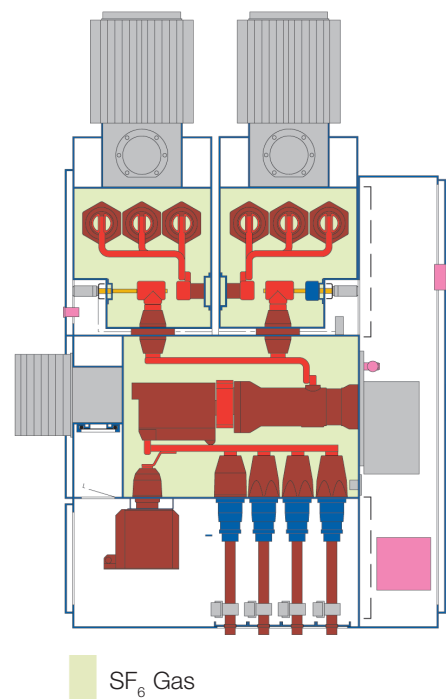
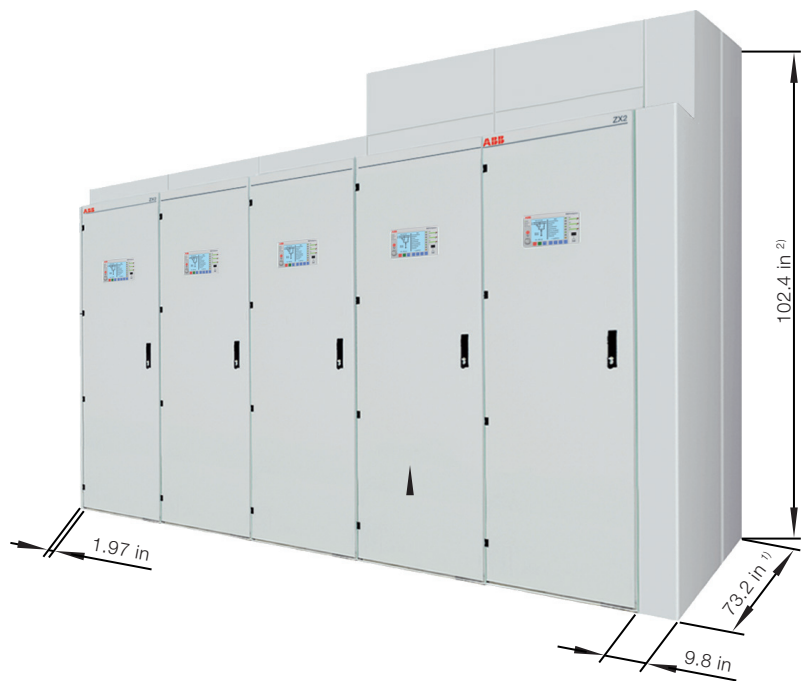


ZX2

Gas-insulated
medium voltage switchgear
Single busbar systems
up to 4000 A

ZX2

Single busbar systems for currents up to 4000 A



General data

Rated voltage	up to 40.5 kV
Rated frequency	60 Hz
Rated short-circuit breaking current	up to 40 kA
Rated feeder current per panel	up to 2500 A
Rated busbar current	up to 4000 A
Maximum ambient temperature	104 °F, (40 °C) ³⁾
Site altitude up to	3000 ft (1000 m) above sea level
Current monitoring by	current transformers or current sensors or hybrids

Technical data

For busbars with 4000 A current carrying capacity at 104 °F (40 °C)

Panel type	Feeder Current	Panel width
Incoming / outgoing feeder	2000 A	31.5 in
Incoming feeder	2500 A	31.5 in
Incoming feeder	4000 A	2 x 31.5 in (2 panels)
Outgoing feeder	1200 A	23.6 in
	1200 A	31.5 in
	2 x 630 A	2 x 15.7 in (Double feeder panel)
Tie / riser	4000 A	4 x 31.5 in (4 panels)

Boundary conditions and common properties of all panels:

- Parallel operation of two busbar systems
- Motorized operation of the disconnects is always in the same direction.
- Control and interlocks are always and exclusively performed by the multifunctional protection and control REF unit.
- Emergency OFF is effected directly at the circuit-breaker.
- Mechanical closing of the circuit-breaker or mechanical

- operation of the disconnect/grounding switch is not possible (emergency manual operation of the disconnect/grounding switch after disabling the interlock).
- Sectionalizing for currents greater than 2500 A is effected by 2 parallel sectionalizers, each consisting of a sectionalizer and riser panel.
- Incoming feeders for currents greater than 2500 A consist of 2 feeder panels connected in parallel.

