

SolarInvert Energy Solutions

High voltage power station inverter



Overview

What is a photovoltaic inverter station?

The photovoltaic inverter station is designed to help large-scale PV plants meet complex technical requirements and the most challenging grid codes. Power Plant Controller (PPC) provides unparalleled renewable and storage power management via monitoring and control solutions.

How to convert high voltage AC power to DC power?

In order to convert high voltage AC power to DC power, two technologies are available, classical Line Commutated Converter (LCC) and the Voltage Source Converter (VSC). LCC is commonly called as HVDC Classic, while VSC has a several names, like HVDC Light (ABB), HVDC Plus (Siemens), HVDC MaxSine (Alstom) and Flexible HVDC (China).

How does a converter station work?

The converter station takes the electric power from the three-phase AC network and rectifies it to DC, which is then transmitted through overhead lines (or cables). At the receiving end of the converter station, an inverter converts the DC voltage back to AC, which is stepped down to the distribution voltage levels at various consumer ends.

What is a Modular Multilevel Converter?

The Modular Multilevel Converter, introduced for HVDC by Siemens Energy more than a decade ago, is the well-established standard for high voltage, high power VSC applications today. In Siemens Energy HVDC PLUS systems, one modular multilevel converter comprises three Single-phase inverter.

How does a high voltage power plant work?

This is accomplished by transmitting the generated power at a high voltage. High-voltage (HVAC) is preferred for transmission purposes mainly because higher voltages are easily achievable by means of a transformer (stepping up

at the power plant and stepping down at the substation).

What is voltage source converter technology?

Voltage Source Converter technology is based on Insular Gate Bipolar Transistors (IGBT). The IGBT can be controlled both with regards to being turned on or off. In VSC technology, the DC current can flow in both directions. That is a benefit over the LCC technology in which the current can flow in one direction.

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