

High-voltage grid-connected step-up complete set of equipment



Overview

Static Synchronous Compensators (STATCOM) consist of a voltage source converter (VSC) connected to the grid by phase reactors and a step-up transformer. As a global leader in grid infrastructure products and services, GE Vernova supports a broad set of utility applications ranging from medium voltage to high and ultra-high voltage power equipment. Our portfolio of decarbonization solutions that empower grid operators to address their net-zero. Generator step-up transformers (GSU) are the critical link between the power station and the transmission network, often operated day and night at full load. They must be built to withstand extreme thermal loading without aging prematurely. Brunstock's step-up transformer stations integrate the ring main unit, transformer, PCS or low voltage CB panel, and auxiliary power. The converter-boosting integrated machine adopts the outdoor layout form of a prefabricated cabin. Multiple PCSs, one dry-type double-winding transformer, one kV incoming cabinet, one communication power cabinet/box and the connecting cables between equipment are regarded as an inverter-boosting. ZTELEC independently developed three-level medium-voltage high-power energy storage converter, switchgear, and step-up transformer all in one machine have been optimized for integration, with features as below : a single set of equipment with higher power, simple application, flexible site. The TPS6124x device is a highly efficient synchronous step-up DC-DC converter optimized for products powered by either a three-cell alkaline, NiCd or NiMH, or one-cell Li-Ion or Li-Polymer battery. The TPS6124x supports output currents up to 450 mA.

Article Content

Aug 07, 2025

GGD Low Voltage Fixed Complete-set Switchgear

The GGD Low Voltage Fixed Complete-set Switchgear Equipment (Abbreviation as Switchgear) is for the purpose of power distribution

May 23, 2026

Recent advances of step-up multi-stage DC-DC converters: A review

Among these conversion units, the step-up DC-DC converters occupy a pivotal role, elevating the DC voltage levels and facilitating interactions between converters and circuits.

May 21, 2026

A Step-up Resonant Converter for Grid-Connected Renewable Energy ...

With the rapid development of large-scale renewable energy sources and HVDC grid, it is a promising option to connect the renewable energy sources to the HVDC grid with a pure dc system,

Sep 19, 2025

Step-up Transformer Stations

Our step-up transformer skid station can be used in grid-tied systems in large BESS projects. It is an integration of a medium voltage RMU, transformer, PCS (central or string type) and other auxiliary

Jan 14, 2026

High and Low Voltage Complete Sets: Reliable Solutions for Power ...

Explore Chennuo Electric's range of high and low voltage complete sets, designed to ensure the reliable operation of power systems. Our solutions cater to a wide range of applications, offering stability and

May 13, 2026

INTEGRATED CONVERTER AND STEP-UP MACHINE

Multiple PCSs, one dry-type double-winding transformer, one kV incoming cabinet, one communication power cabinet/box and the connecting cables between equipment are regarded as an inverter

Sep 13, 2025

12 Substation Protection Equipment That Guard Grid

Fault currents hit 10 times normal load before substation protection equipment stops them. Prismecs covers all 12 components from circuit breakers

Aug 18, 2025

The Ultimate Guide to Step-Up Power Transformers

1. What is a Step-Up Transformer and Why is it Essential? In simple terms, a step-up power transformer is a static electrical device that increases voltage from a lower level to a higher level. But why is this

Sep 25, 2025

High-efficiency stepdown/step-up converter for series-connected

This work introduces a novel stepdown/step-up converter designed to optimize the run time of series-connected Battery, whose voltage drops progressively with increased usage,

Aug 27, 2025

HV/MV Equipment

They are suitable for nuclear, thermal and hydraulic applications from small to high voltages with power ratings from 5 MVA to 1000 MVA. The step-up transformers

Jun 14, 2026

High Voltage Complete Set-Product Classification-Wenzhou Changtai ...

High Voltage Complete Set Wenzhou Changtai Electric Co., Ltd-Provide power solutions High-voltage complete equipment refers to the complete equipment used for high-voltage power grids, mainly

Jun 11, 2026

Generator Step-up (GSU) Transformers (GSU) | Hitachi Energy

Hitachi Energy offers generator step-up transformers (GSU), which are the critical link between the power station and the transmission network, often operated day and night at full load.

Apr 19, 2026

Grid connection of step-up

The grid connecting system consists of step-up skid stations, secondary and primary prefabricated switch rooms and an HV prefabricated substation from 66kV to 300kV.

Dec 01, 2025

STATCOM Solutions

Usually connected to High Voltage (HV) grid via a step down power transformer
Always a symmetrical power rating in the inductive and capacitive operating regions
Hybrid STATCOM solutions available

Jun 13, 2026

Integrated Energy Storage Converter Booster Machine

ZTELEC independently developed three-level medium-voltage high-power energy storage converter, switchgear, and step-up transformer all in one machine have

Dec 21, 2025

Common-Ground Type Switching Step-up/Step-down VSI for Grid-Connected ...

The first stage is a single-switch high step-up dc-dc converter with bipolar outputs, and the second stage is a conventional half-bridge dc-ac grid-connected inverter.

Sep 04, 2025

TPS6124x 3.5-MHz High Efficiency Step-Up Converter

With an input voltage range of 2.3 V to 5.5 V, the device supports batteries with extended voltage range and are ideal to power portable applications like mobile phones and other portable equipment.

Sep 21, 2025

Topology and Control of Transformerless High Voltage Grid-connected

Topology and Control of Transformerless High Voltage Grid-connected PV System Based on Cascade Step-up Structure. In Proceedings of the 43th Annual Conference of the IEEE Industrial Electronics

Feb 28, 2026

What is high voltage and low voltage complete set

Want to fully understand what high and low voltage complete sets of equipment are and want to explore the differences between the two? This article will interpret them from multiple aspects

Feb 22, 2026

STATCOM Solutions

Static Synchronous Compensators (STATCOM) consist of a voltage source converter (VSC) connected to the grid by phase reactors and a step-up transformer. STATCOMs use Insulated Gate Bipolar

Mar 15, 2026

Wind Farm Grid-Connected Step-Up Transformer Solution

Our cutting-edge grid-connected step-up transformer solution stands out, designed specifically to meet the rigorous demands of modern wind farms and trusted by industry leaders.

Jan 07, 2026

(PDF) Design and implementation of grid tied high step

Abstract and Figures In this paper, the design and implementation of a three-phase grid-connected inverter coupled with a high step-up DC-DC

May 26, 2026

HV/MV Equipment

As a global leader in grid infrastructure products and services, GE Vernova supports a broad set of utility applications ranging from medium voltage to high and ultra

Jun 06, 2026

Why Step-Up Transformers Are Needed in Power Systems

Discover how step-up transformers increase voltage, cut energy loss, and improve long-distance power transmission in modern electrical systems.

Mar 06, 2026

Systematic stability analysis, evaluation and testing

These are the main reasons why the system behavior of grid-connected power electronic equipment cannot be reproduced satisfactorily when

Mar 14, 2026

HV/MV Equipment

GE Vernova's generator step-up (GSU) transformers are designed and manufactured to stringent standards, providing superior performance and long life. They are

Mar 14, 2026

Review of Nonisolated High-Step-Up DC/DC Converters in

A general conceptual circuit for high-step-up, low-cost, and high-efficiency dc/dc conversion is proposed to derive the next-generation topologies for the PV grid-connected power system. The

Nov 03, 2025

Technical Management and Risk Prevention and Control of High and

This paper comprehensively explores the technical management and risk prevention of high and low voltage complete sets of equipment in power engineering. It elaborates on technical

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