

3WT Air Circuit Breakers up to 4000 A

Catalog LV 35 · 2011



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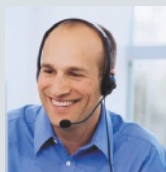
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3WT Air Circuit Breakers up to 4000 A

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Introduction

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3WT
Air Circuit Breakers
up to 4000 A (AC)

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Notes

Introduction



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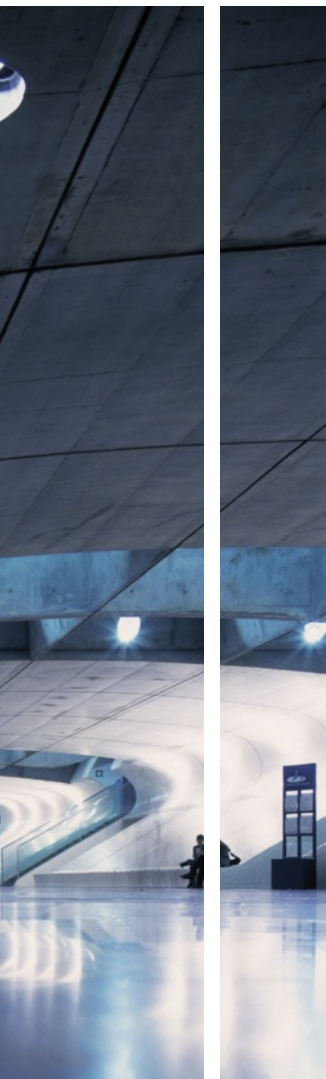


The right one for everyone

Our portfolio includes switchboards, busbar trunking systems, distribution boards, protection, switching, measuring and monitoring devices, building management systems, switches and socket outlets. All over the world, the universality, modularity and intelligence of our components and systems give you innumerable benefits – all the time they are in use. Developed according to the respective international standards, we offer forward-looking design with innovative functions and ensure the highest quality standards world-wide.

Sustainability in focus

As a worldwide leader in the provision of high-quality, standards-compliant products and systems for low-voltage power distribution, we contribute to the sustainable and responsible handling of electrical energy. With our integrated portfolio of energy saving and distribution through short circuit protection and overload protection through to energy management, we support the implementation of environmentally friendly energy concepts on the basis of wind power, photovoltaics, intelligent buildings and electromobility.



Universal, safe and intelligent power distribution

Whether in industrial plants, in infrastructure or in buildings: Each technical plant depends on the reliable supply of electricity. Even a short outage can have grave consequences. We offer the best technology for the responsible use of electrical energy and at the same time help to protect people and property and to conserve natural resources.

We are happy to help you with comprehensive support from the initial information through to operation. Take a closer look at all the options available from Siemens.

Everything for power distribution

Consistent solutions are required for electric power distribution in buildings. Our answer is Totally Integrated Power (TIP). TIP stands for innovative products, systems and software tools which ensure the safe and reliable distribution of electric power. They are supplemented by communication-capable circuit breakers and modules which connect the power distribution system to the building automation system or industrial automation solutions. These in turn can be linked to a comprehensive energy management system which contributes to optimizing the consumption of electricity and hence to lowering the costs of operation.

Excellent support

As a competent and reliable partner, we also offer you comprehensive support – from the initial information, through planning, configuring and ordering to commissioning, operation and technical support. We know the needs of your working environment and your daily business. Based on this, we give you flexible and high quality support, which allows you to concentrate fully on your customers and their needs.

3WT Air Circuit Breakers.

The smart choice.

Flexibility

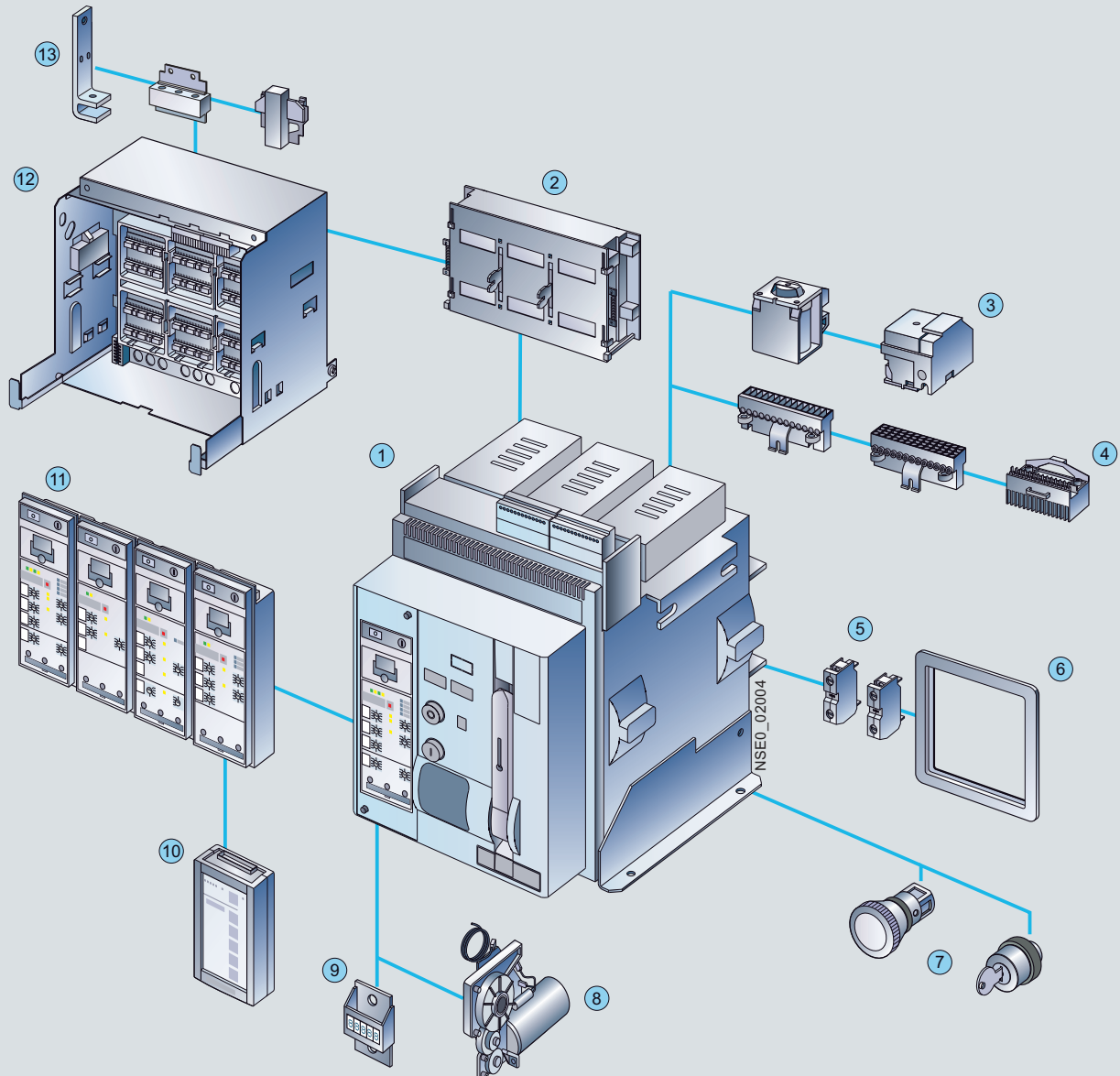
- Electronic trip units (ETU) with outstanding features.
- Only two frame sizes cover a broad range of applications from 400 A to 4000 A, with a breaking capacity up to 66 kA at 500 V, 3- or 4-pole version, fixed-mounted, withdrawable version.
- All components can be combined in a modular way.

Ease of use

- User friendliness in planning, configuration, installation and operation.
- Wide range of accessories for both frame sizes can be easily retrofitted.
- Displays for all electronic trip units (ETU).

Safety and reliability

- International and standardized processes ensure highest product quality.
- Conforms to international standards and approvals.



- | | |
|--|---|
| <ul style="list-style-type: none"> 1 Circuit breaker 2 Shutter 3 Closing solenoid, auxiliary trip unit 4 Auxiliary conductor plug-in system 5 Auxiliary switch block 6 Door sealing frame 7 EMERGENCY-STOP pushbutton, key operated | <ul style="list-style-type: none"> 8 Motorized operating mechanism 9 Operating cycles counter 10 Manual tester for electronic trip unit (ETU) 11 Protective device with device holders, electronic trip unit (ETU) 12 Guide frame 13 Main connection, front, horizontal, vertical |
|--|---|



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Convinced? We look forward to your visit!

3WT Air Circuit Breakers up to 4000 A (AC)



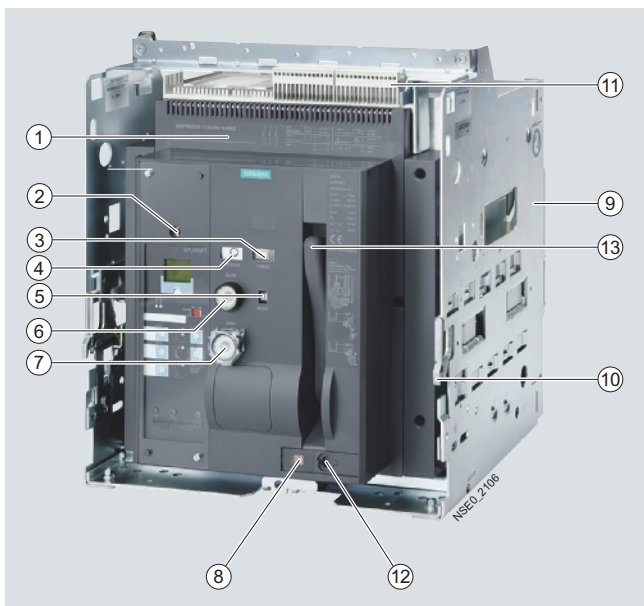
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3WT Air Circuit Breakers up to 4000 A (AC)

General data

Overview

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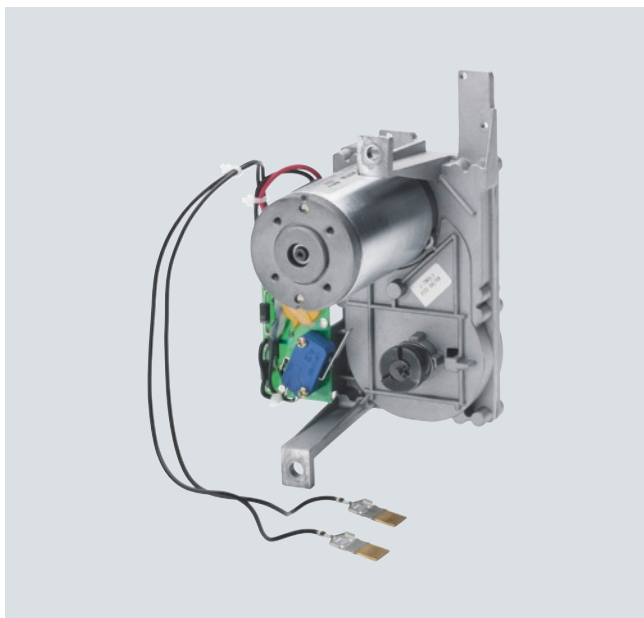


3WT circuit breaker, withdrawable version, size II, 3-pole

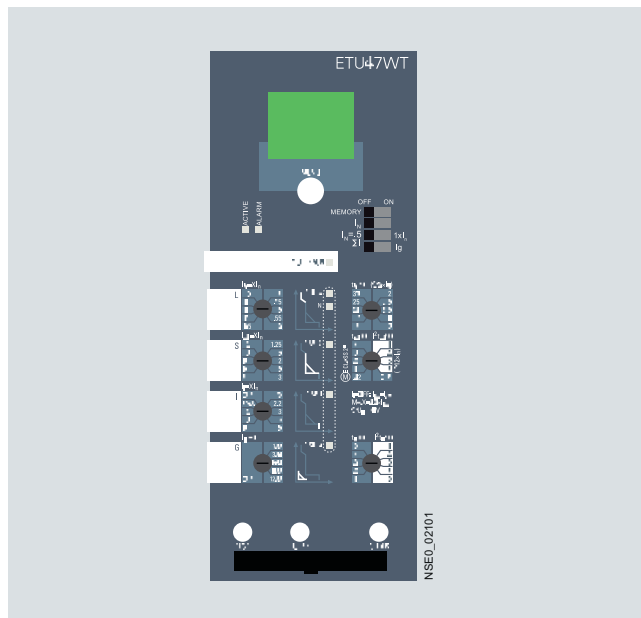


3WT circuit breaker, fixed-mounted version, size II, 3-pole

- ① Withdrawable circuit breaker
- ② Indication and reset button after tripping for
– tripped signaling switch and
– manual reset reclosing lockout
- ③ Stored-energy indicator
- ④ Switching position indicator
- ⑤ Ready-to-close indicator
- ⑥ ON button, mechanical
- ⑦ OFF button, mechanical
- ⑧ Indication of circuit breaker position
- ⑨ Guide frame
- ⑩ Guide rails
- ⑪ Auxiliary circuit plug-in system
- ⑫ Crank hole
- ⑬ Hand lever



Motorized operating mechanism



Electronic trip unit

Benefits

Safety and reliability

- High degree of protection with door sealing frame in the case of exclusively local operation of the circuit breaker
- Infeed supply from above or below, as required
- Locking of the withdrawable circuit breaker against moving, as standard
- Locking of the guide frame with the circuit breaker removed, as standard
- Signaling switch for overload and short-circuit tripping with mechanical reclosing lockout
- High degree of protection with cover IP55
- Mechanical reclosing lockout after overload or short-circuit tripping as standard
- The circuit breaker is always equipped with the required number of auxiliary supply connectors

Easy to operate

- Unambiguous ON-OFF indicator with auxiliary switch for signal
- Ready-to-close indicator with signaling switch as safety standard.

Modular

Many components, such as auxiliary releases, motorized operating mechanisms, electronic trip units and current transformers can be replaced or retrofitted to adapt the circuit breaker to changing requirements.

Minimal power loss and therefore low energy consumption

The low power consumption of the electrical components also saves money when it comes to purchasing the control-power transformers. Where space is at a premium or ventilation is limited.

Application

Specifications

IEC 60947-2,
GB 14048.2,
CCC Approval,
climate-proof to IEC 60068-2-30,
Approval according to maritime classification
on request.

Operating conditions

The 3WT circuit breakers are climate-proof in accordance with IEC 60068-2-30.

They are intended for use in enclosed areas where no severe operating conditions (e.g. dust, corrosive vapors, damaging gases) are present.

When installed in dusty or damp areas, suitable enclosures must be provided. If damaging gases (e.g. hydrogen sulfide) are present in the surrounding air, sufficient incoming fresh air must be supplied.

The permissible ambient temperatures and the associated rated currents are listed in the technical specifications.

Design

Versions

Breaking capacity: 55/66 kA at 500 V
Rated current: from 400 A to 4000 A
Rated operating voltage: up to AC 500 V

The 3WT circuit breakers are supplied complete with an operating mechanism, electronic trip unit and auxiliary switches and are fitted with auxiliary releases.

The non-automatic circuit breakers are supplied without electronic trip unit

Standard version

- Electronic trip unit with LSI protection, LCD display with backlight, LEDs for the cause of tripping, LED status indicator, query and test button
- Auxiliary supply connector: The circuit breaker is equipped with the required number of connectors
- Mechanical ON and OFF pushbutton
- Door sealing frame IP40
- Tripped signaling switch (1 NO)
- Ready-to-close indicator with signaling switch
- Stored-energy indicator
- Auxiliary switches (2 NO + 2 NC)
- Rear horizontal main circuit connections for fixed mounted and withdrawable versions
- For 4-pole circuit breakers, the fourth pole (N) is installed on the left and is 100 % loadable
- Indication and reset button after tripping for
 - tripped signaling switch and
 - mechanical reclosing lockout
- User manual in English/Chinese/Spanish/Russian/Portuguese/German/Turkish

Additional features of the withdrawable version:

- Main contacts: Laminated receptacles in the guide frame, penetration blades on the withdrawable circuit breaker
- Position indicator in the control panel of the withdrawable circuit breaker
- Guide frame with guide rails for easy moving of the withdrawable circuit breaker
- The withdrawable circuit breaker can be locked to prevent it being pushed out of position

Standard version for non-automatic circuit breaker

- Same features as the circuit breaker, see "Standard version" but
- No electronic trip unit

3WT Air Circuit Breakers up to 4000 A (AC)

General data

Function

Operating mechanisms

(see illustration "Motorized operating mechanism")

The circuit breakers are available with various optional operating mechanisms:

- Manual operating mechanism with memory, with mechanical closing
- Manual operating mechanism with mechanical and electrical closing
- Motorized operating mechanism that can also be operated manually, with mechanical and electrical closing.

The operating mechanisms with electrical closing can be used for synchronization tasks.

EMERGENCY-STOP facility

The 3WT circuit breakers can be used as an EMERGENCY-STOP facility to IEC 60204-1 if the circuit breaker is equipped with an undervoltage release and is used in conjunction with an EMERGENCY-STOP control device.

Auxiliary and signaling switches

- Ready-to-close
If all the conditions are fulfilled, so that the circuit breaker is ready to close, this is indicated visually on the operator panel as well as by means of an indicator switch (S7).
- Contact position-independent auxiliary switches
The circuit breakers are supplied with 2 NO and 2 NC contacts or with 2 NO and 2 NC and 2 CO contacts according to order.
- "Tripped" signaling switch and mechanical reclosing lockout
As standard, the circuit breaker is equipped with an S11 signaling switch and a mechanical reclosing lockout for the common overload and short-circuit signal and, depending on the setting and version of the electronic trip unit, the ground-fault signal.
The tripped signal and the standard mechanical mechanism to prevent closing remain active until the reset button is operated on the circuit breaker. When the circuit breaker has tripped, this is indicated by the protruding reset button.
The electrical signal from the „tripped“ switch S11 has to be reset by operating the Reset button.

Auxiliary supply connections

The type of connection for the auxiliary switches depends on the type of installation:

- Withdrawable version:
The internal auxiliary switches are connected to the male connector on the circuit breaker side. When fully inserted, the connector makes a connection with the sliding module in the guide frame.
- Fixed mounting:
In this case the auxiliary supply connectors are engaged directly onto the circuit breaker.

Fixed-mounted and withdrawable version

Fixed-mounted and withdrawable circuit breakers

- Protective measures against arcing gases
For 3WT circuit breakers with voltages up to AC 500 V, screening from vertical busbars is not necessary. Electrical add-on devices on the side of the circuit breaker must be separately covered. Also see notes under "Project planning aids", "Dimensional drawings".
- Operator panel
The operator panel is designed to protrude from a cutout in the door providing access to all operator controls and displays with the door closed.
The operator panels for all circuit breakers (fixed-mounted/withdrawable versions, 3-pole, 4-pole) are identical. The operator panel ensures degree of protection IP41.
- Door sealing frame
The door sealing frame seals the cabinet door with the operator panel. With the cabinet door closed, the IP degree of protection is achieved for the circuit breaker.

Withdrawable circuit breaker

The withdrawable version comprises a withdrawable circuit breaker, a guide frame and a hand crank for moving the withdrawable circuit breaker. The guide frames are fitted with guide rails as standard for easy handling of the withdrawable circuit breaker.

- Auxiliary supply connections
The auxiliary supply connections make contact automatically when the circuit breaker slides into the guide frame (test position, connected position).
- Circuit breaker positions in the guide frame
The withdrawable version has three switch positions in the switchgear cabinet behind the cabinet door:
 - Connected position
(main circuit and auxiliary circuit ready)
 - Test position
(main circuit disconnected, auxiliary circuit ready)
 - Disconnected position
(main circuit and auxiliary circuit disconnected)

In the disconnected position, the withdrawable circuit breaker complies with the "protective separation condition" with a visible isolating distance in the main circuit and auxiliary circuit. The circuit breaker must always be switched off before it is moved. The "OFF" button must be held down when the slide in the crank hole is opened.

Guide frames

Closing of the crank hole is only possible in the circuit breaker positions (connected, test or disconnected position). The circuit breaker position is shown on a display on the circuit breaker.

The circuit breaker is moved with the help of a hand crank. The connected position as well as the disconnected position is achieved by moving the circuit breaker to the end stop.

- **Shutters**
Inadvertent touching of live main contacts or busbars is prevented by covering with a shutter. The shutter is constructed in two parts and allows the upper or lower connection areas to be opened separately for the purpose of checking that they are not live. The divided shutter can be interlocked in the open or closed position and two padlocks can be fitted.

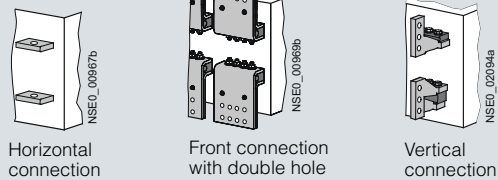
Main circuit connections

All circuit breakers are equipped with horizontal main circuit connections on the rear for up to 3200 A as standard (horizontal connection to busbars). Exception: Circuit breakers of size II with max. rated current 4000 A. They are equipped with vertical main connections (for upright busbars).

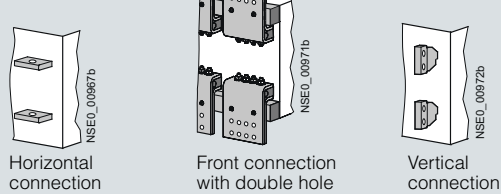
The following options are available, with combinations of top and bottom connections possible:

- Accessible from the front, double hole (holes according to DIN 43673) (for vertically installed busbars)
- At the rear, vertical (for vertically installed busbars)

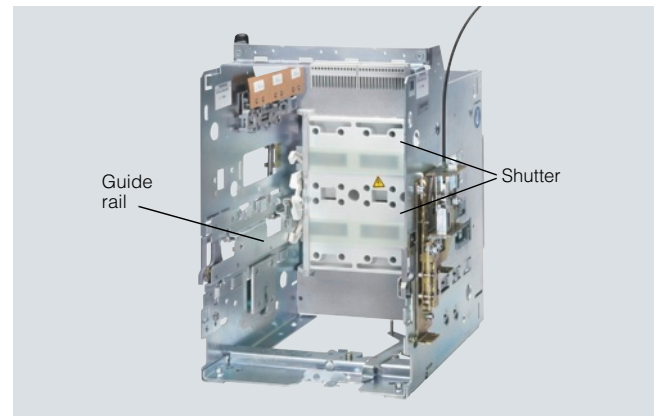
Fixed-mounted circuit breakers



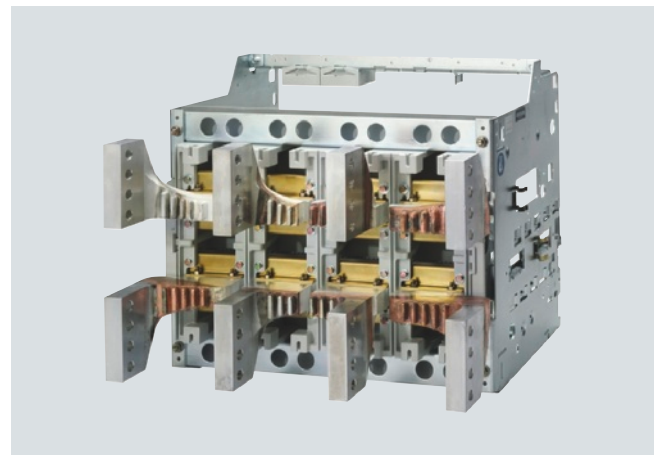
Withdrawable circuit breaker, withdrawable guide frame



Main circuit connections



Guide frame



Vertical busbars, up to 3800 A

3WT Air Circuit Breakers up to 4000 A (AC)

General data

Opening, closing and locking devices

- ON and OFF buttons
 - Mechanical ON button
In the standard version, the mechanical ON button is a pushbutton. As an alternative to a pushbutton, a safety lock (CES) can also be supplied. If the key is removed in the "0" position, it is no longer possible to close the circuit breaker mechanically.
 - Mechanical OFF button
In the standard version, the mechanical OFF button is a pushbutton.
- Locking device against moving the withdrawable circuit breaker
Access to the crank hole and application of the crank is prevented by means of one or more padlocks. This also prevents movement of the withdrawable circuit breaker in the guide frame.

Auxiliary releases

Up to two auxiliary releases can be installed at the same time. The following are available:

- 1 shunt release or
- 1 undervoltage release or
- 2 shunt releases or
- 1 shunt release +
- 1 undervoltage releases.

Undervoltage releases

The undervoltage release causes the circuit breaker to be opened if the operational voltage falls below a certain value or is not applied. The circuit breaker cannot be closed manually or by means of an electrical ON command if the undervoltage release is not connected to the operational voltage. The undervoltage release has no delay as standard. A delay can be set by the customer in the range between $t_{d} < 80$ ms and $t_{d} < 200$ ms.

In addition, an undervoltage release with a delay in the range from 0.2 to 3.2 s is available.

Closing solenoid

The closing solenoid is used to close the circuit breaker electrically by means of a local electrical ON command or by a remote unit.

Motorized operating mechanisms

The operating mechanism is used to load the storage spring automatically.

The operating mechanism is activated if the storage spring has been unloaded and the control voltage is available.

It is switched off automatically after loading. This does not affect manual operation of the storage spring.

Indicators, signals and control elements

Operating cycles counter

The motorized operating mechanism can be supplied with a 5-digit operating cycles counter. The display is incremented by "1" as soon as the storage spring is fully loaded.

Electronic trip units - ETU



Electronic trip units – ETU35WT, ETU37WT, ETU45WT, ETU47WT

The electronic trip unit is controlled by a microprocessor and operates independently of an auxiliary voltage. It enables systems to be adapted to the different protection required of distribution systems, motors, transformers and generators.

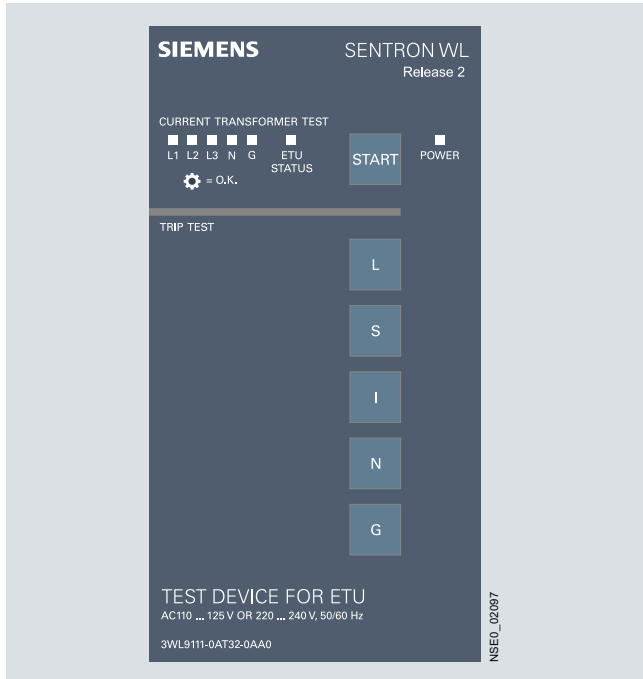
In all electronic trip units, the following high-grade features are always included as standard:

- Display with back light
- LSI protection as minimum configuration
- Integrated function test
The test button can be used to test the electronic trip unit using an integrated test function with or without tripping of the circuit breaker (the solid-state trip unit, trip solenoid and breaker mechanism are tested).
- Active LED
Correct operation of the electronic trip unit is indicated by a flashing of a green LED. When the operating current exceeds the response threshold of the overload protection, it is indicated by rapid flashing of the green LED.
- Cause of tripping
The cause of tripping can be queried locally and displayed (by pressing the "Query" button).
- T. U. Error
A microprocessor fault or overtemperature inside of the electronic trip unit is signaled by a warning indicator LED.

