

SIEMENS



NXPLUS C The Multi-Tool

Gas-Insulated Medium-Voltage Switchgear

Catalog
HA 35.41
Edition 2018
Version 1.3

[siemens.com/medium-voltage-switchgear](https://www.siemens.com/medium-voltage-switchgear)

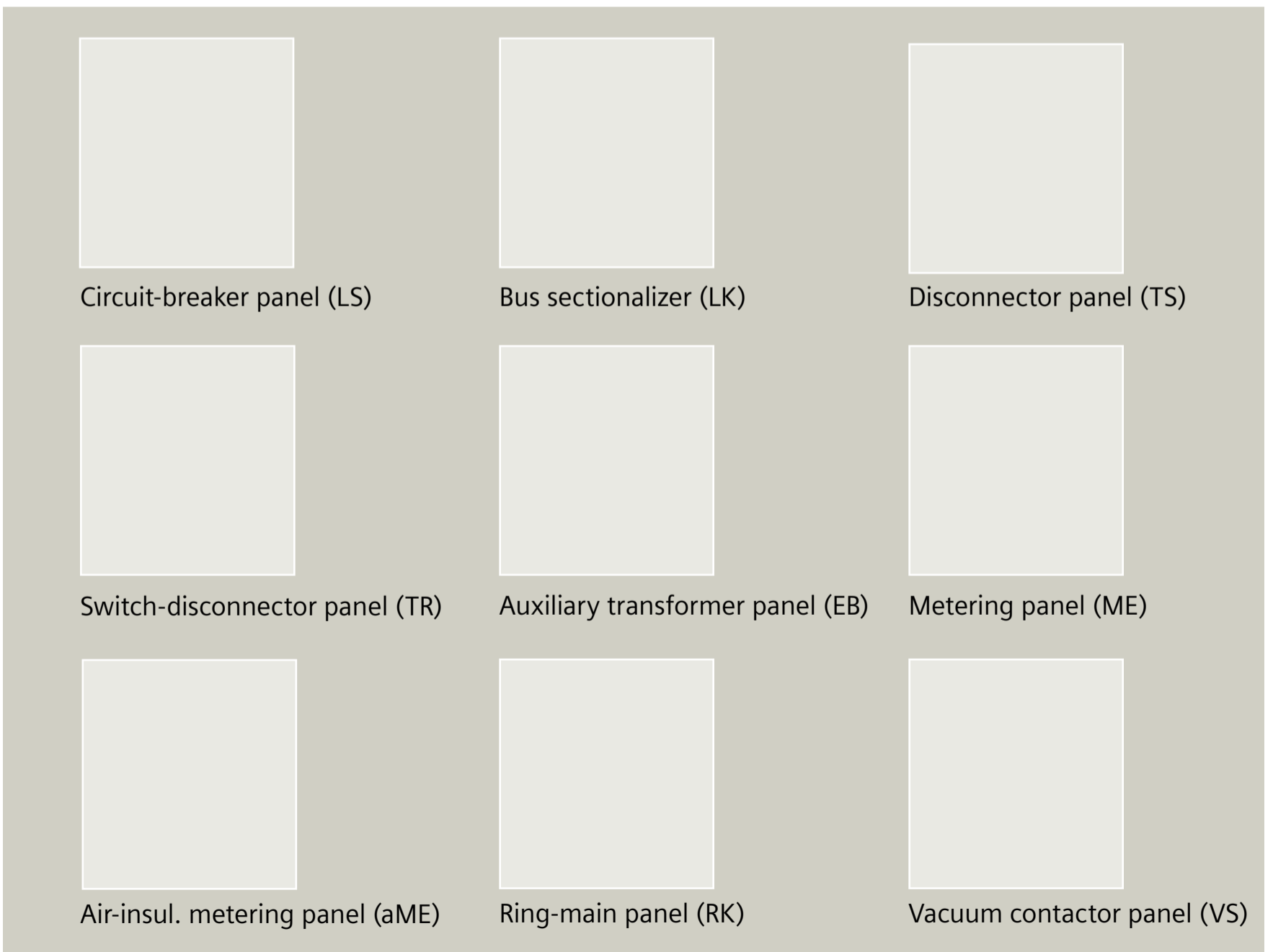
Possibilities of application



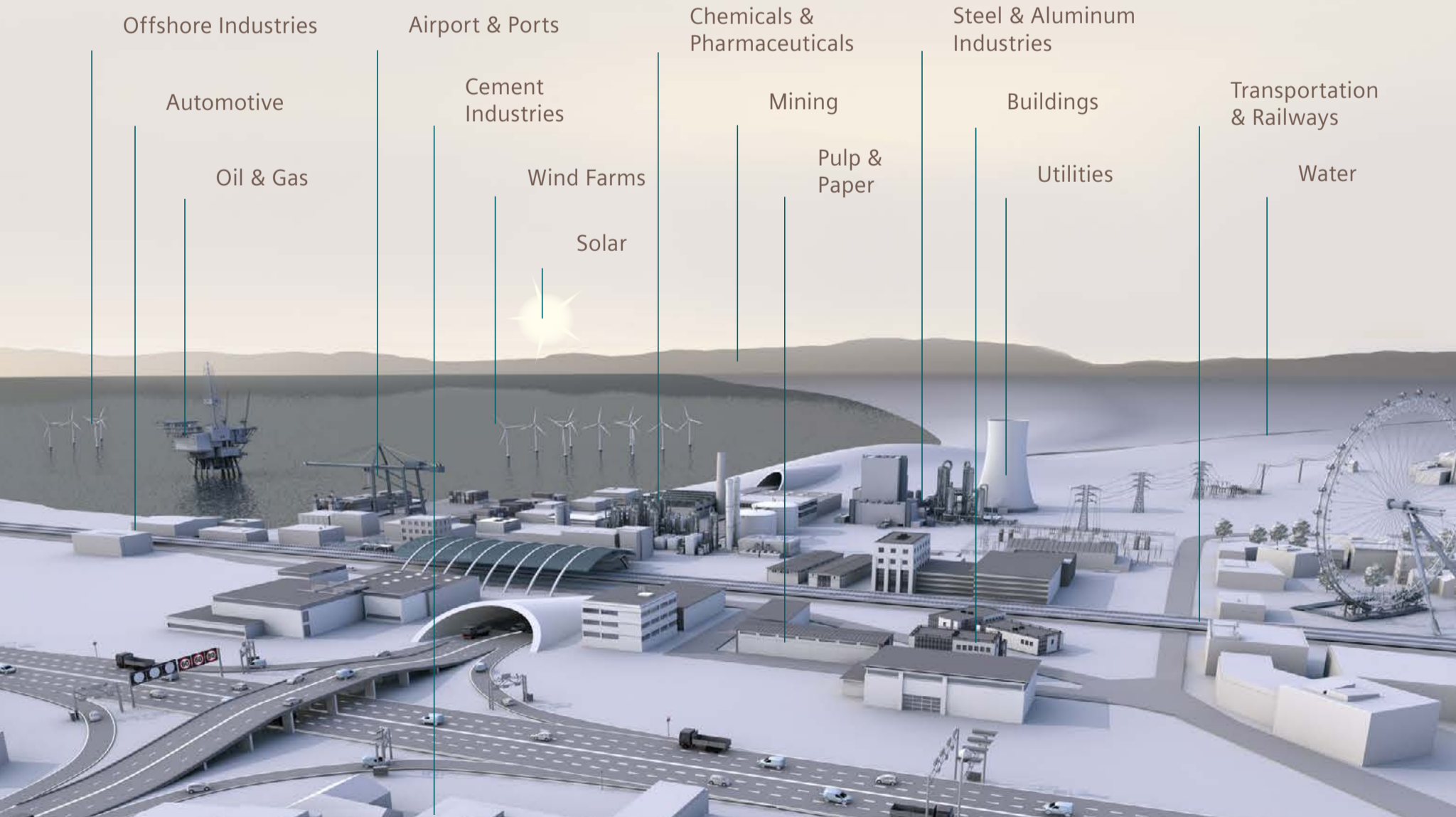
Characteristics



NXPLUS C: Versions



Requirements and solutions of the industrial sectors



Offshore Industries

Automotive

Oil & Gas

Airport & Ports

Cement Industries

Wind Farms

Solar

Chemicals & Pharmaceuticals

Mining

Pulp & Paper

Steel & Aluminum Industries

Buildings

Utilities

Transportation & Railways

Water

Features



Environmental independence

Hermetically tight, welded switchgear vessels made of stainless steel as well as single-pole solid insulation make the parts of the primary circuit under high voltage of NXPLUS C switchgear

- Insensitive to certain aggressive ambient conditions, such as:
 - Saline air
 - Air humidity
 - Dust
 - Condensation
- Tight to ingress of foreign objects, such as:
 - Dust
 - Pollution
 - Small animals
 - Humidity
- Independent of the site altitude.

This high degree of environmental independence cannot be achieved for the air-insulated metering panel due to the partial air insulation (block-type current transformers, block-type voltage transformers with connecting bars).

Compact design

Thanks to the use of SF₆ insulation, compact dimensions are possible. Thus:

- Existing switchgear rooms and substation rooms can be used effectively
- New constructions cost little
- Costly city-area space is saved.

The new circuit-breaker panels and ring-main panels with a panel width of only 450 mm and the unique auxiliary transformer panel enable additional space savings and the realization of alternative substation concepts.

Maintenance-free design

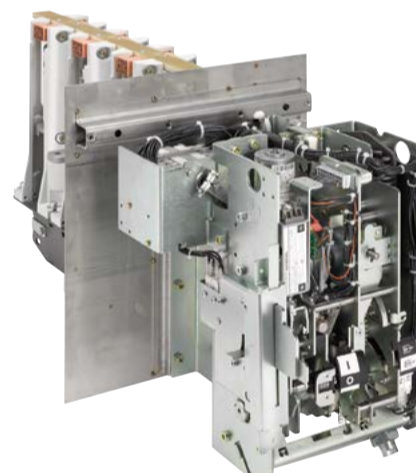
Switchgear vessels designed as sealed pressure systems, maintenance-free switching devices and enclosed cable plugs ensure:

- Maximum supply reliability
- Personnel safety
- Sealed-for-life design according to IEC 62271-200 (sealed pressure system)
- Installation, operation, extension and replacement without SF₆ gas work
- Reduced operating costs
- Cost-efficient investment
- No maintenance cycles.

Innovation

The use of digital secondary systems and combined protection and control devices ensures:

- Clear integration in process control systems
- Flexible and highly simplified adaptation to new system conditions and thus to cost-efficient operation.



Vacuum circuit-breaker open on the side of the operating mechanism

Service life

Under normal operating conditions, the expected service life of gas-insulated switchgear NXPLUS C is at least 35 years, probably 40 to 50 years, taking the tightness of the hermetically welded switchgear vessel into account. The service life is limited by the maximum number of operating cycles of the switching devices installed:

- For circuit-breakers according to the endurance class defined in IEC 62271-100
- For three-position disconnectors and earthing switches according to the endurance class defined in IEC 62271-102
- For three-position switch-disconnectors and earthing switches according to the endurance class defined in IEC 62271-103.

Recycling

The switchgear can be recycled in ecological manner in compliance with existing legislation. Auxiliary devices such as short-circuit indicators have to be recycled as electronic scrap. Batteries have to be recycled professionally. Insulating gas SF₆ has to be evacuated professionally as a reusable material and recycled (SF₆ must not be released into the environment).



Personal safety

- Safe-to-touch and hermetically sealed primary enclosure
- Cable terminations, busbars and voltage transformers are surrounded by earthed layers
- All high-voltage parts including the cable terminations, busbars and voltage transformers are metal enclosed
- Capacitive voltage detecting system to verify safe isolation from supply
- Operating mechanisms and auxiliary switches safely accessible outside the primary enclosure (switchgear vessel)
- Due to the system design, operation is only possible with closed switchgear enclosure
- Standard degree of protection IP65 for all high-voltage parts of the primary circuit, IP3XD for the switchgear enclosure according to IEC 60529 and VDE 0470-1
- High resistance to internal arcs by logical mechanical interlocks and tested switchgear enclosure
- Panels tested for resistance to internal faults up to 31.5 kA
- Logical mechanical interlocks prevent maloperation
- Make-proof earthing by means of the vacuum circuit-breaker.

Security of operation

- Hermetically sealed primary enclosure independent of environmental effects (pollution, humidity and small animals)
- Maintenance-free in an indoor environment (IEC 62271-1 and VDE 0671-1)
- Operating mechanisms of switching devices accessible outside the primary enclosure (switchgear vessel)
- Metal-coated, plug-in inductive voltage transformers mounted outside the SF₆ switchgear vessel
- Current transformers as ring-core current transformers mounted outside the SF₆ switchgear vessel
- Complete switchgear interlocking system with logical mechanical interlocks
- Welded switchgear vessels, sealed for life
- Minimum fire load
- Type and routine-tested
- Standardized, NC production processes
- Quality assurance in accordance with DIN EN ISO 9001
- More than 500,000 switchgear panels of Siemens in operation worldwide for many years.

Reliability

- Type and routine-tested
- Standardized, NC production processes
- Quality assurance in accordance with DIN EN ISO 9001
- More than 500,000 switchgear panels of Siemens in operation worldwide for many years.



Video

Gas-insulated switchgear:
Safe for operation and safe
for personnel



Technology

General

- 3-pole enclosure of the primary part consisting of a switch-gear vessel made of stainless steel
- Insulating gas SF₆ (fluorinated greenhouse gas)
- Three-position switch as busbar disconnecter and feeder earthing switch
- Make-proof earthing by means of the vacuum circuit-breaker
- Compact dimensions due to SF₆ insulation
- Hermetically tight, welded switchgear vessel made of stainless steel
- 1-pole, solid-insulated, screened busbars, plug-in type
- Cable connection with outside-cone plug-in system, or for connection of solid-insulated bars
- Wall-standing or free-standing arrangement
- Cable connection access from front
- Hinge of the low-voltage door on the left or right
- Installation and extension of existing switchgear at both ends without gas work and without modification of existing panels
- Option: Flexible pressure relief duct systems.

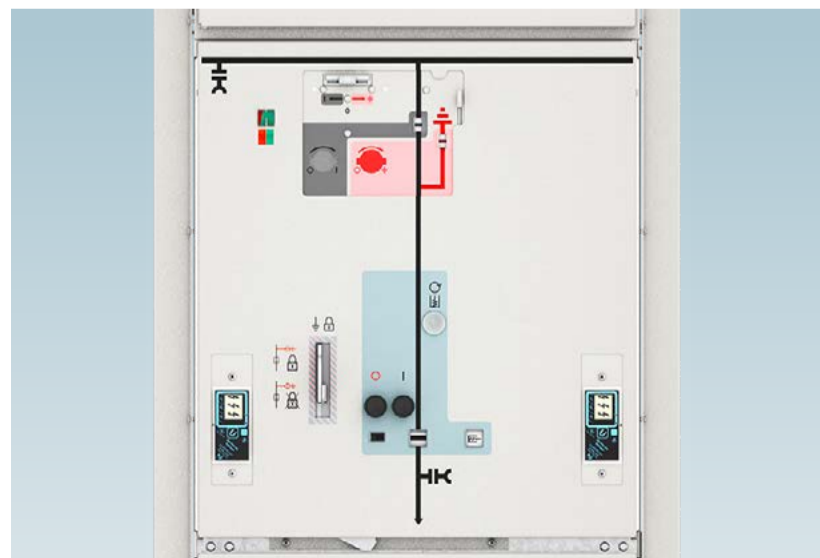
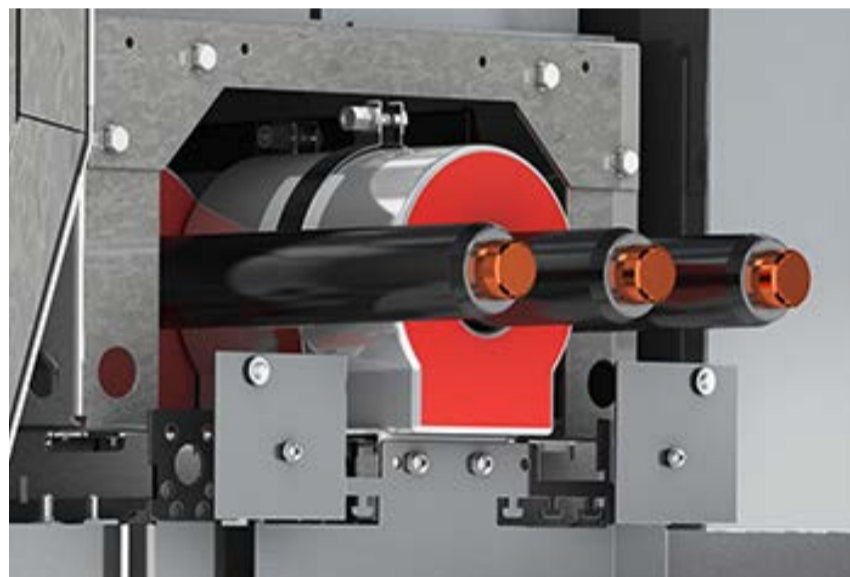
Interlocks

- According to IEC 62271-200 and VDE 0671-200
- Logical mechanical interlocks prevent maloperation
- Three-position disconnecter can only be operated with circuit-breaker in OPEN position
- Circuit-breaker or contactor can only be operated with three-position switch in end position and operating lever removed
- Switch-disconnector, contactor, ring-main and metering panels are not interlocked due to their own switching capacity
- Three-position disconnecter interlocked against the circuit-breaker in circuit-breaker panels and in bus sectionalizers with one panel width
- Locking device for "feeder earthed"
- Locking device for three-position switch
- Cable compartment cover and/or fuse cover (access to HV HRC fuses) always interlocked against the three-position switch-disconnector (de-earthing not possible when cover is removed) in panels with HV HRC fuses (switch-disconnector panel, auxiliary transformer panel, metering panel and contactor panel with fuses)

- Option: Cable compartment cover interlocked against the three-position switch (circuit-breaker panel, disconnecter panel, ring-main panel)
- Option: Electromagnetic interlocks
- Option: Actuating openings of the circuit-breaker can be padlocked
- Option: Locking device for "feeder".
- Option: Closing lockout for three-position disconnecter (circuit-breaker panel, disconnecter panel and air-insulated transfer metering panel)
- Option: Closing lockout for three-position switch-disconnector (ring-main panel)
- Option: Electromechanical closing lockout for circuit-breaker.

