

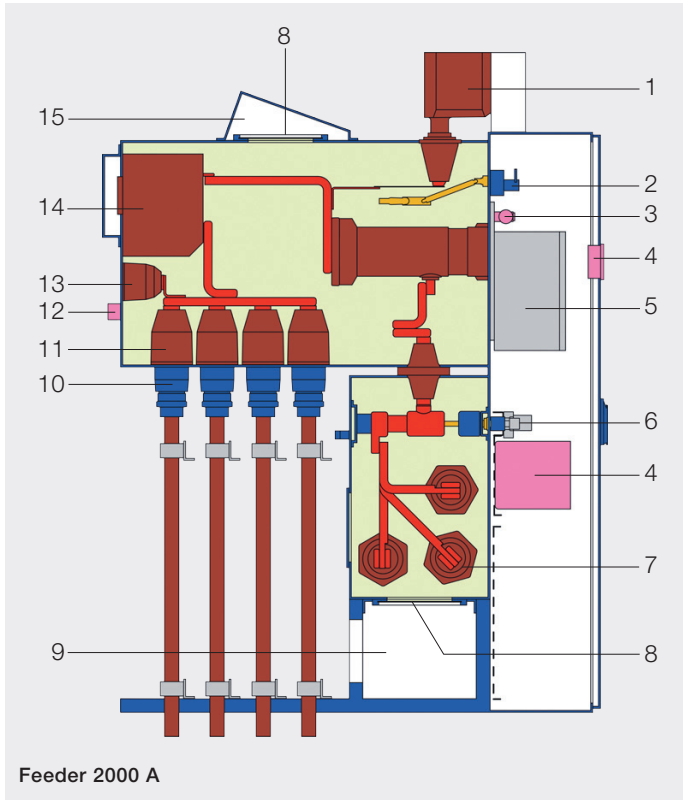


# ZX1.2

## Gas-insulated medium voltage switchgear

# ZX1.2

## High level cable termination compartment



Feeder 2000 A

- 1 Plug-in voltage transformer – feeder
- 2 Isolating system for voltage transformer
- 3 Gas density sensor and filling valve
- 4 Multifunctional protection and control unit
- 5 Vacuum circuit-breaker
- 6 Three position disconnector
- 7 Busbars
- 8 Pressure relief disk
- 9 Pressure relief duct
- 10 Inner cone cable connector
- 11 Cable socket
- 12 Measuring sockets for capacitive voltage indicator system
- 13 Test socket
- 14 Current transformer or combined current and voltage sensor
- 15 Plasma diverter

### Safety first

Partitioned single busbar system for transformer and distribution systems with a raised cable termination point for ease of cable assembly from the rear. The parameters extend up to 40 kV, up to 31.5 kA and up to 2500 A for the switching devices and busbars.

All the switching devices can be remote controlled, and as an option mechanically interlocked. Both combined protection and control units and pure protection devices are used. The plug-in busbar technology without bolted joints permits simple and therefore safe installation. Furthermore, the disconnector in the busbar compartment permits fully unrestricted decoupling of the outgoing feeder side. The level of operator safety, already successfully confirmed by the IAC classification AFL(R) 31.5 kA 1s, can be even further enhanced by pressure relief channelled outside the building.

### Configuration opportunities

Together with incoming and outgoing feeder panels with circuit-breakers for various rated currents and thus various panel widths (400, 600 and 800 mm), panel variants for sectionalizers, pure disconnector and metering panels round off the range. Sectionalizer and coupler panels also offer busbar voltage measurement as an integrated function.

### Accessibility

Operator control is effected either remotely or at the front of the system. The power cables are accessible at the rear. The switchgear is installed free-standing in the room.

### SF<sub>6</sub> insulation

All high voltage parts are effectively isolated from fluctuating ambient influences in sealed enclosures filled with SF<sub>6</sub> insulating gas. Dust, humidity, harmful gases or vermin therefore have no effect. Temperature-compensated pressure sensors reliably and continuously monitor their own function and the quality of the gas insulation.