3WT Air Circuit Breakers up to 4000 A (AC)

General data

Manual function tester for Electronic trip unit ETU



Manual function tester

The manual function tester is used to verify the proper operation of the electronic trip unit, the energy transformers and current transformers as well as the tripping solenoid F5 and the data display.

Ground-fault protection

Description

Ground-fault releases "G" sense fault currents that flow to ground and that can cause fire in the plant. Multiple circuit breakers connected in series can have their delay times adjusted so as to provide time-graded discrimination.

The reason for tripping is indicated by means of an LED when the query button is activated.

Measurement method

Vectorial summation current formation (measurement method 1)

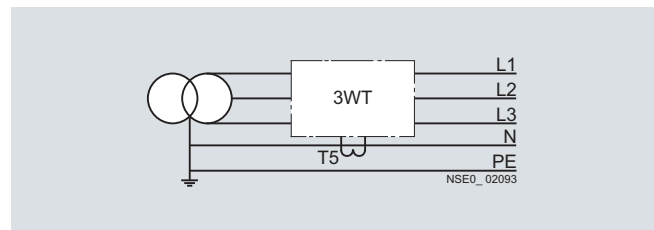
The three phase currents and the N-conductor current are measured directly.

The electronic trip unit determines the ground-fault current by means of vectorial summation current formation for the three phase currents and the N-conductor current.

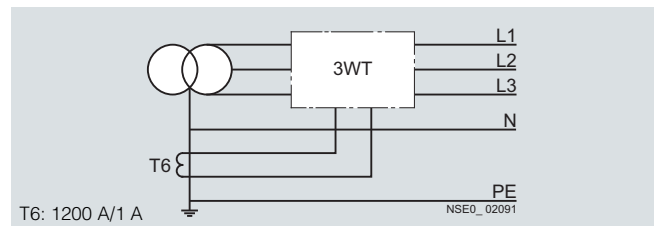
Direct measurement of the ground-fault current (measurement method 2)

A standard transformer with the following data is used for measurement of the ground-fault current:

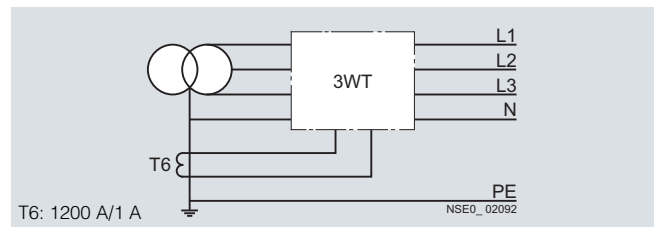
1200 A/1 A, Class 1 (the internal load of 3WT is 0.11 Ω). The transformer can be installed directly in the grounded neutral point of a transformer.



3-pole circuit breakers, current transformers in the neutral conductor



3-pole circuit breakers, current transformers in the grounded neutral point of the transformer



4-pole circuit breakers, current transformers in the grounded neutral point of the transformer

Setting

How the ground fault protection is set depends on the measurement method used (see above):

Measurement method 1: in position ΣI .

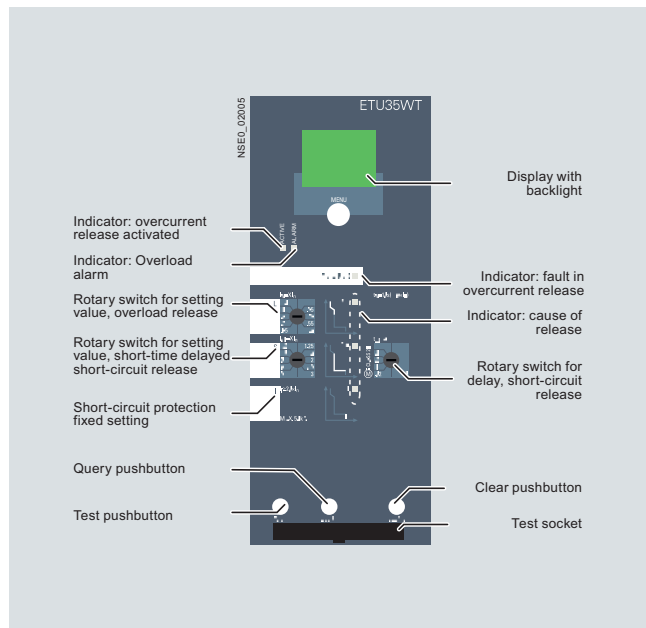
Measurement method 2: in position E_g .

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3WT Air Circuit Breakers up to 4000 A (AC)

General data

ETU35WT electronic trip unit



Application:

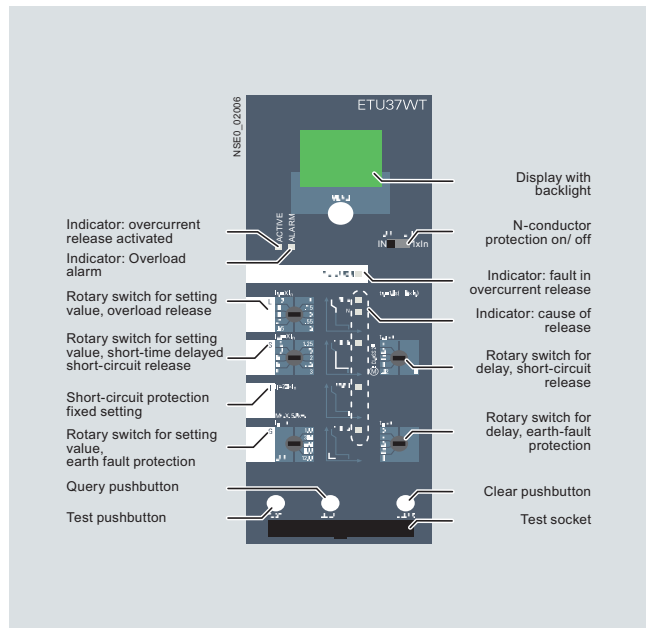
Classical building, motor and system protection with time-selective coordination for up to 4000 A

Features:

- Adjustable overload protection with I^2t characteristic curve
Delay time
 $t_R = 10$ seconds at $6 \times I_R$
- Short-time delayed short-circuit protection adjustable in the range $1.25 \dots 12 \times I_n$ and
- Instantaneous short-circuit protection preset to $20 \times I_n$, max. 50 kA
- Overload display
- Indicates the reason for tripping by means of an LED
- Test facility for the release
- Protection functions are set by means of the rotary coding switch
- Display with back light

For technical details see the table "Functional Overview of the Electronic Trip Unit System" under "Technical Specifications".

ETU37WT electronic trip unit



Application:

Classical building, motor and system protection with time-selective coordination for up to 4000 A

Features:

The same as ETU35WT but also

- Reversible neutral conductor protection
- Permanently integrated ground-fault protection. Calculation of the ground-fault current through vectorial summation current formation

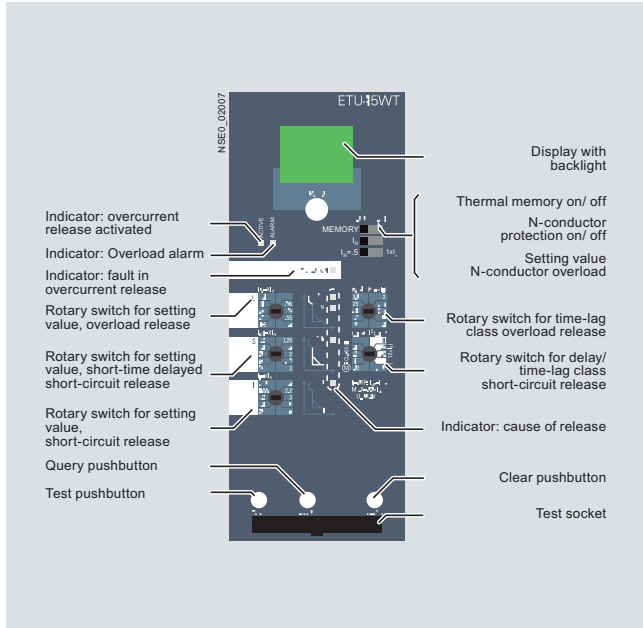
For technical details see the table "Functional Overview of the Electronic Trip Unit System" under "Technical Specifications".

3WT Air Circuit Breakers up to 4000 A (AC)

General data

2

ETU45WT electronic trip unit



Application:

Economical all-round system for intelligent buildings and all types of industrial applications

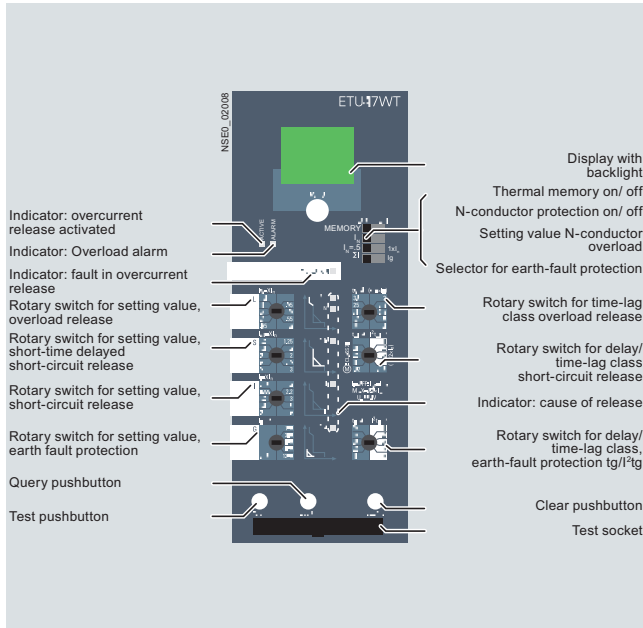
Features:

The same as ETU35WT but also

- Adjustable time-lag class for overload protection
- Selectable characteristic for overload and short-delayed short-circuit range (current discrimination) for more accurate discrimination adaptation to upstream fuses and protective devices
- Thermal image as restart protection for tripped motor outgoing feeders
- Reversible and adjustable (incl. turn off) neutral conductor protection
- The protection functions can be set by means of a rotary coding switch or slide switch

For technical details see the table "Functional Overview of the Electronic Trip Unit System" under "Technical Specifications".

ETU47WT electronic trip unit



Application:

Economical all-round system for intelligent buildings and all types of industrial applications

Features:

The same as ETU45WT but also

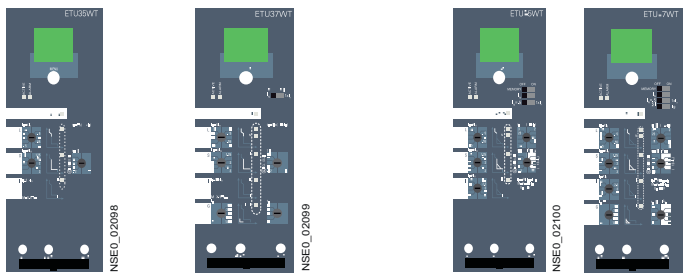
- Ground-fault protection with tripping functions which can be adjusted separately

For technical details see the table "Functional Overview of the Electronic Trip Unit System" under "Technical Specifications".

3WT Air Circuit Breakers up to 4000 A (AC)

General data

2



Protection functions
Parameterization by

ETU35WT D	ETU37WT D & S	ETU45WT/ETU47WT D & S
--------------	------------------	--------------------------

Functional overview of the electronic trip unit system

<p>NSE0_00888b</p>	L	Overload protection Function can be switched on/off	✓	✓	✓	
		Setting range $I_R = I_n \times \dots$	0.4-0.45-0.5-0.55-0.6-0.65-0.7-0.8-0.9-1	0.4-0.45-0.5-0.55-0.6-0.65-0.7-0.8-0.9-1	0.4-0.45-0.5-0.55-0.6-0.65-0.7-0.8-0.9-1	
		Setting range for time-lag class t_R at I^2t	10 s fixed	10 s fixed	2-3-5-5.5-8-10-14-17-21-25-30 s	
		Thermal image can be switched on/off	--	--	✓	
		Phase failure sensitivity	at $t_{sd} = 20$ ms (M)	at $t_{sd} = 20$ ms (M)	at $t_{sd} = 20$ ms (M)	
		N	Neutral conductor protection Function can be switched on/off	--	✓	✓
			N conductor setting range $I_N = I_n \times \dots$	--	✓	✓
				--	1	0.5-1
		S	Short-time delayed short-circuit protection Function can be switched on/off	✓	✓	✓
			Setting range $I_{sd} = I_n \times \dots$	1.25-1.5-2-2.5-3-4-6-8-10-12	1.25-1.5-2-2.5-3-4-6-8-10-12	1.25-1.5-2-2.5-3-4-6-8-10-12
		Setting range for delay time t_{sd}	0-M-100-200-300-400 ms	0-M-100-200-300-400 ms	M-100-200-300-400 ms	
		Switchable short-time delayed short-circuit protection (I^2t -dependent function)	--	--	✓	
	I	Instantaneous short-circuit protection Function can be switched on/off	✓	✓	✓	
		Setting range $I_i = I_n \times \dots$	fixed for $I_i \geq 20 \times I_n$, max. 50 kA	fixed for $I_i \geq 20 \times I_n$, max. 50 kA	1.5-2-2.3-4-6-8-10-12-0.8 $\times I_{cs}$	
			--	--	✓	
<p>NSE0_00889a</p>	G	Ground-fault protection Tripping function can be switched on/off	--	✓ fixed mounted	✓ (only ETU47WT)	
		Detection of the ground-fault current through summation current formation with internal or external neutral conductor transformer	--	✓	✓ (only ETU47WT)	
		Detection of ground-fault current through external transformer	--	--	✓ (only ETU47WT)	
		Setting range of the operating current I_g for release	--	OFF-100-300-600-900-1200	OFF-100-300-600-900-1200 (only ETU47WT)	
		Setting range of the delay time t_g	--	100-200-300-400-500 ms	100-200-300-400-500 ms (only ETU47WT)	
		Switchable ground-fault protection characteristic curve (I^2t -dependent function)	--	--	✓ (only ETU47WT)	
	Setting range for delay time t_g at I^2t	--	--	100-200-300-400-500 ms (only ETU47WT)		
LCD	LCD, with backlight	✓	✓	✓		
<p>NSE00890</p>	LED display	Electronic trip unit active	✓	✓	✓	
		Alarm	✓	✓	✓	
		ETU fault	✓	✓	✓	
		L-release	✓	✓	✓	
		S-release	✓	✓	✓	
		I-release	✓	✓	✓	
		N-release	✓	✓	✓	
		G-release	--	✓	✓	

Delay time figures given in ms. ✓ Available.
M = Motor protection, corresponds to 20 ms. -- Not available.
D = Rotary coding switch.
D & S = Rotary coding and slide switch.

Module for mutual mechanical interlocking

The module for mutual mechanical interlocking can be used for one or two 3WT circuit breakers and can be adapted easily to the corresponding versions.

The fixed-mounted and withdrawable circuit breaker versions are fully compatible and can therefore be used in a mixed configuration in an installation.

The circuit breakers can be mounted alongside each other or one above the other, whereby the spacing of the circuit breakers is determined solely by the length of the Bowden wire. The Bowden wires are supplied in standard lengths of 2 m (length: 2 m/3 m/4.5 m). Interlock signals are looped through via the Bowden wires. Interlocking is only effective in the connected position in the case of withdrawable circuit breakers.

The mechanical endurance of the Bowden wires is 10000 operating cycles.

The interlocking module is mounted on the right-hand side of the fixed-mounted circuit breaker (see illustration) or the guide frame.

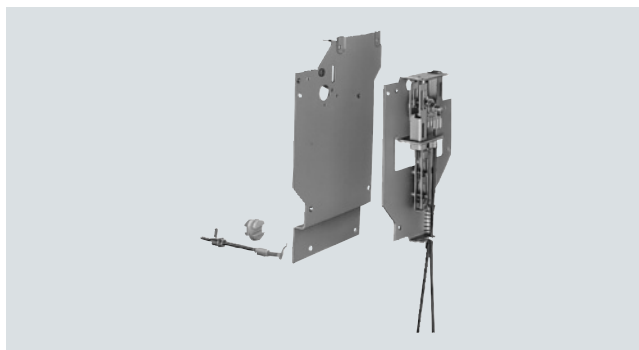
Minimum requirements must be fulfilled in the switchgear for the interlocking to function:

- Bowden wires must be installed as far as possible in a straight line with minimum bending.
- The bending radii of the Bowden wire must be greater than 500 mm.
- The sum of all bending angles along the Bowden wire must not exceed 640°.
- In a vertical arrangement of circuit breakers to be interlocked, the interlocking mechanisms must be in line.
- Circuit breakers to be interlocked must be arranged so that Bowden wires can be optimally installed in compliance with the conditions mentioned in the above points.
- The installed Bowden wire must be fixed (with cable ties or the like) before the interlock is adjusted.

- Select the width of switchgear cubicle to allow enough freedom of movement for adjusting the interlock!
- Openings and cut-outs in system elements must be designed so that Bowden wires are not changed in direction or obstructed when they are passed through.



3WT circuit breaker, 3-pole, with interlocking module and Bowden wire



Interlocking module with Bowden wire

Example	Version	Switch status	Description																								
	1	<table border="1"> <tr><td>A</td><td>B</td></tr> <tr><td>0</td><td>0</td></tr> <tr><td>1</td><td>0</td></tr> <tr><td>0</td><td>1</td></tr> </table>	A	B	0	0	1	0	0	1	2 circuit breakers alongside each other: One circuit breaker can only be closed when the other has been switched off. Each circuit breaker has an interlocking module and a Bowden wire.																
A	B																										
0	0																										
1	0																										
0	1																										
	2	<table border="1"> <tr><td>A</td><td>B</td><td>C</td></tr> <tr><td>0</td><td>0</td><td>0</td></tr> <tr><td>1</td><td>0</td><td>0</td></tr> <tr><td>0</td><td>1</td><td>0</td></tr> <tr><td>0</td><td>0</td><td>1</td></tr> <tr><td>1</td><td>1</td><td>0</td></tr> <tr><td>0</td><td>1</td><td>1</td></tr> <tr><td>1</td><td>0</td><td>1</td></tr> </table>	A	B	C	0	0	0	1	0	0	0	1	0	0	0	1	1	1	0	0	1	1	1	0	1	3 circuit breakers one above the other: Any two circuit breakers can always be closed, with the third one being interlocked. Each circuit breaker has an interlocking module and a Bowden wire. An additional Bowden wire must be ordered separately for each circuit breaker.
A	B	C																									
0	0	0																									
1	0	0																									
0	1	0																									
0	0	1																									
1	1	0																									
0	1	1																									
1	0	1																									
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A	B	C																									
0	0	0																									
1	0	0																									
0	1	0																									
0	0	1																									
	4	<table border="1"> <tr><td>A1</td><td>B</td><td>A2</td></tr> <tr><td>0</td><td>0</td><td>0</td></tr> <tr><td>1</td><td>0</td><td>0</td></tr> <tr><td>0</td><td>0</td><td>1</td></tr> <tr><td>1</td><td>0</td><td>1</td></tr> <tr><td>0</td><td>1</td><td>0</td></tr> </table>	A1	B	A2	0	0	0	1	0	0	0	0	1	1	0	1	0	1	0	3 circuit breakers alongside each other: Two circuit breakers can be closed and opened independently of each other, while the third is only ready to close when the two others are open. If the third circuit breaker is closed, the other two circuit breakers cannot be closed. All three circuit breakers each have an interlocking module and a Bowden wire. A Bowden wire must be ordered separately.						
A1	B	A2																									
0	0	0																									
1	0	0																									
0	0	1																									
1	0	1																									
0	1	0																									

3WT Air Circuit Breakers up to 4000 A (AC)

General data

Technical specifications

Size		I						
Type		3WT80 4	3WT80 6	3WT80 8	3WT81 0	3WT81 2	3WT81 6	
Rated current I_n at 50 °C, at 50/60 Hz	Main conductor	A 400	630	800	1000	1250	1600	
	Neutral conductor (only on 4-pole version)	A 400	630	800	1000	1250	1600	
Rated operating voltage U_e at 50/60 Hz		AC V up to 500						
Rated impulse withstand voltage U_{imp}	Main circuits ¹⁾	kV 8						
	Auxiliary circuits	kV 4						
Utilization category		B						
Rated short-circuit making capacity I_{cm} (peak value)	ecoline	up to 500 V AC	kA 121				--	
	standard	500 V AC	kA 145					
Rated service short-circuit breaking capacity I_{cs} (rms value)	ecoline	up to 500 V AC	kA 55				--	
	standard	500 V AC	kA 66					
Rated ultimate short-circuit breaking capacity I_{cu} (rms value)	ecoline	up to 500 V AC	kA 55				--	
	standard	500 V AC	kA 66					
Permissible ambient temperatures		Operation	°C -20 ... +70					
		Storage	°C -40 ... +80					
Rated short-time withstand current I_{cw} at 50/60 Hz	0.5 s		kA 50					
	1 s		kA 35 ²⁾ /50					
	2 s		kA 25 ²⁾ /30					
	3 s		kA 20 ²⁾ /25					
	4 s		kA 17 ²⁾ /20					
Permissible load for fixed-mounted and withdrawable circuit breakers at cabinet interior temperature ³⁾⁴⁾	up to 50 °C	A 400	630	800	1000	1250	1600	
	at 60 °C	A 400	630	800	950	1120	1500	
	at 70 °C	A 400	600	700	800	1000	1350	
Rated rotor operating voltage U_{er}		V 2000						
Power loss at I_n with 3-phase symmetr. load (without line-side busbars and metal components ⁴⁾)	Fixed-mounted circuit breaker	W 25	40	60	90	120	140	
	Withdrawable circuit breaker including guide frame	W 50	80	130	205	255	310	
Endurance without maintenance	mechanical	8000						
	electrical ⁶⁾	5000						
with maintenance ⁵⁾	mechanical	16000						
	electrical ⁶⁾	10000						
Operating frequency		1/min	1					
Minimum interval between tripping operation by electronic trip unit and next making operation of the circuit breaker (only with automatic mechanical resetting of the lockout device)		ms	80					
Service position								
Degree of protection		Circuit breaker IP20, when fitted in cabinet or frame Operator panel with door sealing frame IP40						
Main conductor minimum cross-sections	Copper bars, bare	Qty, mm ²	1 × 50 × 10	1 × 50 × 10	1 × 60 × 10	2 × 40 × 10	2 × 60 × 10	2 × 60 × 10
	Copper bars, painted black	Qty, mm ²	1 × 40 × 10	1 × 40 × 10	1 × 50 × 10	1 × 60 × 10	2 × 40 × 10	2 × 50 × 10
Auxiliary conductors (Cu)		Max. no. of aux. conductors × cross-section	1 × 0.5 ... 2.5 mm ² ; 1 × AWG 14 2 × 1.0 mm ²					
Weights	3-pole circuit breakers	Fixed-mounted circuit breaker	34	34	34	34	34	36
		approx. kg						
		Withdrawable circuit breaker	36	36	36	36	36	38
	4-pole circuit breakers	Fixed-mounted circuit breaker	22	22	22	22	22	23
		approx. kg						
		Withdrawable circuit breaker	47	47	47	47	47	49
		approx. kg						
		Guide frame	49	49	49	49	49	51
		approx. kg	27	27	27	27	27	28

¹⁾ Rated insulation voltage $U_i = 1000$ V AC.

²⁾ Ecoline.

³⁾ The temperatures apply to the air surrounding the upper third of the circuit breaker.

⁴⁾ These values apply in the case of sinusoidal current (50/60 Hz). The heating/losses increase in the event of harmonics and higher frequencies.

⁵⁾ Maintenance: replacement of the contact set and arc chute.

⁶⁾ Per contact set. Disconnect. of the rated current I_n and power factor = 0.8.

3WT Air Circuit Breakers up to 4000 A (AC)

General data

Size Type	II						
	3WT82 0	3WT82 5	3WT83 2	3WT84 0			
Rated current I_n at 50 °C, at 50/60 Hz ¹⁾	Main conductor	A	2000	2500	3200	3800 (withdrawable)	4000 (fixed-mounted)
	Neutral conductor (only on 4-pole version)	A	2000	2500	3200	3800 (withdrawable)	4000 (fixed-mounted)
Rated operating voltage U_e at 50/60 Hz		AC V	up to 500				
Rated impulse withstand voltage U_{imp}	Main circuits ²⁾		kV 8				
	Auxiliary circuits		kV 4				
Utilization category			B				
Rated short-circuit making capacity I_{cm} (peak value)	ecoline	up to 500 V AC	kA --				
	standard	500 V AC	kA 145				
Rated service short-circuit breaking capacity I_{cs} (rms value)	ecoline	up to 500 V AC	kA --				
	standard	500 V AC	kA 66				
Rated ultimate short-circuit breaking capacity I_{cu} (rms value)	ecoline	up to 500 V AC	kA --				
	standard	500 V AC	kA 66				
Permissible ambient temperatures	Operation		°C -20 ... +70				
	Storage		°C -40 ... +80				
Rated short-time withstand current I_{cw} at 50/60 Hz	0.5 s		kA 66				
	1 s		kA 66				
	2 s		kA 55				
	3 s		kA 45				
	4 s		kA 35				
Permissible load for fixed-mounted and withdrawable circuit breakers at cabinet interior temperature ³⁾⁴⁾	up to 50 °C ¹⁾	A	2000	2500	3200	3800 ⁵⁾	4000 ⁶⁾
	at 60 °C	A	1950	2150	2900		
	at 70 °C	A	1800	1950	2700		
Rated rotor operating voltage U_{er}		V	2000				
Power loss at I_n with 3-phase symmetr. load (without line-side busbars and metal components ⁴⁾)	Fixed-mounted circuit breaker	W	170	325	420	--	902
	Withdrawable circuit breaker including guide frame	W	310	535	760	1050	--
Endurance without maintenance	mechanical	Operating cycles	6000				
	electrical ⁶⁾	Operating cycles	2000				
with maintenance ⁷⁾	mechanical	Operating cycles	12000				
	electrical ⁶⁾	Operating cycles	4000				
Operating frequency		1/min	1				
Minimum interval between tripping operation by electronic trip unit and next making operation of the circuit breaker (only with automatic mechanical resetting of the lockout device)		ms	80				
Service position							
Degree of protection	Circuit breaker IP20, when fitted in cabinet or frame Operator panel with door sealing frame IP40						
Main conductor minimum cross-sections	Copper bars, bare	Qty, mm ²	2 × 100 × 10	3 × 100 × 10	3 × 100 × 10	4 × 120 × 10	4 × 120 × 10
	Copper bars, painted black	Qty, mm ²	2 × 80 × 10	2 × 100 × 10	3 × 100 × 10	4 × 100 × 10	4 × 100 × 10
Auxiliary conductors (Cu)	Max. no. of aux. conductors × cross-section	solid and finely stranded with end sleeves	1 × 0.5 ... 2.5 mm ² ; 1 × AWG 14 2 × 1.0 mm ²				
Weights	3-pole circuit breakers	Fixed-mounted circuit breaker approx. kg	57	57	61	--	92 ⁹⁾
		Withdrawable circuit breaker approx. kg	59	59	63	64	--
		Guide frame approx. kg	35	35	37	54 ⁹⁾	--
	4-pole circuit breakers	Fixed-mounted circuit breaker approx. kg	70	70	74	--	106 ⁹⁾
		Withdrawable circuit breaker approx. kg	72	72	76	77	--
		Guide frame approx. kg	46	46	48	64 ⁹⁾	--

¹⁾ At 3WT84 0: 40 °C.