Modular design

- Panel replacement possible without SF₆ gas work
- Low-voltage compartment removable, plug-in bus wires.



Instrument transformers

- Current transformers not subjected to dielectric stress
- Easy replacement of current transformers designed as ring-core transformers
- Metal-coated, plug-in and disconnectable voltage transformers
- Block-type current and block-type voltage transformers in the air-insulated metering panel, also possible as customer supply (block-type current transformers are subject to dielectric stress).

Sensors

- Current sensor as inductive current transformer in combination with precision shunt (voltage signal)
- Voltage sensor as resistor divider
- In combination with secondary devices from the SIPROTEC and SICAM family.

Technology



Auxiliary transformer

Auxiliary transformer

- Three-phase dry-type transformer
- Power 40 kVA
- Connection symbol Dyn1 or Dyn5
- According to Ecodesign Directive No. 548/ 2014 of the EU.

Vacuum circuit-breaker

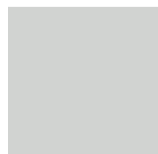
- Maintenance-free under normal ambient conditions according to IEC 62271-1 and VDE 0671-1
- No relubrication or readjustment
- Up to 10,000 operating cycles
- Option: Up to 30,000 operating cycles
- Vacuum-tight for life.

Secondary systems

- Customary protection, measuring and control equipment
- Option: Numerical multifunction protection relay with integrated protection, control, communication, operating and monitoring functions
- Can be integrated in process control systems.

Color of the panel front

RAL 7035 / light grey



Climate and environmental influences

All parts of the primary circuit of the NXPLUS C switchgear which are subjected to high voltage are completely enclosed and insensitive to climatic influences.

- All medium-voltage devices (except for HV HRC fuses) are installed in a gas-tight, welded stainless-steel switchgear vessel which is filled with SF₆ gas
- Live parts outside the switchgear vessel are provided with single-pole enclosure (exception: air-insulated metering panel)
- At no point can creepage currents flow from high-voltage potentials to earth (exception: air-insulated metering panel)
- Operating mechanism parts which are functionally important are made of corrosion-resistant materials
- Bearings in the operating mechanism are designed as dry-type bearings and do not require lubrication.

The NXPLUS C switchgear is suitable for application in indoor installations under normal operating conditions as defined in the standard IEC 62271-1.

- Temperature: -5 °C to +55 °C
-25 °C to +55 °C ¹⁾ (option)
- Rel. air humidity: Mean value over 24 h ¹⁾: ≤ 98 %
Mean value over 1 month: ≤ 90 %
- Condensation: Occasionally
Frequently (degree of protection min. IP31D, with anti-condensation heater in LV part ²⁾)
- Site altitude: Panels without HV HRC fuses: Max. 4000 m
Panel with HV HRC fuses: Altitude correction to be considered

Furthermore, the high-voltage part of NXPLUS C switchgear can be used in environmental conditions of the climatic category 3C2 according to the standard IEC 60721-3-3 (exception: air-insulated metering panel).

NXPLUS C has been subjected to a climatic test according to IEC 60932, Level 2, and is suitable for operating conditions according to "Design Class 2". This test also meets the requirements of IEC 62271-304 for "Design Class 2" (exception: air-insulated metering panel).

1) Secondary devices (e.g. protection devices, meters, measuring transducers, etc.) must be suitable for the given operating conditions
2) Heater in the LV compartment and in the operating mechanism box of the circuit-breaker

Wall-standing arrangement

Single-busbar

Free-standing arrangement

Single-busbar

Switchgear installation

- For single-busbar applications:
 - Wall-standing arrangement or
 - Free-standing arrangement
 - Face-to-face arrangement accordingly.

Room dimensions

See dimension drawings above.

Room height

- ≥ 2750 mm NXPLUS C, all technical data, all types of arrangement, with / without horizontal pressure relief duct
- ≥ 2400 mm NXPLUS C, wall-standing and free-standing arrangement, busbar 1250 A, LV compartment 761 mm, without horizontal pressure relief duct.

Door dimensions

The following dimensions are recommended as a minimum for the door dimensions:

Door height: ≥ 2500 mm

Door width: ≥ 900 mm (for panel widths of 600 mm)
 ≥ 1200 mm (for panel widths of 900 mm).

Weights

Single-busbar panels

Panels 450 mm: Approx. 700 kg

Panels 600 mm: Approx. 800 kg

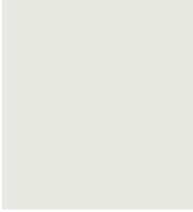
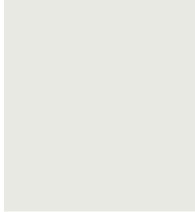
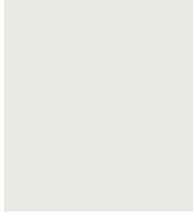
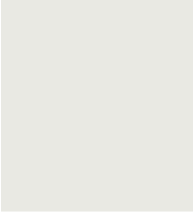
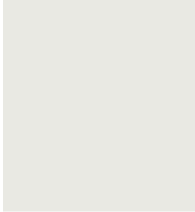
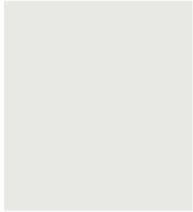
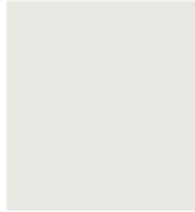
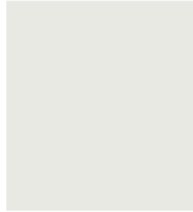
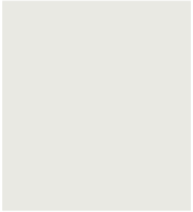
Panels for 900 mm: Approx. 1400 kg.

Technical data

Common electrical data, filling pressure and temperature

Rated insulation level									
Rated voltage U_r	kV	7.2	12	15	17.5	24	27	36	38
Rated short-duration power frequency withstand voltage U_d									
– phase-to-phase, phase-to-earth, open contact gap	kV	20 (32)	28 (42)	36	38	50	70	70	70
– across the isolating distance	kV	23 (37)	32 (48)	40	45	60	77	80	77
Rated lightning impulse withstand voltage U_p									
– phase-to-phase, phase-to-earth, open contact gap	kV	60	75 (95)	95	95	125	150	170	150
– across the isolating distance	kV	70	85 (110)	105	110	145	165	195	165
Rated frequency f_r	Hz	50 / 60	50 / 60	50 / 60	50 / 60	50 / 60	50 / 60	50 / 60	50 / 60
Rated normal current I_r for the busbar	up to A	2500	2500	2500	2500	2500	1250	1250	1250
Rated filling level p_{re}	kPa	150	150	150	150	150	150	150	150
Minimum functional level p_{me}	kPa	130	130	130	130	130	130	130	130
Ambient air temperature	°C	(-25) -5 to +55 →							

To view the technical data of the individual panels, click on the corresponding selection module.

				
Circuit-breaker panel (LS)	Bus sectionalizer (LK)	Disconnecter panel (TS)	Switch-disconnector panel (TR)	Auxiliary transformer panel (EB)
				
Metering panel (ME)	Air-insul. metering panel (aME)	Ring-main panel (RK)	Vacuum contactor panel (VS)	

450 mm

Overview

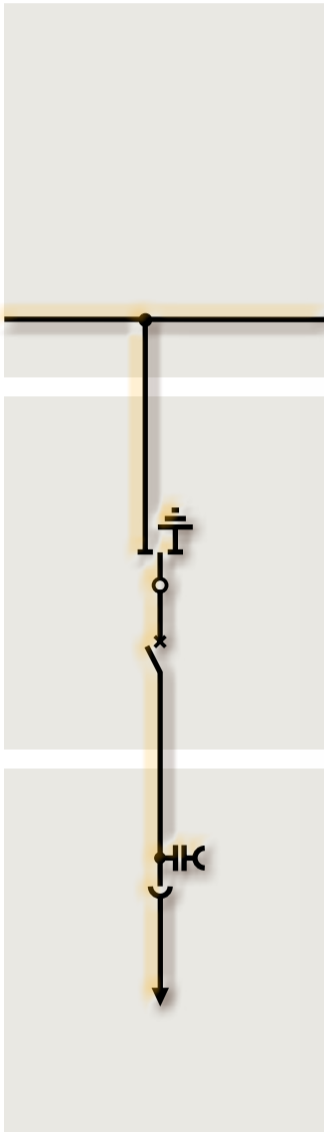
 Start view

Technical data

Configuration

Front view

Interior view



Busbar compartment

Switching-device compartment

Cable / instrument transformer compartment

450 mm

Overview

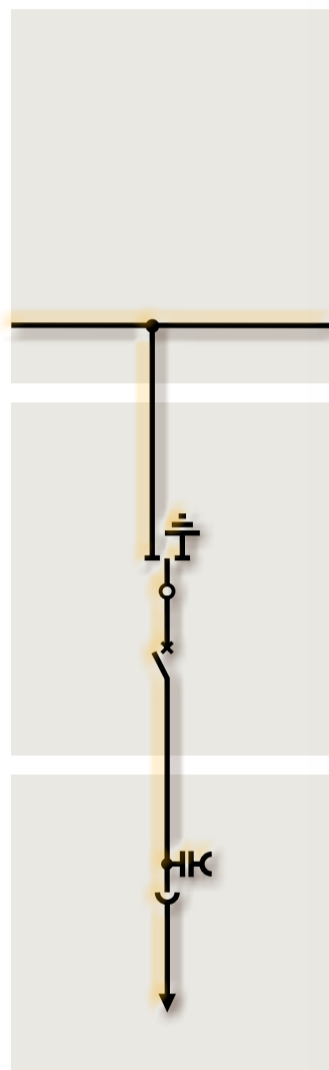
Start view

 Technical data

Configuration

Front view

Interior view



Busbar compartment

Busbar, 1-pole, plug-in and bolted design, consisting of round-bar copper, insulated by means of silicone rubber, field control with the help of electrically conductive layers on the silicone-rubber insulation, insensitive to pollution and condensation, switchgear extension or panel replacement without SF₆ gas work.

Switching-device compartment

Circuit-breaker acc. to IEC 62271-100, three-position disconnecter acc. to IEC 62271-102, maintenance-free for indoor installations acc. to IEC 62271-1, climate-independent, individual secondary equipment, operating mechanisms located outside the switchgear vessel in the operating mechanism box and behind the control board.

Cable / instrument transformer compartment

Bushings with outside cone type "C" (M16), with cable bracket type C40, for thermoplastic-insulated cables with shielded cable T-plugs (bolted contact), for connection cross-sections up to 1200 mm², cable connection at the front (cable entry from below), cable connection at the rear (cable entry from below or above).

Circuit-breaker panel

Rated voltage U_r	kV	7.2	12	15	17.5	24			
Rated normal current I_r	A	630	630	630	630	630			
	A	800	800	800	800	800			
Rated short-time withstand current I_k	for switchgear with $t_k = 1$ s	kA	20, 25	20, 25	20, 25	20, 25	20, 25		
	for switchgear with $t_k = 3$ s	kA	20, 25	20, 25	20, 25	20, 25	20, 25		
Rated peak withstand current I_p	50 Hz	kA	50, 63	50, 63	50, 63	50, 63	50, 63		
	60 Hz	kA	52, 65	52, 65	52, 65	52, 65	52, 65		
Rated short-circuit making current I_{ma}	50 Hz	kA	50, 63	50, 63	50, 63	50, 63	50, 63		
	60 Hz	kA	52, 65	52, 65	52, 65	52, 65	52, 65		
Rated short-circuit breaking current I_{sc}	kA	20, 25	20, 25	20, 25	20, 25	20, 25			
Electrical endurance of vacuum circuit-breakers									
at rated normal current			10,000 operating cycles						
at rated short-circuit breaking current			50 breaking operations						
Endurance classes acc. to IEC 62271-100			M2, E2, C2						
Endurance classes acc. to IEC 62271-102			DISCONNECTING M1						
			READY-TO-EARTH ¹⁾ M0, E0						

¹⁾ The EARTHING function with endurance class E2 is achieved by closing the circuit-breaker in combination with the three-position disconnecter (endurance class E0)

450 mm

Overview

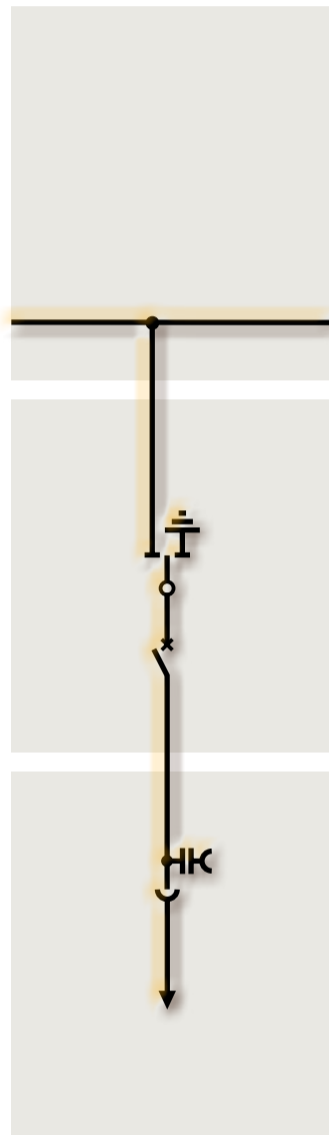
Start view

Technical data

 Configuration

Front view

Interior view

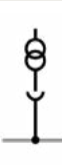



















Busbar compartment

Switching-device compartment

Cable / instrument transformer compartment

Legend configuration

								
Voltage transformer	Voltage sensor	Current transformer	Capacitive voltage detecting system	Surge arrester	Cable connection at busbar left	Capacitive voltage detecting system at cable connection busbar left	Circuit-breaker and three-position disconnector	Earthing switch for busbar (via circuit-breaker)
								
Panel connection	Capacitive voltage detecting system at feeder	Short-circuit / earth-fault indicator	Current transformer at the bushing	Current transformer at the cable	Voltage transformer at feeder	Voltage sensor at feeder	Surge arrester / surge limiter	Zero-sequence current transformer

450 mm

Overview

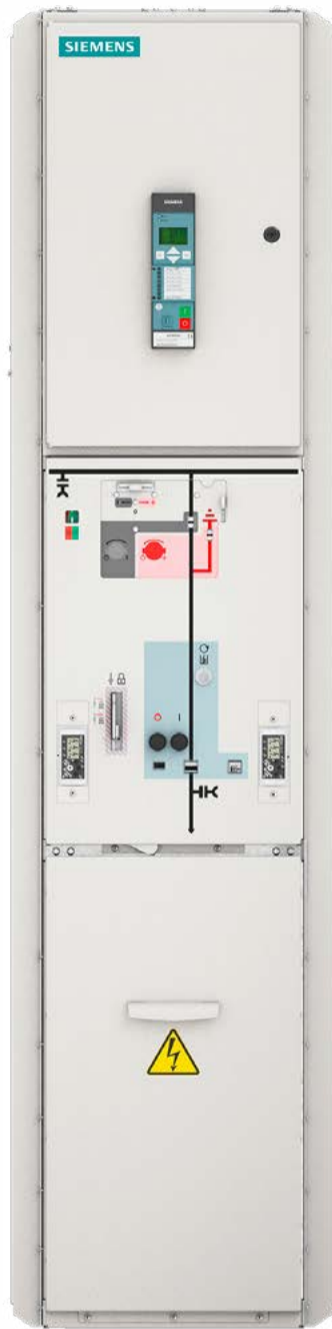
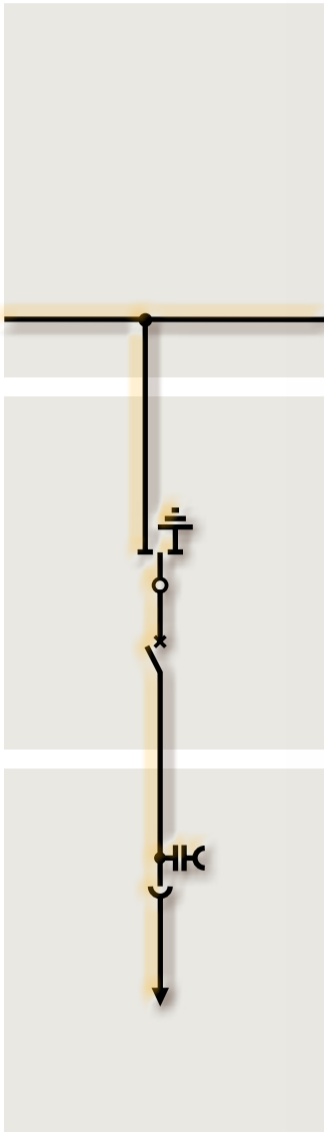
Start view

Technical data

Configuration

 Front view

Interior view



Busbar compartment

Busbar, 1-pole, plug-in and bolted design, consisting of round-bar copper, insulated by means of silicone rubber, field control with the help of electrically conductive layers on the silicone-rubber insulation, insensitive to pollution and condensation, switchgear extension or panel replacement without SF₆ gas work.

Switching-device compartment

Circuit-breaker acc. to IEC 62271-100, three-position disconnecter acc. to IEC 62271-102, maintenance-free for indoor installations acc. to IEC 62271-1, climate-independent, individual secondary equipment, operating mechanisms located outside the switchgear vessel in the operating mechanism box and behind the control board.

Cable / instrument transformer compartment

Bushings with outside cone type "C" (M16), with cable bracket type C40, for thermoplastic-insulated cables with shielded cable T-plugs (bolted contact), for connection cross-sections up to 1200 mm², cable connection at the front (cable entry from below), cable connection at the rear (cable entry from below or above).

