ZX0.2
Gas-insulated medium voltage switchgear

Power and productivity
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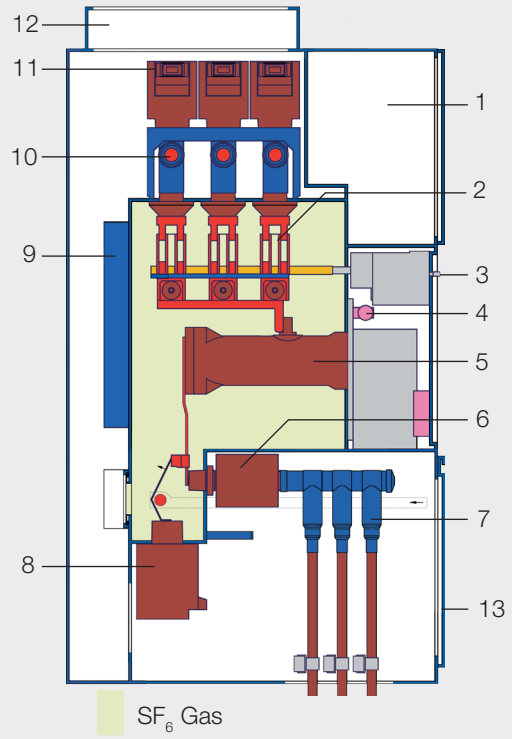
ZX0.2
Single busbar system



Incomer panel

1	Removable low voltage compartment with protection and control unit
2	Three position disconnect
3	Local controls in front of mechanism bay
4	Gas density sensor and filling valve
5	Circuit-breaker
6	Current transformers
7	Cable connector on outer cone
8	Isolatable voltage transformers on the cable side
9	Heat sink
10	Solid-insulated busbars
11	Plug-in voltage transformers on the busbars
12	Plenum
13	Screwed cover

Metal-enclosed

As a further development of the tried and treated ZX0, ZX0.2 with its high current carrying capacity of 2400 A for incoming feeders, busbars and sectionalizers offers the use of voltages up to 36 kV.

The metal-enclosed single busbar system is suitable for wall mounted installations as well as for free-standing installation with IAC classification AFLR to IEC62271-200 (similar to IEEE C37.20.7 Type 2B classification for AIS). The switchgear can be operated in networks with short-circuit currents up to 31.5 kA.

Due to long cable bushings the use of current transformers with very high efficiency, even at low primary currents, is permitted.

The low voltage compartment and operating mechanism bay are in general spatially separated from each other. Local operation of the panel is effected manually at the freely accessible operator control area in front of the mechanism bay, with options of electrical pushbuttons and remote control. Mechanical interlocking of the operating mechanisms in defined switch positions prevents maloperation.

Configurations

Together with outgoing and incoming feeder panels with circuit-breakers for various rated currents, panel variants for sectionalizing, pure disconnect panels or outgoing feeder panels with switch-disconnects and HV HRC fuses (up to 24 kV) round off the range. The lowest panel widths amounts to 17.7 inches for low range feeder panels (15 kV / 630 A / 25 kA).

Accessibility

The switchgear can be operated remotely or by controls located on the front of the panels. The power cables are accessible at the front of the system. The panels can be installed optionally against a wall or free-standing in the room with an additional rear wall to protect the operators.

SF_6 insulation

Hermetically sealed enclosures filled with SF_6 insulating gas, and solid insulation, ensure that all live high voltage parts are protected from fluctuating ambient influences. The system cannot therefore be affected by dust, humidity, harmful gases or vermin. No gas works are required at site.

