530	–	424	–	500	–	470	–	107	–
	160	275	540	105	12 [1]	305	169	42.5	530	–	424	–	500	–	470	–	107	–
	160	310	540	105	12 [1]	305	169	42.5	530	–	424	–	500	–	470	–	107	–
	210	205	540	105	12 [1]	305	169	42.5	680	–	424	–	650	–	620	–	107	–
	210	275	540	105	12 [1]	305	169	42.5	680	–	424	–	650	–	620	–	107	–
	210	310	540	105	12 [1]	305	169	42.5	680	680	424	433	650	650	620	618	107	32
12 kV	150	205	540	105	12 [1]	305	169	42.5	530	530	424	433	500	500	470	466	107	32
	150	275	540	105	12 [1]	305	169	42.5	530	–	424	–	500	–	470	–	107	–
	150	310	540	105	12 [1]	305	169	42.5	530	–	424	–	500	–	470	–	107	–
	160	205	540	105	12 [1]	305	169	42.5	530	–	424	–	500	–	470	–	107	–
	160	275	540	105	12 [1]	305	169	42.5	530	–	424	–	500	–	470	–	107	–
	160	310	540	105	12 [1]	305	169	42.5	530	–	424	–	500	–	470	–	107	–
	210	205	540	105	12 [1]	305	169	42.5	680	–	424	–	650	–	620	–	107	–
	210	275	540	105	12 [1]	305	169	42.5	680	–	424	–	650	–	620	–	107	–
	210	310	540	105	12 [1]	305	169	42.5	680	680	424	433	650	650	620	618	107	32
	275	310	540	105	12 [1]	305	169	42.5	880	880	424	433	850	850	820	818	107	32
17.5 kV	150	205	540	105	12 [1]	305	169	42.5	530	530	424	433	500	500	470	466	107	32
	150	275	540	105	12 [1]	305	169	42.5	530	–	424	–	500	–	470	–	107	–
	150	310	540	105	12 [1]	305	169	42.5	530	–	424	–	500	–	470	–	107	–
	160	205	540	105	12 [1]	305	169	42.5	530	–	424	–	500	–	470	–	107	–
	160	275	540	105	12 [1]	305	169	42.5	530	–	424	–	500	–	470	–	107	–
	160	310	540	105	12 [1]	305	169	42.5	530	–	424	–	500	–	470	–	107	–
	210	205	540	105	12 [1]	305	169	42.5	680	–	424	–	650	–	620	–	107	–
	210	275	540	105	12 [1]	305	169	42.5	680	–	424	–	650	–	620	–	107	–
	210	310	540	105	12 [1]	305	169	42.5	680	680	424	433	650	650	620	618	107	32
	275	310	540	105	12 [1]	305	169	42.5	880	880	424	433	850	850	820	818	107	32
24 kV	210	310	540	105	44	305	169	42.5	680	680	424	483	650	650	620	618	107	32
	275	310	540	105	37	305	169	42.5	880	880	424	483	850	850	820	818	107	32
Rated short-circuit breaking current up to 40 kA																		
7.2 kV	210	275	540	105	50	305	169	42.5	680	–	424	–	650	–	620	–	107	–
	210	310	540	105	50	305	169	42.5	680	680	424	433	650	650	620	618	107	32
12 kV	210	275	540	105	50	305	169	42.5	680	–	424	–	650	–	620	–	107	–
	210	310	540	105	50	305	169	42.5	680	680	424	433	650	650	620	618	107	32
	275	310	540	105	50	305	169	42.5	880	880	424	433	850	850	820	818	107	32
17.5 kV	210	275	540	105	50	305	169	42.5	680	–	424	–	650	–	620	–	107	–
	210	310	540	105	50	305	169	42.5	680	680	424	433	650	650	620	618	107	32
	275	310	540	105	50	305	169	42.5	880	880	424	433	850	850	820	818	107	32