450 mm

Overview

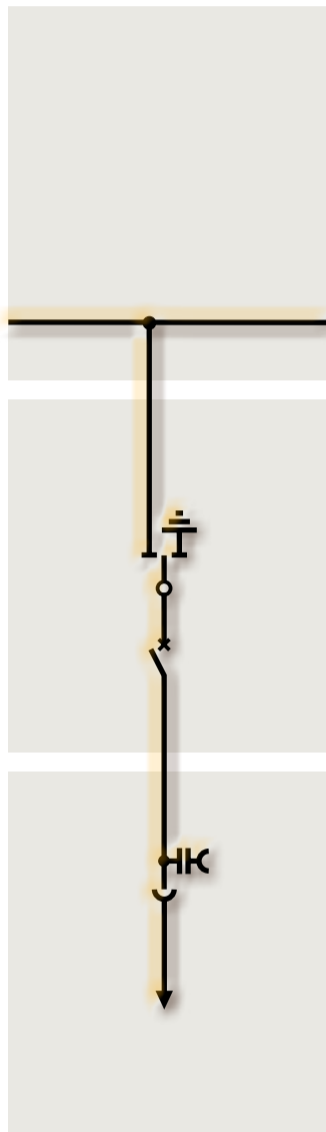
Start view

Technical data

Configuration

Front view

Interior view



Busbar compartment

Switching-device compartment

Cable / instrument transformer compartment

600 mm

Overview

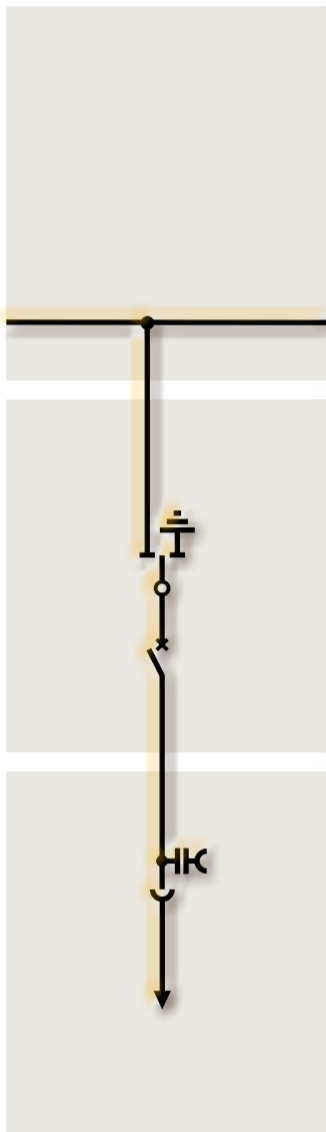
 Start view

Technical data

Configuration

Front view

Interior view



Busbar compartment

Switching-device compartment

Cable / instrument transformer compartment

600 mm

Overview

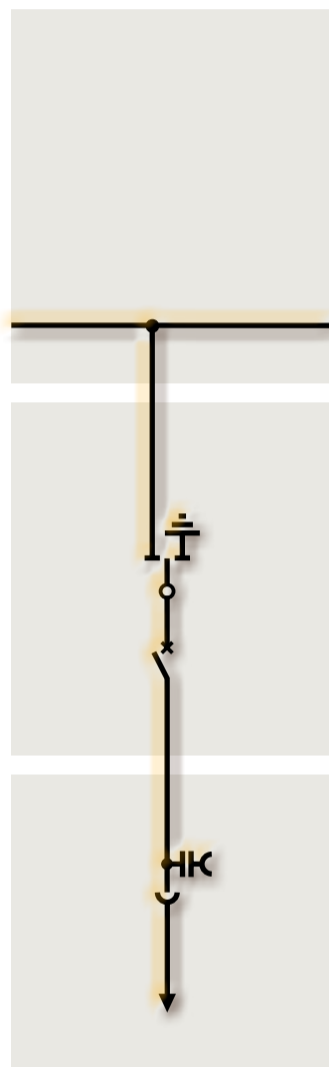
Start view

Technical data

Configuration

Front view

Interior view



Busbar compartment

Busbar, 1-pole, plug-in and bolted design, consisting of round-bar copper, insulated by means of silicone rubber, field control with the help of electrically conductive layers on the silicone-rubber insulation, insensitive to pollution and condensation, switchgear extension or panel replacement without SF₆ gas work.

Switching-device compartment

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Cable / instrument transformer compartment

Bushings with outside cone type "C" (M16), with cable bracket type C40, for thermoplastic-insulated cables with shielded cable T-plugs (bolted contact), for connection cross-sections up to 1200 mm², cable connection at the front, (cable entry from below), cable connection at the rear (cable entry from below or above).

Circuit-breaker panel

Rated voltage U_r	kV	7.2	12	15	17.5	24	27	36	38
Rated normal current I_r	A	630	630	630	630	630	630	630	630
	A	800	800	800	800	800	800	800	800
	A	1000	1000	1000	1000	1000	1000	1000	1000
	A	1250	1250	1250	1250	1250	1250	1250	1250
Rated short-time withstand current I_k	for switchgear with $t_k = 1$ s	kA	20, 25, 31.5	20, 25, 31.5	20, 25, 31.5	20, 25, 31.5	20, 25	20, 25	20, 25
	for switchgear with $t_k = 3$ s	kA	20, 25, 31.5	20, 25, 31.5	20, 25, 31.5	20, 25, 31.5	20, 25	20, 25	20, 25
Rated peak withstand current I_p	50 Hz	kA	50, 63, 80	50, 63, 80	50, 63, 80	50, 63, 80	50, 63	50, 63	50, 63
	60 Hz	kA	52, 65, 82	52, 65, 82	52, 65, 82	52, 65, 82	52, 65	52, 65	52, 65
Rated short-circuit making current I_{ma}	50 Hz	kA	50, 63, 80	50, 63, 80	50, 63, 80	50, 63, 80	50, 63	50, 63	50, 63
	60 Hz	kA	52, 65, 82	52, 65, 82	52, 65, 82	52, 65, 82	52, 65	52, 65	52, 65
Rated short-circuit breaking current I_{sc}	kA	20, 25, 31.5	20, 25, 31.5	20, 25, 31.5	20, 25, 31.5	20, 25	20, 25	20, 25	20, 25
Electrical endurance of vacuum circuit-breakers at rated normal current		10,000 operating cycles							
at rated short-circuit breaking current		50 breaking operations							
Endurance classes acc. to IEC 62271-100		M2, E2, C2							
Endurance classes acc. to IEC 62271-102	DISCONNECTING	M1							
	READY-TO-EARTH ¹⁾	M0, E0							

¹⁾ The EARTHING function with endurance class E2 is achieved by closing the circuit-breaker in combination with the three-position disconnecter (endurance class E0)

600 mm

Overview

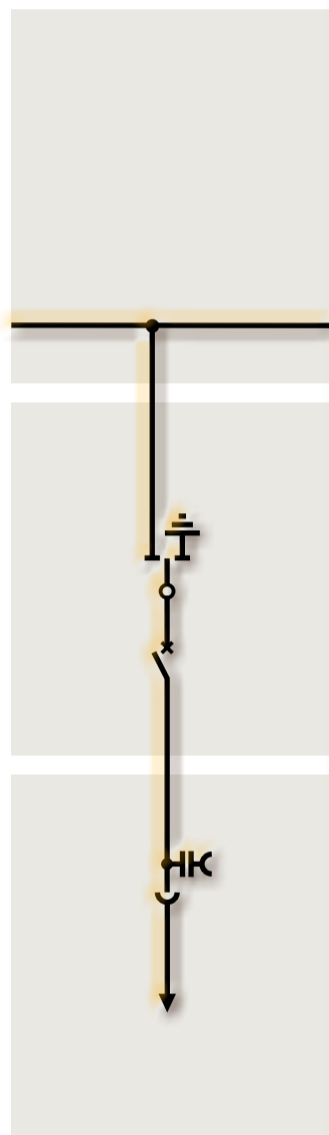
Start view

Technical data

 Configuration

Front view

Interior view


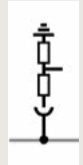


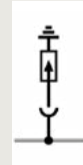

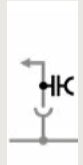

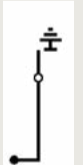





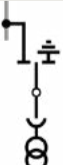





Busbar compartment

Switching-device compartment

Cable / instrument transformer compartment

Legend configuration

								
Voltage transformer	Voltage sensor	Current transformer	Capacitive voltage detecting system	Surge arrester	Cable connection at busbar left	Capacitive voltage detecting system at cable connection busbar left	Circuit-breaker and three-position disconnecter	Earthing switch for busbar (via circuit-breaker)
								
Panel connection	Capacitive voltage detecting system at feeder	Short-circuit / earth-fault indicator	Current transformer at the bushing	Current transformer at the cable	Voltage transformer at feeder	Voltage sensor at feeder	Surge arrester / surge limiter	Zero-sequence current transformer

600 mm

Overview

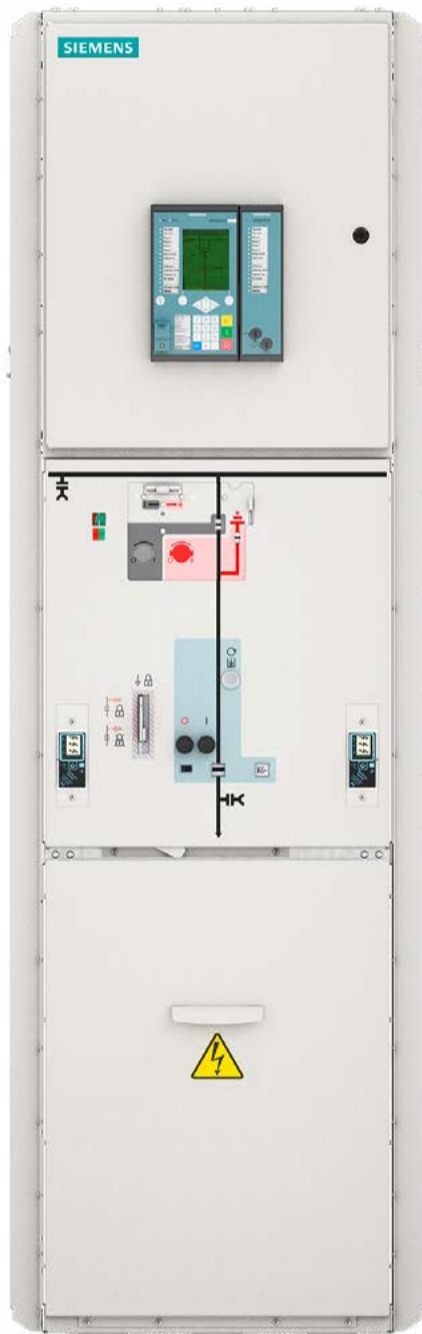
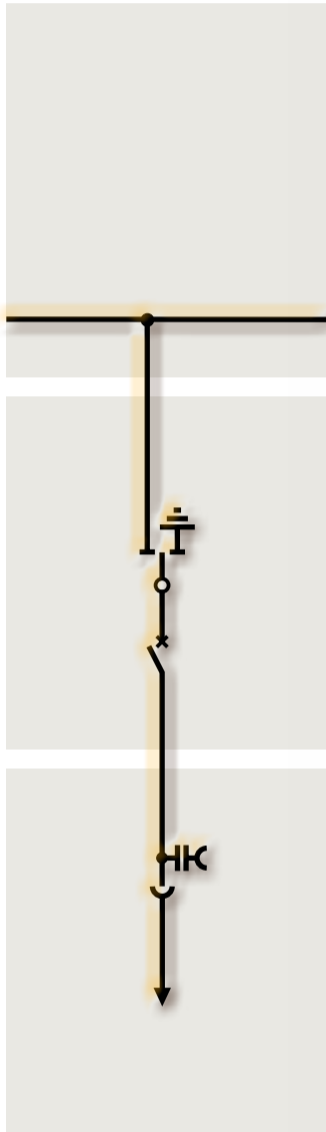
Start view

Technical data

Configuration

 Front view

Interior view



Busbar compartment

Busbar, 1-pole, plug-in and bolted design, consisting of round-bar copper, insulated by means of silicone rubber, field control with the help of electrically conductive layers on the silicone-rubber insulation, insensitive to pollution and condensation, switchgear extension or panel replacement without SF₆ gas work.

Switching-device compartment

Circuit-breaker acc. to IEC 62271-100, three-position disconnecter acc. to IEC 62271-102, maintenance-free for indoor installations acc. to IEC 62271-1, climate-independent, individual secondary equipment, operating mechanisms located outside the switchgear vessel in the operating mechanism box and behind the control board.

Cable / instrument transformer compartment

Bushings with outside cone type "C" (M16), with cable bracket type C40, for thermoplastic-insulated cables with shielded cable T-plugs (bolted contact), for connection cross-sections up to 1200 mm², cable connection at the front, (cable entry from below), cable connection at the rear (cable entry from below or above).

600 mm

Overview

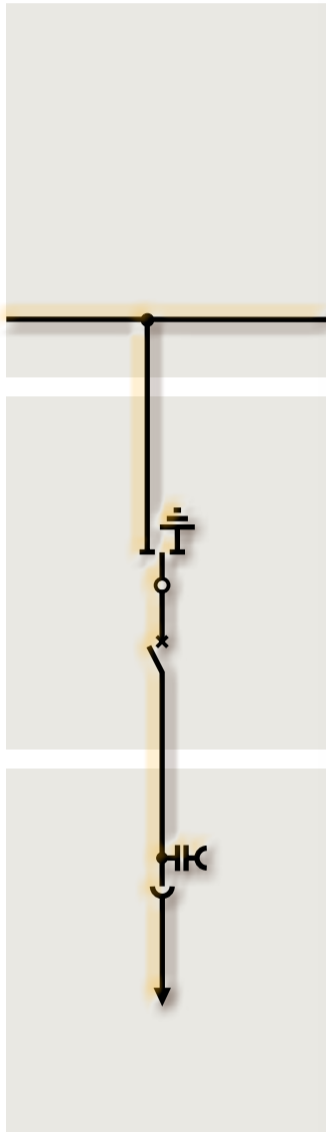
Start view

Technical data

Configuration

Front view

Interior view



Busbar compartment

Switching-device compartment

Cable / instrument transformer compartment

600 mm

Overview

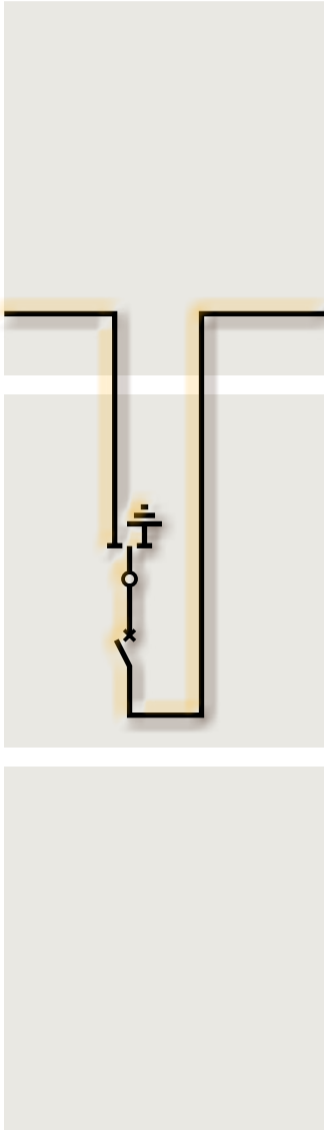
Start view

Technical data

Configuration

Front view

Interior view



Busbar compartment

Switching-device compartment

Cable / instrument transformer compartment

600 mm

Overview

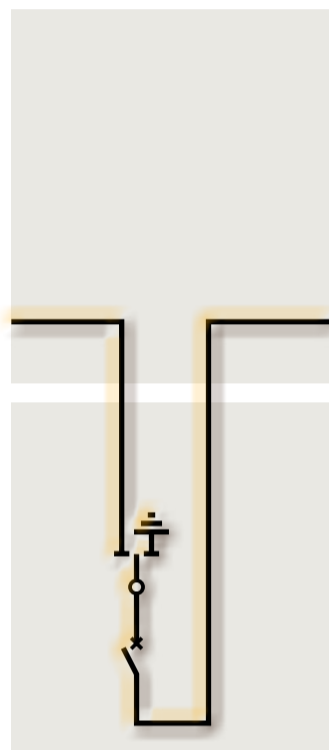
Start view

 Technical data

Configuration

Front view

Interior view



Busbar compartment

Busbar, 1-pole, plug-in and bolted design, consisting of round-bar copper, insulated by means of silicone rubber, field control with the help of electrically conductive layers on the silicone-rubber insulation, insensitive to pollution and condensation, switchgear extension or panel replacement without SF₆ gas work.

Switching-device compartment

Circuit-breaker acc. to IEC 62271-100, three-position disconnector acc. to IEC 62271-102, maintenance-free for indoor installations acc. to IEC 62271-1, climate-independent, individual secondary equipment, operating mechanisms located outside the switchgear vessel in the operating mechanism box and behind the control board.

Cable / instrument transformer compartment

Two-panel bus sectionalizer: Longitudinal panel inter-connection with busbar, 1-pole, plug-in and bolted design, consisting of round-bar copper, insulated by means of silicone rubber, field control with the help of electrically conductive layers on the silicone-rubber insulation, insensitive to pollution and condensation.

