

B105

Gas-Insulated Substations 245 kV, 50/63 kA, 3150/4000 A

GE Vernova makes the most of 50 years of experience in design, material selection, development, engineering, manufacturing and servicing of gas-insulated substations.

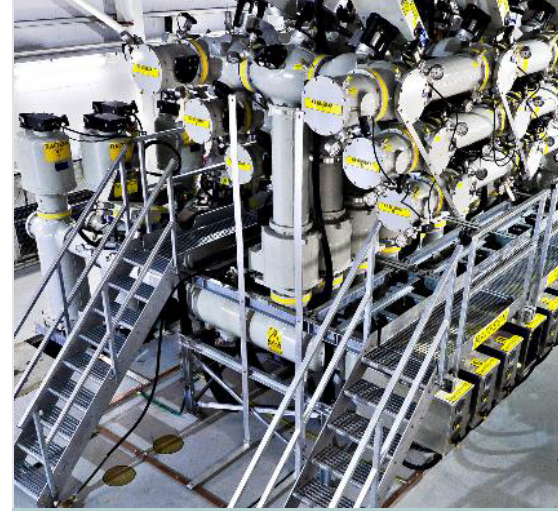
GE Vernova's B105 GIS meet the challenges of networks up to 245 kV for all applications: power generation, transmission, distribution, tertiary and heavy industry.

High Availability

- Best experience and reliability data
- Current transformers outside SF₆
- Single-phase enclosures: no phase-to-phase fault
- Pure-spring circuit-breaker drives
- State-of-the-art maintenance isolating device: major repair and HV tests with no more than 1 bay down
- Outstanding accessibility: drives and accessories within easy reach

Short Site Works

- Complete bays assembled, wired, tested and shipped



Lowest Cost of Land and Civil Works

- Most compact GIS with single-phase enclosure only
- Bay footprint 40% below market average

Smart Grid Features

- Full-digital monitoring, control and protection

Low Environmental Impact

- Lowest gas weight on the market
- First-in-class sealing system and gas monitoring system BWatch

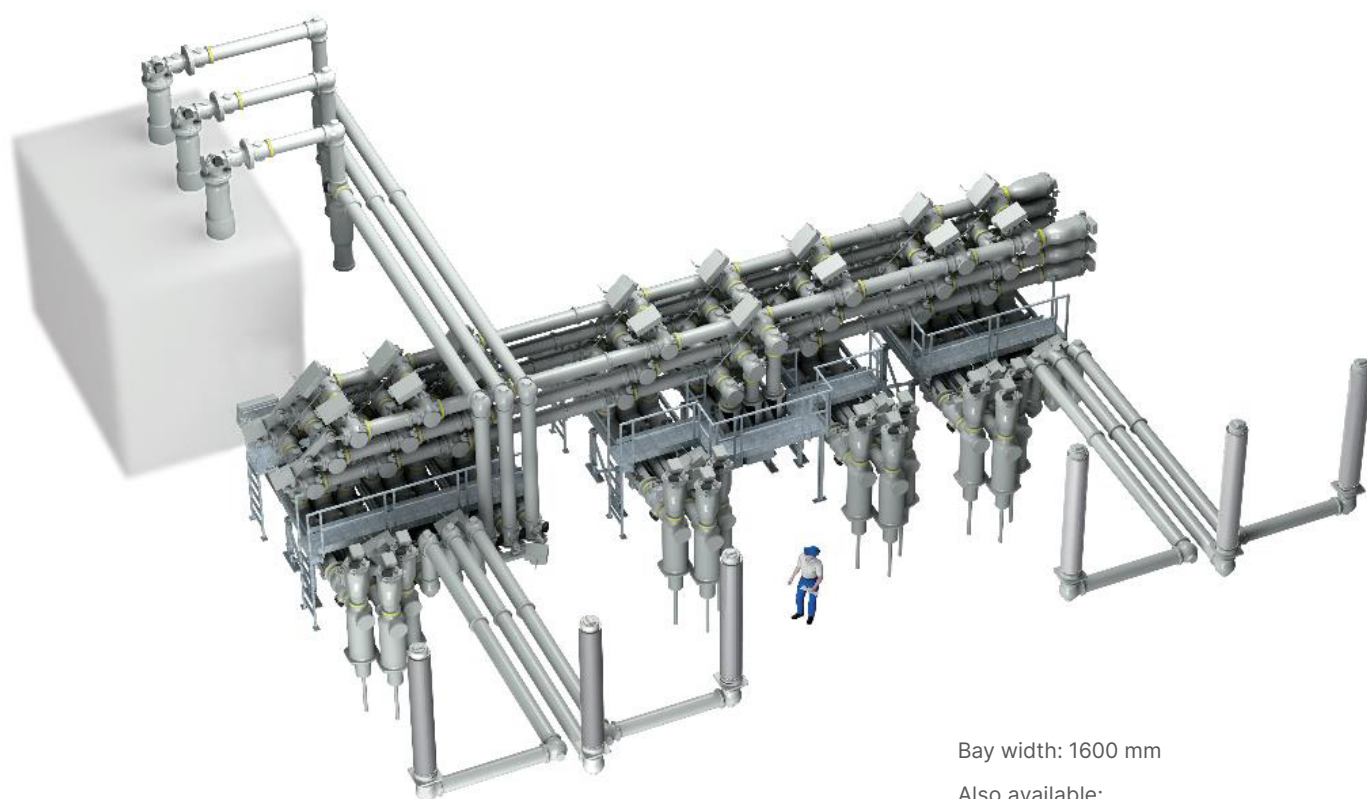
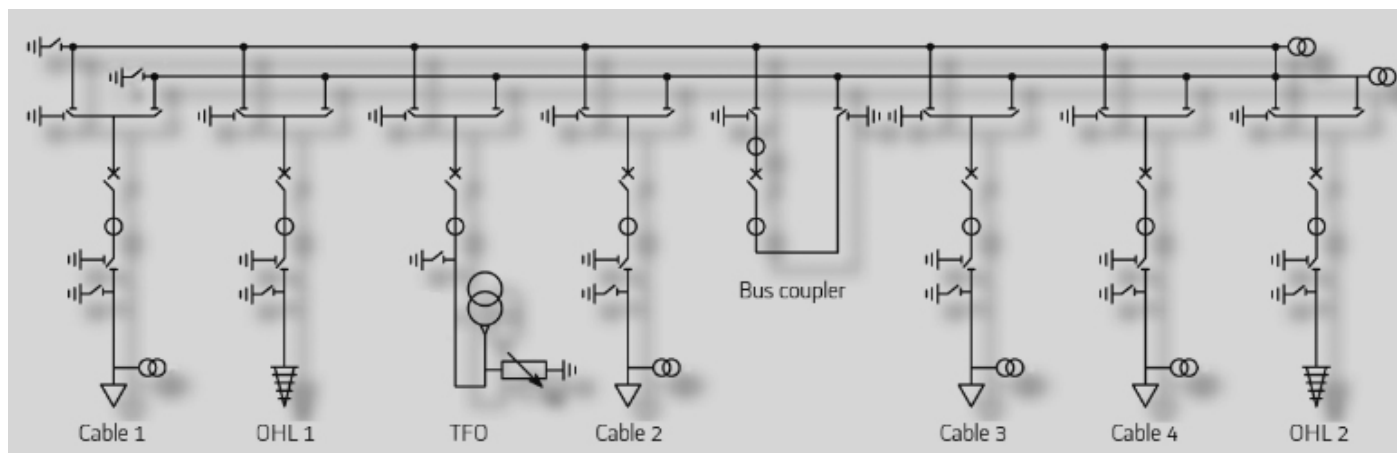
Customer Benefits