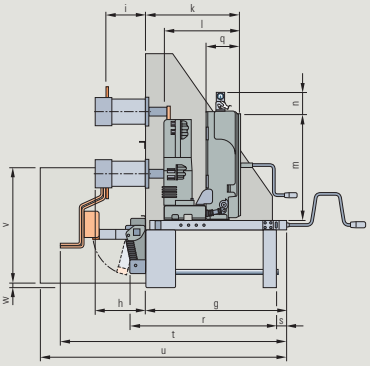
[1] At I_r >1600 A or 17.5 kV with 31.5 kA: 20 mm

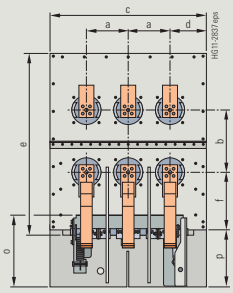
3



Dimensional drawings for 7.2 to 24 kV

Mounting frame with earthing switch





Description of dimensions

- a Pole-center distance
- b Vertical distance between terminals
- c Overall width of mounting frame
- d Pole center of outermost connection to external wall of mounting frame
- e Overall height of mounting frame (without earthing switch)
- f Pole center of lower connection to lower edge of mounting frame
- g Depth of mounting frame (without hand crank and bushings)
- h Depth of bushing to rear side of mounting frame
- i Connecting surface of fixed contact to rear side of mounting frame
- k Outermost part of circuit-breaker front to rear side of mounting frame
- l Outermost part of circuit-breaker front to connecting surface of contact arm
- m Height of operating mechanism housing
- n Height of 64-pole plug
- o Height of earthing switch
- p Height of earthing switch housing
- q Depth of operating mechanism housing
- r Depth of earthing switch housing (incl. earthing switch)
- s Front side of earthing switch housing to front side of withdrawable part
- t Overall depth of mounting frame (with withdrawable part and earthing switch connection)
- u Overall depth of mounting frame (with withdrawable part and housing for earthing switch connection)
- v Height of housing for earthing switch connection
- w Bottom edge of housing for earthing switch connection

3

Voltage level U_r	Pole-center distance a mm	Vertical distance between terminals b mm	c mm	d mm	e mm	f mm	g mm	h mm	i mm	k mm	l mm	m mm	n mm	o mm	p mm	q mm	r mm	s mm	t mm	u mm	v mm	w mm
7.2 kV	150	275	594	147	850	266.5	710	263	224	476	371	540	105	359	287	169	803	64	1142	1233	575	25
	150	310	594	147	905	286.5	710	263	224	476	371	540	105	363	287	169	803	64	1142	1233	575	25
	210	275	794	187	850	266.5	710	263	224	476	371	540	105	359	287	169	803	65	1143	1234	–	–
	210	310	794	187	905	286.5	710	263	224	476	371	540	105	359	287	169	803	65	1142	1234	–	–
12 kV	150	275	594	147	850	266.5	710	263	224	476	371	540	105	359	287	169	803	64	1142	1233	575	25
	150	310	594	147	905	286.5	710	263	224	476	371	540	105	363	287	169	803	64	1142	1233	575	25
	210	275	794	187	850	266.5	710	263	224	476	371	540	105	359	287	169	803	65	1143	1234	–	–
	210	310	794	187	905	286.5	710	263	224	476	371	540	105	359	287	169	803	65	1143		–	–
	275	310	994	222	905	286.5	710	263	224	476	371	540	105	–	–	–	803	–	–	–	–	–
17.5 kV	150	275	594	147	850	266.5	710	263	224	476	371	540	105	359	287	169	803	64	1142	1233	575	25
	150	310	594	147	905	286.5	710	263	224	476	371	540	105	363	287	169	803	64	1142	1233	575	25
	210	275	794	187	850	266.5	710	263	224	476	371	540	105	359	287	169	803	65	1143	1234	–	–
	210	310	794	187	905	286.5	710	263	224	476	371	540	105	359	287	169	803	65	1143	1234	–	–
	275	310	994	222	905	286.5	710	263	224	476	371	540	105	–	–	–	803	–	–	–	–	–
24 kV	210	310	794	187	1040.5	332	810	323	274	537	421	540	105	359	287	169	902	64	1243	1433	575	10
	275	310	994	222	1040.5	332	810	323	274	537	421	540	105	359	287	169	902	65	1243	1433	–	–