Bus sectionalizer

Rated voltage U_r	kV	7.2	12	15	17.5	24			
Rated normal current I_r	A	1000	1000	1000	1000	1000			
	A	1250	1250	1250	1250	1250			
Rated short-time withstand current I_k	for switchgear with $t_k = 1$ s	kA 20, 25, 31.5	20, 25, 31.5	20, 25, 31.5	20, 25, 31.5	20, 25, 31.5			
	for switchgear with $t_k = 3$ s	kA 20, 25, 31.5	20, 25, 31.5	20, 25, 31.5	20, 25, 31.5	20, 25, 31.5			
Rated peak withstand current I_p	50 Hz	kA 50, 63, 80	50, 63, 80	50, 63, 80	50, 63, 80	50, 63, 80			
	60 Hz	kA 52, 65, 82	52, 65, 82	52, 65, 82	52, 65, 82	52, 65, 82			
Rated short-circuit making current I_{ma}	50 Hz	kA 50, 63, 80	50, 63, 80	50, 63, 80	50, 63, 80	50, 63, 80			
	60 Hz	kA 52, 65, 82	52, 65, 82	52, 65, 82	52, 65, 82	52, 65, 82			
Rated short-circuit breaking current I_{sc}	kA	20, 25, 31.5	20, 25, 31.5	20, 25, 31.5	20, 25, 31.5	20, 25			
Electrical endurance of vacuum circuit-breakers									
at rated normal current			10,000 operating cycles						
at rated short-circuit breaking current			50 breaking operations						
Endurance classes acc. to IEC 62271-100			M2, E2, C2,						
Endurance classes acc. to IEC 62271-102			DISCONNECTING M1						
			READY-TO-EARTH ¹⁾ M0, E0						

¹⁾ The EARTHING function with endurance class E2 is achieved by closing the circuit-breaker in combination with the three-position disconnector (endurance class E0)

600 mm

Overview

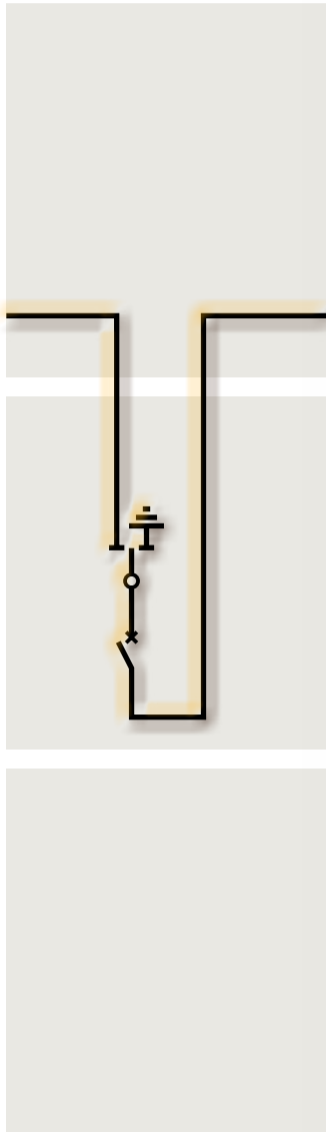
Start view

Technical data

 Configuration

Front view

Interior view

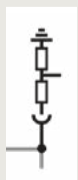


Busbar compartment

Switching-device compartment

Cable / instrument transformer compartment

Legend configuration



Voltage sensor left



Voltage sensor right



Capacitive voltage detecting system



Circuit-breaker and three-position disconnector



Three-position disconnector

600 mm

Overview

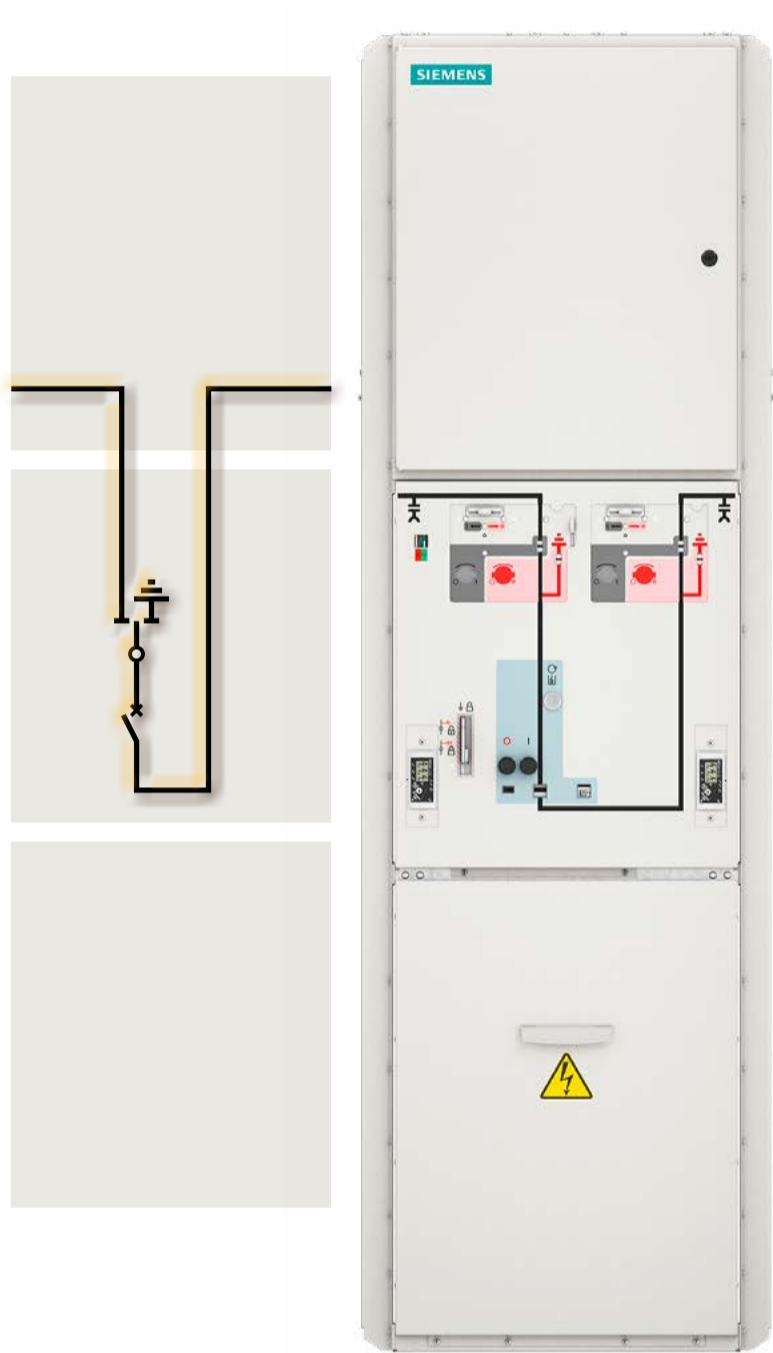
Start view

Technical data

Configuration

Front view

Interior view



Busbar compartment

Busbar, 1-pole, plug-in and bolted design, consisting of round-bar copper, insulated by means of silicone rubber, field control with the help of electrically conductive layers on the silicone-rubber insulation, insensitive to pollution and condensation, switchgear extension or panel replacement without SF₆ gas work.

Switching-device compartment

Circuit-breaker acc. to IEC 62271-100, three-position disconnecter acc. to IEC 62271-102, maintenance-free for indoor installations acc. to IEC 62271-1, climate-independent, individual secondary equipment, operating mechanisms located outside the switchgear vessel in the operating mechanism box and behind the control board.

Cable / instrument transformer compartment

Two-panel bus sectionalizer: Longitudinal panel inter-connection with busbar, 1-pole, plug-in and bolted design, consisting of round-bar copper, insulated by means of silicone rubber, field control with the help of electrically conductive layers on the silicone-rubber insulation, insensitive to pollution and condensation.

600 mm

Overview

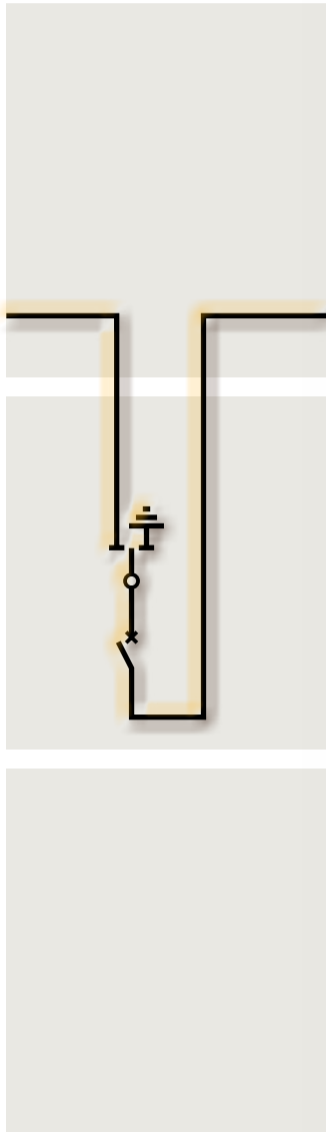
Start view

Technical data

Configuration

Front view

Interior view



Busbar compartment

Switching-device compartment

Cable / instrument transformer compartment

900 mm

Overview

 Start view

Technical data

Configuration

Front view

Interior view



Busbar compartment

Switching-device compartment

Cable / instrument transformer compartment

900 mm

Overview

Start view

 Technical data

Configuration

Front view

Interior view



Busbar compartment

Busbar, 1-pole, plug-in and bolted design, consisting of round-bar copper, insulated by means of silicone rubber, field control with the help of electrically conductive layers on the silicone-rubber insulation, insensitive to pollution and condensation, switchgear extension or panel replacement without SF₆ gas work.

Switching-device compartment

Circuit-breaker acc. to IEC 62271-100, three-position disconnecter acc. to IEC 62271-102, maintenance-free for indoor installations acc. to IEC 62271-1, climate-independent, individual secondary equipment, operating mechanisms located outside the switchgear vessel in the operating mechanism box and behind the control board.

Cable / instrument transformer compartment

Two-panel bus sectionalizer: Longitudinal panel interconnection with busbar, 1-pole, plug-in and bolted design, consisting of round-bar copper, insulated by means of silicone rubber, field control with the help of electrically conductive layers on the silicone-rubber insulation, insensitive to pollution and condensation.

Bus sectionalizer

Rated voltage U_r	kV	27	36	38
Rated normal current I_r	A	1000	1000	1000
	A	1250	1250	1250
Rated short-time withstand current I_k	for switchgear with $t_k = 1$ s kA	20, 25	20, 25	20, 25
	for switchgear with $t_k = 3$ s kA	20, 25	20, 25	20, 25
Rated peak withstand current I_p	50 Hz kA	50, 63	50, 63	50, 63
	60 Hz kA	52, 65	52, 65	52, 65
Rated short-circuit making current I_{ma}	50 Hz kA	50, 63	50, 63	50, 63
	60 Hz kA	52, 65	52, 65	52, 65
Rated short-circuit breaking current I_{sc}	kA	20, 25	20, 25	20, 25
Electrical endurance of vacuum circuit-breakers				
at rated normal current	10,000 operating cycles			
at rated short-circuit breaking current	50 breaking operations			
Endurance classes acc. to IEC 62271-100	M2, E2, C2,			
Endurance classes acc. to IEC 62271-102	DISCONNECTING M1			
	READY-TO-EARTH ¹⁾ M0, E0			

¹⁾ The EARTHING function with endurance class E2 is achieved by closing the circuit-breaker in combination with the three-position disconnector (endurance class E0)

900 mm

Overview

Start view

Technical data

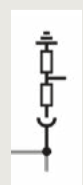
 Configuration

Front view

Interior view



Legend configuration



Voltage sensor



Voltage sensor



Capacitive voltage detecting system



Circuit-breaker and three-position disconnect



Three-position disconnect

900 mm

Overview

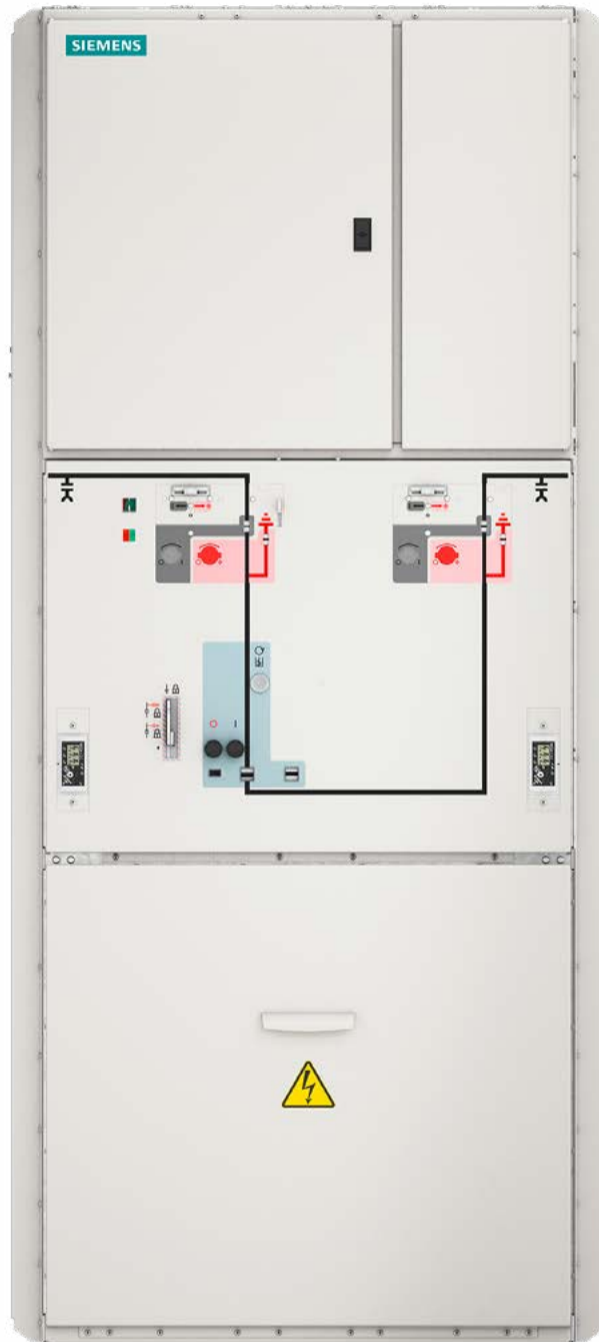
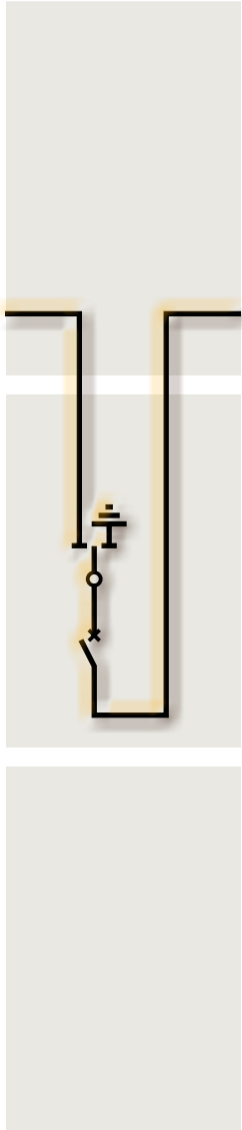
Start view

Technical data

Configuration

 Front view

Interior view



Busbar compartment

Busbar, 1-pole, plug-in and bolted design, consisting of round-bar copper, insulated by means of silicone rubber, field control with the help of electrically conductive layers on the silicone-rubber insulation, insensitive to pollution and condensation, switchgear extension or panel replacement without SF₆ gas work.

Switching-device compartment

Circuit-breaker acc. to IEC 62271-100, three-position disconnecter acc. to IEC 62271-102, maintenance-free for indoor installations acc. to IEC 62271-1, climate-independent, individual secondary equipment, operating mechanisms located outside the switchgear vessel in the operating mechanism box and behind the control board.

Cable / instrument transformer compartment

Two-panel bus sectionalizer: Longitudinal panel interconnection with busbar, 1-pole, plug-in and bolted design, consisting of round-bar copper, insulated by means of silicone rubber, field control with the help of electrically conductive layers on the silicone-rubber insulation, insensitive to pollution and condensation.

900 mm

Overview

Start view

Technical data

Configuration

Front view

Interior view



Disconnecter panel (TS)

600 mm

Overview

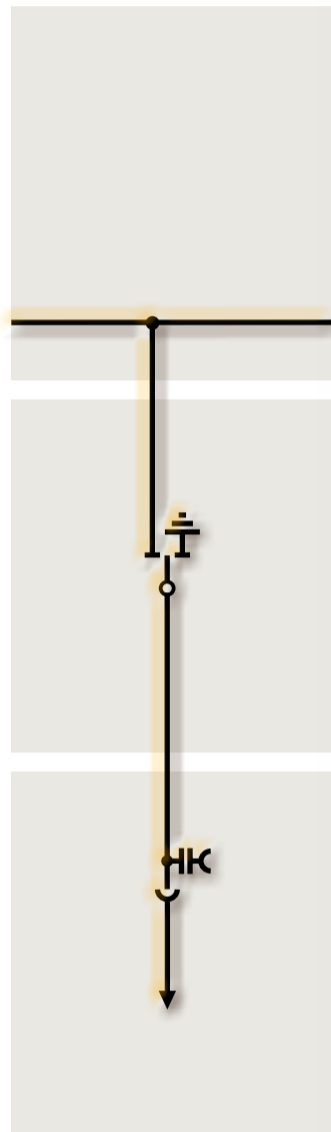
 Start view

Technical data

Configuration

Front view

Interior view



Busbar compartment

Switching-device compartment

Cable / instrument transformer compartment

600 mm

Overview

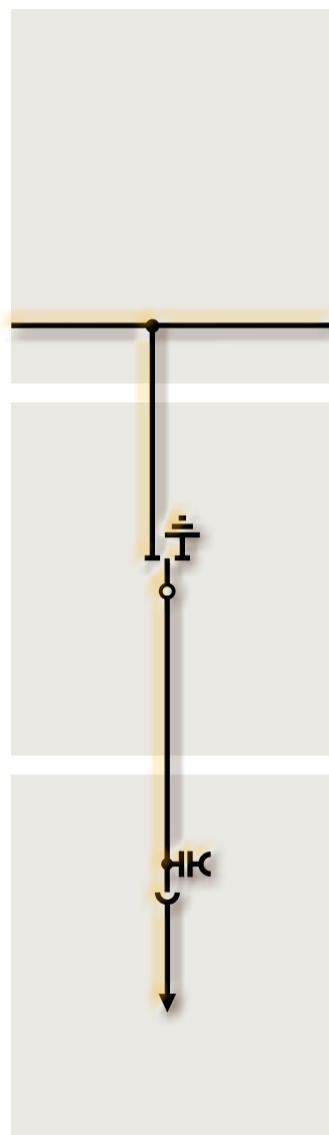
Start view

Technical data

 Configuration

Front view

Interior view


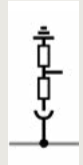


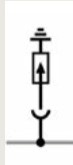
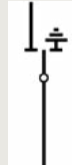





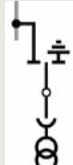





Busbar compartment

Switching-device compartment

Cable / instrument transformer compartment

Legend configuration

						
Voltage transformer	Voltage sensor	Current transformer	Capacitive voltage detecting system	Surge arrester	Circuit-breaker and three-position disconnector	Phase rotation L1, L3
						
