

High-voltage GIS complete set of equipment



Overview

Gas Insulated Switchgear XD|GE provides Gas Insulated Switchgear (GIS) solutions for high to ultra high-voltage power transmission and distribution network.

Key Takeaways

High-voltage GIS is a compact, fully integrated set of equipment that safely houses high-voltage components in a gas-insulated enclosure for reliable power transmission and distribution. Overview Gas-Insulated Switchgear (GIS) is a complete set of high-voltage equipment that includes circuit breakers, disconnectors, earthing switches, instrument transformers, and surge arresters, all sealed within a metal enclosure filled with insulating gas, typically SF₆, or eco-friendly alternatives like clean air.

GI

S is designed for high-voltage applications ranging from 72.5 kV up to 1200 kV, providing compact, safe, and reliable operation in space-constrained environments such as urban substations, industrial plants, offshore platforms, and underground installations.

Key Components and Functions

Circuit Breakers: Interrupt load and short-circuit currents using arc-extinguishing mechanisms, often pneumatic or self-energy based. **Disconnectors:** Isolate sections of the network for maintenance, operable only after the breaker is open. **Earthing Switches:** Ground equipment to prevent accidental voltage or induced currents.

Instrument Transformers (LPITs): Provide safe and standardized voltage and current measurement for protection and monitoring. Surge Arresters: Protect the system from overvoltage events. The SF₆ gas provides insulation 2.

5–3 times stronger than air and rapidly absorbs arc energy, enabling high reliability and minimal maintenance. SF₆-free alternatives, such as Siemens Energy's Blue GIS, use clean air insulation to eliminate greenhouse gas emissions while maintaining performance.

Advantages

Compact Design: Reduces installation space and foundation load, ideal for urban or confined areas. High Reliability: GIS systems have low fault rates and long operational lifespans, often exceeding 30 years. Reduced Maintenance: Factory-assembled and pre-tested units minimize on-site work.

Digital Integration: Modern GIS can include monitoring, diagnostics, and automation for predictive maintenance and grid optimization. Environmental Compliance: SF₆-free GIS supports sustainability goals and reduces environmental impact. Global Suppliers GE Vernova & XD Electric: Offers high to ultra-high voltage GIS with durable aluminum enclosures, over 20,000 bays delivered, and low maintenance requirements.

Hitachi Energy: Provides GIS from 72.5 kV to 1200 kV, emphasizing compactness, operational safety, and SF₆-free options. Siemens Energy: Delivers modular, SF₆-free Blue GIS with digital monitoring for efficient and eco-friendly power transmission.

HIC

O America: Offers high-voltage GIS with compact designs suitable for tight installations, including three-phase common-enclosure and isolated designs. Applications High-voltage GIS is used in: Transmission and distribution substations Urban and underground substations Industrial and hydropower plants Offshore platforms and renewable energy installations These systems are particularly valuable where space is limited, environmental conditions are harsh, or high reliability is critical.

High-voltage GI

S represents a complete, compact, and reliable solution for modern power networks, combining advanced insulation, arc-extinguishing technology, and digital monitoring to ensure safe and efficient electricity transmission.

Article Content

Gas Insulated Switchgear

XD|GE provides Gas Insulated Switchgear (GIS) solutions for high to ultra high-voltage power transmission and distribution networks. We offer a highly reliable, compact GIS that lowers

High Voltage GIS Equipment 2026: Reliable & Smart Solutions

Selecting the right high voltage GIS requires a rigorous, multi-criteria evaluation. It extends far beyond basic specifications to ensure long-term reliability, safety, and cost-effectiveness.

Gas-insulated switchgear (GIS) portfolio

Hitachi Energy's gas-insulated switchgear (GIS) portfolio offers a complete range of products for all ratings and applications from 72.5 kV to 1200 kV.

300kV/200kVA Variable Frequency Series Resonant Withstand

For the withstand voltage testing needs of 300kV/200kVA GIS + high-voltage cables, DEMIKS offers two mature complete solutions. The technical team prioritizes the frequency conversion series resonant

Connecting systems for transformers and GIS

In this first part of the catalog you will find connection solutions from PFISTERER for high and extra high voltage with complementary tools for lifelong high-performance transformers and gas-insulated

PB_1.70_GIS_GIL_en_Web

The components of the high voltage circuit are all completely encapsulated for compactness, to avoid the necessity of safety clearances as well as the coupling of PD noise signals.

High Voltage Products | Integrated Multifunctional Products Integrated ...

To comply with the "one-stop-shop-philosophy" realized in Hitachi Energy's Integrated GIS Applications, Hitachi Energy offers integration of additional auxiliary and secondary equipment from third parties.

HV GIS Equipment – Reliable Power Solutions – IEE Business

2026 Explore high-quality High Voltage Gas Insulated Switchgear (HV GIS) from trusted manufacturers. All equipment is certified to IEC 62271 and KEMA standards, ensuring reliability and

Lightning arrester

These prevent the flow of the normal power or signal currents to ground, but provide a path over which high-voltage lightning current flows, bypassing the connected equipment. Their purpose is to limit the

High Voltage Test Equipment

HV TECHNOLOGIES provides a complete and broad range of High Voltage Test Equipment and Service Solutions for the Utility and Electrical Power Industries.

Renesas Electronics Corporation

A global leader in microcontrollers, analog, power and SoC products, Renesas delivers trusted embedded design innovation to shape a limitless future.

What is HIPOT Testing (Dielectric Strength Test)?

What is the High Potential Test (HIPOT)? Hipot Test is short name of high potential (high voltage) Test and it is also known as Dielectric Withstand

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Fluke FLUKE-377 FC Wireless Current Clamp Meter, Noncontact,

Voltage and current measurements with FieldSense technologyThe Fluke 378 FC true-rms clamp meter uses FieldSense technology to make testing faster and safer, all without contacting a live conductor.

23KV GIS Installation

The process involves the introduction of high-voltage electricity to the GIS which requires planning, coordination, and adherence to safety protocols to ensure a smooth and successful transition,

GIS Substation Design and Execution

Reliability - availability - maintainability A GIS is the implementation, within a complete HV substation, of the remarkable sulphur hexafluoride (SF6) properties in terms of voltage withstand and

Rockwill | IEC-Certified Transformer & Switchgear Manufacturer | 20 ...

Focusing on the demand for improved distribution network reliability in Ghana, 11kV R-GIS gas-insulated switchgear is adopted. Integrating advantages of compact design, weather-resistant protection and

High Voltage Products | Integrated Multifunctional Products Integrated ...

Integrated GIS Applications (IGA) Hitachi Energy Integrated Gas-insulated switchgear Applications (IGA) are predesigned, standardized, and fully integrated switchgear units for fast deployment and high

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This document is for preliminary research. Verify specifications against current standards, product documentation and project requirements.