Note: Small deviations of the dimensions are permissible

Operating times and internal times

Operating times at rated voltage of the secondary circuit	Circuit-breaker equipment	Circuit-breaker operating time
Closing time	–	≤60 ms
Opening time	1st shunt release 2nd shunt release with a max. of 2 releases 2nd shunt release with a max. of 3 releases	≤30 ms ≤30 ms ≤45 ms
	2nd and 3rd release	≤45 ms
Arcing time	–	<15 ms
Break time	1st and 2nd shunt release [1]	≤45 ms
	2nd and 3rd release	≤60 ms
Close-open time	1st and 2nd shunt release [1]	≤45 ms
	2nd and 3rd release	≤60 ms
Minimum command duration	Closing solenoid	45 ms
	1st and 2nd shunt release [1]	40 ms
	2nd and 3rd release	20 ms
Impulse time for circuit-breaker tripping signal	1st and 2nd shunt release [1]	>10 ms
	2nd and 3rd release	>6 ms
Charging time for electrical operation		<15 s
Synchronism error between the poles		≤2 ms

[1] When equipped with a max. of 2 releases; otherwise properties such as with 2nd and 3rd release

Short-circuit protection of motors (protection of drive motors)

Rated voltage of the motor	Operating voltage		Power consumption of the motor	Smallest possible rated current [2] of the m.c.b. with C-characteristic
V	max. V	min. V	W/VA	A
DC 24	26	20	140	6
DC 48	53	41	110	3
DC 60	66	51	130	3
DC 110	121	93	100	3
DC 220	242	187	110	1.2
AC 110	121	93	170	3
AC 230	244	187	200	1.2

[2] The inrush current in the drive motor can be neglected due to its very short presence.

Consumption data of releases

Release	Power consumption		Tripping ranges	
	Operation at		Tripping voltage	Tripping voltage or tripping current
	DC approx. W	AC 50/60 Hz approx. VA	at DC	at AC 50/60 Hz
Closing solenoid 3AY1410	300 – 370	300 – 370	85 to 110% *U*	85 to 110% *U*
Shunt release (30 ms) 3AX1410	300	300	70 to 110% *U*	85 to 110% *U*
Shunt release (45 ms) 3AY1101	70	50	70 to 110% *U*	85 to 110% *U*
Undervoltage release 3AX1103	20	20	35 to 100% *U*	35 to 100% *U*
C.t.-operated release 3AX1102 (rated continuous current 0.5 A, 1 A or 5 A)	–	10 [3]	–	90 to 110% I_a
C.t.-operated release 3AX1104 (tripping pulse ≥0.1 Ws)	–	–	–	–

[3] Consumption at pickup current (90% of the rated continuous current) and open armature.

Technical data of the withdrawable parts with motorized racking mechanism

Rated voltage of the motor	Maximum current at nominal voltage	Maximum permissible power consumption	Maximum permissible torque at the drive spindle
V	A	W	Nm
DC 110	2.5	275	25
DC 220	1.5	180	25

The withdrawable part with motorized racking mechanism is not suitable for continuous operation. A maximum of 3 rack-in and rack-out operations is permissible without a pause. Before any other rack-in and rack-out operations, a pause of 3 minutes must be made. A switching element suitable for switching the motor must be capable of safely interrupting the above-mentioned values in the utilization categories DC-3 and DC-5.

Circuit diagrams for 3AE5 can be found at the Siemens Industry Online Support (SIOS):
http://support.industry.siemens.com/

Circuit manual 3AE5 (64-pole): SA7E449 99009 031

Circuit manual 3AE5 (20-pole): SA7E449 99009 033

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R-HG11-180.eps

Switchgear Factory in Berlin, Germany

Contents | Page

4

Annex
Inquiry form

Please copy, fill in and return to your Siemens partner.