Panel connection	Capacitive voltage detecting system at feeder	Current transformer at the bushing	Current transformer at the cable	Voltage transformer at feeder	Voltage sensor at feeder	Surge arrester/ Surge limiter
						
						Zero-sequence current transformer

600 mm

Overview

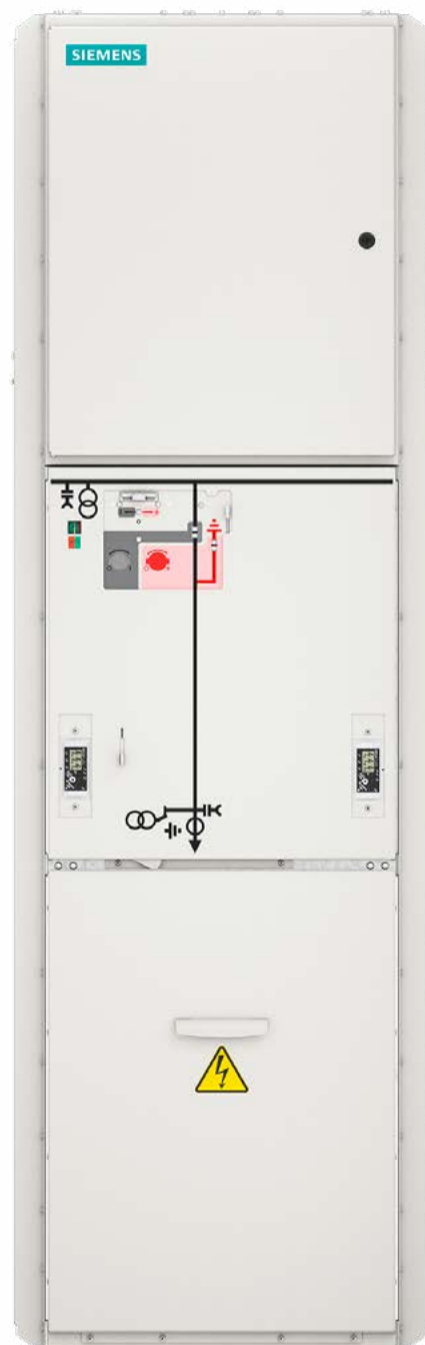
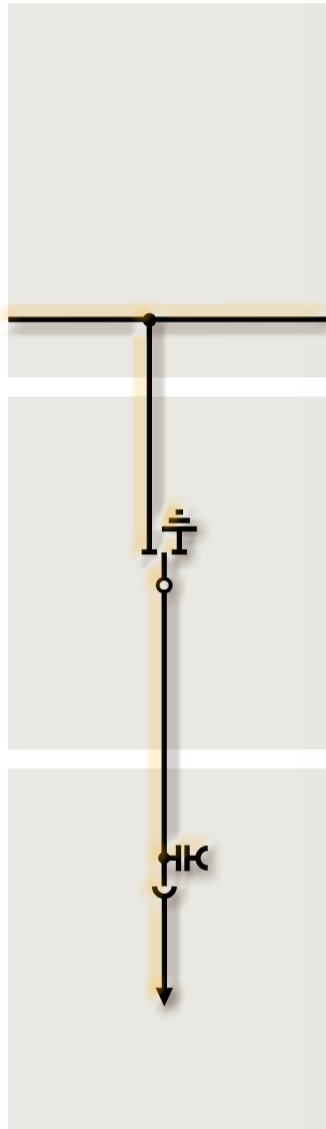
Start view

Technical data

Configuration

 Front view

Interior view



Busbar compartment

Busbar, 1-pole, plug-in and bolted design, consisting of round-bar copper, insulated by means of silicone rubber, field control with the help of electrically conductive layers on the silicone-rubber insulation, insensitive to pollution and condensation, switchgear extension or panel replacement without SF₆ gas work.

Switching-device compartment

Three-position disconnector acc. to IEC 62271-102, maintenance-free for indoor installations acc. to IEC 62271-1, climate-independent, individual secondary equipment, operating mechanism located outside the switchgear vessel in the operating mechanism box and behind the control board.

Cable / instrument transformer compartment

Bushings with outside cone type "C" (M16), with cable bracket type C40, for thermoplastic-insulated cables with shielded cable T-plugs (bolted contact), for connection cross-sections up to 1200 mm², cable connection at the front (cable entry from below), cable connection at the rear (cable entry from below or above).

600 mm

Overview

Start view

Technical data

Configuration

Front view

Interior view



600 mm

Overview

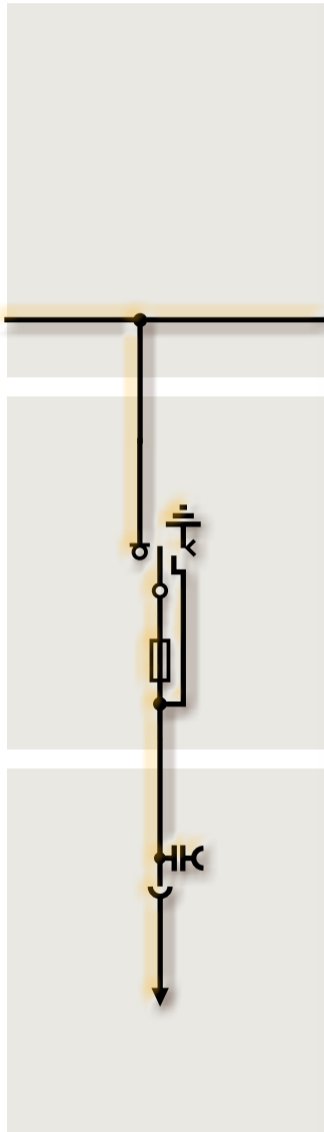
 Start view

Technical data

Configuration

Front view

Interior view



Busbar compartment

Switching-device compartment

Cable / instrument transformer compartment

Switch-disconnector panel (TR)

600 mm

Overview

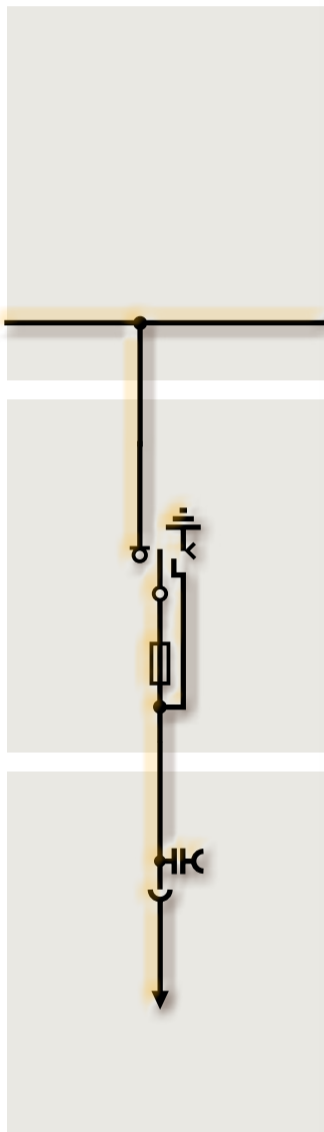
Start view

 Technical data

Configuration

Front view

Interior view



Busbar compartment

Busbar, 1-pole, plug-in and bolted design, consisting of round-bar copper, insulated by means of silicone rubber, field control with the help of electrically conductive layers on the silicone-rubber insulation, insensitive to pollution and condensation, switchgear extension or panel replacement without SF₆ gas work.

Switching-device compartment

Three-position switch-disconnector acc. to IEC 62271-103, maintenance-free for indoor installations acc. to IEC 62271-1, climate-independent, individual secondary equipment, operating mechanism located outside the switchgear vessel in the operating mechanism box and behind the control board.

Cable / instrument transformer compartment

Bushings with outside cone type "C" (M16), with cable bracket type C40, for thermoplastic-insulated cables with shielded cable T-plugs (bolted contact), for connection cross-sections up to 1200 mm², cable connection at the front (cable entry from below), cable connection at the rear (cable entry from below or above).

Switch-disconnector panel (with HV HRC fuses)

Rated voltage U_r	kV	7.2	12	15	17.5	24	27	36	38
Rated normal current $I_r^{2)}$	A	200	200	200	200	200			
Rated short-time withstand current I_k	for switchgear with $t_k = 1$ s	kA	20, 25, 31.5	20, 25, 31.5	20, 25, 31.5	20, 25, 31.5	20, 25		
	for switchgear with $t_k = 3$ s	kA	20, 25, 31.5	20, 25, 31.5	20, 25, 31.5	20, 25, 31.5	20, 25		
Rated peak withstand current I_p	50 Hz	kA	50, 63, 80	50, 63, 80	50, 63, 80	50, 63, 80	50, 63		
	60 Hz	kA	52, 65, 82	52, 65, 82	52, 65, 82	52, 65, 82	52, 65		
Rated short-circuit making current I_{ma}	50 Hz	kA	50, 63, 80	50, 63, 80	50, 63, 80	50, 63, 80	50, 63		
	60 Hz	kA	52, 65, 82	52, 65, 82	52, 65, 82	52, 65, 82	52, 65		
Endurance classes acc. to IEC 62271-103		M1, E3	M1, E3	M1, E3	M1, E3	M1, E3			

²⁾ Depending on the HV HRC fuse-link, observe max. permissible let-through current I_D of the HV HRC fuse-links

600 mm

Overview

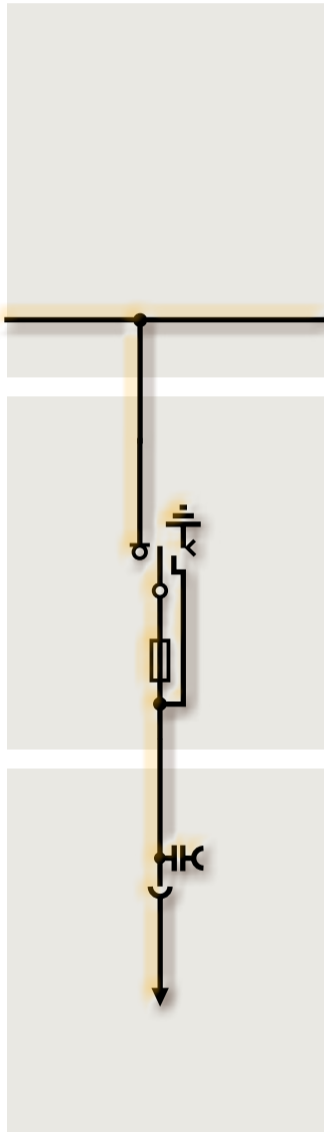
Start view

Technical data

 Configuration

Front view

Interior view

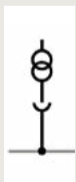


Busbar compartment

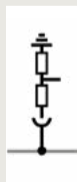
Switching-device compartment

Cable / instrument transformer compartment

Legend configuration



Voltage transformer



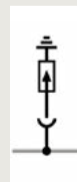
Voltage sensor



Current transformer



Capacitive voltage detecting system



Surge arrester



Three-position switch-disconnector (with HV HRC fuse)



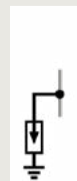
Panel connection



Capacitive voltage detecting system at feeder



Current transformer at the bushing



Surge arrester / surge limiter



Zero-sequence current transformer

600 mm

Overview

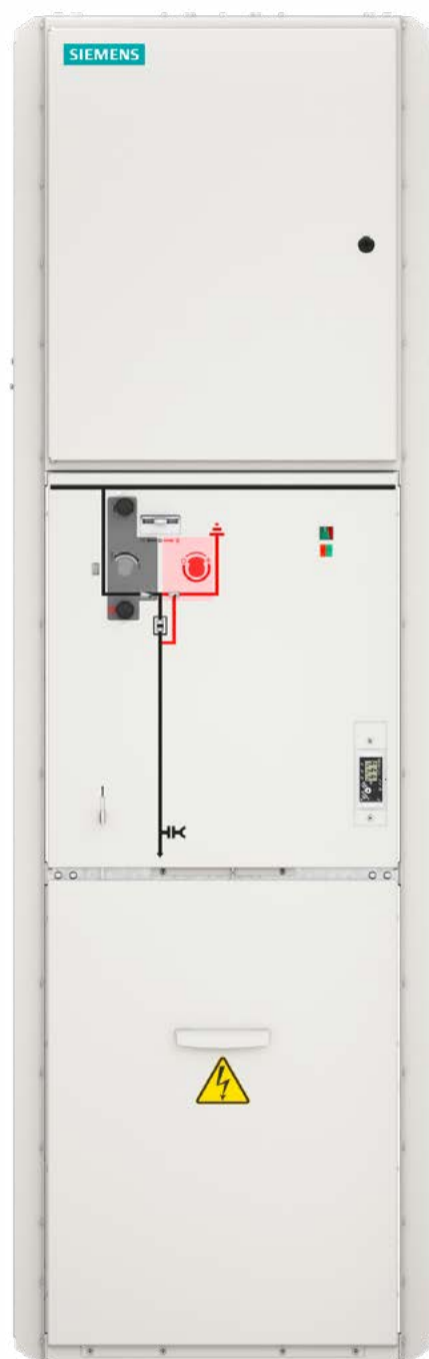
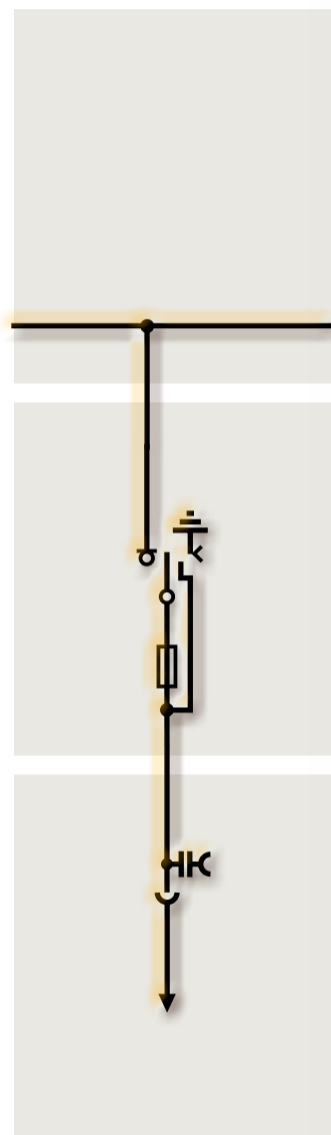
Start view

Technical data

Configuration

Front view

Interior view



Busbar compartment

Busbar, 1-pole, plug-in and bolted design, consisting of round-bar copper, insulated by means of silicone rubber, field control with the help of electrically conductive layers on the silicone-rubber insulation, insensitive to pollution and condensation, switchgear extension or panel replacement without SF₆ gas work.

Switching-device compartment

Three-position switch-disconnector acc. to IEC 62271-103, maintenance-free for indoor installations acc. to IEC 62271-1, climate-independent, individual secondary equipment, operating mechanism located outside the switchgear vessel in the operating mechanism box and behind the control board.

Cable / instrument transformer compartment

Bushings with outside cone type "C" (M16), with cable bracket type C40, for thermoplastic-insulated cables with shielded cable T-plugs (bolted contact), for connection cross-sections up to 1200 mm², cable connection at the front (cable entry from below), cable connection at the rear (cable entry from below or above).

600 mm

Overview

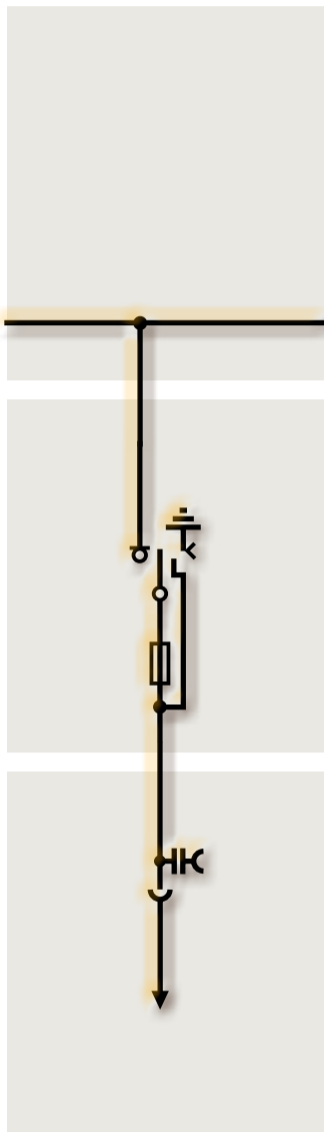
Start view

Technical data

Configuration

Front view

Interior view



Busbar compartment

Switching-device compartment

Cable / instrument transformer compartment

Auxiliary transformer panel (EB)

900 mm

Overview

 Start view

Technical data

Configuration

Front view

Interior view



Busbar compartment

Switching-device compartment

Cable / instrument transformer compartment

Auxiliary transformer panel (EB)

900 mm

Overview

Start view

 Technical data

Configuration

Front view

Interior view



Busbar compartment

Busbar, 1-pole, plug-in and bolted design, consisting of round-bar copper, insulated by means of silicone rubber, field control with the help of electrically conductive layers on the silicone-rubber insulation, insensitive to pollution and condensation, switchgear extension or panel replacement without SF₆ gas work.

Switching-device compartment

Three-position switch-disconnector acc. to IEC 62271-103, maintenance-free for indoor installations acc. to IEC 62271-1, climate-independent, individual secondary equipment, operating mechanism located outside the switchgear vessel in the operating mechanism box and behind the control board.

Cable / instrument transformer compartment

Three-phase dry-type transformer type DTRS, power 40 kVA, connection symbol Dyn11 or Dyn5, transformer design acc. to Ecodesign Directive No. 548/2014 of the EU, natural air cooling, maximum power loss $P_0 \leq 200$ W; $P_k \leq 1100$ W (at 120° Celsius).