¹⁾ Low voltage compartment depth: 19.7 inches / Panel for I_L > 2000 A: plus 13 inches for a heat sink at the circuit-breaker compartment

²⁾ Without taking account of heat sinks, fans or voltage transformers on busbar compartments, highest height: 113 inches with heat sinks above the busbar compartments

³⁾ Higher ambient temperatures on request

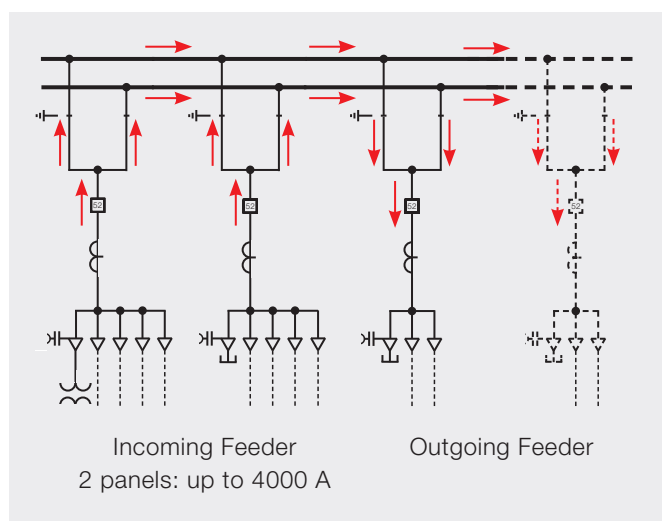
Functionality of the 4000 A ZX2

Incoming Feeder:

The full current load, coming from the cable sockets, is fed via the two disconnects through the circuit breakers of each of the two incoming feeder panels to the parallel busbars. The load is then bifurcated to each parallel busbar. Half of the incoming current load is burdened by each busbar.

Outgoing Feeder:

The current coming from the two parallel busbars is fed via the two disconnects through the circuit breaker to the cable sockets of one, or more panels.



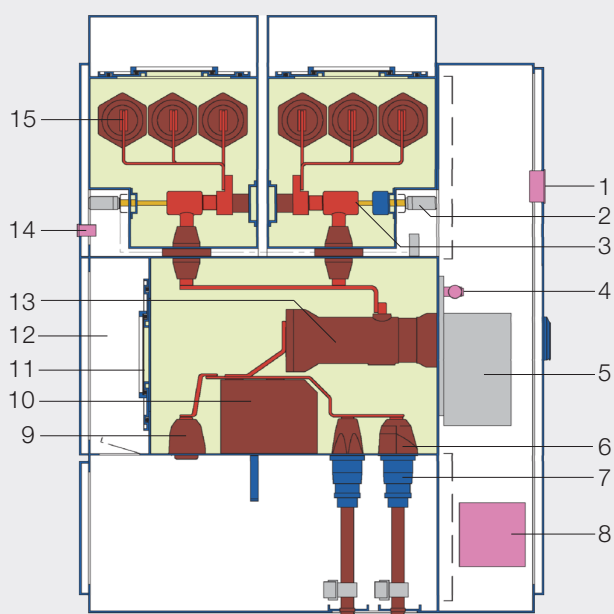
Panels connected in parallel:

- Both panels have their own current monitoring, protection and control systems.
- The faster protection system trips both circuit-breakers.
- Local electrical control is provided for on the panel with display.
- Emergency OFF operation is performed directly at the two circuit-breakers.

Coupler between the two busbar systems

As all the disconnects connected in parallel are always switched in the same direction, there are at least two connections between the busbar systems (incoming feeder and first outgoing feeder to be energized), so there is even current distribution. There is no need for a bus coupler to link the two systems.

Components of the 4000 A ZX2 Solution



- 1 HMI of multifunctional protection and control unit
 - 2 Three position disconnect operating mechanism
 - 3 Three position disconnect
 - 4 Pressure sensor (temperature-compensated)
 - 5 Circuit-breaker operating system
 - 6 Cable socket
 - 7 Cable plug
 - 8 Electronic unit of multifunctional protection and control unit
 - 9 Test socket
 - 10 Block sensor or transformer
 - 11 Pressure relief disc
 - 12 Pressure relief duct
 - 13 Circuit-breaker
 - 14 Measuring sockets for capacitive voltage indicator system
 - 15 Busbars
- Insulating gas SF₆

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