²⁾ Rated insulation voltage $U_i = 1000$ V AC.

³⁾ The temperatures apply to the air surrounding the upper third of the circuit breaker.

⁴⁾ These values apply in the case of sinusoidal current (50/60 Hz). The heating/losses increase in the event of harmonics and higher frequencies.

⁵⁾ Withdrawable circuit breakers.

⁶⁾ Fixed-mounted circuit breakers.

⁷⁾ Maintenance: replacement of the contact set and arc chute.

⁸⁾ Per contact set. Disconnect. of the rated current I_n and power factor = 0.8.

⁹⁾ Including vertical busbars.

3WT Air Circuit Breakers up to 4000 A (AC)

General data

3WT

Operating mechanisms

Manual operating mechanism with mechanical closing

Closing	Max. force required to operate the hand lever	N	210
Charging stored-energy feature	Required number of strokes on the hand lever		5

Manual operating mechanism with mechanical and electrical closing

Charging stored-energy feature				see "Manual operating mechanism with mechanical closing"
Closing solenoid (Y1)	Operating range			$0.7 \dots 1.1 \times U_s$
	Extended operating range for battery operation ¹⁾	for 24 V DC, 110 V DC, 220 V DC		$0.7 \dots 1.26 \times U_s$
	Power input	AC/DC	VA/W	15
	Minimum command duration at U_s for the activation solenoid		ms	60
	Total closing time at U_s after start of closing command for the activation solenoid, suitable for synchronizing tasks		ms	80
	Short-circuit protection			
	Smallest permissible DIAZED fuse (operational class gL)/miniature circuit breaker with C-characteristic			1 A TDz (time-lag)/1 A

Manual/motor operating mechanism with mechanical and electrical closing

Manual operating mechanism				see "Manual operating mechanism with mechanical closing"
Motor	Operating range			$0.7 \dots 1.1 \times U_s$
	Extended operating range for battery operation ¹⁾	for 24 V DC, 110 V DC, 220 V DC		$0.7 \dots 1.26 \times U_s$
	Power input to motor	AC/DC	VA/W	40
	Time required to charge the stored-energy mechanism $1 \times U_s$		s	20
Closing solenoid				see "Manual operating mechanism with mechanical and electrical closing"
	Short-circuit protection			
	Motor and activation solenoid for the <u>same</u> rated control supply voltages:			
For motor and closing solenoid	Smallest permissible DIAZED fuse (operational class gL)/miniature circuit breaker with C-characteristic	at $U_s = 24$ V		2 A TDz (time-lag)/2 A
		at $U_s = 110 \dots 127$ V		1 A TDz (time-lag)/1 A
		at $U_s = 220 \dots 250$ V		1 A TDz (time-lag)/1 A

Auxiliary releases

Shunt release "f" (F1, F2)	Operating value	pickup		$\geq 0.7 \times U_s$ (circuit breaker is tripped)
	Operating range			$0.7 \dots 1.1 \times U_s$
	For continuous command (100 % duty ratio), locks out on momentary-contact commands			
	Extended operating range for battery operation ¹⁾	for 24 V DC, 110 V DC, 220 V DC		$0.7 \dots 1.26 \times U_s$
	Rated control supply voltage U_s	AC 50/60 Hz	V	110 ... 127, 220 ... 240
		DC	V	24, 110 ... 125, 220 ... 250
	Power input	AC/DC	VA/W	15
	Minimum command duration at U_s		ms	60
	Opening time of circuit breaker at $U_s = 100$ %	AC/DC	ms	≤ 80

¹⁾ The operating range is only permissible for the specified rated voltages and corresponds to the battery charging voltage.

3WT Air Circuit Breakers up to 4000 A (AC)

General data

		3WT		
Auxiliary releases				
Undervoltage release "r" (F3) and "rc" (F8)	Operating values	pickup dropout	$\geq 0.85 \times U_s$ (circuit breaker can be closed) $(0.35 \dots 0.7) \times U_s$ (circuit breaker is tripped)	
	Operating range		$0.85 \dots 1.1 \times U_s$	
	Extended operating range in battery operation ¹⁾	for 24 V DC, 110 V DC, 220 V DC		$0.7 \dots 1.26 \times U_s$
	Rated control supply voltage U_s	AC 50/60 Hz DC	V V	110 ... 127, 220 ... 240, 380 ... 415 24, 110 ... 125, 220 ... 250
	Power input	AC DC	VA W	15 15
	<u>Opening time of circuit breaker at $U_s = 0$</u>			
	<u>Version "r" (F3)</u>			
	Instantaneous		ms	≤ 100
	With 100 ms delay		ms	≤ 300
	<u>Version "rc" (F8)</u>			
With delay, $t_d = 0.2 \dots 3.2$ s		s	$0.2 \dots 3.2$	
Reset via additional NC contact – direct switching-off		ms	≤ 100	
<u>Short-circuit protection</u>				
Smallest permissible DIAZED fuse (operational class gL) /miniature circuit breaker with C-characteristic			1 A TDz (time-lag)1 A	
Contact position-driven auxiliary switches (S1, S2, S3, S4)				
Rated insulation voltage U_i		AC/DC V	400 V	
Rated operating voltage U_e			400 V	
Switching capacity AC, 50/60 Hz	Rated operating voltage U_e	V	up to 24	
	Rated operating current $I_e/AC-12$	A	10	
	Rated operating current $I_e/AC-15$	A	6	
	DC	Rated operating voltage U_e	V	24
		Rated operating current $I_e/DC-12$	A	10
		Rated operating current $I_e/DC-13$	A	10
Short-circuit protection²⁾		Largest permissible DIAZED fuse (operational class gL/gG) Largest permissible miniature circuit breaker with C-characteristic		
		10 A TDz, 16 A Dz 10 A		
Ready-to-close signaling switch (S7) and "tripped" signaling switch (S11)				
Switching capacity AC, 50/60 Hz	Rated operating voltage U_e	V	110	
	Rated operating current I_e	A	0.14	
	DC	Rated operating voltage U_e	V	24
		Rated operating current I_e	A	0.2
Short-circuit protection²⁾		Largest permissible DIAZED fuse (operational class gL)		
		2 A Dz (quick)		
"Tripped" signaling switch (S11)	Signal duration after tripping	continuous, until reset		

¹⁾ The operating range is only permissible for the specified rated voltages and corresponds to the battery charging voltage.

²⁾ Without any welding of the contacts only at $I_k \leq 1$ kA in accordance with IEC 60947-5-1.

3WT Air Circuit Breakers up to 4000 A (AC)

3- and 4-pole, withdrawable version inclusive standard accessories

Selection and ordering data – quick selection

Size	Rated current I_n	Short-circuit breaking capacity $I_{cu}/500\text{ V}$	Short-time withstand current, $I_{cw}/500\text{ V}$ 1 s ¹⁾	3-pole			4-pole		
				Order No.	Basic price	Weight approx.	Order No.	Basic price	Weight approx.
A	kA	kA			kg			kg	
ETU35WT, horizontal main circuit connection (ecoline)									
I	400	55	50	3WT80 40-5UA34-5AB2		58.000	3WT80 44-5UA34-5AB2		76.000
I	630	55	50	3WT80 60-5UA34-5AB2		58.000	3WT80 64-5UA34-5AB2		76.000
I	800	55	50	3WT80 80-5UA34-5AB2		58.000	3WT80 84-5UA34-5AB2		76.000
I	1000	55	50	3WT81 00-5UA34-5AB2		58.000	3WT81 04-5UA34-5AB2		76.000
I	1250	55	50	3WT81 20-5UA34-5AB2		58.000	3WT81 24-5UA34-5AB2		76.000
ETU35WT, horizontal main circuit connection									
I	400	66	50	3WT80 41-5UA34-5AB2		58.000	3WT80 45-5UA34-5AB2		76.000
I	630	66	50	3WT80 61-5UA34-5AB2		58.000	3WT80 65-5UA34-5AB2		76.000
I	800	66	50	3WT80 81-5UA34-5AB2		58.000	3WT80 85-5UA34-5AB2		76.000
I	1000	66	50	3WT81 01-5UA34-5AB2		58.000	3WT81 05-5UA34-5AB2		76.000
I	1250	66	50	3WT81 21-5UA34-5AB2		58.000	3WT81 25-5UA34-5AB2		76.000
I	1600	66	50	3WT81 61-5UA34-5AB2		61.000	3WT81 65-5UA34-5AB2		79.000
II	2000	66	66	3WT82 02-5UA34-5AB2		94.000	3WT82 06-5UA34-5AB2		118.000
II	2500	66	66	3WT82 52-5UA34-5AB2		94.000	3WT82 56-5UA34-5AB2		118.000
II	3200	66	66	3WT83 22-5UA34-5AB2		100.000	3WT83 26-5UA34-5AB2		124.000
ETU35WT, vertical main circuit connection									
II	3800	66	66	3WT84 02-5UA36-5AB2		118.000	3WT84 06-5UA36-5AB2		141.000
ETU37WT, horizontal main circuit connection (ecoline)									
I	400	55	50	3WT80 40-6UA34-5AB2		58.000	3WT80 44-6UA34-5AB2		76.000
I	630	55	50	3WT80 60-6UA34-5AB2		58.000	3WT80 64-6UA34-5AB2		76.000
I	800	55	50	3WT80 80-6UA34-5AB2		58.000	3WT80 84-6UA34-5AB2		76.000
I	1000	55	50	3WT81 00-6UA34-5AB2		58.000	3WT81 04-6UA34-5AB2		76.000
I	1250	55	50	3WT81 20-6UA34-5AB2		58.000	3WT81 24-6UA34-5AB2		76.000
ETU37WT, horizontal main circuit connection									
I	400	66	50	3WT80 41-6UA34-5AB2		58.000	3WT80 45-6UA34-5AB2		76.000
I	630	66	50	3WT80 61-6UA34-5AB2		58.000	3WT80 65-6UA34-5AB2		76.000
I	800	66	50	3WT80 81-6UA34-5AB2		58.000	3WT80 85-6UA34-5AB2		76.000
I	1000	66	50	3WT81 01-6UA34-5AB2		58.000	3WT81 05-6UA34-5AB2		76.000
I	1250	66	50	3WT81 21-6UA34-5AB2		58.000	3WT81 25-6UA34-5AB2		76.000
I	1600	66	50	3WT81 61-6UA34-5AB2		61.000	3WT81 65-6UA34-5AB2		79.000
II	2000	66	66	3WT82 02-6UA34-5AB2		94.000	3WT82 06-6UA34-5AB2		118.000
II	2500	66	66	3WT82 52-6UA34-5AB2		94.000	3WT82 56-6UA34-5AB2		118.000
II	3200	66	66	3WT83 22-6UA34-5AB2		100.000	3WT83 26-6UA34-5AB2		124.000
ETU37WT, vertical main circuit connection									
II	3800	66	66	3WT84 02-6UA36-5AB2		118.000	3WT84 06-6UA36-5AB2		141.000

Electronic trip unit (ETU)

ETU35WT: protection functions LSI with LCD display

ETU37WT: protection functions LSING²⁾ with LCD display

Accessories included

Motor operated mechanism,
with mechanical and electrical closing,
motor and closing solenoid 220-240 V AC 50/60 Hz,
220-250 V DC,

Shunt release "F" 220-240 V AC 50/60 Hz,
220-250 V DC

with door sealing frame IP40, sealing cap over OFF button,
and shutter
without 2nd auxiliary release,
with auxiliary switch 2 NO + 2 NC,
with shutter

¹⁾ $I_{cw}/500\text{ V}$ 0.5 s for ecoline.

²⁾ Current transformer for overload protection in the neutral conductor and for ground-fault protection must be ordered separately, see page 2/30.

3WT Air Circuit Breakers up to 4000 A (AC)

3- and 4-pole, fixed-mounted version
inclusive standard accessories

Selection and ordering data – quick selection

Size	Rated current I_n	Short-circuit breaking capacity $I_{cu}/500\text{ V}$	Short-time withstand current, $I_{cw}/500\text{ V}$ 1 s ¹⁾	3-pole			4-pole		
				Order No.	Basic price	Weight approx.	Order No.	Basic price	Weight approx.
A	kA	kA	kA			kg			kg
ETU35WT, horizontal main circuit connection (ecoline)									
I	400	55	50	3WT80 40-5UA30-0AA2		34.000	3WT80 44-5UA30-0AA2		47.000
I	630	55	50	3WT80 60-5UA30-0AA2		34.000	3WT80 64-5UA30-0AA2		47.000
I	800	55	50	3WT80 80-5UA30-0AA2		34.000	3WT80 84-5UA30-0AA2		47.000
I	1000	55	50	3WT81 00-5UA30-0AA2		34.000	3WT81 04-5UA30-0AA2		47.000
I	1250	55	50	3WT81 20-5UA30-0AA2		34.000	3WT81 24-5UA30-0AA2		47.000
ETU35WT, horizontal main circuit connection									
I	400	66	50	3WT80 41-5UA30-0AA2		34.000	3WT80 45-5UA30-0AA2		47.000
I	630	66	50	3WT80 61-5UA30-0AA2		34.000	3WT80 65-5UA30-0AA2		47.000
I	800	66	50	3WT80 81-5UA30-0AA2		34.000	3WT80 85-5UA30-0AA2		47.000
I	1000	66	50	3WT81 01-5UA30-0AA2		34.000	3WT81 05-5UA30-0AA2		47.000
I	1250	66	50	3WT81 21-5UA30-0AA2		34.000	3WT81 25-5UA30-0AA2		47.000
I	1600	66	50	3WT81 61-5UA30-0AA2		36.000	3WT81 65-5UA30-0AA2		49.000
II	2000	66	66	3WT82 02-5UA30-0AA2		57.000	3WT82 06-5UA30-0AA2		70.000
II	2500	66	66	3WT82 52-5UA30-0AA2		57.000	3WT82 56-5UA30-0AA2		70.000
II	3200	66	66	3WT83 22-5UA30-0AA2		61.000	3WT83 26-5UA30-0AA2		74.000
ETU35WT, vertical main circuit connection									
II	4000	66	66	3WT84 02-5UA32-0AA2		92.000	3WT84 06-5UA32-0AA2		106.000
ETU37WT, horizontal main circuit connection (ecoline)									
I	400	55	50	3WT80 40-6UA30-0AA2		34.000	3WT80 44-6UA30-0AA2		47.000
I	630	55	50	3WT80 60-6UA30-0AA2		34.000	3WT80 64-6UA30-0AA2		47.000
I	800	55	50	3WT80 80-6UA30-0AA2		34.000	3WT80 84-6UA30-0AA2		47.000
I	1000	55	50	3WT81 00-6UA30-0AA2		34.000	3WT81 04-6UA30-0AA2		47.000
I	1250	55	50	3WT81 20-6UA30-0AA2		34.000	3WT81 24-6UA30-0AA2		47.000
ETU37WT, horizontal main circuit connection									
I	400	66	50	3WT80 41-6UA30-0AA2		34.000	3WT80 45-6UA30-0AA2		47.000
I	630	66	50	3WT80 61-6UA30-0AA2		34.000	3WT80 65-6UA30-0AA2		47.000
I	800	66	50	3WT80 81-6UA30-0AA2		34.000	3WT80 85-6UA30-0AA2		47.000
I	1000	66	50	3WT81 01-6UA30-0AA2		34.000	3WT81 05-6UA30-0AA2		47.000
I	1250	66	50	3WT81 21-6UA30-0AA2		34.000	3WT81 25-6UA30-0AA2		47.000
I	1600	66	50	3WT81 61-6UA30-0AA2		36.000	3WT81 65-6UA30-0AA2		49.000
II	2000	66	66	3WT82 02-6UA30-0AA2		57.000	3WT82 06-6UA30-0AA2		70.000
II	2500	66	66	3WT82 52-6UA30-0AA2		57.000	3WT82 56-6UA30-0AA2		70.000
II	3200	66	66	3WT83 22-6UA30-0AA2		61.000	3WT83 26-6UA30-0AA2		74.000
ETU37WT, vertical main circuit connection									
II	4000	66	66	3WT84 02-6UA32-0AA2		92.000	3WT84 06-6UA32-0AA2		106.000

Electronic trip unit (ETU)

ETU35WT: protection functions LSI with LCD display

ETU37WT: protection functions LSING²⁾ with LCD display

Accessories included

Motor operated mechanism,
with mechanical and electrical closing,
motor and closing solenoid 220-240 V AC 50/60 Hz,
220-250 V DC,
Shunt release "F" 220-240 V AC 50/60 Hz,
220-250 V DC

with door sealing frame IP40,
without 2nd auxiliary release,
with auxiliary switch 2 NO + 2 NC

¹⁾ $I_{cw}/500\text{ V}$ 0.5 s for ecoline.

²⁾ Current transformer for overload protection in the neutral conductor and for ground-fault protection must be ordered separately, see page 2/30.

3WT Air Circuit Breakers up to 4000 A (AC)

3- and 4-pole, withdrawable version

Selection and ordering data

Size	Rated current I_n	Short-circuit breaking capacity $I_{cu}/500\text{ V}$	Short-time withstand current, $I_{cw}/500\text{ V}$ 1 s ¹⁾	3-pole			4-pole		
				Order No.	Basic price	Weight approx.	Order No.	Basic price	Weight approx.
	A	kA	kA	Order No. supplement (8th to 11th and 13th to 16th position of Order No.) must be added. For quick selection see below. Further options see pages 2/23 to 2/29 .			Order No. supplement (8th to 11th and 13th to 16th position of Order No.) must be added. For quick selection see below. Further options see pages 2/23 to 2/29 .		
						kg			kg

Horizontal main circuit connection (ecoline)

I	400	55	50	3WT80 40-□□□□4-□□□□		58.000	3WT80 44-□□□□4-□□□□		76.000
I	630	55	50	3WT80 60-□□□□4-□□□□		58.000	3WT80 64-□□□□4-□□□□		76.000
I	800	55	50	3WT80 80-□□□□4-□□□□		58.000	3WT80 84-□□□□4-□□□□		76.000
I	1000	55	50	3WT81 00-□□□□4-□□□□		58.000	3WT81 04-□□□□4-□□□□		76.000
I	1250	55	50	3WT81 20-□□□□4-□□□□		58.000	3WT81 24-□□□□4-□□□□		76.000

Horizontal main circuit connection

I	400	66	50	3WT80 41-□□□□4-□□□□		58.000	3WT80 45-□□□□4-□□□□		76.000
I	630	66	50	3WT80 61-□□□□4-□□□□		58.000	3WT80 65-□□□□4-□□□□		76.000
I	800	66	50	3WT80 81-□□□□4-□□□□		58.000	3WT80 85-□□□□4-□□□□		76.000
I	1000	66	50	3WT81 01-□□□□4-□□□□		58.000	3WT81 05-□□□□4-□□□□		76.000
I	1250	66	50	3WT81 21-□□□□4-□□□□		58.000	3WT81 25-□□□□4-□□□□		76.000
I	1600	66	50	3WT81 61-□□□□4-□□□□		61.000	3WT81 65-□□□□4-□□□□		79.000
II	2000	66	66	3WT82 02-□□□□4-□□□□		94.000	3WT82 06-□□□□4-□□□□		118.000
II	2500	66	66	3WT82 52-□□□□4-□□□□		94.000	3WT82 56-□□□□4-□□□□		118.000
II	3200	66	66	3WT83 22-□□□□4-□□□□		100.000	3WT83 26-□□□□4-□□□□		124.000

Horizontal main circuit connection at top, vertical connection at bottom (ecoline)⁵⁾

I	400	55	50	3WT80 40-□□□□8-□□□□		58.000	3WT80 44-□□□□8-□□□□		76.000
I	630	55	50	3WT80 60-□□□□8-□□□□		58.000	3WT80 64-□□□□8-□□□□		76.000
I	800	55	50	3WT80 80-□□□□8-□□□□		58.000	3WT80 84-□□□□8-□□□□		76.000
I	1000	55	50	3WT81 00-□□□□8-□□□□		58.000	3WT81 04-□□□□8-□□□□		76.000
I	1250	55	50	3WT81 20-□□□□8-□□□□		58.000	3WT81 24-□□□□8-□□□□		76.000

Horizontal main circuit connection at top, vertical connection at bottom⁵⁾

I	400	66	50	3WT80 41-□□□□8-□□□□		58.000	3WT80 45-□□□□8-□□□□		76.000
I	630	66	50	3WT80 61-□□□□8-□□□□		58.000	3WT80 65-□□□□8-□□□□		76.000
I	800	66	50	3WT80 81-□□□□8-□□□□		58.000	3WT80 85-□□□□8-□□□□		76.000
I	1000	66	50	3WT81 01-□□□□8-□□□□		58.000	3WT81 05-□□□□8-□□□□		76.000
I	1250	66	50	3WT81 21-□□□□8-□□□□		58.000	3WT81 25-□□□□8-□□□□		76.000
I	1600	66	50	3WT81 61-□□□□8-□□□□		61.000	3WT81 65-□□□□8-□□□□		79.000
II	2000	66	66	3WT82 02-□□□□8-□□□□		94.000	3WT82 06-□□□□8-□□□□		118.000
II	2500	66	66	3WT82 52-□□□□8-□□□□		94.000	3WT82 56-□□□□8-□□□□		118.000
II	3200	66	66	3WT83 22-□□□□8-□□□□		100.000	3WT83 26-□□□□8-□□□□		124.000

Electronic trip unit (ETU; 8th position of Order No.)

ETU35WT: LSI with LCD display
 ETU37WT: LSING²⁾ with LCD display
 ETU45WT: LSIN²⁾ with LCD display and additional features
 ETU47WT: LSING²⁾ with LCD display and additional features

Operating mechanism, auxiliary release, auxiliary switch (9th to 11th position of Order No., further options see page 2/23)

Manual operating mechanism, with mechanical closing, without 1st and 2nd auxiliary releases, with auxiliary switch 2 NO + 2 NC

Accessories (13th to 16th position of Order No., further options see pages 2/24 to 2/29)

with door sealing frame IP40,
 with door sealing frame IP40, sealing cap over OFF button, and shutter
 size I, up to 1600 A
 size II, 2000 ... 3800 A
 with door sealing frame IP40, safety lock device CES instead of OFF button³⁾ (key removable in OFF position); and shutter
 size I, up to 1600 A
 size II, 2000 ... 3800 A

Order No. supplements	Additional price	Order No. supplements	Additional price
5	X	5	X
6	X	6	X
7	X	7	X
8	X	8	X
AA0	without	AA0	without
5AA2	without	5AA2	without
5AB2	X	5AB2	X
	X		X
5AF2	X	5AF2	X
	X		X

1) $I_{cw}/500\text{ V}$ 0.5 s for ecoline.
 2) Current transformer for overload protection in the neutral conductor and for ground-fault protection must be ordered separately, see page 2/30.
 3) This disables mechanical or electrical ON commands.
 4) Not available for circuit breakers without guide frame, see also page 2/24.
 5) Can be converted to vertical at top and horizontal main connection at bottom.

3WT Air Circuit Breakers up to 4000 A (AC)

3- and 4-pole, withdrawable version

2

Size	Rated current I_n	Short-circuit breaking capacity $I_{cu}/500\text{ V}$	Short-time withstand current, $I_{cw}/500\text{ V}$ (1 s ¹⁾)	3-pole			4-pole		
				Order No.	Basic price	Weight approx.	Order No.	Basic price	Weight approx.

Vertical main circuit connection, top and bottom (ecoline)				3-pole			4-pole		
A	kA	kA		Order No. supplement (8th to 11th and 13th to 16th position of Order No.) must be added. For quick selection see below. Further options see pages 2/23 to 2/29.	Basic price	Weight approx. kg	Order No. supplement (8th to 11th and 13th to 16th position of Order No.) must be added. For quick selection see below. Further options see pages 2/23 to 2/29.	Basic price	Weight approx. kg
I 400	55	50		3WT80 40-□□□□6-□□□□		58.000	3WT80 44-□□□□6-□□□□		76.000
I 630	55	50		3WT80 60-□□□□6-□□□□		58.000	3WT80 64-□□□□6-□□□□		76.000
I 800	55	50		3WT80 80-□□□□6-□□□□		58.000	3WT80 84-□□□□6-□□□□		76.000
I 1000	55	50		3WT81 00-□□□□6-□□□□		58.000	3WT81 04-□□□□6-□□□□		76.000
I 1250	55	50		3WT81 20-□□□□6-□□□□		58.000	3WT81 24-□□□□6-□□□□		76.000

Vertical main circuit connection, top and bottom				3-pole			4-pole		
A	kA	kA		Order No. supplement (8th to 11th and 13th to 16th position of Order No.) must be added. For quick selection see below. Further options see pages 2/23 to 2/29.	Basic price	Weight approx. kg	Order No. supplement (8th to 11th and 13th to 16th position of Order No.) must be added. For quick selection see below. Further options see pages 2/23 to 2/29.	Basic price	Weight approx. kg
I 400	66	50		3WT80 41-□□□□6-□□□□		58.000	3WT80 45-□□□□6-□□□□		76.000
I 630	66	50		3WT80 61-□□□□6-□□□□		58.000	3WT80 65-□□□□6-□□□□		76.000
I 800	66	50		3WT80 81-□□□□6-□□□□		58.000	3WT80 85-□□□□6-□□□□		76.000
I 1000	66	50		3WT81 01-□□□□6-□□□□		58.000	3WT81 05-□□□□6-□□□□		76.000
I 1250	66	50		3WT81 21-□□□□6-□□□□		58.000	3WT81 25-□□□□6-□□□□		76.000
I 1600	66	50		3WT81 61-□□□□6-□□□□		61.000	3WT81 65-□□□□6-□□□□		79.000
II 2000	66	66		3WT82 02-□□□□6-□□□□		94.000	3WT82 06-□□□□6-□□□□		118.000
II 2500	66	66		3WT82 52-□□□□6-□□□□		94.000	3WT82 56-□□□□6-□□□□		118.000
II 3200	66	66		3WT83 22-□□□□6-□□□□		100.000	3WT83 26-□□□□6-□□□□		124.000
II 3800	66	66		3WT84 02-□□□□6-□□□□		118.000	3WT84 06-□□□□6-□□□□		141.000

Without guide frame (ecoline; guide frame see page 2/30)				3-pole			4-pole		
A	kA	kA		Order No. supplement (8th to 11th and 13th to 16th position of Order No.) must be added. For quick selection see below. Further options see pages 2/23 to 2/29.	Basic price	Weight approx. kg	Order No. supplement (8th to 11th and 13th to 16th position of Order No.) must be added. For quick selection see below. Further options see pages 2/23 to 2/29.	Basic price	Weight approx. kg
I 400	55	50		3WT80 40-□□□□3-□□□□		36.000	3WT80 44-□□□□3-□□□□		49.000
I 630	55	50		3WT80 60-□□□□3-□□□□		36.000	3WT80 64-□□□□3-□□□□		49.000
I 800	55	50		3WT80 80-□□□□3-□□□□		36.000	3WT80 84-□□□□3-□□□□		49.000
I 1000	55	50		3WT81 00-□□□□3-□□□□		36.000	3WT81 04-□□□□3-□□□□		49.000
I 1250	55	50		3WT81 20-□□□□3-□□□□		36.000	3WT81 24-□□□□3-□□□□		49.000

Without guide frame (guide frame see page 2/30)				3-pole			4-pole		
A	kA	kA		Order No. supplement (8th to 11th and 13th to 16th position of Order No.) must be added. For quick selection see below. Further options see pages 2/23 to 2/29.	Basic price	Weight approx. kg	Order No. supplement (8th to 11th and 13th to 16th position of Order No.) must be added. For quick selection see below. Further options see pages 2/23 to 2/29.	Basic price	Weight approx. kg
I 400	66	50		3WT80 41-□□□□3-□□□□		36.000	3WT80 45-□□□□3-□□□□		49.000
I 630	66	50		3WT80 61-□□□□3-□□□□		36.000	3WT80 65-□□□□3-□□□□		49.000
I 800	66	50		3WT80 81-□□□□3-□□□□		36.000	3WT80 85-□□□□3-□□□□		49.000
I 1000	66	50		3WT81 01-□□□□3-□□□□		36.000	3WT81 05-□□□□3-□□□□		49.000
I 1250	66	50		3WT81 21-□□□□3-□□□□		36.000	3WT81 25-□□□□3-□□□□		49.000
I 1600	66	50		3WT81 61-□□□□3-□□□□		38.000	3WT81 65-□□□□3-□□□□		51.000
II 2000	66	66		3WT82 02-□□□□3-□□□□		59.000	3WT82 06-□□□□3-□□□□		72.000
II 2500	66	66		3WT82 52-□□□□3-□□□□		59.000	3WT82 56-□□□□3-□□□□		72.000
II 3200	66	66		3WT83 22-□□□□3-□□□□		63.000	3WT83 26-□□□□3-□□□□		76.000

Electronic trip unit (ETU; 8th position of Order No.)