Auxiliary transformer panel (with HV HRC fuses)

Rated voltage U_r	kV	7.2	12	15	17.5	24	27	36	38
Rated normal current I_r	A	200	200	200	200	200			
Rated short-time withstand current I_k	for switchgear with $t_k = 1$ s	kA 20, 25, 31.5	20, 25, 31.5	20, 25, 31.5	20, 25, 31.5	20, 25			
	for switchgear with $t_k = 3$ s	kA 20, 25, 31.5	20, 25, 31.5	20, 25, 31.5	20, 25, 31.5	20, 25			
Rated peak withstand current I_p	50 Hz	kA 50, 63, 80	50, 63, 80	50, 63, 80	50, 63, 80	50, 63			
	60 Hz	kA 52, 65, 82	52, 65, 82	52, 65, 82	52, 65, 82	52, 65			
Rated short-circuit making current I_{ma}	50 Hz	kA 50, 63, 80	50, 63, 80	50, 63, 80	50, 63, 80	50, 63			
	60 Hz	kA 52, 65, 82	52, 65, 82	52, 65, 82	52, 65, 82	52, 65			
Endurance classes acc. to IEC 62271-103		M1, E3	M1, E3	M1, E3	M1, E3	M1, E3			

900 mm

Overview

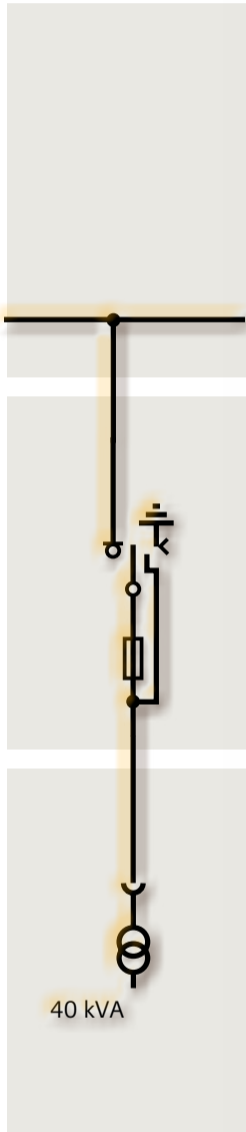
Start view

Technical data

 Configuration

Front view

Interior view

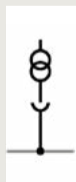


Busbar compartment

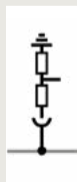
Switching-device compartment

Cable / instrument transformer compartment

Legend configuration



Voltage transformer



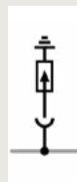
Voltage sensor



Current transformer



Capacitive voltage detecting system



Surge arrester



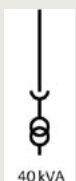
Lateral cable connection left (aux.trafo)



Capacitive voltage detecting system at lateral cable connection left (aux.trafo)



Three-position switch-disconnector (with HV HRC fuse)



Auxiliary transformer



Heater



Capacitive voltage detecting system at feeder

Auxiliary transformer panel (EB)

900 mm

Overview

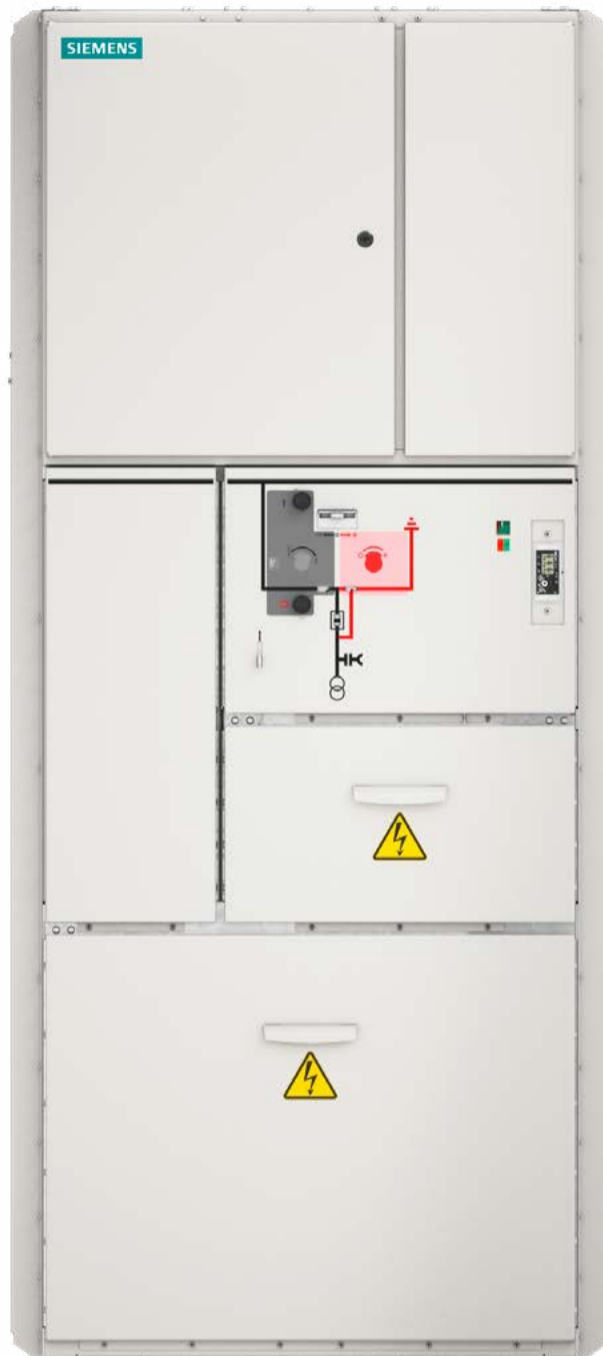
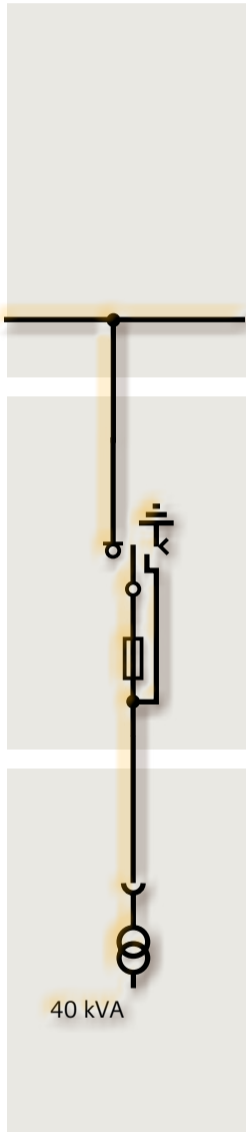
Start view

Technical data

Configuration

 Front view

Interior view



Busbar compartment

Busbar, 1-pole, plug-in and bolted design, consisting of round-bar copper, insulated by means of silicone rubber, field control with the help of electrically conductive layers on the silicone-rubber insulation, insensitive to pollution and condensation, switchgear extension or panel replacement without SF₆ gas work.

Switching-device compartment

Three-position switch-disconnector acc. to IEC 62271-103, maintenance-free for indoor installations acc. to IEC 62271-1, climate-independent, individual secondary equipment, operating mechanism located outside the switchgear vessel in the operating mechanism box and behind the control board.

Cable / instrument transformer compartment

Three-phase dry-type transformer type DTRS, power 40 kVA, connection symbol Dyn11 or Dyn5, transformer design acc. to Ecodesign Directive No. 548/2014 of the EU, natural air cooling, maximum power loss $P_0 \leq 200$ W; $P_k \leq 1100$ W (at 120° Celsius).

Auxiliary transformer panel (EB)

900 mm

Overview

Start view

Technical data

Configuration

Front view

Interior view



Busbar compartment

Switching-device compartment

Cable / instrument transformer compartment

600 mm

Overview

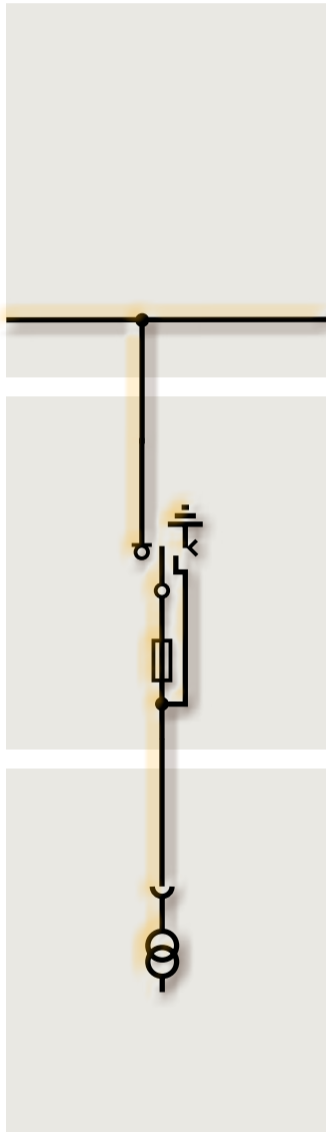
 Start view

Technical data

Configuration

Front view

Interior view



Busbar compartment

Switching-device compartment

Cable / instrument transformer compartment

600 mm

Overview

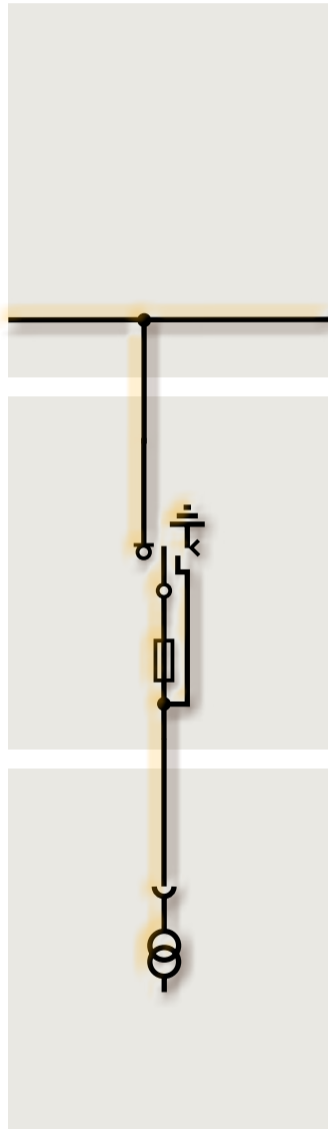
Start view

 Technical data

Configuration

Front view

Interior view



Busbar compartment

Busbar, 1-pole, plug-in and bolted design, consisting of round-bar copper, insulated by means of silicone rubber, field control with the help of electrically conductive layers on the silicone-rubber insulation, insensitive to pollution and condensation, switchgear extension or panel replacement without SF₆ gas work.

Switching-device compartment

Three-position switch-disconnector acc. to IEC 62271-103, maintenance-free for indoor installations acc. to IEC 62271-1, climate-independent, individual secondary equipment, operating mechanism located outside the switchgear vessel in the operating mechanism box and behind the control board.

Cable / instrument transformer compartment

Block-type voltage transformers acc. to IEC 61869-3, 1-pole, plug-in design, connection system with plug-in contact, inductive type, climate-independent, secondary connection through plug at the instrument transformer housing, cast-resin insulated, arranged outside the primary enclosure (switchgear vessel).

Metering panel (gas-insulated)

Rated voltage U_r		kV	7.2	12	15	17.5	24	27	36	38
Rated short-time withstand current I_k	for switchgear with $t_k = 1$ s	kA	20, 25, 31.5	20, 25, 31.5	20, 25, 31.5	20, 25, 31.5	20, 25			
	for switchgear with $t_k = 3$ s	kA	20, 25, 31.5	20, 25, 31.5	20, 25, 31.5	20, 25, 31.5	20, 25			
Rated peak withstand current I_p	50 Hz	kA	50, 63, 80	50, 63, 80	50, 63, 80	50, 63, 80	50, 63			
	60 Hz	kA	52, 65, 82	52, 65, 82	52, 65, 82	52, 65, 82	52, 65			
Endurance classes acc. to IEC 62271-103			M1, E3	M1, E3	M1, E3	M1, E3	M1, E3			

600 mm

Overview

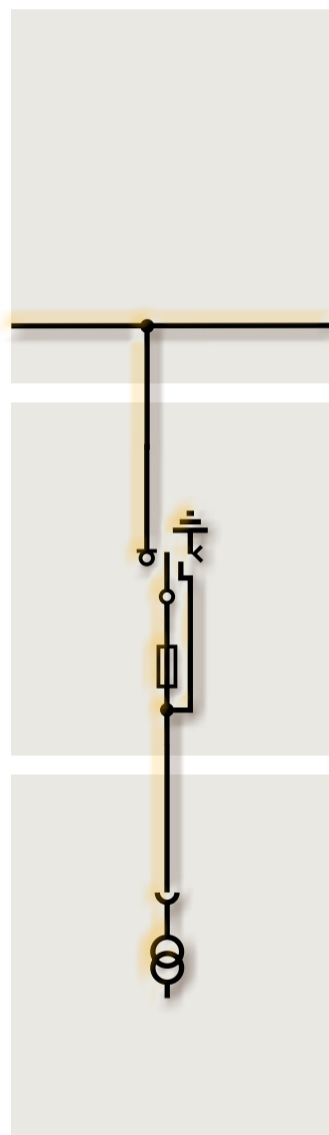
Start view

Technical data

 Configuration

Front view

Interior view











Busbar compartment

Switching-device compartment

Cable / instrument transformer compartment

Legend configuration

- | | | | | | |
|---|---|---|---|---|---|
|  |  |  |  |  |  |
| Voltage transformer | Voltage sensor | Current transformer | Capacitive voltage detecting system | Surge arrester | Three-position switch-disconnector (with HV HRC fuse) |
|  |  | | | | |
| Transformer compartment | Voltage transformer in metering panel | | | | |

600 mm

Overview

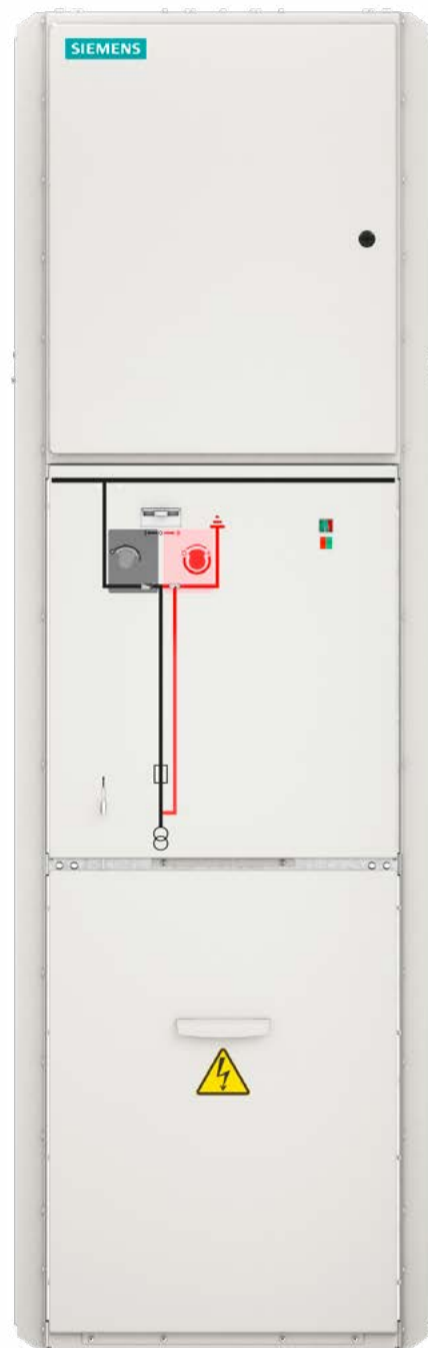
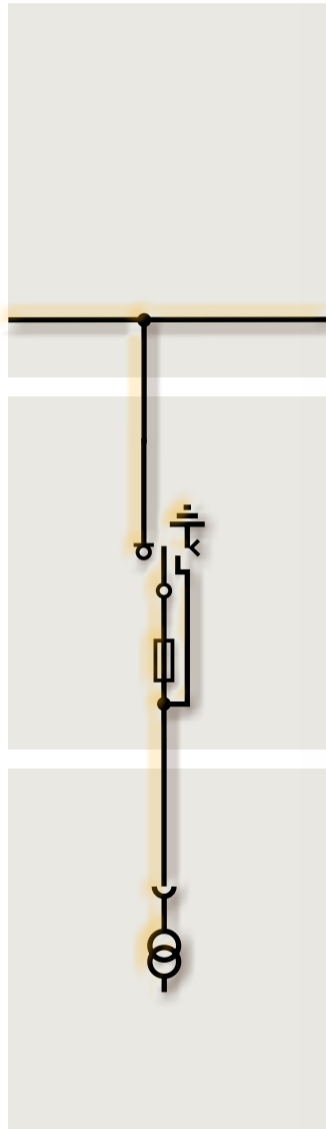
Start view

Technical data

Configuration

Front view

Interior view



Busbar compartment

Busbar, 1-pole, plug-in and bolted design, consisting of round-bar copper, insulated by means of silicone rubber, field control with the help of electrically conductive layers on the silicone-rubber insulation, insensitive to pollution and condensation, switchgear extension or panel replacement without SF₆ gas work.

Switching-device compartment

Three-position switch-disconnector acc. to IEC 62271-103, maintenance-free for indoor installations acc. to IEC 62271-1, climate-independent, individual secondary equipment, operating mechanism located outside the switchgear vessel in the operating mechanism box and behind the control board.

Cable / instrument transformer compartment

Block-type voltage transformers acc. to IEC 61869-3, 1-pole, plug-in design, connection system with plug-in contact, inductive type, climate-independent, secondary connection through plug at the instrument transformer housing, cast-resin insulated, arranged outside the primary enclosure (switchgear vessel).