Technical data		IEC Ratings				Special Ratings	
Rated voltage	kV		12		24	36	
Maximum operating voltage	kV		12		24	36	40.5
Test voltages	kV		28/75		50/125	70/170	85/185
Rated frequency	Hz		50/60		50/60	50/60	50/60
Rated busbar current	A		... 2500		... 2500	... 2500	... 2500
Rated current of feeder	A	630	1250 ... 2500	630	1250 ... 2500	1250 ... 2500	1250 ... 2500
Rated peak withstand current	kA	62.5	... 80	62.5	... 80	... 80	... 80
Rated short-time current 3 s	kA	25	... 31.5	25	... 31.5	... 31.5	... 31.5
Internal Arc Classification <sup>1)</sup>	with plasma diverter IAC AFL 31.5 kA 1s ; with plasma absorber and duct IAC AFLR 31.5 kA 1s						

<sup>1)</sup> according to VDE 0671 part 200

# ZX1.2 components

## Durable and reliable

### High quality components

The permanently installed vacuum circuit-breakers are three-phase switching devices and fundamentally consist of the mechanical stored-energy spring mechanism and three poles with the vacuum interrupters. The three position disconnectors constitute combined disconnectors and earthing switches. The three switch positions – connecting, disconnecting and earthing – are clearly defined by the mechanical structure of the switch, reliably excluding simultaneous connecting and earthing positions. For earthing, the three position disconnector – under no current – prepares the connection to earth.

Earthing proper is then performed by the circuit-breaker. A circuit-breaker in the function of an earthing switch is of higher quality than any other earthing switch. The combination of these high-quality switching devices with the sealed for life, SF<sub>6</sub>-filled enclosures guarantees maintenance-free switchgear. Irrespective of this, the enclosures with O-ring seals on all components and covers and the filler valves provide an opportunity for repairs. No minor damage necessitates replacement of a panel.



### Always the right connection

In the cable termination compartment with its extremely high termination point (1250 mm), the power cables are connected with inner cone cable connectors. Up to four parallel cables can be installed. A surge arrester can be fitted as an alternative to one cable. A non-return valve on the SF<sub>6</sub>-filled stainless steel enclosure facilitates systematic extraction of the insulating gas at the end of a panel's service life.

### Current transformers

Generously dimensioned block-type current transformers with several cores supply the signals required for protection and measurement.

### Voltage transformers

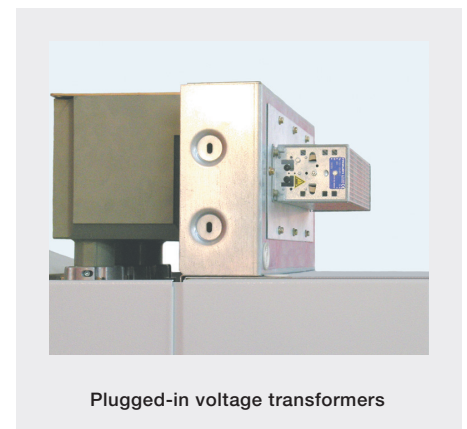
Shockproof voltage transformers are plugged into inner cone sockets. These are isolatable for test purposes, especially for cable testing.



Cable termination compartment with inner cone connectors

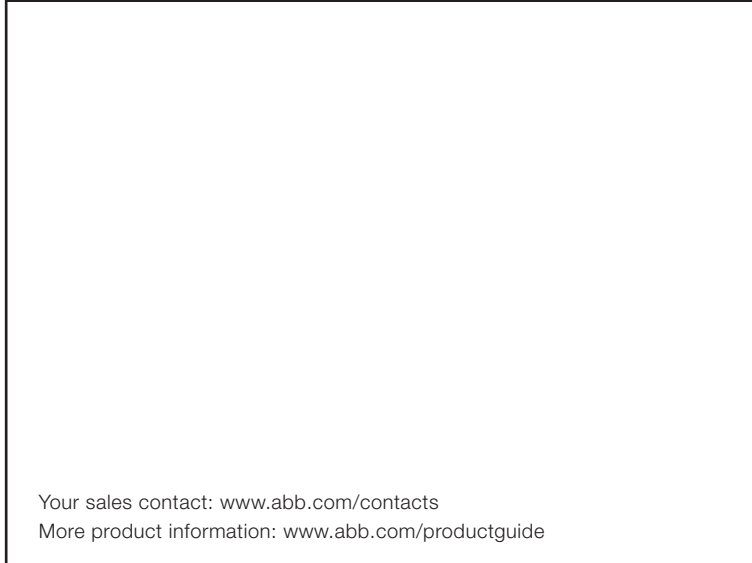


Plug-in busbar connection



Plugged-in voltage transformers

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