

T210

Gas-Insulated Substations 800 kV, 50 kA, 5000 A

GE Vernova's T210 GIS is a field-proven solution with high availability that meets the challenges of networks up to 800 kV for power generation and transmission.

The T210 is one of the most compact GIS solutions available at 800 kV with a footprint 65% below the market average. It is comprised of small, light components making it easy to handle.

The T210 is environmentally friendly and features one of the lowest gas weights on the market along with an advanced SF₆ sealing system.

Building on GE Vernova's GIS experience of more than 60 years, the T210 provides high availability and current transformers outside SF₆.

Environment Friendliness

- Lowest gas weight on the market
- First-in-class SF₆ sealing system

Highest Availability

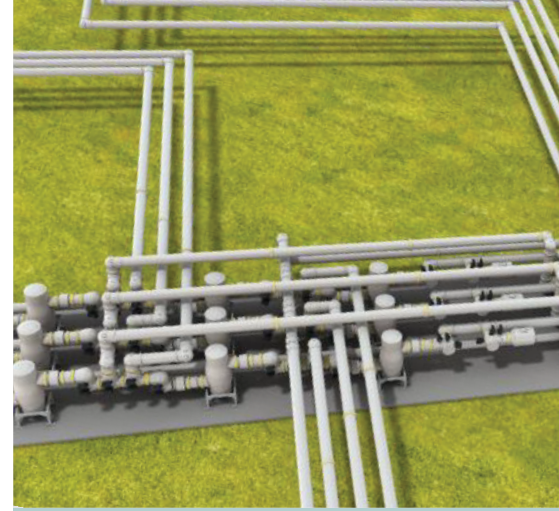
- Design grounded by 50 years old experience
- Current transformers outside SF₆