600 mm

Overview

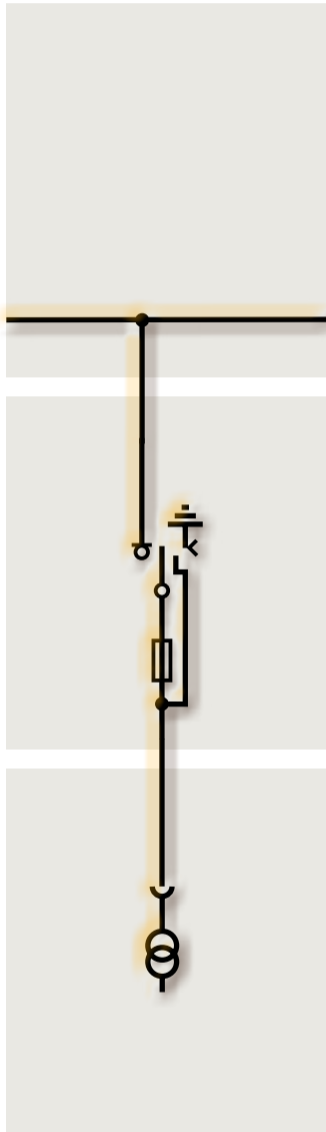
Start view

Technical data

Configuration

Front view

Interior view



Busbar compartment

Switching-device compartment

Cable / instrument transformer compartment

900 mm

Overview

 Start view

Technical data

Configuration

Front view

Interior view



Busbar compartment

Switching-device compartment

Cable / instrument transformer compartment

Air-insulated metering panel (aME)

900 mm

Overview

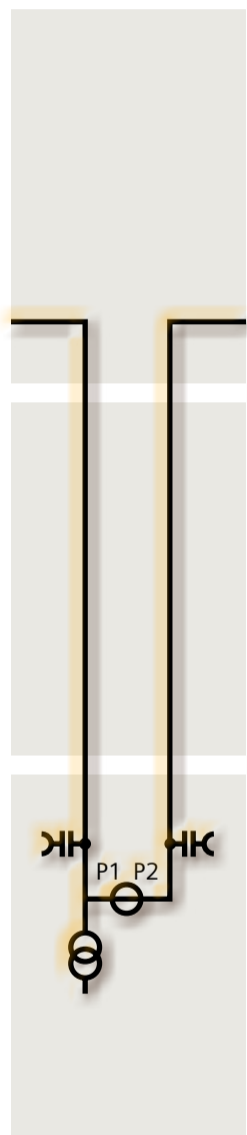
Start view

 Technical data

Configuration

Front view

Interior view



Busbar compartment

Busbar, 1-pole, plug-in and bolted design, consisting of round-bar copper, insulated by means of silicone rubber, field control with the help of electrically conductive layers on the silicone-rubber insulation, insensitive to pollution and condensation, switchgear extension or panel replacement without SF₆ gas work.

Switching-device compartment

Connecting bars in SF₆-filled switchgear vessel, three-position disconnecter acc. to IEC 62271-102, maintenance-free for indoor installations acc. to IEC 62271-1, climate-independent, individual secondary equipment, operating mechanism located outside the switchgear vessel in the operating mechanism box and behind the control board.

Cable / instrument transformer compartment

Block-type instrument transformers, dimensions according to DIN 42600-8 and -9 (small model), instrument transformers installed on instrument transformer cassette, withdrawable instrument transformer cassette for easy installation on site, with capacitive voltage detecting system, option: with spherical connection bolts as fixed earthing points.

Metering panel (air-insulated)

Rated voltage U_r	kV	7.2	12	15	17.5	24			
Rated normal current I_r	A	1250	1250	1250	1250	1250			
Rated short-time withstand current I_k	for switchgear with $t_k = 1$ s	kA	20, 25	20, 25	20, 25	20, 25	20, 25		
	for switchgear with $t_k = 3$ s	kA	20, 25	20, 25	20, 25	20, 25	20, 25		
Rated peak withstand current I_p	50 Hz	kA	50, 63	50, 63	50, 63	50, 63	50, 63		
	60 Hz	kA	52, 65	52, 65	52, 65	52, 65	52, 65		
Endurance classes acc. to IEC 62271-102	DISCONNECTING		M1	M1	M1	M1	M1		
	EARTHING		M0, E0	M0, E0	M0, E0	M0, E0	M0, E0		

900 mm

Overview

Start view

Technical data

 Configuration

Front view

Interior view



Busbar compartment

Switching-device compartment

Cable / instrument transformer compartment

Legend configuration



Current trans-
former at busbar
(left-side in panel)



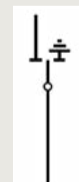
Voltage sensor at
busbar (left-side in
panel)



Voltage sensor at
busbar (right-side in
panel)



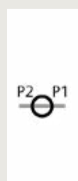
Current transformer at
busbar (right-side in
panel)



Three-position
disconnecter



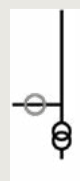
Current transformer for
air-insulated metering
panel (P1-P2)



Current transformer for
air-insulated metering
panel (P2-P1)



Voltage transformer
for air-insulated
metering panel



Voltage transformer
for air-insulated
metering panel



Transformer
compartment



Capacitive
voltage detecting
system at busbar



Fixed
earthing point



Heater

900 mm

Overview

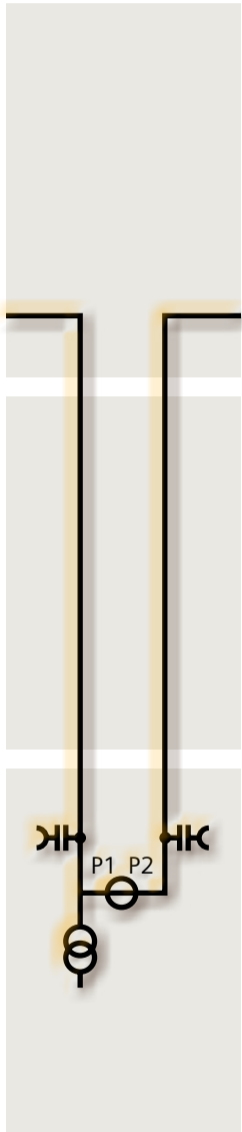
Start view

Technical data

Configuration

 Front view

Interior view



Busbar compartment

Busbar, 1-pole, plug-in and bolted design, consisting of round-bar copper, insulated by means of silicone rubber, field control with the help of electrically conductive layers on the silicone-rubber insulation, insensitive to pollution and condensation, switchgear extension or panel replacement without SF₆ gas work.

Switching-device compartment

Connecting bars in SF₆-filled switchgear vessel, three-position disconnecter acc. to IEC 62271-102, maintenance-free for indoor installations acc. to IEC 62271-1, climate-independent, individual secondary equipment, operating mechanism located outside the switchgear vessel in the operating mechanism box and behind the control board.

Cable / instrument transformer compartment

Block-type instrument transformers, dimensions according to DIN 42600-8 and -9 (small model), instrument transformers installed on instrument transformer cassette, withdrawable instrument transformer cassette for easy installation on site, with capacitive voltage detecting system, option: with spherical connection bolts as fixed earthing points.

900 mm

Overview

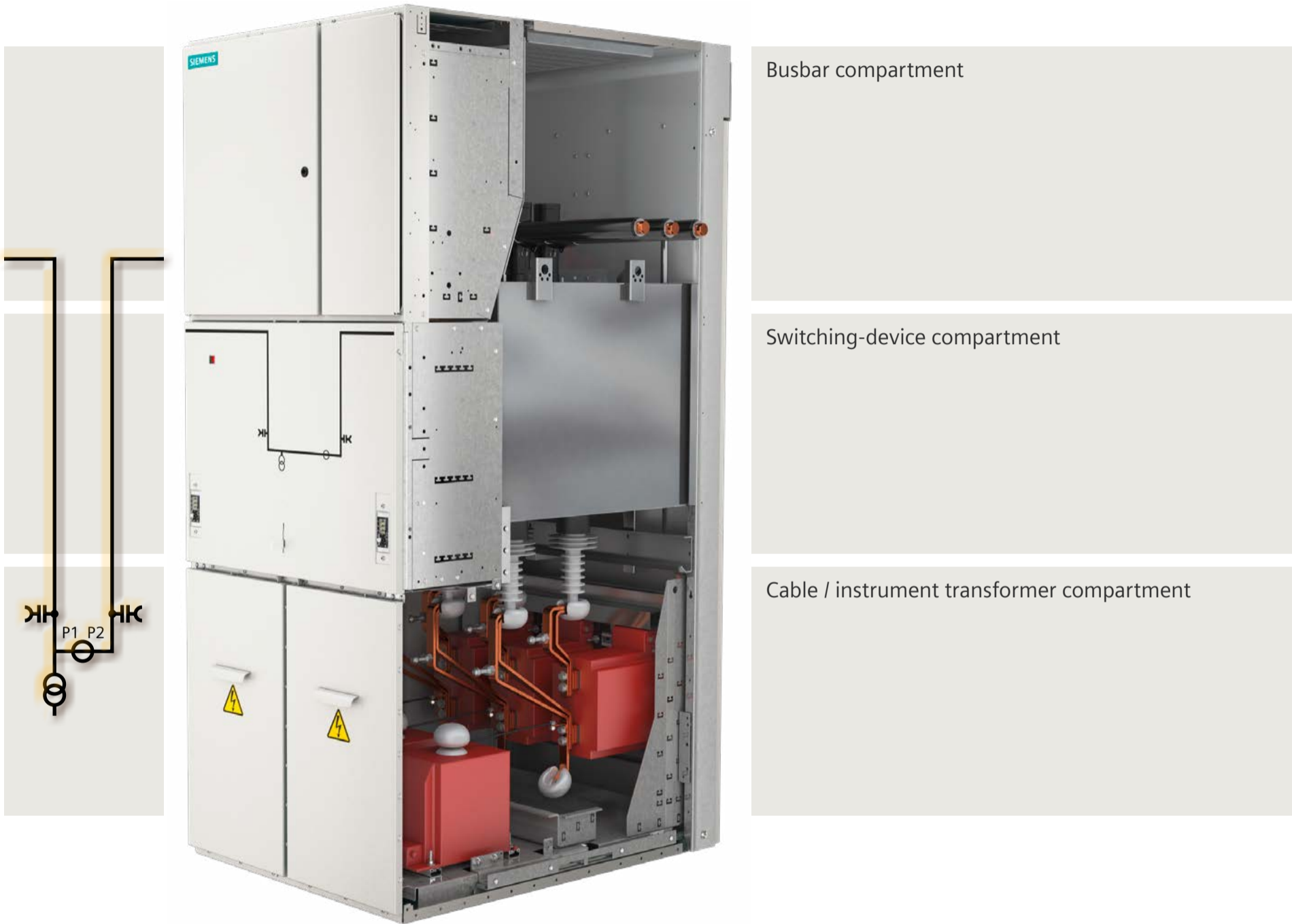
Start view

Technical data

Configuration

Front view

Interior view



450 mm

Overview

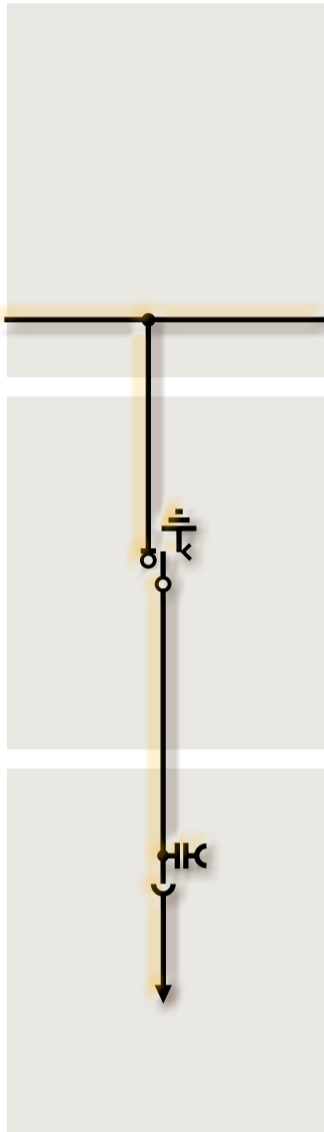
 Start view

Technical data

Configuration

Front view

Interior view



Busbar compartment

Switching-device compartment

Cable / instrument transformer compartment

450 mm

Overview

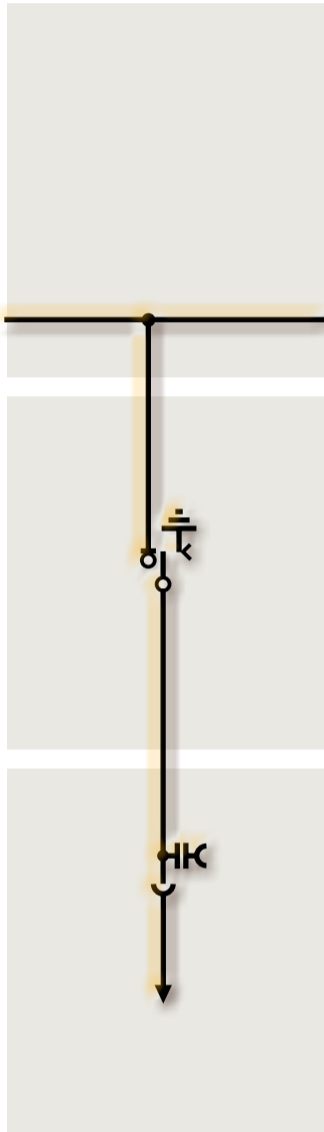
Start view

 Technical data

Configuration

Front view

Interior view



Busbar compartment

Busbar, 1-pole, plug-in and bolted design, consisting of round-bar copper, insulated by means of silicone rubber, field control with the help of electrically conductive layers on the silicone-rubber insulation, insensitive to pollution and condensation, switchgear extension or panel replacement without SF₆ gas work.

Switching-device compartment

Three-position switch-disconnector acc. to IEC 62271-103, maintenance-free for indoor installations acc. to IEC 62271-1, climate-independent, individual secondary equipment, operating mechanism located outside the switchgear vessel in the operating mechanism box and behind the control board.

Cable / instrument transformer compartment

Bushings with outside cone type "C" (M16), with cable bracket type C40, for thermoplastic-insulated cables with shielded cable T-plugs (bolted contact), for connection cross-sections up to 1200 mm², cable connection at the front (cable entry from below), cable connection at the rear (cable entry from below or above).

Ring-main panel

Rated voltage U_r	kV	7.2	12	15	17.5	24	27	36	38
Rated normal current I_r	A	630	630	630	630	630			
Rated short-time withstand current I_k	for switchgear with $t_k = 1$ s	kA	20, 25	20, 25	20, 25	20, 25	20, 25		
	for switchgear with $t_k = 3$ s	kA	20	20	20	20	20		
Rated peak withstand current I_p	50 Hz	kA	50, 63	50, 63	50, 63	50, 63	50, 63		
	60 Hz	kA	52, 65	52, 65	52, 65	52, 65	52, 65		
Rated short-circuit making current I_{ma}	50 Hz	kA	50, 63	50, 63	50, 63	50, 63	50, 63		
	60 Hz	kA	52, 65	52, 65	52, 65	52, 65	52, 65		
Endurance classes acc. to IEC 62271-103		M1, E3	M1, E3	M1, E3	M1, E3	M1, E3			

450 mm

Overview

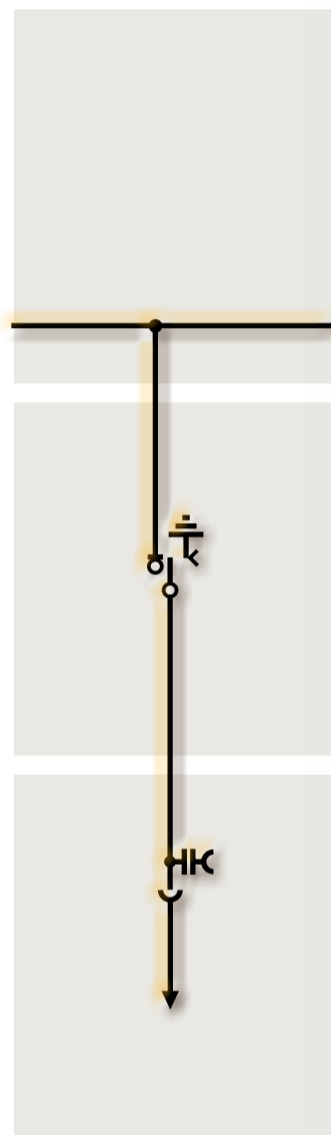
Start view

Technical data

 Configuration

Front view

Interior view

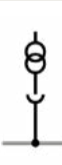
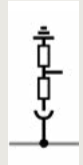


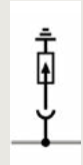

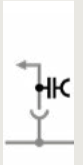







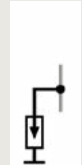



Busbar compartment

Switching-device compartment

Cable / instrument transformer compartment

Legend configuration

							
Voltage transformer	Voltage sensor	Current transformer	Capacitive voltage detecting system	Surge arrester	Cable connection at busbar left	Capacitive voltage detecting system at cable connection busbar left	Three-position switch-disconnector
							
Panel connection	Capacitive voltage detecting system at feeder	Short-circuit / earth-fault indicator	Current transformer at the bushing	Current transformer at the cable	Voltage sensor at feeder	Surge arrester / surge limiter	Zero-sequence current transformer

450 mm

Overview

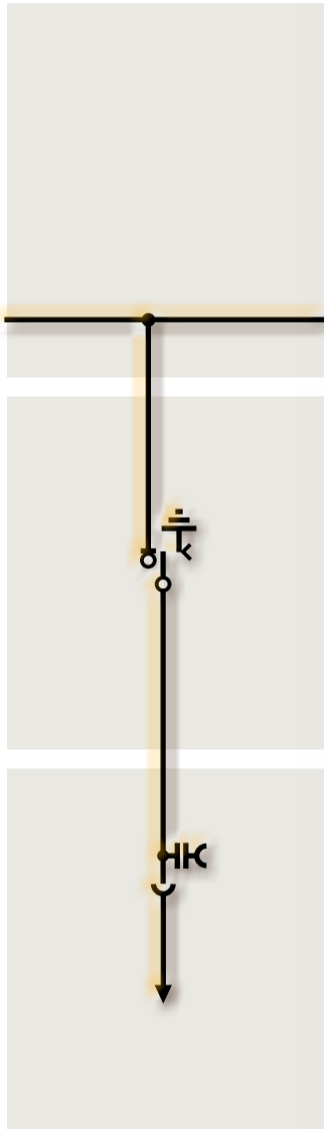
Start view

Technical data

Configuration

 Front view

Interior view



Busbar compartment

Busbar, 1-pole, plug-in and bolted design, consisting of round-bar copper, insulated by means of silicone rubber, field control with the help of electrically conductive layers on the silicone-rubber insulation, insensitive to pollution and condensation, switchgear extension or panel replacement without SF₆ gas work.

Switching-device compartment

Three-position switch-disconnector acc. to IEC 62271-103, maintenance-free for indoor installations acc. to IEC 62271-1, climate-independent, individual secondary equipment, operating mechanism located outside the switchgear vessel in the operating mechanism box and behind the control board.