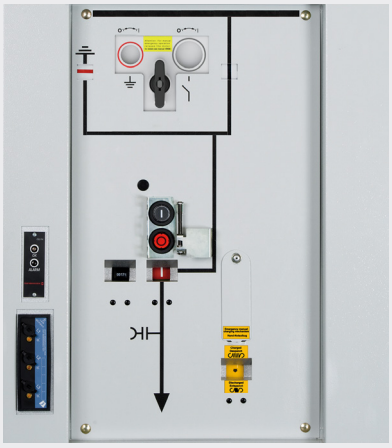
Technical data		IEEE Ratings			
Rated voltage	kV	15		27	36
Maximum operating voltage	kV	15		27	36
Rated power frequency withstand voltage	kV	36		60	70
Rated lightning impulse withstand voltage	kV	95		125	170
Rated frequency	Hz	60		60	60
Rated current of busbars	A	... 1200 ... 2400		... 1200 ... 2400	... 1200 ... 2400
Rated current of tee-off with circuit-breaker	A	... 630	... 1200 ... 2400	... 1200 ... 2400	... 1200 ... 2400
Rated current of tee-off with switch-disconnect and fuses	A	... 63		... 63	-
Rated peak withstand current for circuit-breaker panels [1]	kA	... 65	... 82	... 82	... 82
Rated short-time current 3 s for circuit-breaker panels [1]	kA	... 25	... 31.5	... 31.5	... 31.5
Internal Arc Classification [1]	Wall installation IAC AFL 31.5 kA 1s, Free-standing installation IAC AFLR 31.5 1s				
[1] Tested to IEC 62271-200	Pressure relief in the switchroom or via duct to the outside				

ZX0.2-components
Durable and reliable

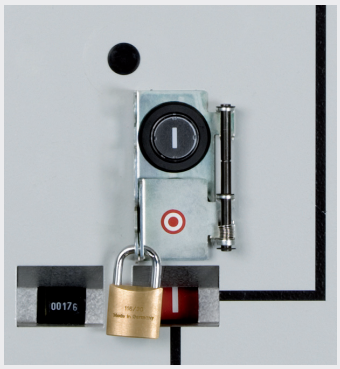
High quality switching devices

The stationary-mounted vacuum circuit-breakers are three-phase switching devices and fundamentally consist of a mechanical stored-energy spring operating mechanism and three poles with the vacuum interrupters.
The three position disconnects are combined disconnect and grounding switches. The three switch positions, connecting, disconnecting and grounding, are clearly defined by the mechanical structure of the switch, reliably precluding simultaneous connecting and grounding.

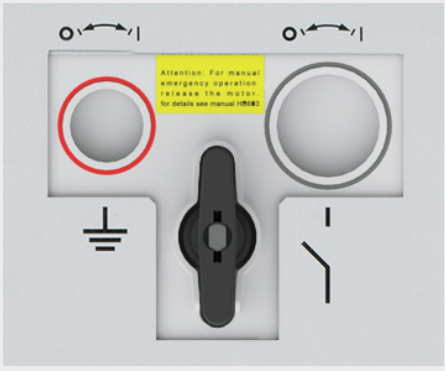
For grounding, the three position disconnector prepares by moving to the grounding connection- under no current - for the connection to ground. Grounding proper is performed by the circuit-breaker. A circuit-breaker is of higher quality in the grounding function than any other grounding switch. The combination of these high quality switching devices, with the sealed for life SF_6-filled enclosures, ensures that the switchgear systems are maintenance-free.
Irrespective of this, the enclosures with their o-ring seals on components, covers and filler valves fundamentally permit the performance of repairs. In general minor damage cannot necessitate the replacement of an entire panel.



Controls for switching devices



Secured to prevent degrounding



Selector lever is interlocked against switching position of circuit-breaker

Always the right connection

The power cables are connected with outer cone cable connectors in the cable termination compartment. Up to three parallel cables can be installed. Depending on the connector type, a surge arrester can be fitted in addition or in place of one of the cables.
A non-return valve on the enclosure permits systematic removal of the insulating gas at the end of a panel's service life.

Current transformers

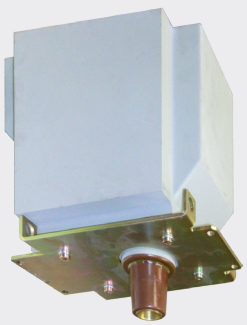
Generously dimensioned window-type current transformers with several cores supply the signals required for protection and metering.

Voltage transformers

Shockproof voltage transformers are plugged onto the busbars. In the cable termination compartment, the voltage transformers are stationary mounted and isolatable. As an alternative, plug-in voltage transformers can also be used there.

Cable compartment with current transformers

Busbar compartment with support for voltage transformers



Plug-in voltage transformer

Contact

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