ETU35WT: LSI with LCD display
 ETU37WT: LSING²⁾ with LCD display
 ETU45WT: LSIN²⁾ with LCD display and additional features
 ETU47WT: LSING²⁾ with LCD display and additional features

Order No. supplements	Additional price	Order No. supplements	Additional price
5	X	5	X
6	X	6	X
7	X	7	X
8	X	8	X

Operating mechanism, auxiliary release, auxiliary switch (9th to 11th position of Order No., further options see page 2/23)

Manual operating mechanism, with mechanical closing, without 1st and 2nd auxiliary releases, with auxiliary switch 2 NO + 2 NC

Order No. supplements	Additional price	Order No. supplements	Additional price
AA0	without	AA0	without

Accessories (13th to 16th position of Order No., further options see pages 2/24 to 2/29)

with door sealing frame IP40,
 with door sealing frame IP40, sealing cap over OFF button and shutter
 with door sealing frame IP40, safety lock device CES instead of OFF button³⁾ (key removable in OFF position); and shutter

Order No. supplements	Additional price	Order No. supplements	Additional price
5AA2	without	5AA2	without
5AB2	X	5AB2	X
5AF2	X	5AF2	X

¹⁾ $I_{cw}/500\text{ V}$ 0.5 s for ecoline.
²⁾ Current transformer for overload protection in the neutral conductor and for ground-fault protection must be ordered separately, see page 2/30.
³⁾ This disables mechanical or electrical ON commands.
⁴⁾ Not available for circuit breakers without guide frame, see also page 2/24.

X = additional price

3WT Air Circuit Breakers up to 4000 A (AC)

3- and 4-pole, fixed-mounted version

Selection and ordering data

Size	Rated current I_n	Short-circuit breaking capacity $I_{cu}/500\text{ V}$	Short-time withstand current, $I_{cw}/500\text{ V}$ 1 s ¹⁾	3-pole			4-pole		
				Order No.	Basic price	Weight approx.	Order No.	Basic price	Weight approx.
A	kA	kA	kA	Order No. supplement (8th to 11th and 13th to 16th position of Order No.) must be added. For quick selection see below. Further options see pages 2/23 to 2/29 .		kg	Order No. supplement (8th to 11th and 13th to 16th position of Order No.) must be added. For quick selection see below. Further options see pages 2/23 to 2/29 .		kg

Horizontal main circuit connection (ecoline)

I	400	55	50	3WT80 40-□□□□□-□□□□	34.000	3WT80 44-□□□□□-□□□□	47.000
I	630	55	50	3WT80 60-□□□□□-□□□□	34.000	3WT80 64-□□□□□-□□□□	47.000
I	800	55	50	3WT80 80-□□□□□-□□□□	34.000	3WT80 84-□□□□□-□□□□	47.000
I	1000	55	50	3WT81 00-□□□□□-□□□□	34.000	3WT81 04-□□□□□-□□□□	47.000
I	1250	55	50	3WT81 20-□□□□□-□□□□	34.000	3WT81 24-□□□□□-□□□□	47.000

Horizontal main circuit connection

I	400	66	50	3WT80 41-□□□□□-□□□□	34.000	3WT80 45-□□□□□-□□□□	47.000
I	630	66	50	3WT80 61-□□□□□-□□□□	34.000	3WT80 65-□□□□□-□□□□	47.000
I	800	66	50	3WT80 81-□□□□□-□□□□	34.000	3WT80 85-□□□□□-□□□□	47.000
I	1000	66	50	3WT81 01-□□□□□-□□□□	34.000	3WT81 05-□□□□□-□□□□	47.000
I	1250	66	50	3WT81 21-□□□□□-□□□□	34.000	3WT81 25-□□□□□-□□□□	47.000
I	1600	66	50	3WT81 61-□□□□□-□□□□	36.000	3WT81 65-□□□□□-□□□□	49.000
II	2000	66	66	3WT82 02-□□□□□-□□□□	57.000	3WT82 06-□□□□□-□□□□	70.000
II	2500	66	66	3WT82 52-□□□□□-□□□□	57.000	3WT82 56-□□□□□-□□□□	70.000
II	3200	66	66	3WT83 22-□□□□□-□□□□	61.000	3WT83 26-□□□□□-□□□□	74.000

Vertical main circuit connection

II	4000	66	66	3WT84 02-□□□□□-□□□□	92.000	3WT84 06-□□□□□-□□□□	106.000
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Electronic trip unit (ETU; 8th position of Order No.)

ETU35WT: LSI with LCD display
 ETU37WT: LSING²⁾ with LCD display
 ETU45WT: LSING²⁾ with LCD display and additional features
 ETU47WT: LSING²⁾ with LCD display and additional features

Operating mechanism, auxiliary release, auxiliary switch (9th to 11th position of Order No., further options see page 2/23)

Manual operating mechanism, with mechanical closing, without 1st and 2nd auxiliary releases, with auxiliary switch 2 NO + 2 NC

Motor operated mechanism, with mechanical and electrical closing, motor and closing solenoid 220-240 V AC 50/60 Hz, 220-250 V DC,

Shunt release "F" 220-240 V AC 50/60 Hz, 220-250 V DC

without 2nd auxiliary release, with auxiliary switch 2 NO + 2 NC

Motor operated mechanism, with mechanical and electrical closing, motor and closing solenoid 220-240 V AC 50/60 Hz, 220-250 V DC,

Undervoltage release "r", "F3" 220-240 V AC 50/60 Hz, 220-250 V DC

Shunt release "F" 220-240 V AC 50/60 Hz, 220-250 V DC

with auxiliary switch 2 NO + 2 NC

Accessories (13th to 16th position of Order No., further options see pages 2/24 to 2/29)

with door sealing frame IP40

with door sealing frame IP40, safety lock device CES instead of OFF button³⁾ (key removable in OFF position)

with door sealing frame IP40, sealing cap over OFF button and mutual mechanical interlock for 3WT circuit breaker

Order No. supplements

5
6
7
8

Additional price

X
X
X
X

AA0

without

UA3

X

UN3

X

0AA2

without

0AB2

X

0AC2

X

Order No. supplements

5
6
7
8

Additional price

X
X
X
X

AA0

without

UA3

X

UN3

X

0AA2

without

0AB2

X

0AC2

X

X = additional price

1) $I_{cw}/500\text{ V}$ 0.5 s for ecoline.

2) Current transformer for overload protection in the neutral conductor and for ground-fault protection must be ordered separately, see page 2/30.

3) This disables mechanical or electrical ON commands.

3WT Air Circuit Breakers up to 4000 A (AC)

Non-automatic air circuit breakers, 3- and 4-pole, withdrawable version

Selection and ordering data

Size	Rated current I_n	Short-circuit breaking capacity $I_{cc} / 500 V$	3-pole			4-pole		
			Order No.	Basic price	Weight approx.	Order No.	Basic price	Weight approx.
A	A	kA	Order No. supplement (8th to 11th and 13th to 16th position of Order No.) must be added. For quick selection see below. Further options see pages 2/23 to 2/29 .		kg	Order No. supplement (8th to 11th and 13th to 16th position of Order No.) must be added. For quick selection see below. Further options see pages 2/23 to 2/29 .		kg
Withdrawable version, horizontal main circuit connection								
I	800	55	3WT80 80-4□□□4-□□□□	58.000		3WT80 84-4□□□4-□□□□	58.000	76.000
I	1250	55	3WT81 20-4□□□4-□□□□	58.000		3WT81 24-4□□□4-□□□□	58.000	76.000
I	1600	66	3WT81 61-4□□□4-□□□□	61.000		3WT81 65-4□□□4-□□□□	61.000	79.000
II	2000	66	3WT82 02-4□□□4-□□□□	94.000		3WT82 06-4□□□4-□□□□	94.000	118.000
II	2500	66	3WT82 52-4□□□4-□□□□	94.000		3WT82 56-4□□□4-□□□□	94.000	118.000
II	3200	66	3WT83 22-4□□□4-□□□□	100.000		3WT83 26-4□□□4-□□□□	100.000	124.000
Withdrawable version, horizontal main circuit connection at top, vertical connection at bottom¹⁾								
I	800	55	3WT80 80-4□□□8-□□□□	58.000		3WT80 84-4□□□8-□□□□	58.000	76.000
I	1250	55	3WT81 20-4□□□8-□□□□	58.000		3WT81 24-4□□□8-□□□□	58.000	76.000
I	1600	66	3WT81 61-4□□□8-□□□□	61.000		3WT81 65-4□□□8-□□□□	61.000	79.000
II	2000	66	3WT82 02-4□□□8-□□□□	94.000		3WT82 06-4□□□8-□□□□	94.000	118.000
II	2500	66	3WT82 52-4□□□8-□□□□	94.000		3WT82 56-4□□□8-□□□□	94.000	118.000
II	3200	66	3WT83 22-4□□□8-□□□□	100.000		3WT83 26-4□□□8-□□□□	100.000	124.000
Withdrawable version, vertical connection at top and bottom								
I	800	55	3WT80 80-4□□□6-□□□□	58.000		3WT80 84-4□□□6-□□□□	58.000	76.000
I	1250	55	3WT81 20-4□□□6-□□□□	58.000		3WT81 24-4□□□6-□□□□	58.000	76.000
I	1600	66	3WT81 61-4□□□6-□□□□	61.000		3WT81 65-4□□□6-□□□□	61.000	79.000
II	2000	66	3WT82 02-4□□□6-□□□□	94.000		3WT82 06-4□□□6-□□□□	94.000	118.000
II	2500	66	3WT82 52-4□□□6-□□□□	94.000		3WT82 56-4□□□6-□□□□	94.000	118.000
II	3200	66	3WT83 22-4□□□6-□□□□	100.000		3WT83 26-4□□□6-□□□□	100.000	124.000
II	3800	66	3WT84 02-4□□□6-□□□□	118.000		3WT84 06-4□□□6-□□□□	118.000	141.000
Withdrawable version without guide frame (guide frame see page 2/30)								
I	800	55	3WT80 80-4□□□3-□□□□	36.000		3WT80 84-4□□□3-□□□□	36.000	49.000
I	1250	55	3WT81 20-4□□□3-□□□□	36.000		3WT81 24-4□□□3-□□□□	36.000	49.000
I	1600	66	3WT81 61-4□□□3-□□□□	38.000		3WT81 65-4□□□3-□□□□	38.000	51.000
II	2000	66	3WT82 02-4□□□3-□□□□	59.000		3WT82 06-4□□□3-□□□□	59.000	72.000
II	2500	66	3WT82 52-4□□□3-□□□□	59.000		3WT82 56-4□□□3-□□□□	59.000	72.000
II	3200	66	3WT83 22-4□□□3-□□□□	63.000		3WT83 26-4□□□3-□□□□	63.000	76.000
II	3800	66	3WT84 02-4□□□3-□□□□	64.000		3WT84 06-4□□□3-□□□□	64.000	77.000

Operating mechanism, auxiliary release, auxiliary switch (9th to 11th position of Order No., further options see page 2/23)

Manual operating mechanism, with mechanical closing, without 1st and 2nd auxiliary releases, with auxiliary switch 2 NO + 2 NC

Motor operated mechanism, with mechanical and electrical closing, motor and closing solenoid 220-240 V AC 50/60 Hz, 220-250 V DC, Shunt release "F" 220-240 V AC 50/60 Hz, 220-250 V DC

without 2nd auxiliary release, with auxiliary switch 2 NO + 2 NC

Fixed-mounted version Accessories (13th to 16th position of Order No., further options see pages 2/24 to 2/29)

with door sealing frame IP40

Withdrawable version Accessories (13th to 16th position of Order No., further options see pages 2/24 to 2/29)

with door sealing frame IP40

with door sealing frame IP40, sealing cap over OFF button, and shutter size I, up to 1600 A size II, 2000 ... 3800 A

Order No. supplements

AA0
UA3

Additional price

without

X

0AA2

without

5AA2

without

5AB2

X
X

Order No. supplements

AA0
UA3

Additional price

without

X

0AA2

without

5AA2

without

5AB2

X
X

"Options" and "Accessories" see "Options" and "Accessories" for "Air-Circuit Breakers", pages 2/23 to 2/34.

¹⁾ Can be converted to vertical at top and horizontal main connection at bottom.

X = additional price

3WT Air Circuit Breakers up to 4000 A (AC)

Non-automatic air circuit breakers, 3- and 4-pole, fixed-mounted version

2

Size	Rated current I_n	Short-circuit breaking capacity $I_{cc} / 500 V$	3-pole			4-pole		
			Order No. Order No. supplement (8th to 11th and 13th to 16th position of Order No.) must be added. For quick selection see below. Further options see pages 2/23 to 2/29 .	Basic price	Weight approx. kg	Order No. Order No. supplement (8th to 11th and 13th to 16th position of Order No.) must be added. For quick selection see below. Further options see pages 2/23 to 2/29 .	Basic price	Weight approx. kg

Fixed-mounted version, horizontal main circuit connection								
I	800	55	3WT80 80-4 □□□□-□□□□		34.000	3WT80 84-4 □□□□-□□□□		47.000
I	1250	55	3WT81 20-4 □□□□-□□□□		34.000	3WT81 24-4 □□□□-□□□□		47.000
I	1600	66	3WT81 61-4 □□□□-□□□□		36.000	3WT81 65-4 □□□□-□□□□		49.000
II	2000	66	3WT82 02-4 □□□□-□□□□		57.000	3WT82 06-4 □□□□-□□□□		70.000
II	2500	66	3WT82 52-4 □□□□-□□□□		57.000	3WT82 56-4 □□□□-□□□□		70.000
II	3200	66	3WT83 22-4 □□□□-□□□□		61.000	3WT83 26-4 □□□□-□□□□		74.000

Fixed-mounted version, vertical main circuit connection								
II	4000	66	3WT84 02-4 □□□□-□□□□		92.000	3WT84 06-4 □□□□-□□□□		106.000

Operating mechanism, auxiliary release, auxiliary switch
(9th to 11th position of Order No., further options see page 2/23)

Manual operating mechanism, with mechanical closing, without 1st and 2nd auxiliary releases, with auxiliary switch 2 NO + 2 NC

Motor operated mechanism, with mechanical and electrical closing, motor and closing solenoid 220-240 V AC 50/60 Hz, 220-250 V DC, Shunt release "F" 220-240 V AC 50/60 Hz, 220-250 V DC

without 2nd auxiliary release, with auxiliary switch 2 NO + 2 NC

Fixed-mounted version Accessories (13th to 16th position of Order No., further options see pages 2/24 to 2/29)

with door sealing frame IP40

Withdrawable version Accessories (13th to 16th position of Order No., further options see pages 2/24 to 2/29)

with door sealing frame IP40

with door sealing frame IP40, sealing cap over OFF button, and shutter size I, up to 1600 A size II, 2000 ... 3800 A

Order No. supplements	Additional price	Order No. supplements	Additional price
AA0	without	AA0	without
UA3	X	UA3	X
0AA2	without	0AA2	without
5AA2	without	5AA2	without
5AB2	X	5AB2	X

"Options" and "Accessories" see "Options" and "Accessories" for "Air-Circuit Breakers", pages 2/23 to 2/34.

X = additional price




Selection and ordering data

Design	Order No. supplement	Additional price		
	9th to 11th position of Order No. of circuit breaker (see pages 2/18 to 2/22) must be added as listed below 3WT8...-□□□□-.....			
Operating mechanism				
Manual operating mechanism, with mechanical closing	A	without		
Manual operating mechanism, with mechanical and electrical closing				
Closing solenoid				
AC 50/60 Hz V	DC V			
--	24			
110 ... 127	110 ... 125	X		
220 ... 240	220 ... 250	X		
Manual/motorized operating mechanism, with mechanical and electrical closing				
Motor	Closing solenoid			
AC 50/60 Hz V	DC V	AC 50/60 Hz V	DC V	
--	24	24	24	
110 ... 127	110 ... 125	110 ... 127	110 ... 125	X
220 ... 240	220 ... 250	220 ... 240	220 ... 250	X
110 ... 127	110 ... 125	--	24	X
220 ... 240	220 ... 250	--	24	X
220 ... 240	220 ... 250	110 ... 127	110 ... 125	X
1st auxiliary release				
Without 1st auxiliary release	A	without		
Shunt release "f" F1				
AC 50/60 Hz V	DC V			
--	24			
110 ... 127	110 ... 125	X		
220 ... 240	220 ... 250	X		
Undervoltage release "r" F3				
AC 50/60 Hz V	DC V			
--	24			
110 ... 127	110 ... 125	X		
220 ... 240	220 ... 250	X		
380 ... 415	--	X		
Undervoltage release "rc" F8, can be delayed between 0.2 and 3.2 s				
AC 50/60 Hz V	DC V			
110 ... 127	110 ... 125	X		
220 ... 240	220 ... 250	X		
380 ... 415	--	X		
2nd auxiliary release and auxiliary switch				
Without 2nd auxiliary release	with 1st auxiliary contact block (standard) 2 NO + 2 NC	0	without	
Shunt release "f" F2	with 1st auxiliary contact block (standard)			
AC 50/60 Hz V	DC V			
--	24			
110 ... 127	110 ... 125	2 NO + 2 NC	X	
220 ... 240	220 ... 250	2 NO + 2 NC	X	
		2 NO + 2 NC	X	
Without 2nd auxiliary release	with 1st and 2nd auxiliary contact block 2 NO + 2 NC + 2 CO	4	X	
Shunt release "f" F2	with 1st and 2nd auxiliary contact block			
AC 50/60 Hz V	DC V			
--	24			
110 ... 127	110 ... 125	2 NO + 2 NC + 2 CO	X	
220 ... 240	220 ... 250	2 NO + 2 NC + 2 CO	X	
		2 NO + 2 NC + 2 CO	X	

X = additional price

3WT Air Circuit Breakers up to 4000 A (AC)

Options




Design	Order No. supplement	Additional price			
	13th to 16th position of Order No. of circuit breaker (see pages 2/18 to 2/22) must be added as listed below	3-pole	4-pole		
	3WT8...-.....-□□□□				
For withdrawable circuit breakers without guide frame					
	With door sealing frame IP40	5	A A 2	without	without
	With door sealing frame IP40 and locking device With safety lock device CES instead of OFF button ¹⁾ (key removable in OFF position)	5	A E 2	X	X
For withdrawable circuit breakers with guide frame					
	With door sealing frame IP40	5	A A 2	without	without
	With door sealing frame IP40, sealing cap over OFF button, and shutter Sealing cap to prevent unauthorized opening, cannot be combined with safety lock With shutter Size I, up to 1600 A Size II, 2000 ... 3800 A	5	A B 2	X	X
	With door sealing frame IP40, sealing cap over OFF button, and mutual mechanical interlock for 3WT circuit breaker Sealing cap to prevent unauthorized opening, cannot be combined with safety lock Interlock module with a Bowden wire (2 m); when interlocking three circuit breakers an additional Bowden wire is required, see page 2/31.	5	A C 2	X	X
	With door sealing frame IP40, sealing cap over OFF button, mutual mechanical interlock for 3WT circuit breaker and shutter Sealing cap to prevent unauthorized opening, cannot be combined with safety lock Interlock module with a Bowden wire (2 m); when interlocking three circuit breakers an additional Bowden wire is required, see page 2/31. With shutter Size I, up to 1600 A Size II, 2000 ... 3800 A	5	A D 2	X	X
	With door sealing frame IP40 and locking device With safety lock device CES instead of OFF button ¹⁾ (key removable in OFF position)	5	A E 2	X	X
	With door sealing frame IP40, locking device, and shutter With safety lock device CES instead of OFF button ¹⁾ (key removable in OFF position) With shutter Size I, up to 1600 A Size II, 2000 ... 3800 A	5	A F 2	X	X
	With door sealing frame IP40, locking device, blocking device and mutual mechanical interlock for 3WT circuit breaker With safety lock device CES instead of OFF button ¹⁾ (key removable in OFF position) Blocking device to prevent opening of the cabinet door when the circuit breaker is in connected position Interlock module with a Bowden wire (2 m); when interlocking three circuit breakers an additional Bowden wire is required, see page 2/31.	5	A G 2	X	X
	With door sealing frame IP40, locking device, blocking device, mutual mechanical interlock for 3WT circuit breaker and shutter With safety lock device CES instead of OFF button ¹⁾ (key removable in OFF position) Blocking device to prevent opening of the cabinet door when the circuit breaker is in connected position Interlock module with a Bowden wire (2 m); when interlocking three circuit breakers an additional Bowden wire is required, see page 2/31. With shutter Size I, up to 1600 A Size II, 2000 ... 3800 A	5	A H 2	X	X

¹⁾ This disables mechanical or electrical ON commands.

X = additional price

3WT Air Circuit Breakers up to 4000 A (AC)

Options




Design	Order No. supplement	Additional price				
	13th to 16th position of Order No. of circuit breaker (see pages 2/18 to 2/22) must be added as listed below	3-pole	4-pole			
	3WT8...-.....-□□□□					
For withdrawable circuit breakers with guide frame						
 With door sealing frame IP40 locking device and sealing cap over OFF button Locking device: mounting set for CASTELL lock ¹⁾ , Interlock to be obtained from the manufacturer of the locks CASTELL lock (FS 2) Sealing cap to prevent unauthorized opening, cannot be combined with safety lock	5	A	J	2		
 With door sealing frame IP40 locking device, sealing cap over OFF button, and shutter Locking device: mounting set for CASTELL lock ¹⁾ , Interlock to be obtained from the manufacturer of the locks CASTELL lock (FS 2) Sealing cap to prevent unauthorized opening, cannot be combined with safety lock With shutter Size I, up to 1600 A Size II, 2000 ... 3800 A	5	A	K	2	X	X
 With door sealing frame IP40 locking device, blocking device, sealing cap over OFF button and mutual mechanical interlock for 3WT circuit breaker Locking device: mounting set for CASTELL lock ¹⁾ , Interlock to be obtained from the manufacturer of the locks CASTELL lock (FS 2) Blocking device to prevent opening of the cabinet door when the circuit breaker is in connected position Sealing cap to prevent unauthorized opening, cannot be combined with safety lock Interlock module with a Bowden wire (2 m); when interlocking three circuit breakers an additional Bowden wire is required, see page 2/31.	5	A	L	2	X	X
With door sealing frame IP40 locking device, blocking device, sealing cap over OFF button, mutual mechanical interlock for 3WT circuit breaker and shutter Locking device: mounting set for CASTELL lock ¹⁾ , Interlock to be obtained from the manufacturer of the locks CASTELL lock (FS 2) Blocking device to prevent opening of the cabinet door when the circuit breaker is in connected position Sealing cap to prevent unauthorized opening, cannot be combined with safety lock Interlock module with a Bowden wire (2 m); when interlocking three circuit breakers an additional Bowden wire is required, see page 2/31. With shutter Size I, up to 1600 A Size II, 2000 ... 3800 A	5	A	M	2	X	X
With door sealing frame IP40, sealing cap over OFF button, 5-digit operating cycles counter and shutter Sealing cap to prevent unauthorized opening, cannot be combined with safety lock With shutter Size I, up to 1600 A Size II, 2000 ... 3800 A	5	A	P	2	X	X
With door sealing frame IP40 blocking device, sealing cap over OFF button, 5-digit operating cycles counter and mutual mechanical interlock for 3WT circuit breaker Blocking device to prevent opening of the cabinet door when the circuit breaker is in connected position Sealing cap to prevent unauthorized opening, cannot be combined with safety lock Interlock module with a Bowden wire (2 m); when interlocking three circuit breakers an additional Bowden wire is required, see page 2/31.	5	A	Q	2	X	X

¹⁾ Locks are available at the manufacturer of the locks.

X = additional price

3WT Air Circuit Breakers up to 4000 A (AC)

Options




Design	Order No. supplement	Additional price	
	13th to 16th position of Order No. of circuit breaker (see pages 2/18 to 2/22) must be added as listed below	3-pole	4-pole
	3WT8...-.....-□□□□		
For withdrawable circuit breakers with guide frame			
 <p>With door sealing frame IP40 blocking device, sealing cap over OFF button, 5-digit operating cycles counter mutual mechanical interlock for 3WT circuit breaker, and shutter</p> <p>Blocking device to prevent opening of the cabinet door when the circuit breaker is in connected position</p> <p>Sealing cap to prevent unauthorized opening, cannot be combined with safety lock</p> <p>Interlock module with a Bowden wire (2 m); when interlocking three circuit breakers an additional Bowden wire is required, see page 2/31.</p> <p>With shutter Size I, up to 1600 A Size II, 2000 ... 3800 A</p>	5 A R 2	X	X
 <p>With door sealing frame IP40 locking device, sealing cap over OFF button and 5-digit operating cycles counter</p> <p>Locking device: mounting set for CASTELL lock¹⁾, Interlock to be obtained from the manufacturer of the locks CASTELL lock (FS 2)</p> <p>Sealing cap to prevent unauthorized opening, cannot be combined with safety lock</p>	5 A S 2	X	X
 <p>With door sealing frame IP40 locking device, sealing cap over OFF button, 5-digit operating cycles counter and shutter</p> <p>Locking device: mounting set for CASTELL lock¹⁾, Interlock to be obtained from the manufacturer of the locks CASTELL lock (FS 2)</p> <p>Sealing cap to prevent unauthorized opening, cannot be combined with safety lock</p> <p>With shutter Size I, up to 1600 A Size II, 2000 ... 3800 A</p>	5 A T 2	X	X
<p>With door sealing frame IP40 locking device, blocking device, sealing cap over OFF button, 5-digit operating cycles counter and mutual mechanical interlock for 3WT circuit breaker</p> <p>Locking device: mounting set for CASTELL lock¹⁾, Interlock to be obtained from the manufacturer of the locks CASTELL lock (FS 2)</p> <p>Blocking device to prevent opening of the cabinet door when the circuit breaker is in connected position</p> <p>Sealing cap to prevent unauthorized opening, cannot be combined with safety lock</p> <p>Interlock module with a Bowden wire (2 m); when interlocking three circuit breakers an additional Bowden wire is required, see page 2/31.</p>	5 A U 2	X	X
<p>With door sealing frame IP40 locking device, blocking device, sealing cap over OFF button, 5-digit operating cycles counter mutual mechanical interlock for 3WT circuit breaker and shutter</p> <p>Locking device: mounting set for CASTELL lock¹⁾, Interlock to be obtained from the manufacturer of the locks CASTELL lock (FS 2)</p> <p>Blocking device to prevent opening of the cabinet door when the circuit breaker is in connected position</p> <p>Sealing cap to prevent unauthorized opening, cannot be combined with safety lock</p> <p>Interlock module with a Bowden wire (2 m); when interlocking three circuit breakers an additional Bowden wire is required, see page 2/31.</p> <p>With shutter Size I, up to 1600 A Size II, 2000 ... 3800 A</p>	5 A V 2	X	X

¹⁾ Locks are available at the manufacturer of the locks.