Inquiry concerning

SION vacuum circuit-breaker from 7.2 kV to 24 kV

Please

☐ Submit an offer
☐ Call us
☐ Visit us

Your address

Company

Department

Name

Street

Postal code / city

Country

Phone

Fax

E-mail

Siemens AG

Department

Name

Street

Postal code / city

Country

Fax

Primary data

				Other values
Rated voltage	☐ 7.2 kV ☐ 24 kV	☐ 12 kV	☐ 17.5 kV	☐ ___ kV
Rated lightning impulse withstand voltage	☐ 60 kV ☐ 125 kV	☐ 75 kV	☐ 95 kV	☐ ___ kV
Rated short-duration power-frequency withstand voltage	☐ 20 kV ☐ 42 kV	☐ 28 kV ☐ 50 kV	☐ 38 kV ☐ 55 kV	☐ ___ kV
Rated short-circuit breaking current	☐ 12.5 kA ☐ 25 kA	☐ 16 kA ☐ 31.5 kA	☐ 20 kA ☐ 40 kA	☐ ___ kA
Rated continuous current	☐ 800 A ☐ 2500 A	☐ 1250 A ☐ 3150 A	☐ 2000 A	☐ ___ A
Pole-center distance	☐ 150 mm	☐ 160 mm	☐ 210 mm	☐ 275 mm
Vertical distance between terminals	☐ 205 mm	☐ 275 mm	☐ 310 mm	

Installation options and secondary equipment

For possible combinations, see pages 26 to 32

Scope of installation	☐ Fixed mounting	☐ On withdrawable part, with contacts ☐ On withdrawable part, with contacts, fixed contacts, bushings ☐ In mounting frame (without earthing switch) ☐ In mounting frame (with earthing switch)
Drive motor	☐ DC ___ V	☐ AC ___ V, ___ Hz
Closing solenoid	☐ DC ___ V	☐ AC ___ V, ___ Hz
1st shunt release	☐ DC ___ V	☐ AC ___ V, ___ Hz
2nd shunt release	☐ DC ___ V	☐ AC ___ V, ___ Hz
3rd shunt release	☐ DC ___ V	☐ AC ___ V, ___ Hz
C.t.-operated release	☐	
Undervoltage release	☐ DC ___ V	☐ AC ___ V, ___ Hz
Auxiliary switch	☐ 6 NO + 6 NC	☐ 12 NO + 12 NC
Low-voltage interface	☐ Internal 20-pole connection strip ☐ 64-pole plug ☐ Extended cable harness and 64-pole plug ☐ 500 mm ☐ 800 mm ☐ 1200 mm ☐ 1500 mm ☐ 2000 mm ☐ 2500 mm ☐ 3000 mm ☐ 3500 mm	
☐ Electrical closing lockout		
Operating instructions	☐ German ☐ English ☐ French ☐ Spanish	

Application and other requirements

☐ Please check off ___ Please fill in

You prefer to configure your SION vacuum circuit-breaker on your own?

Please follow the steps for configuration and enter the article number in the configuration aid.

Instruction for configuration of the SION vacuum circuit-breaker

1st step: Definition of the circuit-breaker and the primary data (see pages 16 to 23)

Please specify the following ratings:	Possible options:
Rated voltage (U_r)	U_r: 7.2 kV to 24 kV
Rated lightning impulse withstand voltage (U_p)	U_p: 60 kV to 125 kV
Rated short-duration power-frequency withstand voltage (U_d)	U_d: 20 kV, 28 kV, 32 kV, 42 kV, 65 kV
Rated short-circuit breaking current (I_{sc})	I_{sc}: 16 kA to 40 kA
Rated continuous current (I_r)	I_r: 800 A to 3150 A (4000 A with active cooling)
Pole-center distance	150 mm to 275 mm
Vertical distance between terminals	205 mm to 310 mm

These ratings define the positions 5 to 8 of the article number.