Cable / instrument transformer compartment

Bushings with outside cone type "C" (M16), with cable bracket type C40, for thermoplastic-insulated cables with shielded cable T-plugs (bolted contact), for connection cross-sections up to 1200 mm², cable connection at the front (cable entry from below), cable connection at the rear (cable entry from below or above).

450 mm

Overview

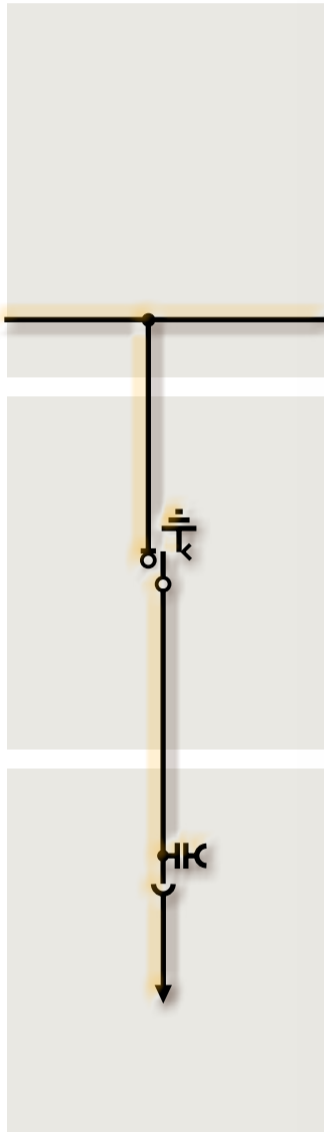
Start view

Technical data

Configuration

Front view

Interior view



Busbar compartment

Switching-device compartment

Cable / instrument transformer compartment

Vacuum contactor panel (VS)

600 mm

Overview

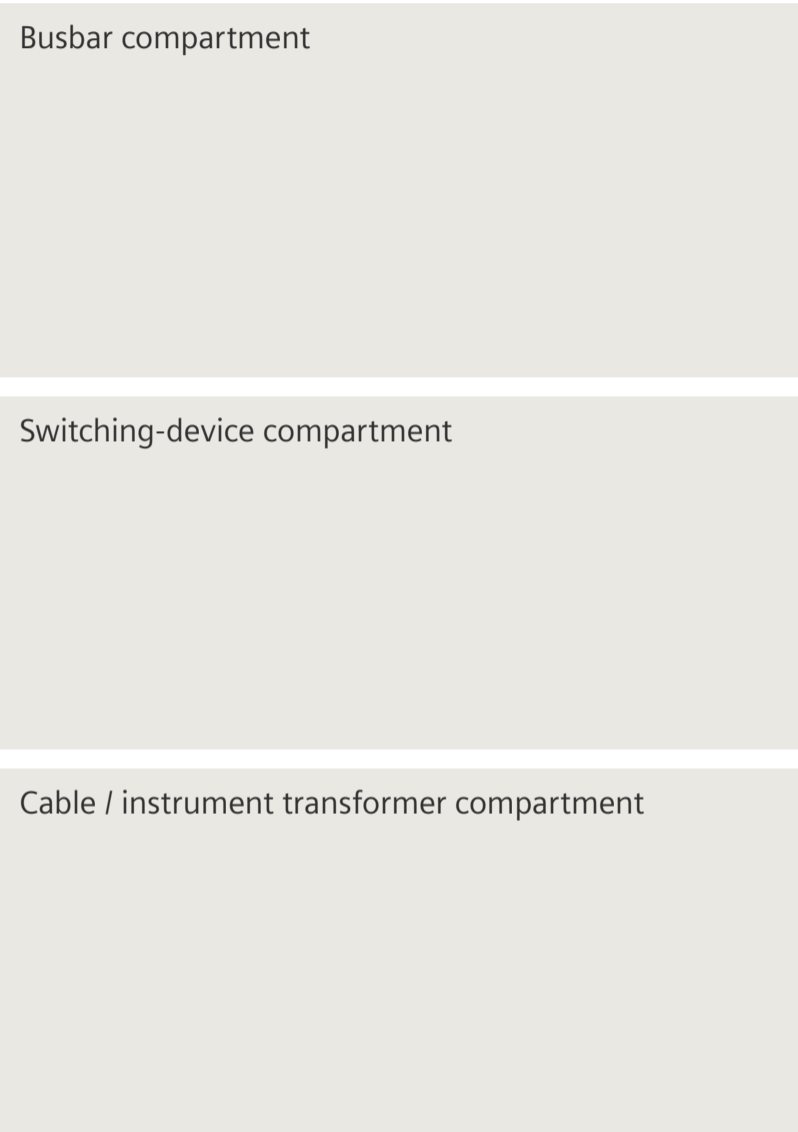
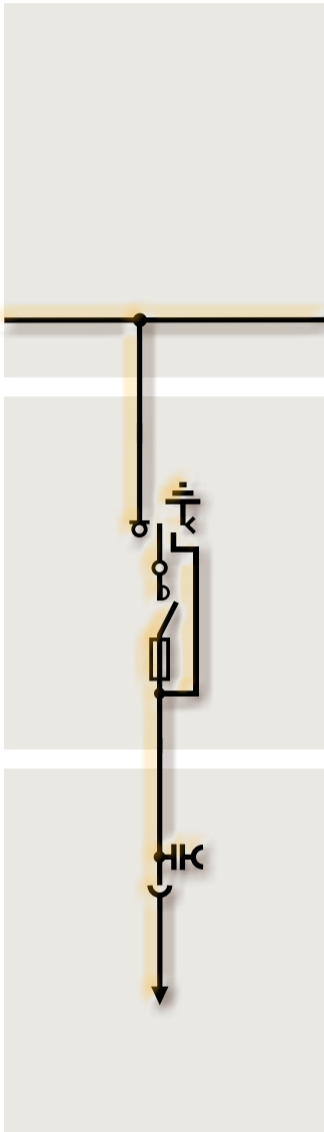
 Start view

Technical data

Configuration

Front view

Interior view



Vacuum contactor panel (VS)

600 mm

Overview

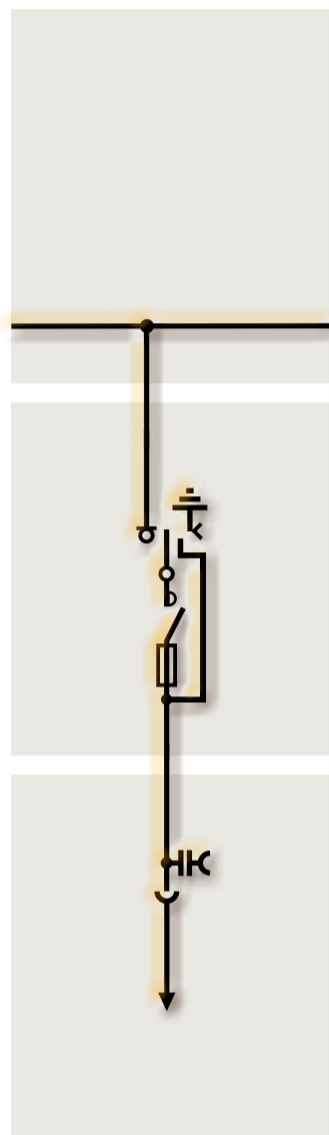
Start view

 Technical data

Configuration

Front view

Interior view



Busbar compartment

Busbar, 1-pole, plug-in and bolted design, consisting of round-bar copper, insulated by means of silicone rubber, field control with the help of electrically conductive layers on the silicone-rubber insulation, insensitive to pollution and condensation, switchgear extension or panel replacement without SF₆ gas work.

Switching-device compartment

Vacuum contactor acc. to IEC 62271-106, three-position switch-disconnector acc. to IEC 62271-103, maintenance-free for indoor installations acc. to IEC 62271-1, climate-independent, individual secondary equipment, operating mechanisms located outside the switchgear vessel in the operating mechanism box and behind the control board, fuse assembly arranged underneath the switchgear vessel.

Cable / instrument transformer compartment

Bushings with outside cone type "C" (M16), with cable bracket type C40, for thermoplastic-insulated cables with shielded cable T-plugs (bolted contact), for connection cross-sections up to 1200 mm², cable connection at the front (cable entry from below), cable connection at the rear (cable entry from below or above).

Vacuum contactor panel

Rated voltage U_r	kV	7.2	12	15	17.5	24			
Rated normal current I_r ²⁾	A	450	450	450	450	450			
Rated short-time withstand current I_k	for switchgear with $t_k = 1$ s	kA	20, 25, 31.5	20, 25, 31.5	20, 25, 31.5	20, 25, 31.5	20, 25		
	for switchgear with $t_k = 3$ s	kA	20, 25, 31.5	20, 25, 31.5	20, 25, 31.5	20, 25, 31.5	20, 25		
Rated peak withstand current I_p	50 Hz	kA	50, 63, 80	50, 63, 80	50, 63, 80	50, 63, 80	50, 63		
	60 Hz	kA	52, 65, 82	52, 65, 82	52, 65, 82	52, 65, 82	52, 65		
Rated short-circuit making current I_{ma}	50 Hz	kA	50, 63, 80	50, 63, 80	50, 63, 80	50, 63, 80	50, 63		
	60 Hz	kA	52, 65, 82	52, 65, 82	52, 65, 82	52, 65, 82	52, 65		
Elektrische Lebensdauer at rated normal current									
without mechanical closing latch			500,000 operating cycles						
with mechanical closing latch			100,000 operating cycles						

²⁾ Depending on the HV HRC fuse-link, observe max. permissible let-through current I_D of the HV HRC fuse-links

600 mm

Overview

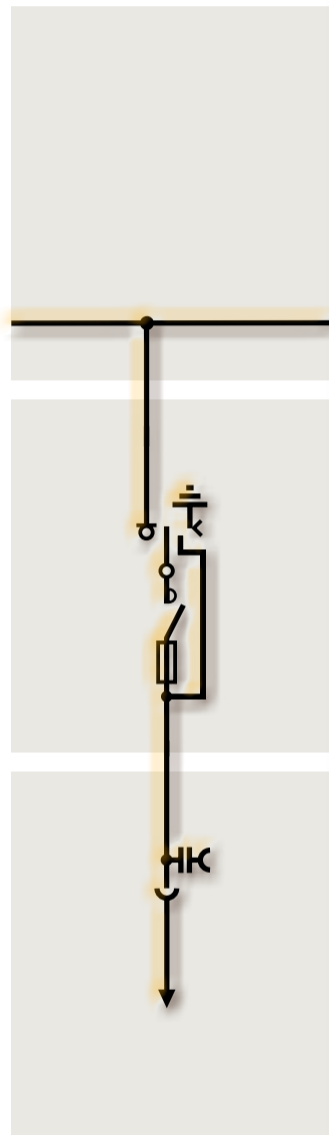
Start view

Technical data

 Configuration

Front view

Interior view

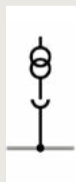


Busbar compartment

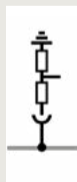
Switching-device compartment

Cable / instrument transformer compartment

Legend configuration



Voltage transformer



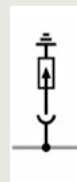
Voltage sensor



Current transformer



Capacitive voltage detecting system



Surge arrester



Vacuum contactor and three-position switch-disconnector (with HV HRC fuse)



Panel connection



Capacitive voltage detecting system at feeder



Current transformer at the bushing



Current transformer at the cable



Voltage sensor at feeder



Surge arrester / surge limiter



Zero-sequence current transformer

600 mm

Overview

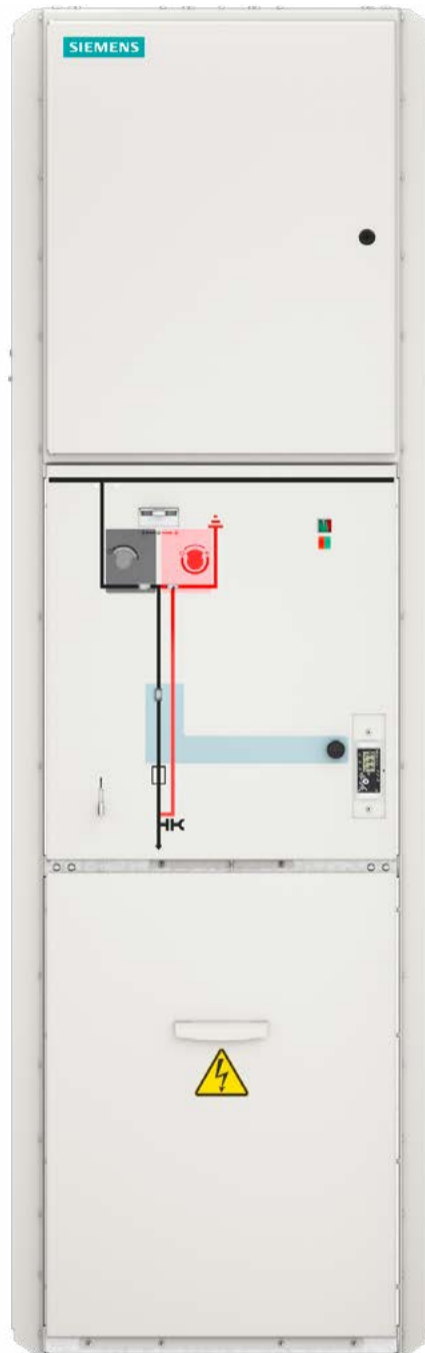
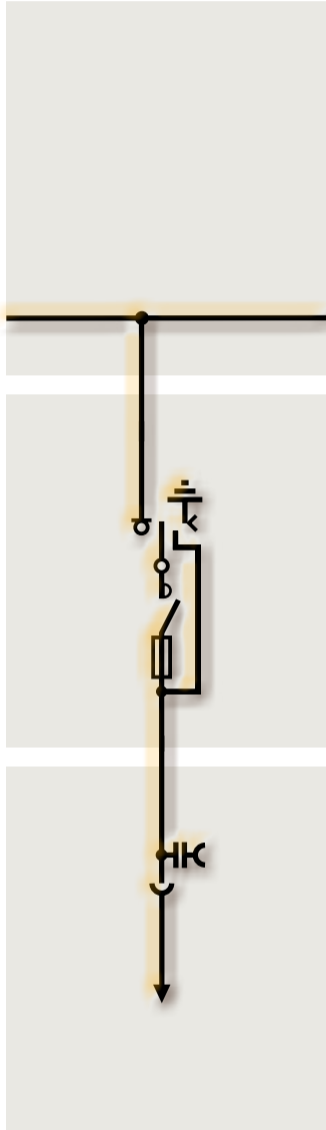
Start view

Technical data

Configuration

Front view

Interior view



Busbar compartment

Busbar, 1-pole, plug-in and bolted design, consisting of round-bar copper, insulated by means of silicone rubber, field control with the help of electrically conductive layers on the silicone-rubber insulation, insensitive to pollution and condensation, switchgear extension or panel replacement without SF₆ gas work.

Switching-device compartment

Vacuum contactor acc. to IEC 62271-106, three-position switch-disconnector acc. to IEC 62271-103, maintenance-free for indoor installations acc. to IEC 62271-1, climate-independent, individual secondary equipment, operating mechanisms located outside the switchgear vessel in the operating mechanism box and behind the control board, fuse assembly arranged underneath the switchgear vessel.

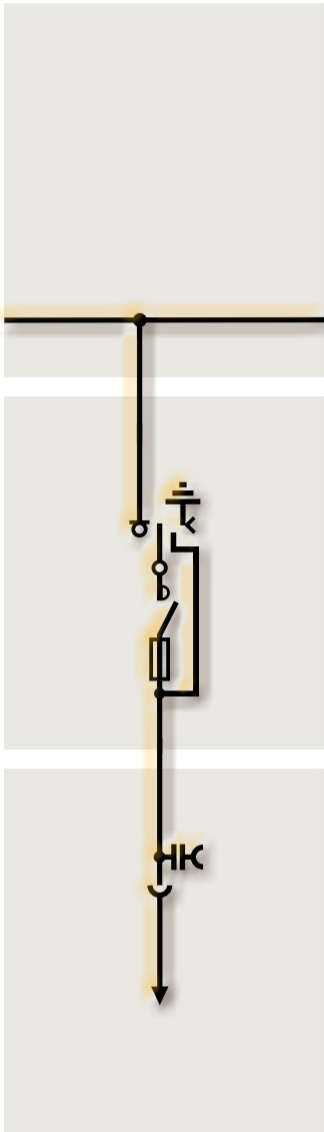
Cable / instrument transformer compartment

Bushings with outside cone type "C" (M16), with cable bracket type C40, for thermoplastic-insulated cables with shielded cable T-plugs (bolted contact), for connection cross-sections up to 1200 mm², cable connection at the front (cable entry from below), cable connection at the rear (cable entry from below or above).

Vacuum contactor panel (VS)

600 mm

- Overview
- Start view
- Technical data
- Configuration
- Front view
- Interior view



Busbar compartment

Switching-device compartment

Cable / instrument transformer compartment

Info

Attention:
You will obtain the comprehensive functionality of the ipdf by using Acrobat reader, or the browser Chrome. For use on an ipad, the free PDF viewer version 3.4 from PSPDFKit is suitable.



Main navigation

Chapter navigation

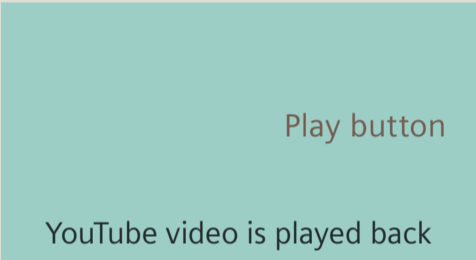
Features

Overview

- Circuit-breaker panel 450 mm(LS)
- Circuit-breaker panel 600 mm(LS)
- Bus sectionalizer 600 mm (LK)
- Bus sectionalizer 900 mm (LK)
- Disconnecter panel (TS)
- Switch-disconnector panel (TR)
- Auxiliary transformer panel (EB)
- Metering panel (ME)
- Air-insulated metering panel (aME)
- Ring-main panel (RK)
- Vacuum contactor panel (VS)

Button

Via chapter directly to the topic



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