X = additional price

3WT Air Circuit Breakers up to 4000 A (AC)

Options




Design	Order No. supplement 13th to 16th position of Order No. of circuit breaker (see pages 2/18 to 2/22) must be added as listed below	Additional price	
		3-pole	4-pole
For withdrawable circuit breakers with guide frame			
	3WT8...-.....-□□□□		
	With door interlock	5 A W 2	X X
	With door interlock and shutter With shutter Size I, up to 1600 A Size II, 2000 ... 3800 A	5 A X 2	X X X X
	With door interlock, locking device, sealing cap over OFF button, position indicator switch and shutter Locking device: mounting set for CASTELL lock ¹⁾ , Interlock to be obtained from the manufacturer of the locks CASTELL lock (FS 2) Sealing cap to prevent unauthorized opening, cannot be combined with safety lock With shutter Size I, up to 1600 A Size II, 2000 ... 3800 A	5 A Y 2	X X X X
	With door interlock, sealing cap over OFF button, position indicator switch, 5-digit operating cycles counter and shutter Sealing cap to prevent unauthorized opening, cannot be combined with safety lock With shutter Size I, up to 1600 A Size II, 2000 ... 3800 A	5 B A 2	X X X X
	With door interlock, locking device, sealing cap over OFF button, position indicator switch, 5-digit operating cycles counter and shutter Locking device: mounting set for CASTELL lock ¹⁾ , Interlock to be obtained from the manufacturer of the locks CASTELL lock (FS 2) Sealing cap to prevent unauthorized opening, cannot be combined with safety lock With shutter Size I, up to 1600 A Size II, 2000 ... 3800 A	5 B B 2	X X X X
	With door interlock, sealing cap over OFF button, position indicator switch and shutter Sealing cap to prevent unauthorized opening, cannot be combined with safety lock With shutter Size I, up to 1600 A Size II, 2000 ... 3800 A	5 B C 2	X X X X

¹⁾ Locks are available at the manufacturer of the locks.

X = additional price

3WT Air Circuit Breakers up to 4000 A (AC)

Options

Design	Order No. supplement 13th to 16th position of Order No. of circuit breaker (see pages 2/18 to 2/22) must be added as listed below	Additional price	
		3-pole	4-pole
For fixed-mounted circuit breakers			
	3WT8...-.....-□□□□		
	0 A A 2	without	without
	With door sealing frame IP40 and locking device With safety lock device CES instead of OFF button ¹⁾ (key removable in OFF position)	0 A B 2	X X
	With door sealing frame IP40, sealing cap over OFF button and mutual mechanical interlock for 3WT circuit breaker, sealing cap to prevent unauthorized opening, cannot be combined with safety lock	0 A C 2	
	Interlock module with a Bowden wire (2 m); when interlocking three circuit breakers an additional Bowden wire is required, see page 2/31.		X X
	With door sealing frame IP40, locking device, and mutual mechanical interlock for 3WT circuit breaker With safety lock device CES instead of OFF button ¹⁾ (key removable in OFF position)	0 A D 2	
	Interlock module with a Bowden wire (2 m); when interlocking three circuit breakers an additional Bowden wire is required, see page 2/31.		X X
	With door sealing frame IP40, sealing cap over OFF button, blocking device, and mutual mechanical interlock for 3WT circuit breaker Sealing cap to prevent unauthorized opening, cannot be combined with safety lock	0 A E 2	
	Blocking device to prevent opening of the cabinet door with the circuit breaker closed		
	Interlock module with a Bowden wire (2 m); when interlocking three circuit breakers an additional Bowden wire is required, see page 2/31.		X X
	With door sealing frame IP40, locking device, blocking device, and mutual mechanical interlock for 3WT circuit breaker With safety lock device CES instead of OFF button ¹⁾ (key removable in OFF position)	0 A F 2	
	Blocking device to prevent opening of the cabinet door with the circuit breaker closed		
	Interlock module with a Bowden wire (2 m); when interlocking three circuit breakers an additional Bowden wire is required, see page 2/31.		X X
	With door sealing frame IP40, locking device, and sealing cap over OFF button Locking device: mounting set for CASTELL lock ²⁾ , Interlock to be obtained from the manufacturer of the locks CASTELL lock (FS 2)	0 A G 2	
	Sealing cap to prevent unauthorized opening, cannot be combined with safety lock		
	Blocking device to prevent opening of the cabinet door with the circuit breaker closed		
	Interlock module with a Bowden wire (2 m); when interlocking three circuit breakers an additional Bowden wire is required, see page 2/31.		X X
	With door sealing frame IP40, 5-digit operating cycles counter, locking device, sealing cap over OFF button, blocking device, and mutual mechanical interlock for 3WT circuit breaker Locking device: mounting set for CASTELL lock ²⁾ , Interlock to be obtained from the manufacturer of the locks CASTELL lock (FS 2)	0 A H 2	
	Sealing cap to prevent unauthorized opening, cannot be combined with safety lock		
	Blocking device to prevent opening of the cabinet door with the circuit breaker closed		
	Interlock module with a Bowden wire (2 m); when interlocking three circuit breakers an additional Bowden wire is required, see page 2/31.		X X
	With door sealing frame IP40, 5-digit operating cycles counter, sealing cap over OFF button, and mutual mechanical interlock for 3WT circuit breaker Sealing cap to prevent unauthorized opening, cannot be combined with safety lock	0 A J 2	
	Interlock module with a Bowden wire (2 m); when interlocking three circuit breakers an additional Bowden wire is required, see page 2/31.		X X




¹⁾ This disables mechanical or electrical ON commands.

X = additional price

²⁾ Locks are available at the manufacturer of the locks.

3WT Air Circuit Breakers up to 4000 A (AC)

Options

Design	Order No. supplement 13th to 16th position of Order No. of circuit breaker (see pages 2/18 to 2/22) must be added as listed below	Additional price		
	3WT8. - □ □ □ □	3-pole	4-pole	
For fixed-mounted circuit breakers				
  	With door sealing frame IP40, 5-digit operating cycles counter, sealing cap over OFF button, blocking device, and mutual mechanical interlock for 3WT circuit breaker Sealing cap to prevent unauthorized opening, cannot be combined with safety lock Blocking device to prevent opening of the cabinet door with the circuit breaker closed Interlock module with a Bowden wire (2 m); when interlocking three circuit breakers an additional Bowden wire is required, see page 2/31.	0 A K 2		
		X	X	
	With door sealing frame IP40, 5-digit operating cycles counter, locking device, and sealing cap over OFF button Locking device: mounting set for CASTELL lock ²⁾ , Interlock to be obtained from the manufacturer of the locks CASTELL lock (FS 2) Sealing cap to prevent unauthorized opening, cannot be combined with safety lock	0 A L 2		
		X	X	
	With door sealing frame IP40, 5-digit operating cycles counter, locking device, sealing cap over OFF button, blocking device, and mutual mechanical interlock for 3WT circuit breaker With safety lock device CES instead of OFF button ¹⁾ (key removable in OFF position) Locking device: mounting set for CASTELL lock ²⁾ , Interlock to be obtained from the manufacturer of the locks CASTELL lock (FS 2) Blocking device to prevent opening of the cabinet door with the circuit breaker closed Interlock module with a Bowden wire (2 m); when interlocking three circuit breakers an additional Bowden wire is required, see page 2/31.	0 A M 2		
		X	X	
	With 5-digit operating cycles counter	0 A N 2	X	X
	With door interlock	0 A P 2	X	X

¹⁾ This disables mechanical or electrical ON commands.

²⁾ Locks are available at the manufacturer of the locks.

X = additional price

3WT Air Circuit Breakers up to 4000 A (AC)

Accessories/spare parts

Selection and ordering data

Size	Rated current I_n	3-pole			4-pole		
		Order No.	Price	Weight approx. kg	Order No.	Price	Weight approx. kg

Guide frame for withdrawable version, horizontal main circuit connection, 2 auxiliary supply connectors

I	400 ... 1250	3WT98 83-2AC10		22	3WT98 83-2AC30		27
I	1600	3WT98 83-4AC10		23	3WT98 83-4AC30		28
II	2000 ... 2500	3WT98 83-6AC10		35	3WT98 83-6AC30		46
II	3200	3WT98 83-7AC10		37	3WT98 83-7AC30		48

Guide frame for withdrawable version, horizontal main circuit connection at top, vertical connection at bottom, 2 auxiliary supply connectors

I	400 ... 1250	3WT98 83-2BC10		22	3WT98 83-2BC30		27
I	1600	3WT98 83-4BC10		23	3WT98 83-4BC30		28
II	2000 ... 2500	3WT98 83-6BC10		35	3WT98 83-6BC30		46
II	3200	3WT98 83-7BC10		37	3WT98 83-7BC30		48

Guide frame for withdrawable version, vertical main circuit connection at top and bottom, 2 auxiliary supply connectors

I	400 ... 1250	3WT98 83-2BC20		22	3WT98 83-2BC40		27
I	1600	3WT98 83-4BC20		23	3WT98 83-4BC40		28
II	2000 ... 2500	3WT98 83-6BC20		35	3WT98 83-6BC40		46
II	3200	3WT98 83-7BC20		37	3WT98 83-7BC40		48
II	3800	3WT98 83-8BC20		64	3WT98 83-8BC40		64

For fixed-mounted and withdrawable circuit breakers

Current transformers for neutral conductor overload protection and ground-fault protection

Only one of the two measuring methods is permissible in conjunction with the electronic trip unit. The overload protection for the neutral conductor takes effect when the current transformer is fitted in the neutral conductor. The ground-fault current is calculated by means of summation current formation of the phases and the neutral conductor.



Type of detection (see page 2/7)	Designation	Frame size of the circuit breaker	Required order quantity per circuit breaker	For 1 set or 1 unit	Price	Weight approx. kg
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Vectorial summation with current transformer in the neutral conductor

Current transformers for 3- and 4-pole circuit breakers, external neutral conductor with copper busbars	I		1 unit	3WL9 111-0AA31-0AA0		1.600
	II		1 unit	3WL9 111-0AA32-0AA0		4.260
Current transformers for 3- and 4-pole circuit breakers, external neutral conductor without copper busbars	I		1 unit	3WL9 111-0AA21-0AA0		0.300
	II		1 unit	3WL9 111-0AA22-0AA0		0.380
Designation	Rated control supply voltage/ rated operational voltage	Order quantity	For 1 set or 1 unit			
	AC 50/60 Hz					
Manual function tester for electronic trip unit for versions ETU35WT ... ETU47WT	110 ... 127/220 ... 240 V	1 unit		3WL9 111-0AT32-0AA0		1.300
Door sealing frame IP40			1 unit	3WT98 86-0JA00		1.000
Protective covers, IP55 Cannot be used in conjunction with door sealing frames, cover removable and can be opened on both sides			1 unit	3WL9 111-0AP02-0AA0		1.600

When retrofitting, the circuit breaker Order No. must be added to the name plate on the operator panel and to the side wall of the circuit breaker in accordance with the installation instructions.

00035

Designation	Required order quantity per circuit breaker	For 1 set or 1 unit Order No.	Price	Weight approx. kg	
For fixed-mounted and withdrawable circuit breakers					
5-digit operating cycles counter	1 unit	3WT98 64-0CA00		0.250	
Auxiliary release	Rated control supply voltage				
	AC 50/60 Hz V	DC V			
Shunt release "f" for 1st and 2nd auxiliary release (F1 and F2) and closing solenoid (Y1)	--	24	1 unit	3WT98 51-1JB00 0.800	
	110 ... 127	110 ... 125		3WT98 51-1JH00 0.800	
	220 ... 240	220 ... 250		3WT98 51-1JK00 0.800	
Undervoltage release "r" (F3) instantaneous 0 ms, short-delay 200 ms	--	24	1 unit	3WT98 53-1JB00 0.800	
	110 ... 127	110 ... 125		3WT98 53-1JH00 0.800	
	220 ... 240	220 ... 250		3WT98 53-1JK00 0.800	
	380 ... 415	--		3WT98 53-1JM00 0.800	
Undervoltage release "rc" (F8) can be delayed 0.2 ... 3.2 s	110 ... 127	110 ... 125	1 unit	3WT98 54-1JH00 0.850	
	220 ... 240	220 ... 250		3WT98 54-1JK00 0.850	
	380 ... 415	--		3WT98 54-1JM00 0.850	
Auxiliary switches 2 CO	1 unit	3WT98 16-1CE00		0.070	
Motorized operating mechanism and electrical closing (possible if 9th position of Order No. for circuit breaker is "A")	consisting of motor and closing solenoid (Y1)				
	Rated control supply voltage				
	Motor	Closing solenoid			
	AC 50/60 Hz V	DC V	AC 50/60 Hz V	DC V	
110 ... 127	110 ... 125	110 ... 127	110 ... 125	1 set	3WT98 31-1JH00 2.400
220 ... 240	220 ... 250	220 ... 240	220 ... 250		3WT98 31-1JK00 2.400
Motorized operating mechanism	consisting of motor and wiring; rated control supply voltage of motor				
	AC 50/60 Hz V	DC V			
	--	24	1 set	3WT98 32-1JB00 1.600	
	110 ... 127	110 ... 125	1 set	3WT98 32-1JH00 1.600	
220 ... 240	220 ... 250	1 set	3WT98 32-1JK00 1.600		
Electrical closing (possible if 9th position of Order No. for circuit breaker is "A")	consisting of closing solenoid (Y1), electrical ON button and wiring; rated control supply voltage of closing solenoid (Y1)				
	AC 50/60 Hz V	DC V			
	--	24	1 set	3WT98 33-1JB00 0.800	
	110 ... 127	110 ... 125	1 set	3WT98 33-1JH00 0.800	
220 ... 240	220 ... 250		3WT98 33-1JK00 0.800		
 Mutual mechanical interlock for 3WT circuit breaker	An interlock module with a Bowden wire (2 m) for one fixed-mounted circuit breaker for one withdrawable circuit breaker		1 unit	3WT98 66-3JA00 3.000	
	Interlocking of three circuit breakers additional Bowden wire required for each circuit breaker		1 unit	3WT98 66-4JA00 1.000	
	Bowden wire (2 m)		1 unit	3WT98 66-8JA00 0.200	
	Bowden wire (3 m)		1 unit	3WT98 66-8JA01 0.500	
Bowden wire (4.5 m)			3WT98 66-8JA02 0.700		
 Locking device consisting of safety locks or padlocks to prevent unauthorized closing of the circuit-breaker	Safety lock (3SB1) instead of the OFF button	Made by CES Normal lock no. SSG 10	1 unit	3WT98 63-1JA00 0.120	
	Mounting set ¹⁾ for CASTELL or FORTRESS lock ²⁾		1 set	3WT98 63-6JE00 0.100	
	Interlock to be obtained from the lock manufacturer CASTELL lock (FS 2) or FORTRESS lock (H31LH/65°/standard)				

¹⁾ The 3WT98 63-6JE locking system meets the isolation conditions to IEC 60947-1 and IEC 60947-1/A1.

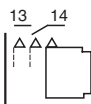
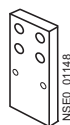
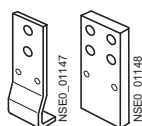
²⁾ Locks are available at the manufacturer of the locks.

3WT Air Circuit Breakers up to 4000 A (AC)

Accessories/spare parts

When retrofitting, the circuit breaker Order No. must be added to the name plate on the operator panel and to the side wall of the circuit breaker in accordance with the installation instructions.

Designation/ for circuit breaker Type	Rated current I_n	Size	Number of poles	Required or- der quantity per circuit breaker	For 1 set or 1 unit Order No.	Price	Weight approx. kg
For fixed-mounted and withdrawable circuit breakers							
Crank handle							
For withdrawable circuit breaker				1 set	3WT98 84-0JA00		0.500
Electronic trip unit							
ETU35WT, LSI with display				1 unit	3WT98 41-4AA00		1.200
ETU37WT, LSING with display				1 unit	3WT98 41-5AB00		1.200
ETU45WT, LSIN with display				1 unit	3WT98 41-6AC00		1.200
ETU47WT, LSING with display				1 unit	3WT98 41-7AD00		1.200
For fixed-mounted circuit breakers							
Connecting bars							
up to 1250 A	I	3-pole and 4-pole	1 unit ³⁾		3WT98 21-7AC00		2.000
for vertical connection 1600 A	I	3-pole and 4-pole	1 unit ³⁾		3WT98 21-7BC00		4.100
2000 A and 2500 A	II	3-pole	1 set ¹⁾		3WT98 21-7DA00		5.500
		4-pole	1 set ²⁾		3WT98 21-7DB00		7.400
3200 A	II	3-pole	1 set ¹⁾		3WT98 21-7FA00		4.800
		4-pole	1 set ²⁾		3WT98 21-7FB00		6.500
Connecting bars for front-accessible connection							
up to 1250 A	I	3- and 4-pole	1 unit ³⁾		3WT98 21-1AA01		on req.
1600 A	I	3- and 4-pole	1 unit ³⁾		3WT98 21-1BA01		on req.
Vertical double-hole bar (holes to DIN 43673)	II	3- and 4-pole	1 unit ³⁾		3WT98 21-1DA01		on req.
3200 A	II	3- and 4-pole	1 unit ³⁾		3WT98 21-1FA01		on req.
Auxiliary supply connectors							
				1 unit	3WT98 25-1JC00		0.080
Blocking device							
		to prevent opening of the cabinet door with the fixed-mounted circuit breaker closed		1 unit	3WT98 67-2JA00		0.700
Conversion set							
from fixed-mounted to withdrawable version = single operating mechanism	up to 1600 A	I	3-pole	1 unit	3WT98 88-0GA00		on req.
	up to 1600 A	I	4-pole	1 unit	3WT98 88-0HA00		on req.
	up to 3200 A	II	3-pole	1 unit	3WT98 88-0KA00		on req.
	up to 3200 A	II	4-pole	1 unit	3WT98 88-0LA00		on req.
For guide frames							
Connecting bar for additional terminal accessible from the front							
up to 1250 A	I	3- and 4-pole	1 unit ³⁾		3WT98 23-1AA01		on req.
1600 A	I	3- and 4-pole	1 unit ³⁾		3WT98 23-1BA01		on req.
2000 A and 2500 A	II	3- and 4-pole	1 unit ³⁾		3WT98 23-1DA01		on req.
Vertical double-hole bar (holes to DIN 43673)	II	3- and 4-pole	1 unit ³⁾		3WT98 23-1EA01		on req.
Connecting bar for rear vertical connection							
up to 1250 A	I	3- and 4-pole	1 unit ³⁾		3WT98 23-3AA00		on req.
1600 A	I	3- and 4-pole	1 unit ³⁾		3WT98 23-3BA00		on req.
2000 A and 2500 A	II	3-pole	1 set ¹⁾		3WT98 23-4AB00		2.600
		4-pole	1 set ²⁾		3WT98 23-4AC00		3.500
3200 A	II	3-pole	1 set ¹⁾		3WT98 23-4BB00		5.400
		4-pole	1 set ²⁾		3WT98 23-4BC00		7.100
Position indicator switch							
(actuated by withdraw- able circuit breaker)	Connected position 3 NO + 3 NC	Test position 2 NO + 2 NC	Discon- nected position 1 NO + 1 NC	Precondition possible if no pos. switch mounted yet	1 set = 1 unit		0.300



1) 1 set = 3 units.

2) 1 set = 4 units.

3) Please order the number of connecting bars as required for the application.

3WT Air Circuit Breakers up to 4000 A (AC)

Accessories/spare parts

When retrofitting, the circuit breaker Order No. must be added to the name plate on the operator panel and to the side wall of the circuit breaker in accordance with the installation instructions.

Designation/ for circuit breaker Type	Rated current I_n	Size	Num- bers of poles	Required or- der quantity per circuit break- er	For 1 set or 1 unit Order No.	Price	Weight approx. kg	
For guide frames (continued)								
Shutters Protection against touching the main contacts	1600 A	size I	3-pole	1 unit	3WT98 84-3CA00		0.500	
	2000 A ... 3800 A	size II	3-pole	1 unit	3WT98 84-3DA00		0.700	
	1600 A	size I	4-pole	1 unit	3WT98 84-3CB00		0.600	
	2000 A ... 3800 A	size II	4-pole	1 unit	3WT98 84-3DB00		0.800	
Auxiliary supply connectors For guide frames – for spare parts and retrofitting	up to 4000 A	size I, II	3- and 4-pole	1 unit	3WT98 27-1JA00		0.160	
For withdrawable circuit breakers								
Blocking device to prevent opening of the cabinet door, when circuit breaker is in connected position	up to 4000 A	size I, II	3- and 4-pole	1 unit	3WT98 67-1JC00		0.100	
For fixed-mounted and withdrawable circuit breakers								
Main contact set	up to 1250 A, Ecoline	size I	3-pole	3 units	3WT98 21-0AA00		on req.	
			4-pole	4 units	3WT98 21-0AA00		on req.	
	up to 1250 A, $I_{cw} = 50$ kA	size I	3-pole	3 units	3WT98 21-0AA10		on req.	
			4-pole	4 units	3WT98 21-0AA10		on req.	
	up to 1600 A	size I	3-pole	3 units	3WT98 21-0BA00		on req.	
			4-pole	4 units	3WT98 21-0BA00		on req.	
	up to 2500 A	size II	3-pole	3 units	3WT98 21-0DA00		on req.	
			4-pole	4 units	3WT98 21-0DA00		on req.	
	for fixed-mounted circuit breakers only	up to 4000 A	size II	3-pole	3 units	3WT98 21-0FA00		on req.
				4-pole	4 units	3WT98 21-0FA00		on req.
	for withdrawable circuit breakers and for fixed-mounted circuit breakers	up to 3200 A 4000 A	size II	3-pole	3 units	3WT98 21-0FA00		on req.
				4-pole	4 units	3WT98 21-0FA00		on req.
for withdrawable circuit breakers only	3800 A	size II	3-pole	3 units	3WT98 21-0GA00		on req.	
			4-pole	4 units	3WT98 21-0GA00		on req.	
Arc chute	up to 1600 A	size I	3-pole	3 units	3WT98 11-0CA00		on req.	
			4-pole	4 units	3WT98 11-0CA00		on req.	
	2000 A ... 4000 A	size II	3-pole	3 units	3WT98 11-0FA00		on req.	
			4-pole	4 units	3WT98 11-0FA00		on req.	
Installation manual for 3WT8								
					3ZX18 12-0WT81-0AN0			
					3ZX18 12-0WT82-0AN0			
					3ZX18 12-0WT83-0AN0			
					3ZX18 12-0WT84-0AN0			
					3ZX18 12-0WT85-0AN0			
					3ZX18 12-0WT86-0AN0			
					3ZX18 12-0WT87-0AN0			



3WT Air Circuit Breakers up to 4000 A (AC)

Project planning aids

Characteristic curves²⁾

Every electronic trip unit type and every setting has its own characteristic. Only a selection is shown in the following. The characteristic curves each show the largest and smallest setting range of 3WT8 circuit breakers with 1000 A rated current at 500 V rated voltage with various trip units.

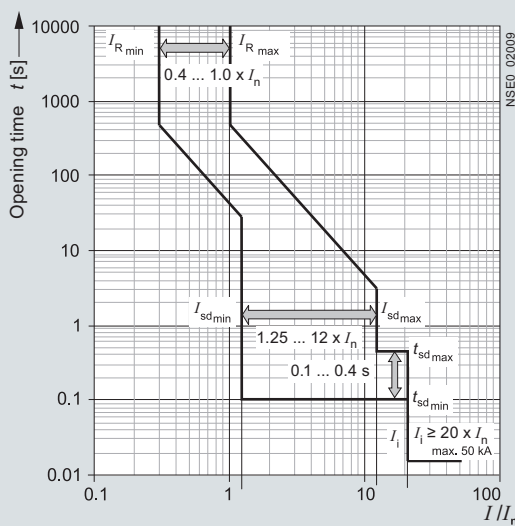
In order to obtain a complete tripping characteristic, the relevant parts of the characteristic have to be combined.

The characteristic curves show the behavior of the electronic trip unit when it is activated by a current that is already flowing before the tripping operation. If the overcurrent tripping occurs im-

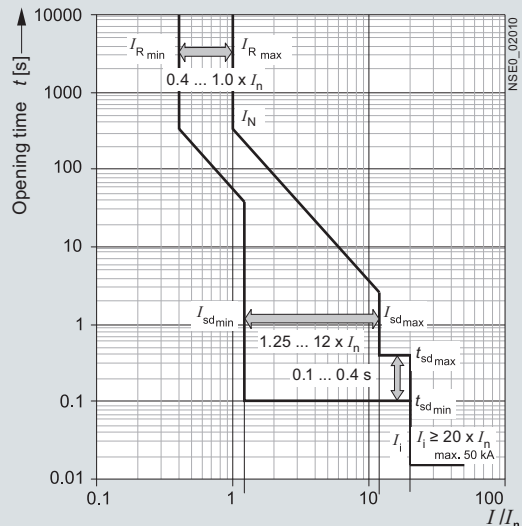
mediately after switch on and the electronic trip unit is therefore not yet enabled, the opening time is extended, depending on the level of the overcurrent by up to 15 ms. In order to determine the break-times of the circuit breakers, approximately 15 ms must be added to the opening times shown for the arcing time.

Refer to the following legend for tolerances.

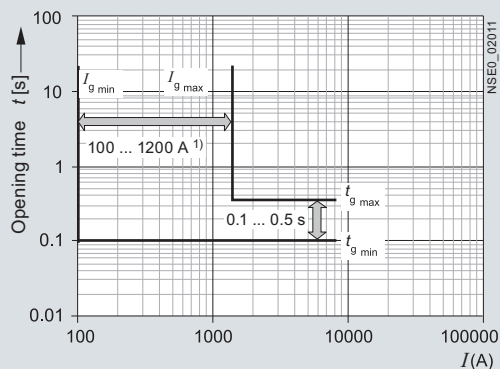
The characteristic curves shown apply to ambient temperatures at the circuit breaker between -5 and +55 °C. The trip unit can be operated at ambient temperatures of -20 to +70 °C. An extended tolerance band can apply at these temperatures.