2nd step: Definition of the secondary equipment and selection of the installation options (see pages 24 to 30)

Please specify the following equipment features:	Possible options:
Release combination (position 9)	Shunt release, c.t.-operated release, and undervoltage release
Closing solenoid (position 10)	Operating voltages from 24 V DC to 240 V AC
Operating voltages of the releases (positions 11/12)	Operating voltages from 24 V DC to 240 V AC
Installation options (position 13)	Fixed-mounted, on withdrawable part, with contacts, fixed contacts, bushings, in mounting frame (with or without earthing switch)
Drive motor (position 14)	Operating voltages from 24 V DC to 240 V AC
Number of auxiliary contacts (position 15)	6 NO + 6 NC, 12 NO + 12 NC
Design of the low-voltage interface (position 15)	Internal 20-pole connection strip, 64-pole plug, extended cable harness and 64-pole plug
Language of the documentation (position 16)	English, German, French, Spanish, Russian, further languages on request
Frequency of the operating voltage of the secondary equipment at AC (position 16)	DC or AC 50 Hz; 60 Hz

These equipment features define the positions 9 to 16 of the article number.

3rd step: Do you have any further requirements concerning the equipment? (please refer to page 31)

Your Siemens sales partner will be pleased to support you.

For configuration of your
SION vacuum circuit-breaker

1	2	3	4	5	6	7	–	8	9	10	11	12	–	13	14	15	16		
3	A	E	■	■	■	■	–	■	■	■	■	■	–	■	■	■	■	–	Z
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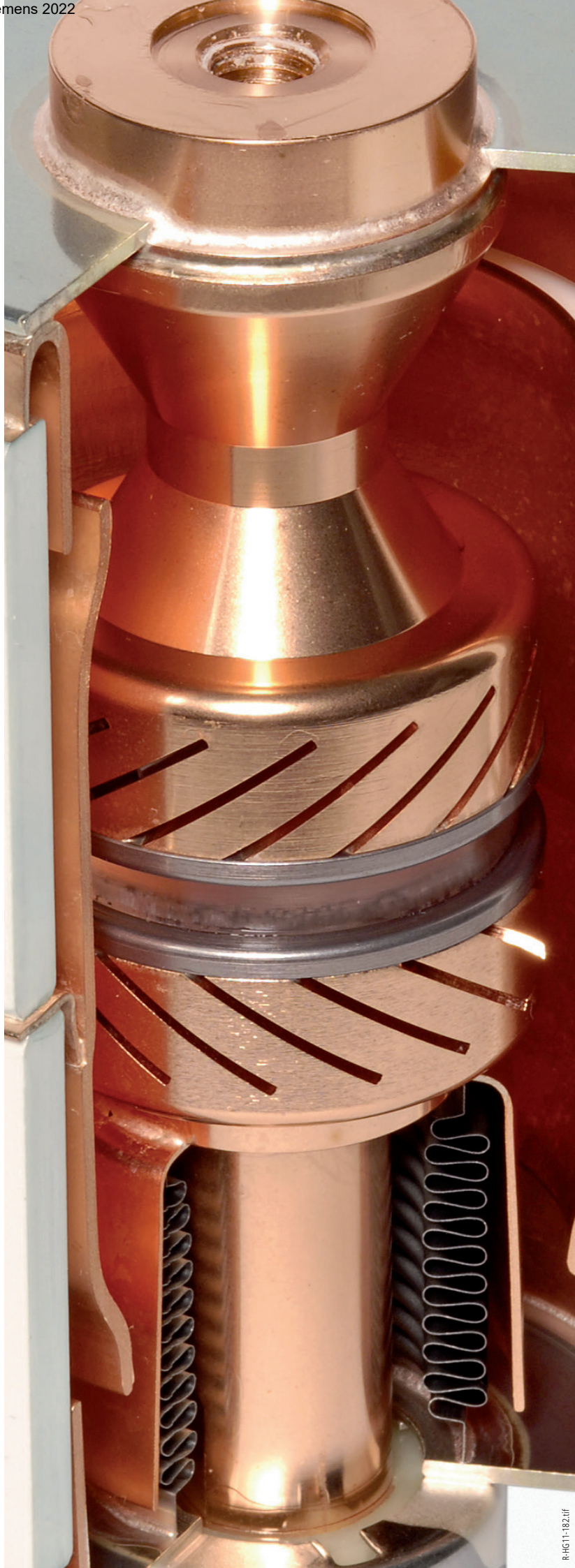

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