Lowest Costs of Land and Civil Works

- Most compact GIS: footprint 65% below market average

Shortest Site Works

- Light and small components, easy to handle



Smartgrid Features

- Full digital monitoring control and protection capabilities

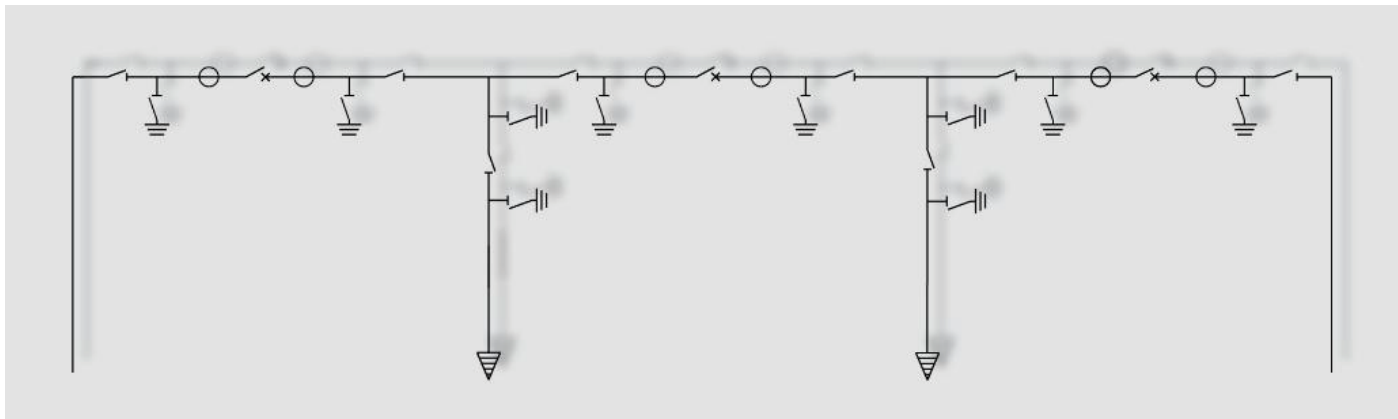
Customer Benefits

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



GE VERNOVA

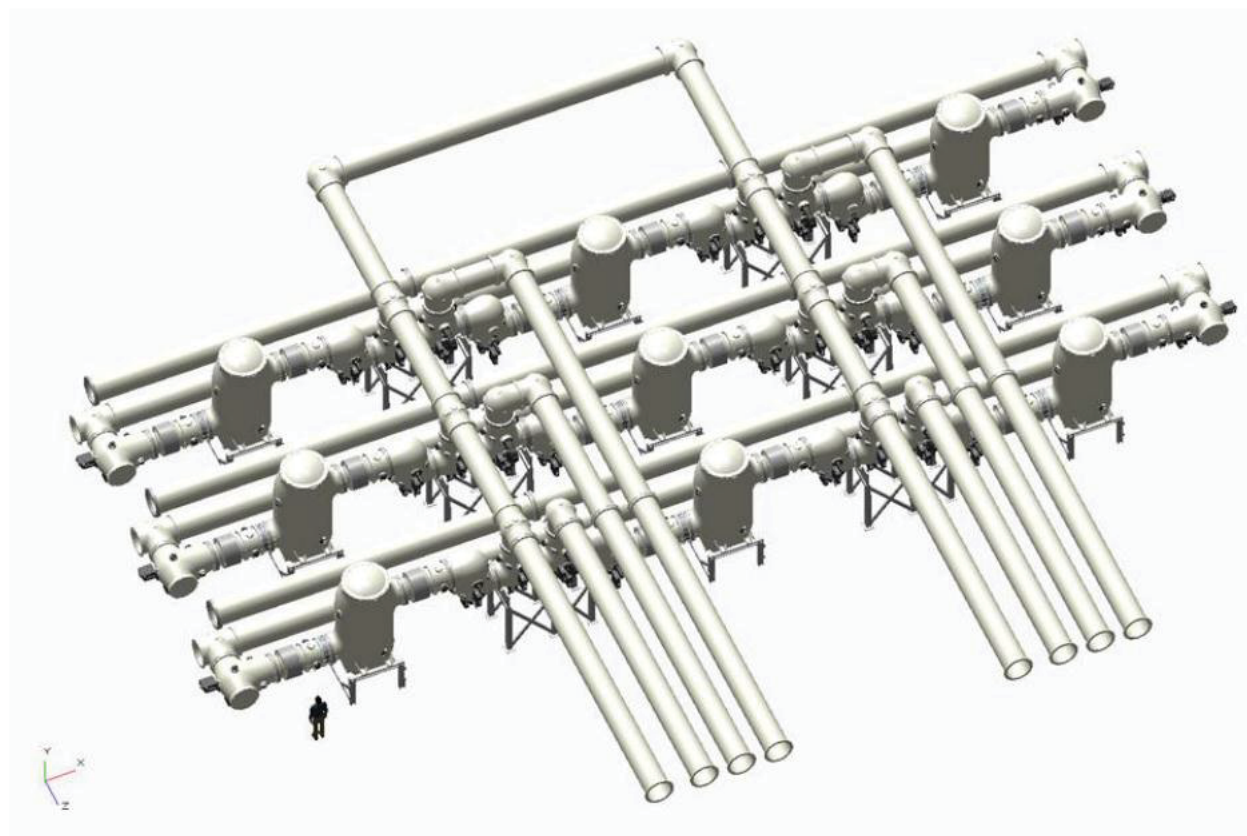
T210 - 800 kV, 50 kA, 5 000 A - 1.5 Circuit-Breaker Diagram



Also available:

- Other single-line diagrams
- Specific layouts
- Any type of control

Overview of an 800 kV GIS Diameter Including Auxiliary Bus



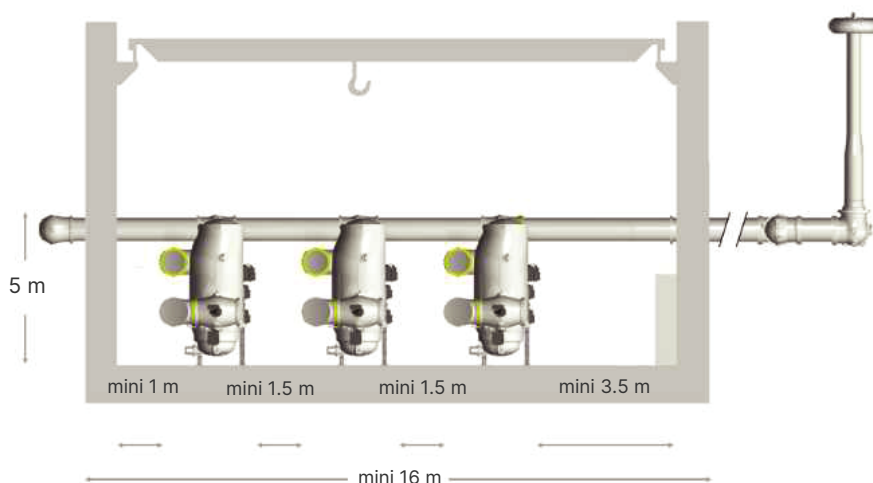
Low Dimensions for High Customer Benefits

Height

The substation is only 5 meter high. This is the lowest layout on the market.

Footprint

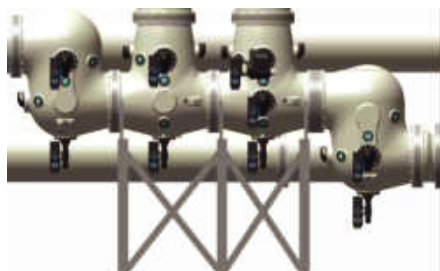
A typical diameter requires less than 30 m by 11 m. This is the smallest footprint on the market.



Accessibility and Safety

Compactness is not detrimental to accessibility. All drives, valves, monitoring devices and viewports are grouped and within easy reach.

Large viewports are provided on all disconnectors and earthing switches so that the contact position can be checked by direct visual inspection.



Drives and accessories at reach from ground

Experience

As a GIS pioneer in 800 kV GIS, GE Vernova delivered the first 800 kV substation in 1979. With 60 years of experience, Grid Solutions has provided more than 36,000 GIS bays of various voltages in the world.



800 kV substation installed in 1979

Type Tests

T210 is type-tested according to latest IEC standards.



Voltage withstand and bus-charging current switching tests

General Ratings

Reference electrotechnical standard		IEC
Voltage	kV	765 / 800
Withstand voltages		
• Short-duration power-frequency, phase-to-earth/across open switching device	kV	960 / 1270
• Switching impulse, phase-to-earth/across open switching device	kVp	1550 / 1200 (+653)
• Lightning impulse, phase-to-earth/across open switching device	kVp	2100 / 2100 (+460)
Continuous current	A	5000
Short-time withstand current	kA	50
Peak withstand current	kAp	125

Circuit-breaker Ratings

First-pole-to-clear factor		1.3
Short-circuit breaking current	kA	50
Short-circuit making current	kAp	125
Breaking time	ms	<45
Pre-insertion resistor rating	Ω	>340
Mechanical endurance	class	M2

Disconnecter Ratings

Bus-transfer current switching capability	A/V	1600 / 40 (3200 / 300 option)
Mechanical endurance	class	M2

Other data available on request.

Gas Data*

The functioning of this equipment relies upon SF₆, a fluorinated greenhouse gas.

	SF ₆
Average mass of gas/mixture in the equipment (kg)*	1650
GWP100 of gas/mixture (CO ₂ -equivalent)	24,300
CO ₂ -eq of gas/mixture in the equipment (tco ₂ -eq)*	40,095

*For information purposes only. It varies depending on the equipment considered.

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

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