3WT8 circuit breaker with ETU35WT electronic trip unit, LSI characteristic curve



3WT8 circuit breaker with ETU37WT electronic trip unit, LSIN characteristic curve



3WT8 circuit breaker with ETU37WT electronic trip unit, G characteristic curve³⁾

Tolerances for the set currents

L: Tripping operations between 1.05 and 1.2 × I_R

S: -0 %, +20 %

I: -0 %, +20 %

G: -0 %, +20 %

Tolerances for the tripping times

L: -20 %, +0 % for I^2t characteristic curve

S: -0 %, +60 ms or -0 %, 10 % for characteristic curve with fixed delay time

I: <50 ms

G: -0 %, +60 ms or -0 %, 10 % for characteristic curve with fixed delay time

¹⁾ Sizes I and II: 100 ... 1200 A.

²⁾ With single-pole loading in the lowest rated current range, the response times of the short-circuit release can be extended by approx. 10 % and the tripping times by approx. 15 % compared to the characteristic curve.

³⁾ As a result of the activation level of 150 A (frame size I) and 200 A (frame size II) in case of a single-pole loading the minimum pick-up value of ground fault will be $I_g = 300$ A.

3WT Air Circuit Breakers up to 4000 A (AC)

Project planning aids

Every electronic trip unit type and every setting has its own characteristic. Only a selection is shown in the following. The characteristic curves each show the largest and smallest setting range of 3WT8 circuit breakers with 1000 A rated current at 500 V rated voltage with various trip units.

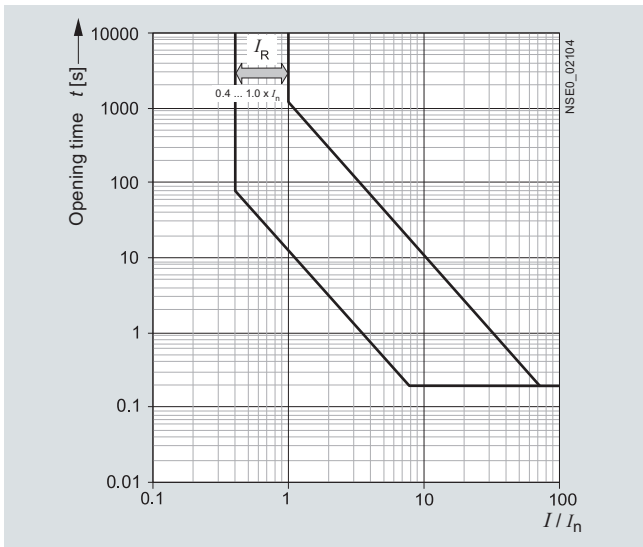
In order to obtain a complete tripping characteristic, the relevant parts of the characteristic have to be combined.

The characteristic curves show the behavior of the electronic trip unit when it is activated by a current that is already flowing before the tripping operation. If the overcurrent tripping occurs im-

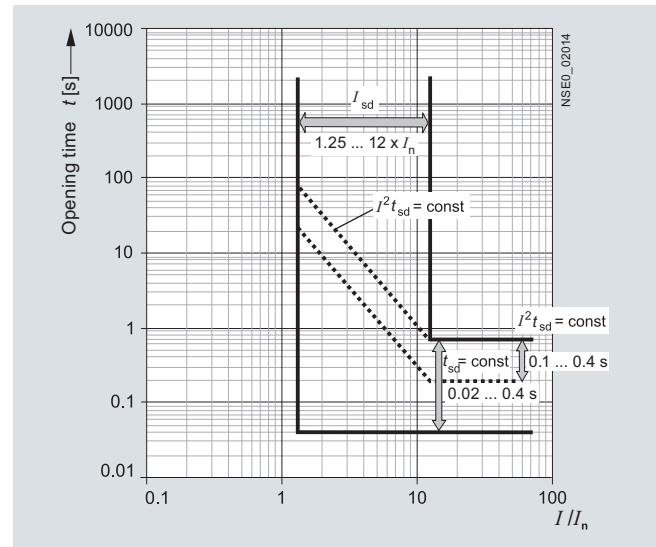
mediately after switch on and the electronic trip unit is therefore not yet enabled, the opening time is extended, depending on the level of the overcurrent by up to 15 ms. In order to determine the break-times of the circuit breakers, approximately 15 ms must be added to the opening times shown for the arcing time.

Refer to the following legend for tolerances.

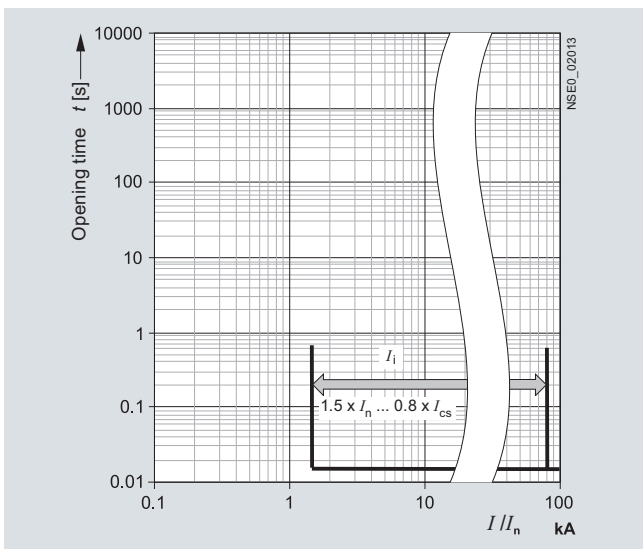
The characteristic curves shown apply to ambient temperatures at the circuit breaker between -5 and +55 °C. The trip unit can be operated at ambient temperatures of -20 to +70 °C. An extended tolerance band can apply at these temperatures.



3WT8 circuit breaker with ETU45WT and ETU47WT electronic trip unit, L characteristic curve



3WT8 circuit breaker with ETU45WT and ETU47WT electronic trip unit, S characteristic curve



3WT8 circuit breaker with ETU45WT and ETU47WT electronic trip unit, I characteristic curve

Tolerances for the set currents

L: Tripping operations between 1.05 and 1.2 x I_R

S: -0 %, +20 %

I: -0 %, +20 %

G: -0 %, +20 %

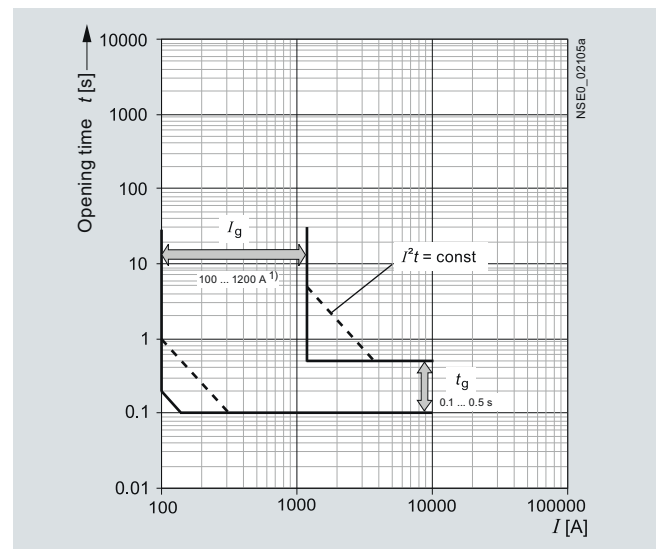
Tolerances for the tripping times

L: -20 %, +0 % for I²t characteristic curve

S: -0 %, +60 ms or -0 %, 10 % for characteristic curve with fixed delay time

I: <50 ms

G: -0 %, +60 ms or -0 %, 10 % for characteristic curve with fixed delay time



3WT8 circuit breaker with ETU47WT electronic trip unit, G characteristic curve²⁾

¹⁾ Sizes I and II: 100 ... 1200 A.

²⁾ As a result of the activation level of 150 A (frame size I) and 200 A (frame size II) in case of a single-pole loading the minimum pick-up value of ground fault will be I_g = 300 A.

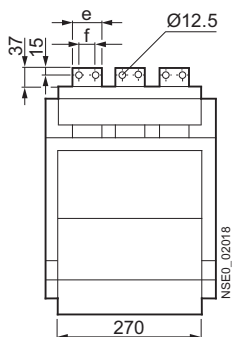
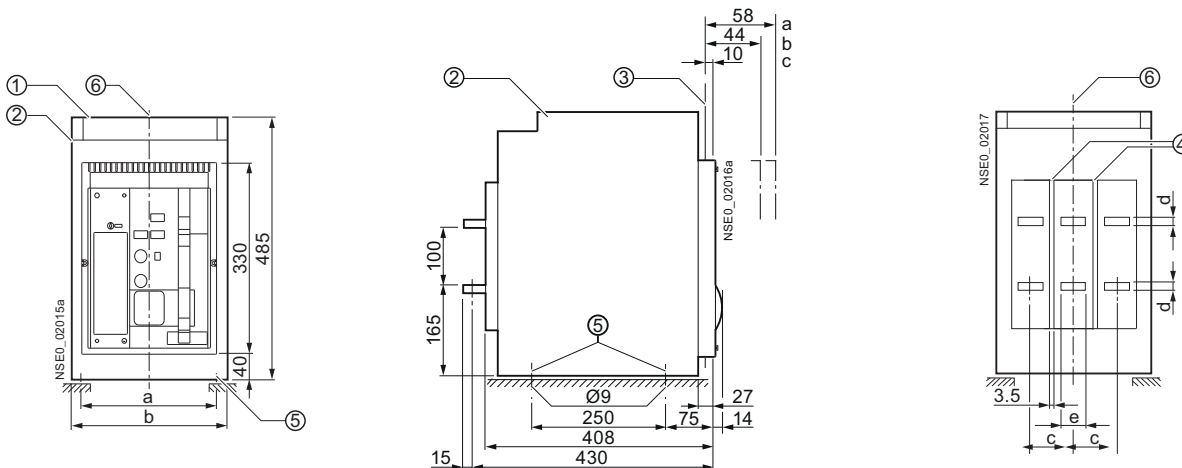
3WT Air Circuit Breakers up to 4000 A (AC)

Project planning aids

Dimensional drawings

3WT circuit breakers, withdrawable version, 3-pole

Horizontal connection



a Disconnected position

b Test position

c Connected position

① Auxiliary conductor plug-in system

② Guide frame

③ Switchboard door

④ Slots (6 mm deep) for line-side interphase barriers

⑤ Holes for attaching the guide frame

⑥ Center line of circuit breaker

Safety clearances

No additional safety clearance is required to adjacent grounded parts above the circuit breaker (on fixed-mounted circuit breakers identified with 3).

The clearance between the connection point and the support for the busbars must not exceed 250 mm.

All dimensions in mm.

Rated current A	a	b	c	d	e	f
400 up to 1250	280	320	90	8	60	30
1600	280	320	90	15	60	30
2000 up to 2500	380	420	120	15	80	40
3200	380	420	120	30	100	50

Main conductor connection

Terminal screws with strain washers (inside diameter = 12 mm to DIN 6769-Fst)	M12
Recommended tightening torque	Nm 70
Required strength of screws	8.8 to DIN 267

Up to a rated operating voltage of AC 500 V the busbars running vertically (such as in the case of front-accessible connection) do not have to be screened if the busbar system is not arranged above the circuit breaker.

In contrast, live bare conductors and busbars at voltages above AC 500 V that are arranged above the circuit breaker and when power is supplied from above must be insulated against flashover by interphase barriers or by a busbar cover or by an arc chute cover (use accessory for horizontal or vertical connection only).

Optional electrical equipment directly above (if no arc chute cover is used) or to the side of the circuit breaker should be protected by a cover. Also after the attachment of additional barriers or covers it must be ensured that the dissipation of heat from the circuit breaker is not impeded.

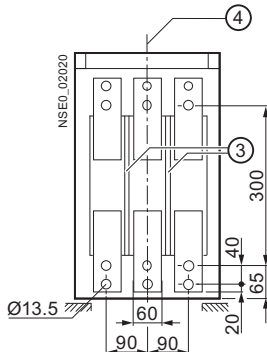
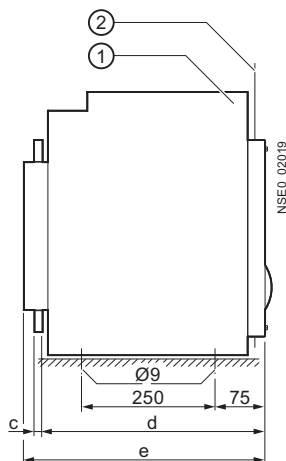
3WT Air Circuit Breakers up to 4000 A (AC)

Project planning aids

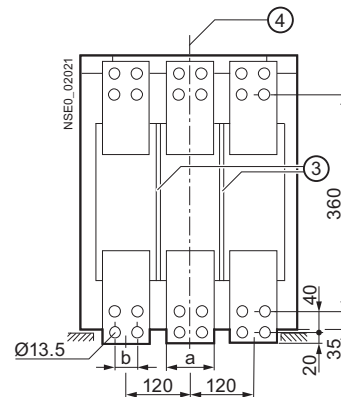
2

3WT circuit breakers, withdrawable version, 3-pole

Front connection



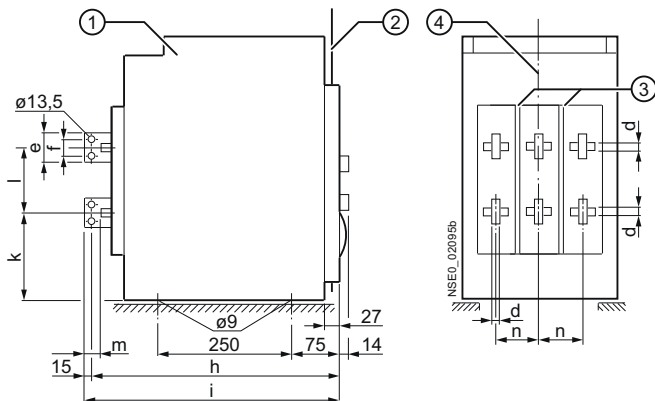
Double hole, 400 to 1600 A
Holes in bars to DIN 43673



Double hole, 2000 to 3200 A
Holes in bars to DIN 43673

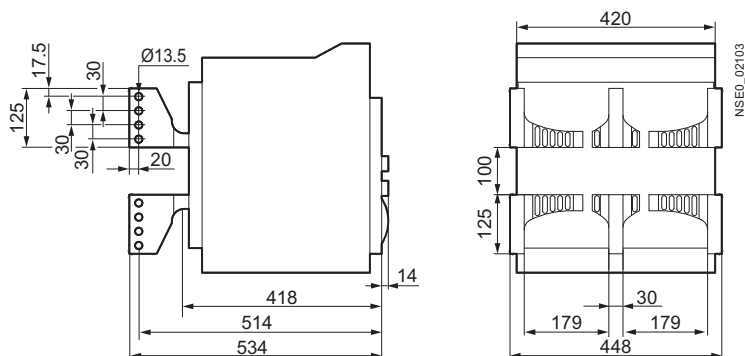
Rated current A	a	b	c	d	e
400 up to 1250	60	--	8	390	408
1600	60	--	15	390	408
2000 up to 2500	80	40	20	420	445
3200	100	50	20	420	445

Vertical connection up to 3200 A



Rated current A	d	e	f	h	i	k	l	m	n
400 up to 1250	8	60	30	455	470	157.5	115	37	90
1600	15	60	30	455	470	157.5	115	37	90
2000 to 2500	15	80	40	465	480	157.5	115	37	140
3200	30	100	50	465	480	150	130	37	140

Vertical connection 3800 A only - other mounting dimensions are equivalent to 3200 A version.



- ① Guide frame
- ② Switchboard door
- ③ Slots (6 mm deep, 3.5 mm wide) for line-side phase barriers
- ④ Center line of circuit breaker

For safety clearances see page 2/36.
All dimensions in mm.

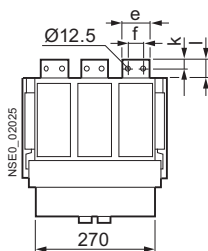
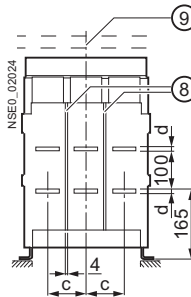
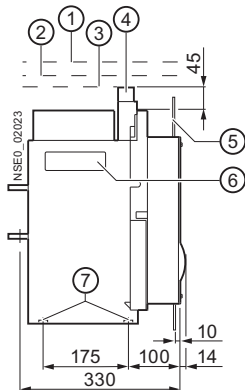
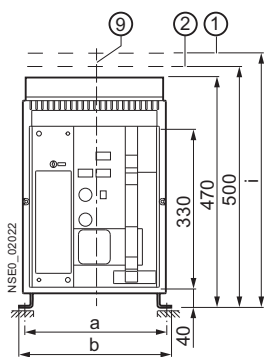
3WT Air Circuit Breakers up to 4000 A (AC)

Project planning aids

3WT fixed-mounted circuit breakers, 3-pole

Horizontal connection

2

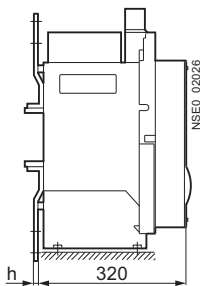


- ① Clearance for lifting out the arc chute
- ② Space for auxiliary supply connectors
- ③ Space above arc chute
- ④ Auxiliary supply connectors
- ⑤ Switchboard door
- ⑥ Recessed grip
- ⑦ M8 nut
- ⑧ Slots (4 mm deep) for line-side phase barriers
- ⑨ Center line of circuit breaker

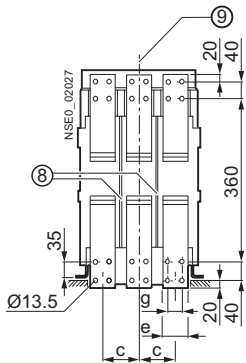
For safety clearances see page 2/36.

All dimensions in mm.

Front connection



Double hole
Holes in bars to DIN 43673



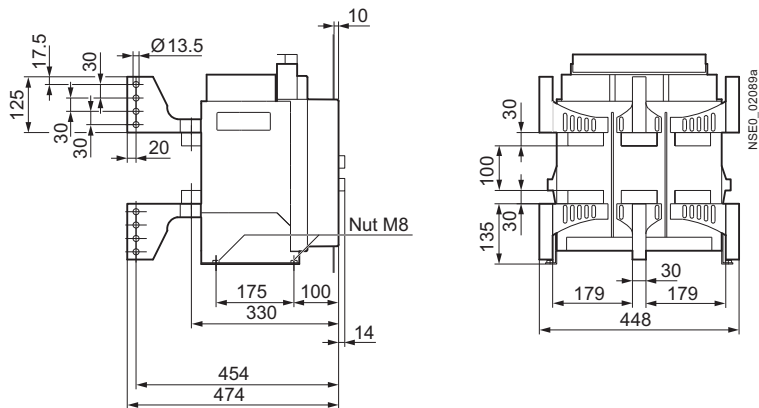
Rated current A	a	b	c	d	e	f	g	h	i	k	l
400 up to 1250	300	320	90	8	60	30	--	8	530	18	40
1600	300	320	90	15	60	30	--	20	530	18	40
2000 up to 2500	400	420	120	15	80	40	40	20	560	22	44
3200	400	420	120	30	80	40	40	20	560	22	44

3WT Air Circuit Breakers up to 4000 A (AC)

Project planning aids

3WT fixed-mounted circuit breakers, 3-pole

Vertical connection 4000 A only



All dimensions in mm.

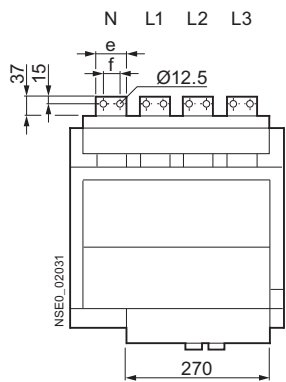
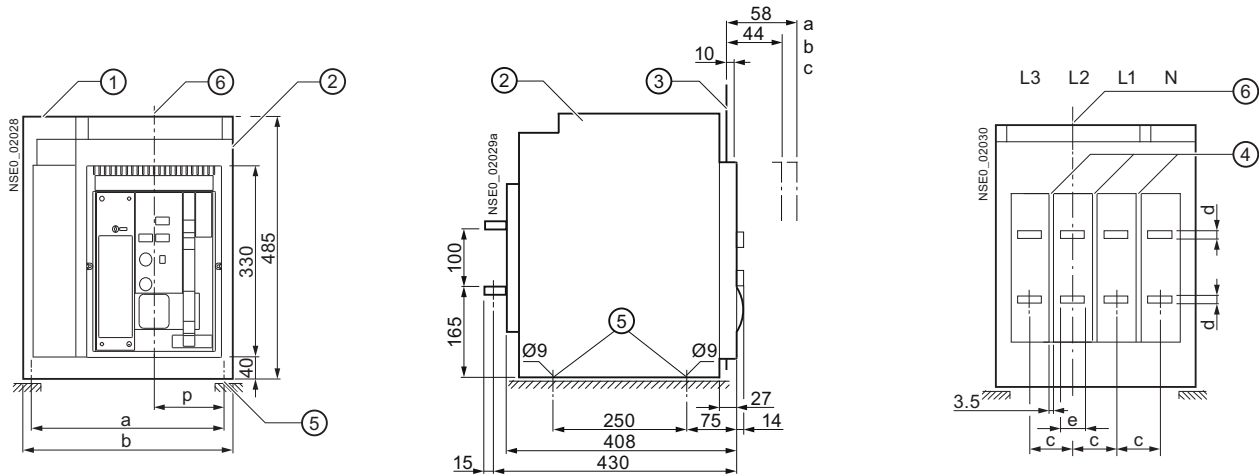
3WT Air Circuit Breakers up to 4000 A (AC)

Project planning aids

3WT circuit breakers, withdrawable version, 4-pole

Horizontal connection

2



- a Disconnected position
- b Test position
- c Connected position
- ① Auxiliary conductor plug-in system
- ② Guide frame
- ③ Switchboard door
- ④ Slots (6 mm deep) for line-side phase barriers
- ⑤ Holes for attaching the guide frame
- ⑥ Center line of operator panel

For safety clearances [see page 2/36](#).
All dimensions in mm.

Rated current A	a	b	c	d	e	f	p
400 up to 1250	370	410	90	8	60	30	140
1600	370	410	90	15	60	30	140
2000 up to 2500	500	540	120	15	80	40	190
3200	500	540	120	30	100	50	190

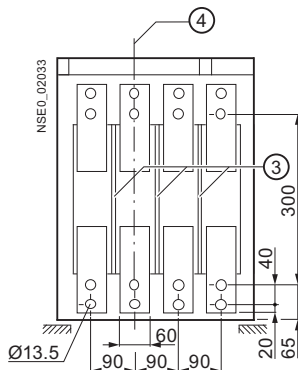
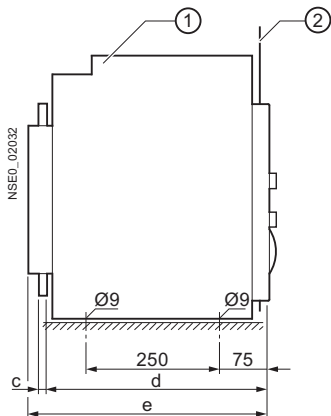
3WT Air Circuit Breakers up to 4000 A (AC)

Project planning aids

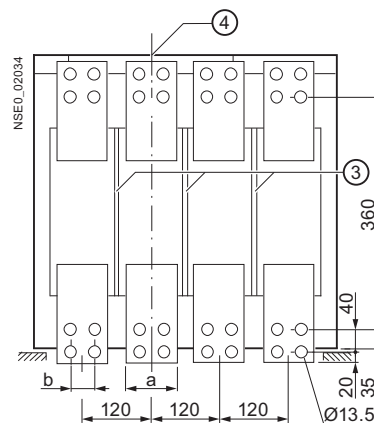
2

3WT circuit breakers, withdrawable version, 4-pole

Front connection



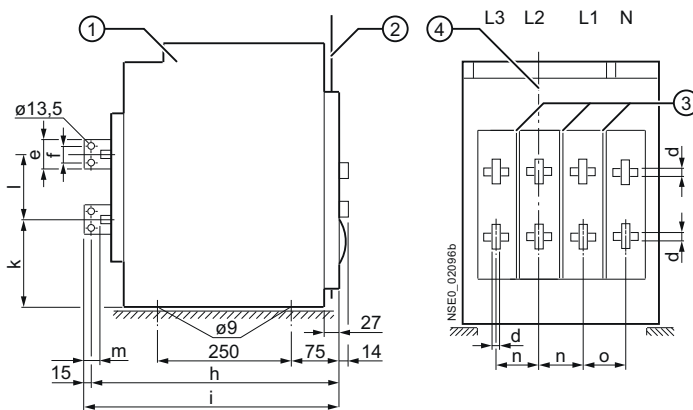
Double hole, 400 to 1600 A
Holes in bars to DIN 43673



Double hole, 2000 to 3200 A
Holes in bars to DIN 43673

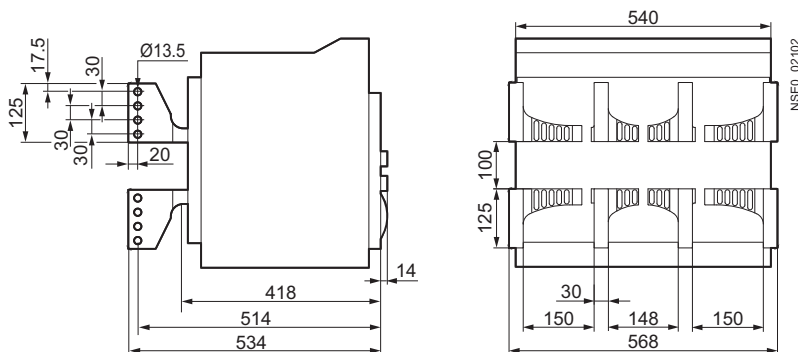
Rated current A	a	b	c	d	e
400 up to 1250	60	--	8	390	408
1600	60	--	15	390	408
2000 up to 2500	80	40	20	420	445
3200	100	50	20	420	445

Vertical connection up to 3200 A



Rated current A	d	e	f	h	i	k	l	m	n	o
400 up to 1250	8	60	30	455	470	157.5	115	37	90	90
1600	15	60	30	455	470	157.5	115	37	90	90
2000 up to 2500	15	80	40	465	480	157.5	115	37	140	120
3200	30	100	50	465	480	150	130	37	140	120

Vertical connection 3800 A only - other mounting dimensions are equivalent to 3200 A version.