- Maximum safety
- Compact but accessible
- Field-proven reliability
- First-class availability
- Low total cost of ownership
- Smart Grid ready
- Low environmental impact



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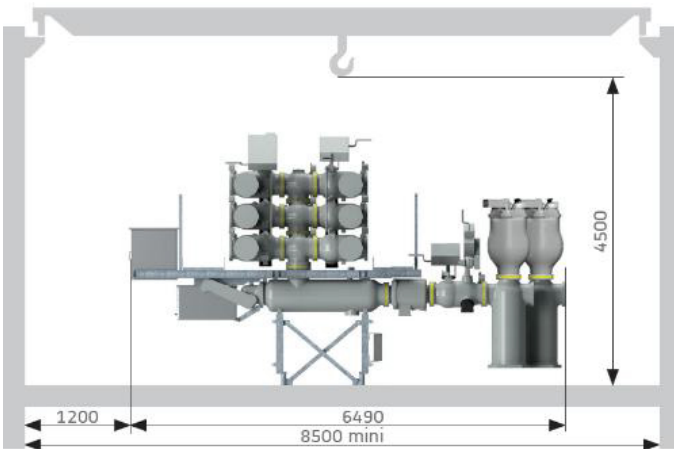
B105 - 245 kV, 50/63 kA, 3150/4000 A - Double Busbar Diagram



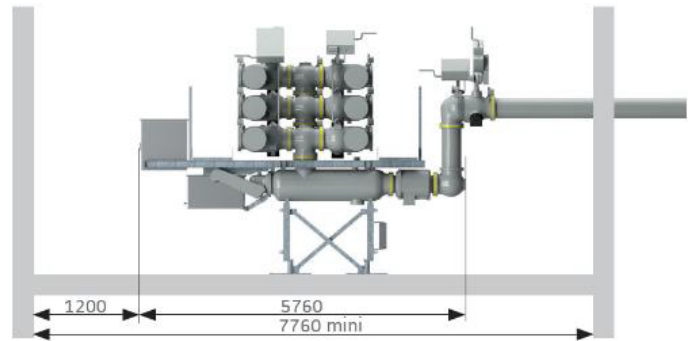
Bay width: 1600 mm

Also available:

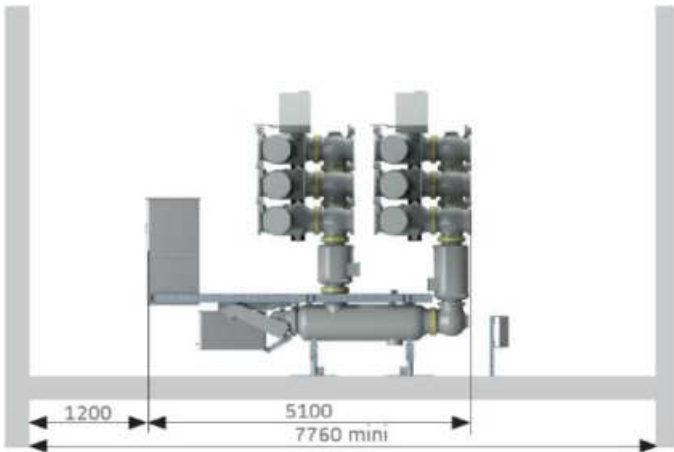
- Other single-line diagrams
- Standalone control cubicles
- Specific layouts



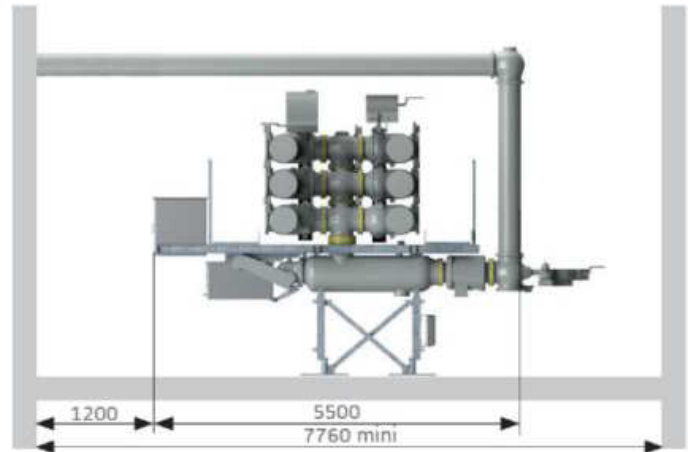
Cable bay



Overhead line bay

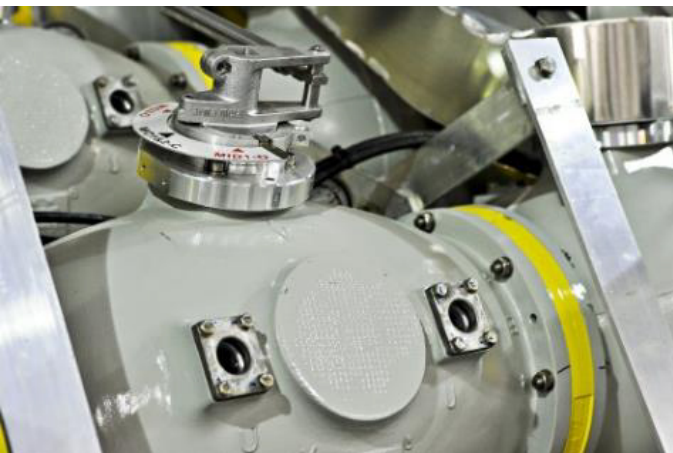


Bus coupler bay



Transformer bay

Maintenance Isolating Device



Highest Availability and Lowest MTTR

- Never more than one bay is shutdown, thanks to the additional gap between busbar disconnector and circuit-breaker
- In case of busbar disconnector failure, the corresponding bay can be operated until repair
- Extensions require no shutdown
- Operation requires no gas handling

Total Safety

- Pressurized gas barriers are not stressed
- A viewing port enables to ascertain contact position

Reliability

- All elements are HV-tested

Ratings

General

Reference electrotechnical standards		IEC
Voltage	kV	up to 245
Withstand voltages		
Short-duration power-frequency, phase-to-earth / across isolating distance	kV	460/530
Lightning impulse, phase-to-earth / across isolating distance	kVp	1050/1200
Frequency	Hz	50/60
Continuous current	A	3150/4000
Short-time withstand current	kA	50/63
Peak withstand current	kAp	135/170
Duration of short-circuit	s	3
Installation		indoor/outdoor
Ambient temperature range	°C	down to -25 / up to +55

Circuit-Breaker

First-pole-to-clear factor		1.3 - 1.5
Short-circuit breaking current	kA	50/63
Short-circuit making current	kAp	135/170
Operating sequence		0-0.3 s-CO-3 min-CO/CO-15 s-CO
Drive type (three-phase or single-phase)		pure-spring
Breaking time	ms	<50
Closing time	ms	<100
Mechanical endurance	class	M2
Capacitive switching	class	C2

Disconnecter and Low-Speed Earthing Switch

Capacitive current switching	A	0.25
Bus-transfer current switching capability	A/V	1600/20
Mechanical endurance	class	M2

Make-Proof Earthing Switch

Making current capability	kAp	135/170
Switching capability - electromagnetic coupling	A/kV	80/2
Switching capability - electrostatic coupling	A/kV	3/12
Mechanical endurance	class	M1

Other data available on request.

For more information, visit
gevernova.com/grid-solutions

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