- ① Guide frame
- ② Switchboard door
- ③ Slots (6 mm deep, 3.5 mm wide) for line-side phase barriers
- ④ Center line of operator panel

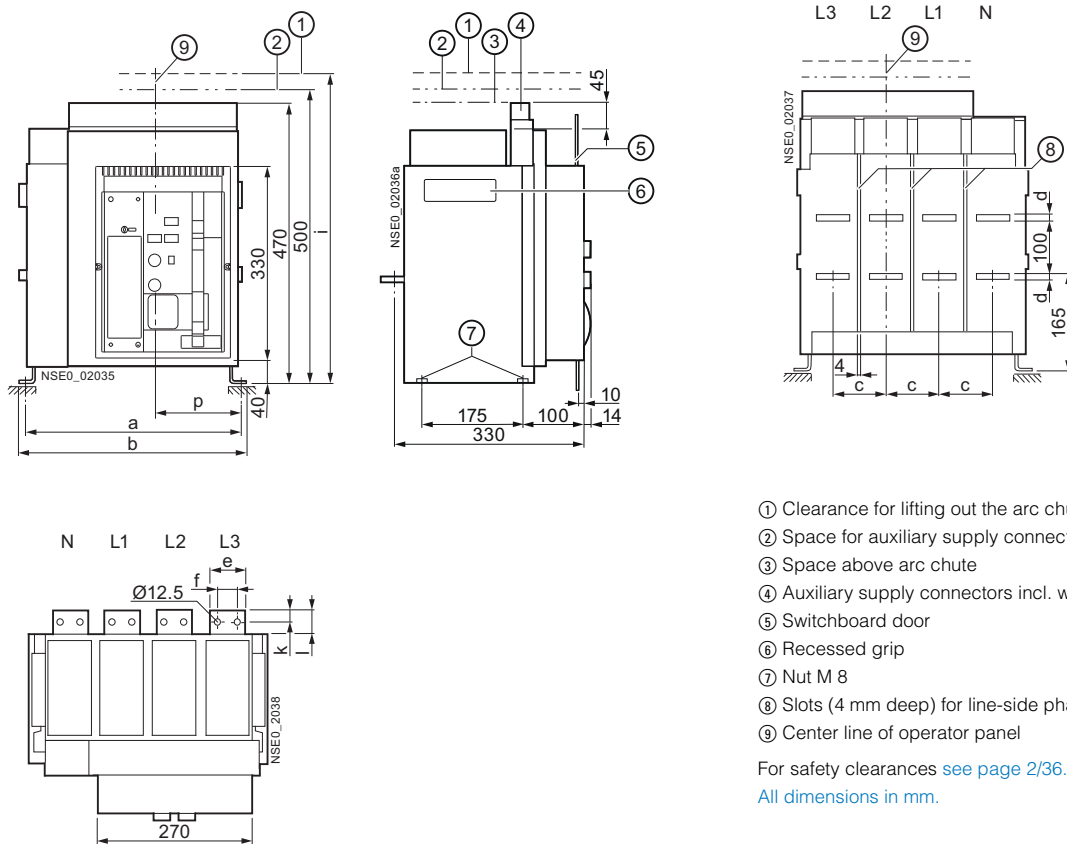
For safety clearances see page 2/36.
All dimensions in mm.

3WT Air Circuit Breakers up to 4000 A (AC)

Project planning aids

3WT fixed-mounted circuit breakers, 4-pole

Horizontal connection

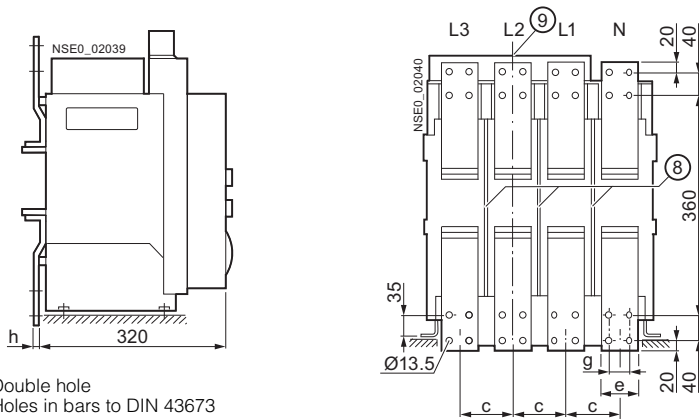


- ① Clearance for lifting out the arc chute
- ② Space for auxiliary supply connectors
- ③ Space above arc chute
- ④ Auxiliary supply connectors incl. wiring space
- ⑤ Switchboard door
- ⑥ Recessed grip
- ⑦ Nut M 8
- ⑧ Slots (4 mm deep) for line-side phase barriers
- ⑨ Center line of operator panel

For safety clearances see page 2/36.

All dimensions in mm.

Front connection

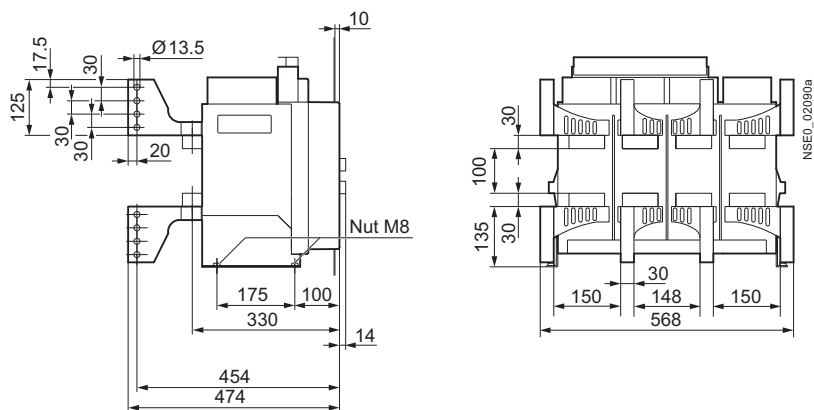


Double hole
Holes in bars to DIN 43673

Rated current A	a	b	c	d	e	f	g	h	i	k	l	p
400 up to 1250	390	410	90	8	60	30	--	8	530	18	40	150
1600	390	410	90	15	60	30	--	15	530	18	40	150
2000 up to 2500	520	540	120	15	80	40	40	20	560	22	44	200
3200	520	540	120	30	80	40	40	20	560	22	44	200

3WT fixed-mounted circuit breakers, 4-pole

Vertical connection 4000 A only



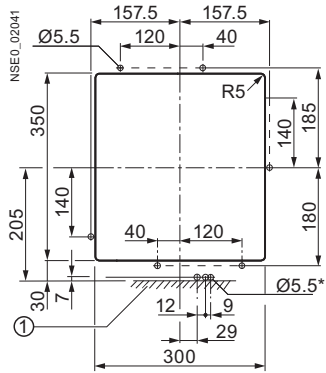
All dimensions in mm.

3WT Air Circuit Breakers up to 4000 A (AC)

Project planning aids

3WT circuit breakers, 3- and 4-pole

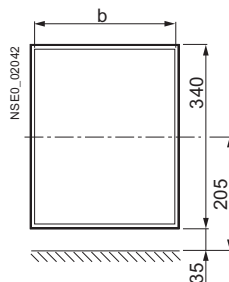
Door cut-out for operator panel using the door sealing frame



① Mounting surface * 3 holes, dia. Ø 5.5 mm; only drill when using door interlocking.

Door cut-out with edge protector

Cut-out after mounting the edge protector



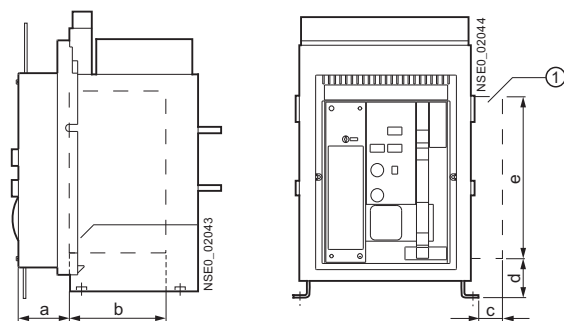
Cut-out when the circuit breaker is installed in a switchgear cabinet and with the door arranged centrally.

Section width	Fixed-mounted b	Withdrawable b
400	275	292
500	275	290
600	275	288

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

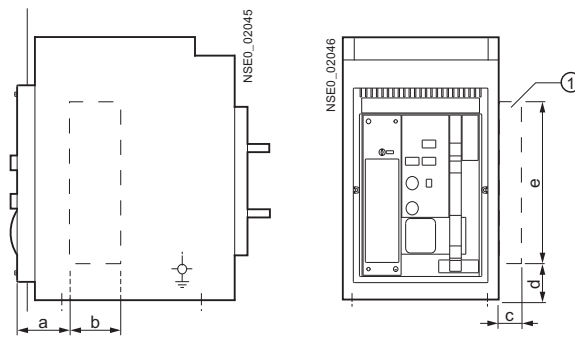
Mutual mechanical interlocking (1)/locking device to prevent closing (2), consisting of lock in the control cabinet door and interlock module with Bowden wire

For fixed-mounted circuit breakers



① Clearance for interlock module (without Bowden wire)

For withdrawable circuit breakers



Clearance for	a	b	c	d	e
(1)	90	90	50	65	270
(2)	58	215	10	250	115

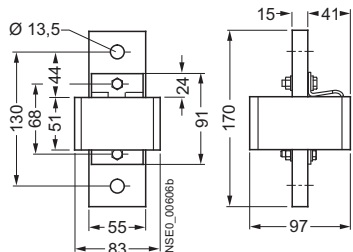
All dimensions in mm.

Project planning aids

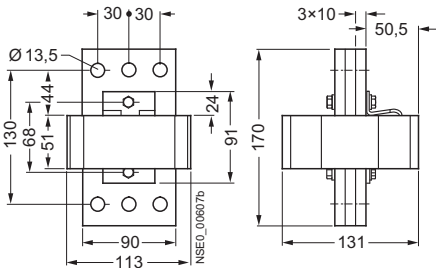
Current transformers for overload protection in the neutral conductor

External transformers for neutral conductor with copper busbars

Size I, 3WL9 111-0AA31-0AA0

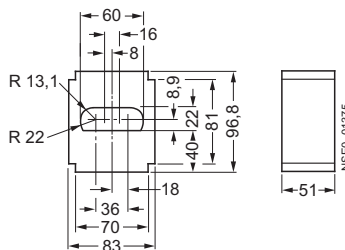


Size II, 3WL9 111-0AA32-0AA0

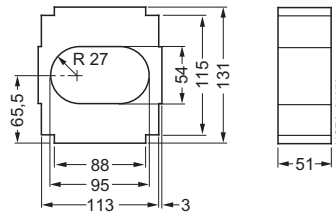


External transformers for neutral conductor without copper busbars

Size I, 3WL9 111-0AA21-0AA0

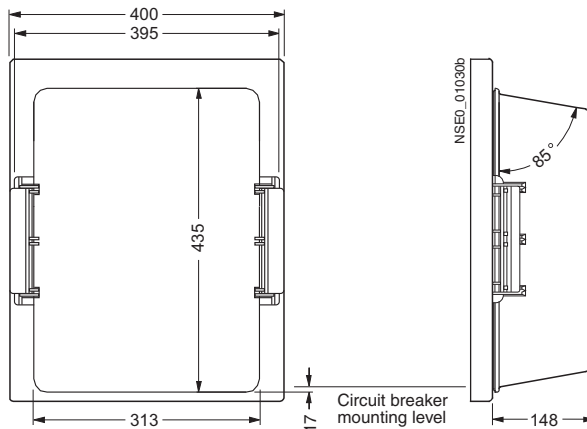
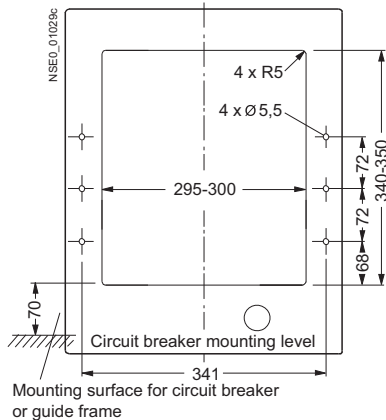


Size II, 3WL9 111-0AA22-0AA0



Door cut-out for operator panel using protective cover IP55

Protective cover, IP55



All dimensions in mm.

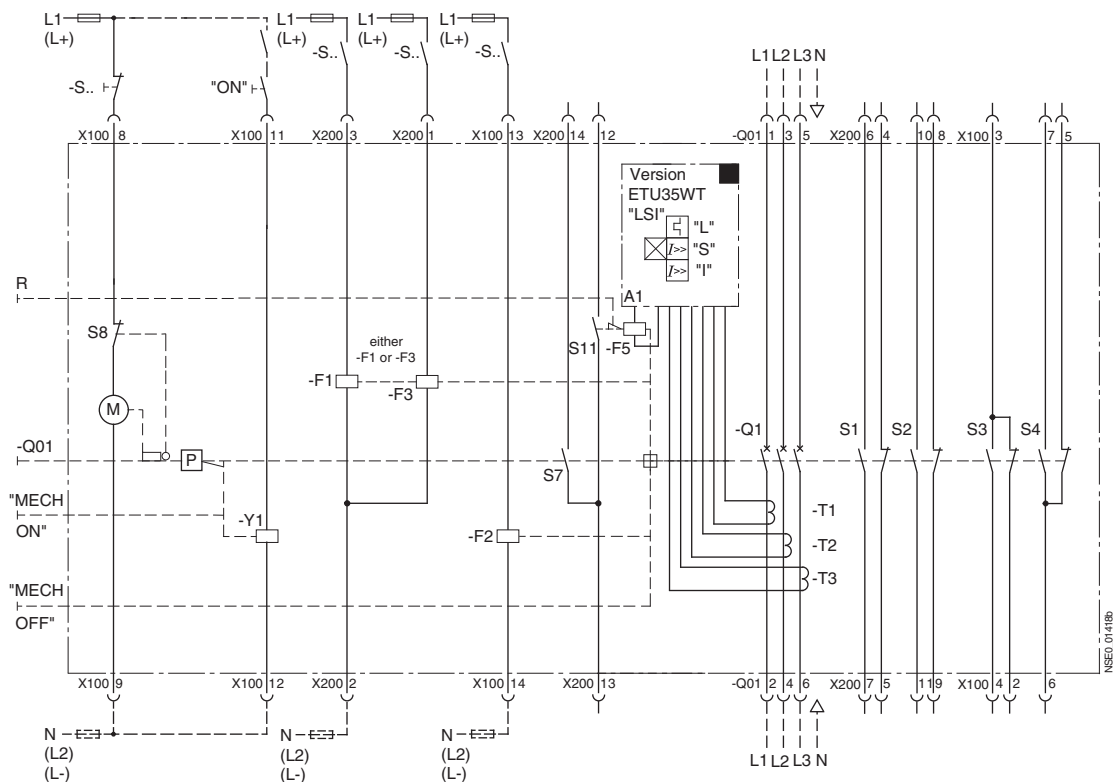
3WT Air Circuit Breakers up to 4000 A (AC)

Project planning aids

Schematics

Example of an overall circuit diagram

Motor/manual operating mechanism, with ready-to-close signaling switch, with electronic trip unit version ETU35WT "LSI", with overvoltage release "r" (F3) or shunt release "f" (F1), with shunt release "f" (F2), with "tripped" signaling switch, with auxiliary switch 2 NO + 2 NC + 2 CO, with motor switch



A1	Electronic trip unit
S1/S2	1st auxiliary switch block
S3/S4	2nd auxiliary switch block
S7	Ready-to-close signaling switch
S8	Storage spring contact
S11	"Tripped" switch
F1	1st shunt release "f"
F2	2nd shunt release "f"
F3	Undervoltage release "r"
F5	Trip solenoid
M1	Motor for "charging store"
P	Storage spring
Q01	Hand-operated lever for "charging store"
Q1	Main contacts
T1/T2/T3	Current transformer
X100/X200	Terminals
Y1	Closing solenoid
R	Indication and reset button for overcurrent tripping

Further information

For planning guides with further descriptions relating to design, operating principle, installation and retrofitting see manual "3WT Air Circuit Breakers" at www.siemens.com/lowvoltage/support.



3/2	Glossary
3/3	Catalog notes
3/4	Ordering notes
3/5	Further documentation
3/6	Standards and approvals
3/9	Siemens contacts
3/10	Online services
3/11	Service & support
3/12	Comprehensive support from A to Z
3/13	Software licenses
3/14	Subject index
3/15	Order number index
3/18	Terms and conditions of sale and delivery

Glossary

Rated operating voltage, (U_e)

EN 60947-1; 4.3.1.1

Voltage fixed by the manufacturer. Several pertinent tests relate to its determination, as may also the utilization category. Along with the rated (operating) current, it determines the device's utilization. The highest value of rated operating voltage may in no case be greater than the value of the rate insulation voltage U_i .

Rated insulation voltage, (U_i)

EN 60947-1; 4.3.1.2

Voltage measure to which are related tests of dielectric strength and creepage distance.

Rated current, (I_n)

EN 60947-2; 4.3.2.3

Current value of particular circuit breaker that can be handled uninterruptedly. The highest current valued tripping the circuit breaker in conformity with a specifically stated tripping characteristic.

Reduced rated current, (I_r)

Specifically established, reduced value of I_n current for a regulated time-dependent (thermal) release and that the circuit breaker can handle continuously. Maximum setting is at value equal to I_n . Changing I_r shifts the release's tripping characteristic along the current axis. ($I_r = k \times I_n$ holds where $k \leq 1$)

Tripping time at a given I_r multiple, (t_r)

Time after which circuit breaker will trip, if a current flows through it that is equal to the given multiple of I_r . Changing t_r shifts the tripping characteristic along the time axis.

Actuating current of (selective) release's time-independent delay, (I_{ds})

Minimum current value causing the release's time-independent delay to actuate.

Delay of time-independent delayed release, (t_v)

If a current flows through the circuit breaker equal to at least I_{sd} but not reaching I_{rm} the circuit breaker will trip with time delay t_v . Total shut-off time is influenced by the tripping of the circuit breaker itself and is about 10 ÷ 20 ms longer.

Actuating current of time-independent instantaneous, (I_{rm})

Minimum current value causing the time-independent instantaneous release to actuate.

Rated operating current, (I_e)

EN 60947-1; 4.3.2.3

Rated operating current of device (switch-disconnector) is fixed by the manufacturer with consideration for the rated operating voltage, rated frequency, rated operation, utilization category and type of protective cover, if that comes into consideration.

Rated normal current, (I_u)

EN 60947-1; 4.3.2.4

Current value set by the manufacturer and which the device can handle in continuous operation, i.e. during a period longer than 8 hours (weeks, months, or longer).

Rated ultimate short-circuit breaking capacity, (I_{cu})

EN 60947-2; 2.15.1; 4.3.5.2.1

Ultimate short-circuit breaking capacity value expressed as the rms value of the alternating component of the assumed short-circuit current that the circuit breaker must be able to manage in the mode: 1x switching off of the short circuit and a following 1x make-break sequence. After testing, the circuit breaker need not be able to conduct the rated current uninterruptedly. I_{cu} is set for the rated operating voltage at the rated frequency and at the established power factor for alternating current or at the time constant for direct current. Must fulfil the condition: $I_{cu} \geq I_k$ "

Rated short-circuit service breaking capacity, (I_{cs})

EN 60947-2; 2.15.2; 4.3.5.2.2

Value of the operating short-circuit breaking capacity expressed as the rms value of the alternating component of the assumed short-circuit current that the circuit breaker must be able to manage in the mode: 1x switching off of the short circuit and a following 2x make-break sequence. May also be expressed as a percentage of I_{cu} . After testing, the circuit breaker must be able uninterruptedly to conduct the rated current and to switch off the overcurrent. Temperature increase of the main terminals may be greater. I_{cs} is set for the rated operating voltage at the rated frequency and at the established power factor for alternating current or at the time constant for direct current. Permitted: $I_{cs} \geq I_k$ "

Rated short-time withstand current, (I_{cw})

EN 60947-1; 4.3.6.1

EN 60947-2; 4.3.5.4

EN 60947-3; 4.3.6.1

Value of short-time withstand current specified by the manufacturer that the device is able to handle without damage during a designated time period (short-time delay). In case of alternating current, it is the rms value of the alternating component of the assumed short-circuit current I_p .

Overview**Trademarks**

All product designations may be registered trademarks or product names of Siemens AG or supplier companies whose use by third parties for their own purposes may violate the rights of the owner.

Amendments

All technical data, dimensions and weights are subject to change without notice unless otherwise specified on the pages of this catalog.

Dimensions

All dimensions are in mm.

Images

The illustrations are not binding.

Technical data

The technical data in the catalog are for general information. The instruction manuals and the operating instructions on the products must be observed during assembly, operation and maintenance.

Further technical information is available at www.siemens.com/lowvoltage/support

- under Product List:
 - Technical specifications
- under Entry List:
 - Updates
 - Download
 - FAQ
 - Manuals
 - Characteristic curves
 - Certificates

Configurators can be found under www.siemens.com/lowvoltage/configurators

Assembly, operation and maintenance

The instruction manuals and the operating instructions on the products must be observed during assembly, operation and maintenance.

Ordering notes

Logistics

General

With regard to delivery service, communications and environmental protection, our logistics service ensures "quality from the moment of ordering right through to delivery". By designing our infrastructure according to customer requirements and implementing electronic order processing, we have successfully optimized our logistics processes.

We regard the DIN ISO 9001 certification and consistent quality checks as an integral part of our services.

Electronic order processing is fast, cost-efficient and error-free. Please contact us if you want to benefit from these advantages.

Packaging, packing units

The packaging in which our equipment is dispatched provides protection against dust and mechanical damage during transport, thus ensuring that all our products arrive in perfect condition.

We select our packaging for maximum environmental compatibility and reusability and, in particular, with a view to reducing waste.

With our multi-unit packaging and reusable packaging, we offer you specific types of packaging that are both kind to the environment and tailored to your requirements:

Your advantages at a glance:

- Lower order costs.
- Cost savings through uniform-type packaging: low/no disposal costs.
- Reduced time and cost thanks to short unpacking times.
- "Just-in-time" delivery directly to the production line helps reduce stock: cost savings through reduction of storage area.
- Fast assembly thanks to supply in sets.
- Active contribution to environmental protection.

Unless stated otherwise in the "Selection and ordering data" of this catalog, our products are supplied individually packed.

For small parts/accessories, we offer you economical packaging units as standard packs containing more than one item, e.g. 5, 10, 50 or 100 units. It is essential that whole number multiples of these quantities be ordered to ensure satisfactory quality of the products and problem-free order processing.

The products are delivered in a neutral carton. The label includes warning notices, the CE mark, the open arrow recycling symbol, and product description information in English and German. In addition to the Order No. (MLFB) and the number of items in the packaging, the Instr. Order No. is also specified for the operating instructions. It can be obtained from your local Siemens representative (you will find a list of your local Siemens representatives at www.siemens.com/automation/partner).

The device Order No. of most devices can also be acquired through the EAN barcode to simplify ordering and storage logistics.

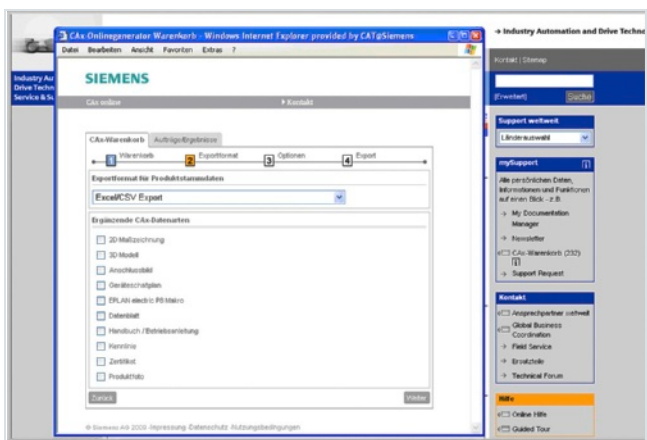
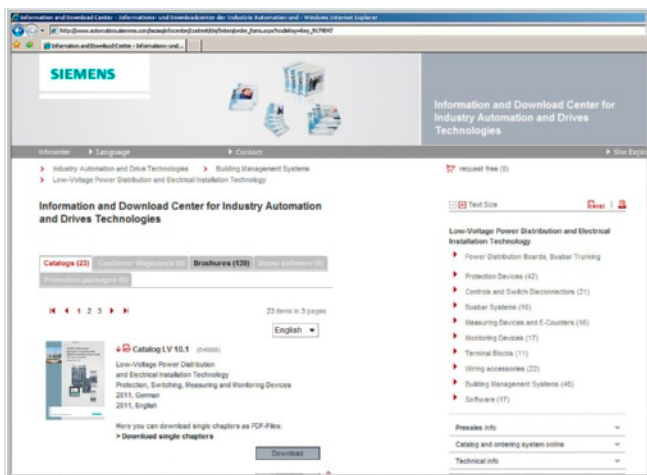
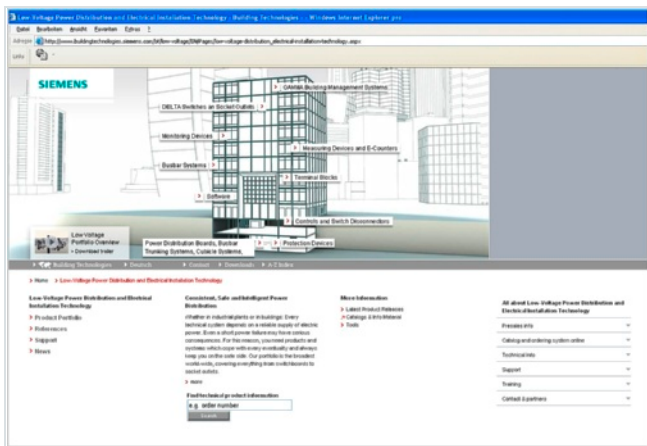
The Order Nos. and EAN codes are assigned electronically in the master data of the products for low-voltage power distribution and electrical installation.

Ordering very small quantities

When small orders are placed, the costs associated with order processing are greater than the order value. We therefore recommend that you combine several small orders. Where this is not possible, we regret that we are obliged to make a small processing charge: for orders with a net goods value of less than € 250 we charge an € 20 supplement to cover our order processing and invoicing costs.

Further documentation

Overview



We regard product support as just as important as the products and systems themselves.

Visit our site on the Internet for a comprehensive offering of support for low-voltage power distribution and electrical installation products, such as

- Operating instructions and manuals for direct download
- Online registration for seminars and events
- Up-to-date answers to your queries and problems
- Software upgrades and updates for fast download
- Telephone assistance in more than 190 countries
- Photos and graphics for external use

and much, much more - all conveniently and easily accessible.

Address:

www.siemens.com/lowvoltage

You will find regularly updated information material such as catalogs, customer magazines, brochures and trial versions of software for low-voltage power distribution and electrical installation on the Internet at:

www.siemens.com/lowvoltage/infomaterial

Here you can order your copy of the available documentation or download it in common file formats (PDF, ZIP).

For your configuration systems we can provide technical and graphic data in electronic form for the range of low-voltage power distribution and electrical installation products:

CAx online generator

For the further processing of low-voltage power distribution and electrical installation products in CAE/CAD systems the online generator provides:

- Technical product master data in CSV and Excel format
- Graphic product data
 - 2D dimensional drawings in DXF format (other formats optional)
 - 3D models in STEP format
 - Internal circuit diagrams
 - EPLAN electric P 8 macros
- Documentation in the form of PDF files
 - Product data sheets
 - Manuals
 - Operating instructions
 - Characteristics
 - Certificates
- Product photos
- Texts for tenders in GAEB and Text format

www.siemens.com/cax

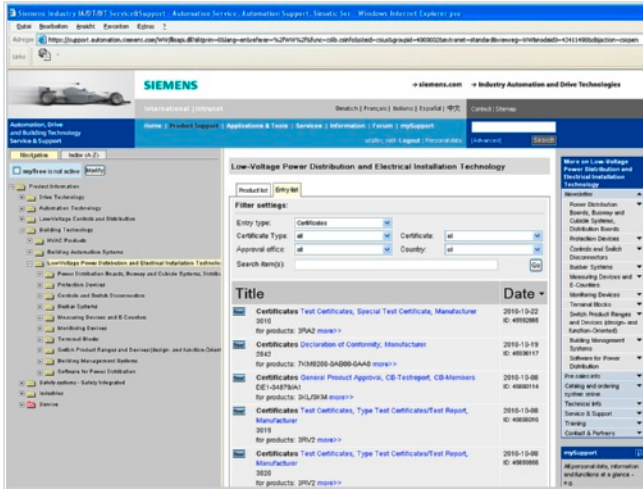
Standards and approvals

Overview

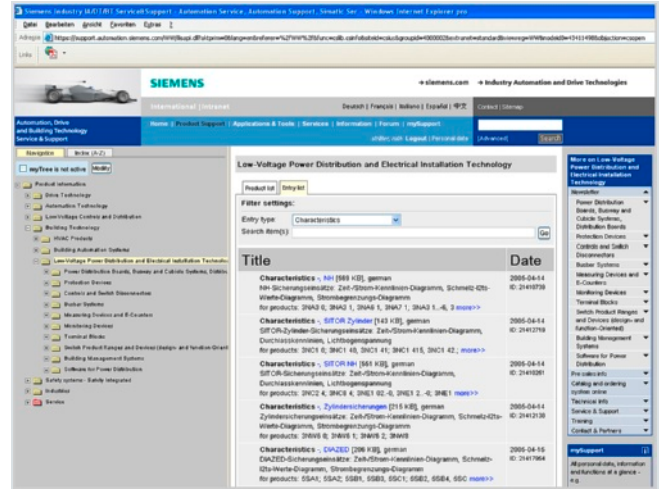
Approvals, test certificates, characteristic curves

An overview of the certificates available for low-voltage power distribution and electrical installation products along with more technical documentation can be consulted daily on the Internet at:

www.siemens.com/lowvoltage/support



Product support: Approvals / Certificates



Product support: Characteristic curves

Product standards (excerpt)

IEC	EN	DIN VDE	Title
60947-1	60947-1	--	Low-voltage controlgear and switchgear: General rules
60947-2	60947-2	--	• Circuit breakers
60947-3	60947-3	--	• Switches, disconnectors, switch disconnectors and fuse-combination units
60947-4-1	60947-4-1	--	• Contactors and motor starters – Electromechanical contactors and motor starters
60947-4-2	60947-4-2	--	• Contactors and motor starters – Semiconductor motor controllers and starters, soft starters
60947-4-3	60947-4-3	--	• Contactors and motor starters – AC semiconductor controllers and contactors for non-motor loads
60947-5-1	60947-5-1	--	• Control circuit devices and switching elements – Electromechanical control circuit devices
60947-5-2	60947-5-2	--	• Control circuit devices and switching elements – Proximity switches
60947-5-3	60947-5-3	--	• Control circuit devices and switching elements – Requirements for proximity devices with defined behaviour under fault conditions
60947-5-5	60947-5-5	--	• Control circuit devices and switching elements – Electrical emergency stop device with mechanical latching function
60947-5-6	60947-5-6	--	• Control circuit devices and switching elements – DC interface for proximity sensors and switching amplifiers (NAMUR)
60947-5-7	60947-5-7	--	• Control circuit devices and switching elements – Requirements for proximity switches with analog output
60947-5-8	60947-5-8	--	• Control circuit devices and switching elements – Three-position enabling switches
60947-5-9	60947-5-9	--	• Control circuit devices and switching elements – Flow rate switches
60947-6-1	60947-6-1	--	• Multiple function equipment – Transfer switching equipment
60947-6-2	60947-6-2	--	• Multiple function equipment – Control and protective switching devices (or equipment) (CPS)
60947-7-1	60947-7-1	--	• Ancillary equipment – Terminal blocks for copper conductors
60947-7-2	60947-7-2	--	• Ancillary equipment – Protective conductor terminal blocks for copper conductors
60947-7-3	60947-7-3	--	• Ancillary equipment – Safety requirements for fuse terminal blocks
60947-8	60947-8	--	• Control units for built-in thermal protection (PTC) for rotating electrical machines
62026-2	50295	--	• Controller and device interface systems. Actuator-Sensor Interface (AS-I)
60269-1	60269-1	--	Low-voltage fuses – General requirements
60269-4	60269-4	--	Low-voltage fuses – Supplementary requirements for fuse-links for the protection of semiconductor devices
60050-441	--	--	International Electrotechnical Vocabulary, Switchgear, controlgear and fuses
60439-1	60439-1	--	Low-voltage switchgear and controlgear assemblies – Type-tested and partially type-tested assemblies
61439-1	--	--	Low-voltage switchgear and controlgear assemblies – General rules
61439-2	--	--	Low-voltage switchgear and controlgear assemblies – Particular requirements for busbar trunking systems (busways)
--	50274	--	Low-voltage switchgear and controlgear assemblies – Protection against electric shock - Protection against unintentional direct contact with hazardous live parts
61140	61140	--	Protection against electric shock - Common aspects for installation and equipment
60664-1	60664-1	--	Insulation coordination for electrical equipment within low-voltage systems – Principles, requirements and tests

IEC	EN	DIN VDE	Title
60204-1	60204-1	--	Safety of machinery – Electrical equipment of machines – General requirements
--	50178	--	Electronic equipment for use in power installations
60079-14	60079-14	--	Explosive atmospheres – Part 14: Electrical installations design, selection and erection
60079-2	60079-2	--	Explosive atmospheres – Part 2: Equipment protection by pressurized enclosures "p"
61810-1	61810-1	--	Electromechanical elementary relays – Part 1: General requirements
61812-1	61812-1	--	Specified time relays for industrial use – Part 1: Requirements and tests
60999-1	60999-1	--	Connecting devices – Electrical copper conductors – Safety requirements for screw-type and screwless-type clamping units – Part 1: General requirements and particular requirements for clamping units for conductors from 0.2 mm ² to 35 mm ²
61558-1	61558-1	0570-1 ¹⁾	Safety of power transformers, power supplies, reactors and similar products – - Part 1: General requirements and tests
61558-2-1	61558-2-1	0570-2-1 ¹⁾	- Part 2-1: Particular requirements and tests for separating transformers and power supplies incorporating separating transformers for general applications
61558-2-2	61558-2-2	0570-2-2 ¹⁾	- Part 2-2: Particular requirements and tests for control transformers and power supplies incorporating control transformers
61558-2-4	61558-2-4	0570-2-4 ¹⁾	- Part 2-4: Particular requirements and tests for isolating transformers and power supply units incorporating isolating transformers
61558-2-6	61558-2-6	0570-2-6 ¹⁾	- Part 2-6: Particular requirements and tests for safety isolating transformers and power supply units incorporating safety isolating transformers
61558-2-9	61558-2-9	0570-2-9 ¹⁾	- Part 2-9: Particular requirements and tests for transformers and power supply units for class III handlamps for tungsten filament lamps
61558-2-12	61558-2-12	0570-2-12 ¹⁾	- Part 2-12: Particular requirements for constant voltage transformers
61558-2-13	61558-2-13	0570-2-13 ¹⁾	- Part 2-13: Particular requirements and tests for auto transformers and power supply units incorporating auto transformers
61558-2-15	61558-2-15	0570-2-15 ¹⁾	- Part 2-15: Particular requirements for isolating transformers for the supply of medical locations
61558-2-20	61558-2-20	0570-2-20 ¹⁾	- Part 2-20: Particular requirements and tests for small reactors
62041	62041	0570-10 ¹⁾	Power transformers, power supply units, reactors and similar products – EMC requirements
60076-11	60076-11	--	Power transformers – Part 11: Dry-type transformers
--	--	0552	Standards for variable-ratio transformers with moving contacts perpendicular to the coiling direction
61000-4-1	61000-4-1	--	Electromagnetic compatibility (EMC) – Part 4-1: Testing and measurement techniques – Overview of IEC 61000-4 series
61000-6-3	61000-6-3	--	Electromagnetic compatibility (EMC) – Part 6-3: Generic standards – Emission standard for residential, commercial and light-industrial environments
61000-6-4	61000-6-4	--	Electromagnetic compatibility (EMC) – Part 6-4: Generic standards – Emission standard for industrial environments
60044-1	60044-1	--	Instrument transformers – Part 1: Current transformers

¹⁾ VDE classification.

UL	CSA C22.2	ASME	JIS	Title
506	--	--	--	Specialty transformers
508	--	--	--	Industrial control equipment
489	--	--	--	Molded case circuit breakers, molded case switches and circuit breaker enclosures
1012	--	--	--	Power units other than CLASS 2
1561	--	--	--	Dry-type general purpose and power transformers
5085	--	--	--	Low-voltage transformers
60601-1	--	--	--	Medical electrical equipment, Part 1: General requirements for safety (IEC 60601, EN 60601, VDE 0750-1)
1604	--	--	--	Electrical equipment for use in CLASS I and II, Division 2 and CLASS III hazardous (Classified) locations
1059	--	--	--	Terminal blocks
486A-486B	--	--	--	Wire connectors
486E	--	--	--	Equipment wiring terminals for use with aluminum and/or copper conductors
50	--	--	--	Enclosures for electrical equipment. Non-environmental considerations
--	No. 66	--	--	Specialty transformers
--	No. 14	--	--	Industrial control equipment
--	No. 5	--	--	Molded case circuit breakers, molded case switches and circuit breaker enclosures
--	No. 107-1	--	--	General use power supplies
--	--	A17.5 / B 44.1	--	Elevator and escalator electrical equipment
--	--	--	C 8201-4-1	Low-voltage switchgear and controlgear; Contactors and motor-starters

Standards and approvals

Quality management

The quality management system of our I BT LV Business Unit complies with the international standard EN ISO 9001.

The products and systems listed in this catalog are marketed using a VDE-approved quality management system according to ISO 9001.

VDE certificate

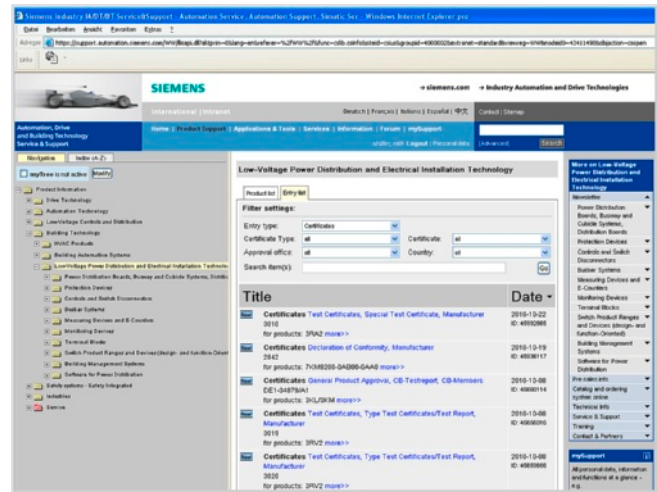
Siemens AG
 Industry Sector
 Building Technologies Division
 Low Voltage Distribution (I BT LV)
 Reg. No.: 40017/QM/03.06

Certificates

Information on the certificates available (CE, UL, CSA, FM, shipping authorizations) for low-voltage power distribution and electrical installation products can be found on the Internet at:

www.siemens.com/lowvoltage/support

In the Entry List you can use the certificate type (general product approval, explosion protection, test certificates, shipbuilding,...) as a filter criterion.



3

Approval requirements valid in different countries

Siemens low-voltage switchgear and controlgear are designed, manufactured and tested according to the relevant German standards (DIN and VDE), IEC publications and European standards (EN) as well as CSA and UL standards. The standards assigned to the single devices are stated in the relevant parts of this catalog.

As far as is economically viable, the requirements of the various regulations valid in other countries are also taken into account in the design of the equipment.














In some countries (see table below), an approval is required for certain low-voltage switchgear and controlgear components. Depending on the market requirements, these components have been submitted for approval to the authorized testing institutes.

In some cases, CSA for Canada and UL for the USA only approve special switchgear versions. Such special versions are listed separately from the standard versions in the individual parts of this catalog.

For this equipment, partial limitations of the maximum permissible voltages, currents and ratings can be imposed, or special approval and, in some cases, special identification is required.

For use on board ship, the specifications of the marine classification societies must be observed (see table below). In some cases, they require type tests of the components to be approved.

Testing bodies, approval identification and approval requirements

Country	Canada ¹⁾	USA ¹⁾	China
Government-appointed or private, officially recognized testing bodies	CSA UL (USA)	UL	CQC
Approval symbol	     	     	
Approval requirements	+	+	+
Remarks	UL and CSA are authorized to grant approvals according to Canadian or US regulations. Please note: these approvals are frequently not recognized and additional approval often has to be obtained from the national testing authority.		CCC

For more information about UL and CSA on request.

¹⁾ For guide numbers and file numbers for the approvals, visit our website at www.siemens.com/lowvoltage/support

Siemens contacts

Contact partner at Siemens Industry



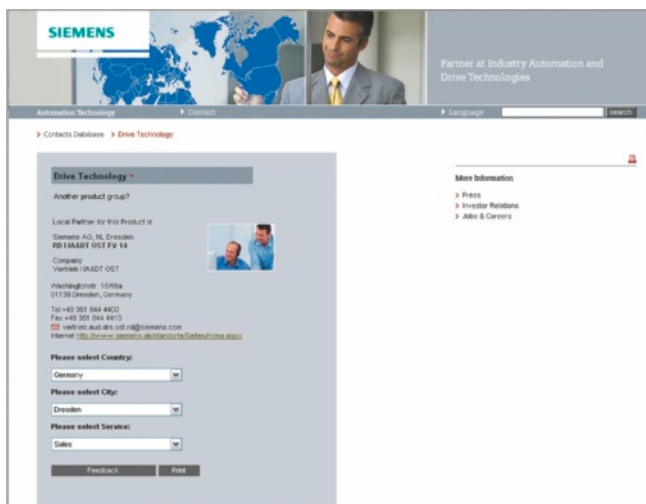
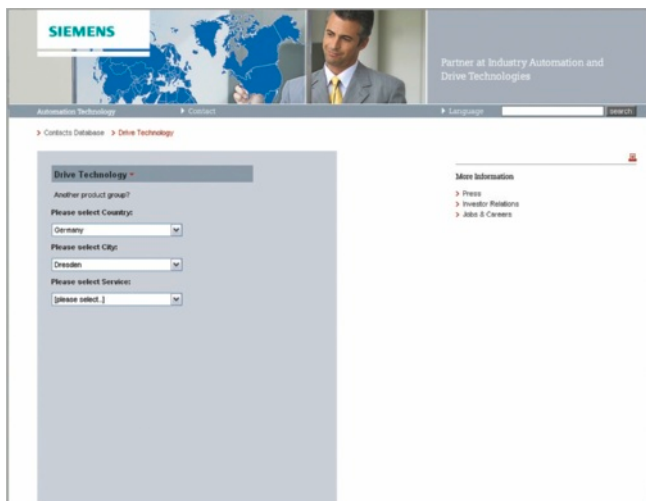
At Siemens Industry, more than 85 000 people are resolutely pursuing the same goal: long-term improvement of your competitive ability. We are committed to this goal. Thanks to our commitment, we continue to set new standards. In all industries – worldwide.

At your service locally, around the globe for consulting, sales, training, service, support, spare parts ... on the entire Industry range.

Your personal contact can be found in our Contacts Database at: www.siemens.com/automation/partner

You start by selecting a

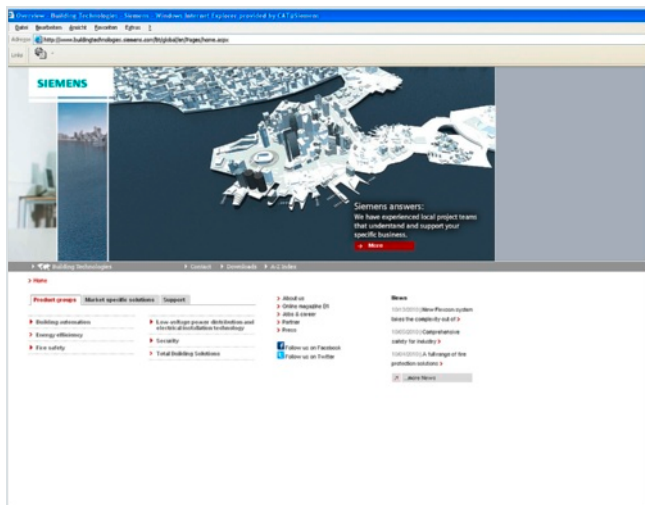
- Product group,
- Country,
- City,
- Service.



Appendix Online Services

Information and ordering options available on the Internet and DVD

Siemens Building Technologies on the web



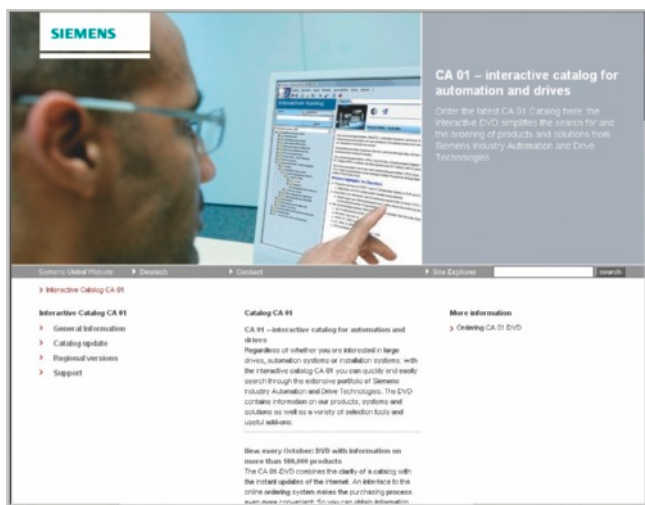
The Siemens Division Building Technologies offers the full range of products and solutions for secure and energy-efficient buildings and infrastructures – from building automation and heating, ventilation and air-conditioning systems (HLK) to fire protection, security, low-voltage power distribution and electrical installation technology.

Extensive information about all products, systems and services and support services is available in a compact and clear format on the Internet at:

www.siemens.com/buildingtechnologies

3

Product selection with the interactive catalog CA 01



Detailed information together with convenient interactive functions:

The interactive catalog CA 01 covers more than 80 000 products and thus provides a full summary of the Siemens Industry product base.

Here you will find everything that you need to solve tasks in the fields of automation, switchgear, installation and drives.

All information is linked into a user interface which is easy to work with and intuitive.

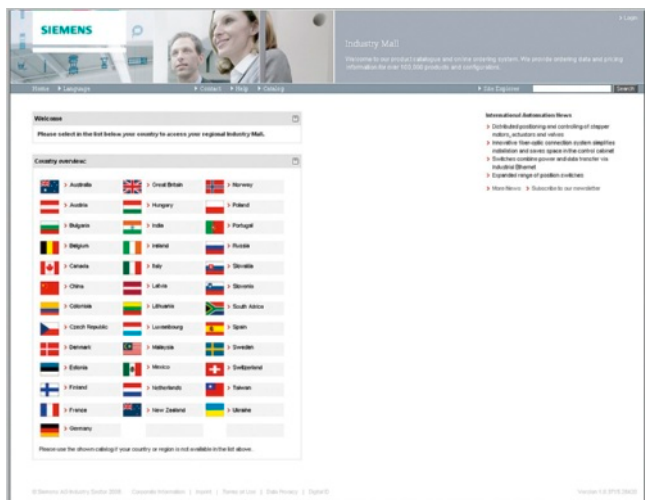
After selecting the product of your choice you can order at the press of a button, by fax or by online link.

Information on the interactive catalog CA 01 can be found in the Internet under:

www.siemens.com/automation/ca01

or on DVD.

Easy Shopping with the Industry Mall



The Industry Mall is the virtual department store of Siemens AG on the Internet. Here you have access to a huge range of products clearly and informatively presented in electronic catalogs.

Data transfer via EDIFACT allows the whole procedure, from selection over ordering through to order tracking, to be carried out online over the Internet.

A range of functions offer comprehensive support.

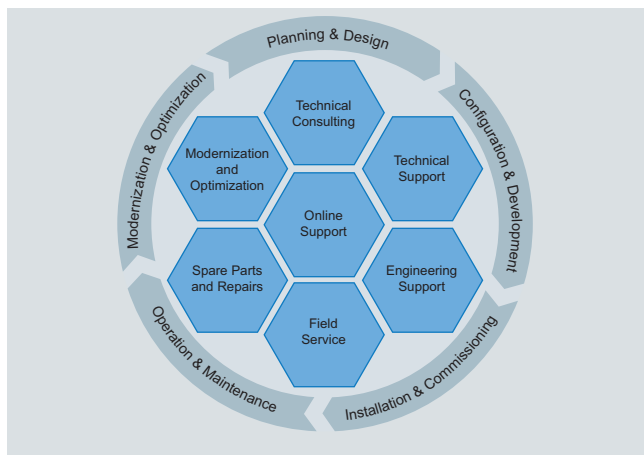
These include powerful search functions that make it easy to find the required products, which can then be immediately checked for availability. Customer-specific discounting and compilation of tenders are possible online, as is checking the status of your order (Tracking & Tracing).

You can find the Industry Mall on the Internet at:

www.siemens.com/industrymall

Service covering the entire life cycle

Overview



Our Service & Support are available worldwide to help you with every aspect of Siemens automation and drive technology. We offer on-site support for every phase of the life cycle of your machines and plants in more than 100 countries. Round the clock.

Every step of the way, you have access to an experienced team of specialists and their combined expertise. Thanks to regular training and the close cooperation of key employees around the globe, we are able to offer reliable services for a huge range of options.

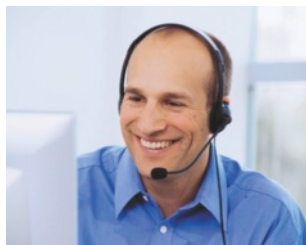
Online Support



The comprehensive information system available round the clock via Internet ranging from Product Support and Service & Support services to Support Tools in the Shop.

www.siemens.com/lowvoltage/support

Technical Support



Competent consulting in technical questions covering a wide range of customer-oriented services for all our products and systems.

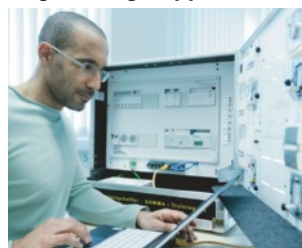
www.siemens.com/lowvoltage/technical-support

Technical Consulting



Support in the planning and designing of your project from detailed actual-state analysis, target definition and consulting on product and system questions right to the creation of the automation solution.

Engineering Support



Support in configuring and developing with customer-oriented services from actual configuration to implementation of the automation project.

Field Service



With Field Service, we offer services for startup and maintenance essential for ensuring system availability.

Spare Parts and Repairs



In the operating phase of a machine or automation system, we offer comprehensive repair and spare parts services ensuring the highest degree of plant availability.

Modernization and Optimization



After startup or during the operating phase, additional potential for increasing the productivity or for reducing costs often arises. For this purpose, we offer you high-quality services in optimization and upgrading.

Comprehensive support from A to Z

Overview

Product information

Website	Fast and targeted information about low-voltage power distribution: www.siemens.com/lowvoltage
Newsletter	Always up to date about our forward-looking products and systems: www.siemens.com/lowvoltage/newsletter

Product information/product & system selection

Information and download center	Current catalogs, customer magazines, brochures, demo software and promotion packages: www.siemens.com/lowvoltage/infomaterial
Industry Mall	Comprehensive information and order platform for the Siemens Industry Basket: www.siemens.com/industrymall

Product- & System-Engineering

SIMARIS Software tools	Support in planning and configuration the electrical power distribution: www.siemens.com/simaris
Engineering software ALPHA SELECT	Simple and fast configuration for distribution boards and meter cabinets with products from the Siemens Industry Basket: www.siemens.com/alpha-select

Product documentation

Service & support portal	Comprehensive technical information - from planning to configuration and operation: www.siemens.com/lowvoltage/support
CAx Data	Collation of commercial and technical master product data: www.siemens.com/cax
Image database	Collection of product photographs and graphics, such as dimensional drawings and internal circuit diagrams: www.siemens.com/lowvoltage/bilddb

Product training

SITRAIN Portal	Comprehensive training program about our products, systems and engineering tools: www.siemens.com/lowvoltage/training
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Product hotline

Technical support	Support in all technical queries about our products: E-mail: support.automation.siemens.com www.siemens.com/lowvoltage/technical-support
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In all issues for more efficiency - comprehensive support and access at any time to tried and tested tools, quickly and easily via the Internet.

Overview**Software types**

Software requiring a license is categorized into types. The following software types have been defined:

- Engineering software
- Runtime software

Engineering software

This includes all software products for creating (engineering) user software, e.g. for configuring, programming, parameterizing, testing, commissioning or servicing.

Data generated with engineering software and executable programs can be duplicated for your own use or for use by third-parties free-of-charge.

Runtime software

This includes all software products required for plant/machine operation, e.g. operating system, basic system, system expansions, drivers, etc.

The duplication of the runtime software and executable programs created with the runtime software for your own use or for use by third-parties is subject to a charge.

You can find information about license fees according to use in the ordering data (e.g. in the catalog). Examples of categories of use include per CPU, per installation, per channel, per instance, per axis, per control loop, per variable, etc.

Information about extended rights of use for parameterization/configuration tools supplied as integral components of the scope of delivery can be found in the readme file supplied with the relevant product(s).

License types

Siemens Industry Automation & Drive Technologies offers various types of software license:

- Floating license
- Single license
- Rental license
- Trial license

Floating license

The software may be installed for internal use on any number of devices by the licensee. Only the concurrent user is licensed. The concurrent user is the person using the program. Use begins when the software is started.

A license is required for each concurrent user.

Single license

Unlike the floating license, a single license permits only one installation of the software.

The type of use licensed is specified in the ordering data and in the Certificate of License (CoL). Types of use include for example per device, per axis, per channel, etc.

One single license is required for each type of use defined.

Rental license

A rental license supports the "sporadic use" of engineering software. Once the license key has been installed, the software can be used for a specific number of hours (the operating hours do not have to be consecutive).

One license is required for each installation of the software.

Trial license

A trial license supports "short-term use" of the software in a non-productive context, e.g. for testing and evaluation purposes. It can be transferred to another license.

Factory license

With the Factory License the user has the right to install and use the software at one permanent establishment only. The permanent establishment is defined by one address only. The number of hardware devices on which the software may be installed results from the order data or the Certificate of License (CoL).

Certificate of license

The Certificate of License (CoL) is the licensee's proof that the use of the software has been licensed by Siemens. A CoL is required for every type of use and must be kept in a safe place.

Downgrading

The licensee is permitted to use the software or an earlier version/release of the software, provided that the licensee owns such a version/release and its use is technically feasible.

Delivery versions

Software is constantly being updated.

The following delivery versions

- PowerPack
- Upgrade

can be used to access updates.

Existing bug fixes are supplied with the ServicePack version.

PowerPack

PowerPacks can be used to upgrade to more powerful software. The licensee receives a new license agreement and CoL (Certificate of License) with the PowerPack. This CoL, together with the CoL for the original product, proves that the new software is licensed.

A separate PowerPack must be purchased for each original license of the software to be replaced.

Upgrade

An upgrade permits the use of a new version of the software on the condition that a license for a previous version of the product is already held.

The licensee receives a new license agreement and CoL with the upgrade. This CoL, together with the CoL for the previous product, proves that the new version is licensed.

A separate upgrade must be purchased for each original license of the software to be upgraded.

ServicePack

ServicePacks are used to debug existing products.

ServicePacks may be duplicated for use as prescribed according to the number of existing original licenses.

License key

Siemens Industry Automation & Drive Technologies supplies software products with and without license keys.

The license key serves as an electronic license stamp and is also the "switch" for activating the software (floating license, rental license, etc.).

The complete installation of software products requiring license keys includes the program to be licensed (the software) and the license key (which represents the license).

Detailed explanations concerning license conditions can be found in the "Terms and Conditions of Siemens AG" or under <http://www.siemens.com/industrymall> (Industry Mall Online-Help System)

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