

SolarInvert Energy Solutions

Can photovoltaic inverters be used





Overview

What types of inverters are used in photovoltaic applications?

This article introduces the architecture and types of inverters used in photovoltaic applications. Inverters used in photovoltaic applications are historically divided into two main categories: Standalone inverters are for the applications where the PV plant is not connected to the main energy distribution network.

What does a photovoltaic inverter do?

Primarily, inverters convert (or "invert", hence the name) direct current into alternating current or vice versa (for example in battery inverters). This is necessary so that the electricity can be used or fed into a storage unit. Photovoltaic inverters monitor the power of the connected modules and ensure that this is always optimal.

Why do we need a solar inverter?

They cool themselves to prevent overheating and disconnect the PV modules from the grid if it is down or a dangerous situation occurs. Inverters can also reduce the photovoltaic power. Integrated monitoring makes it possible to consume self-generated power according to demand and thus increase self-consumption.

Why do photovoltaic inverters need a current converter?

Current or voltage converters are needed in order to operate alternating current consumers with a direct current source. These are known as inverters and are a component of most photovoltaic systems. Photovoltaic inverters "chop up" incoming DC voltage in order to then periodically reverse the polarity.

What are the different types of solar inverters?

There are several types of inverters that might be installed as part of a solar



system. In a large-scale utility plant or mid-scale community solar project, every solar panel might be attached to a single central inverter. String inverters connect a set of panels—a string—to one inverter.

How to pair a solar inverter with a PV plant?

In order to couple a solar inverter with a PV plant, it's important to check that a few parameters match among them. Once the photovoltaic string is designed, it's possible to calculate the maximum open-circuit voltage (Voc,MAX) on the DC side (according to the IEC standard).



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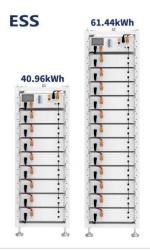
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Application Note

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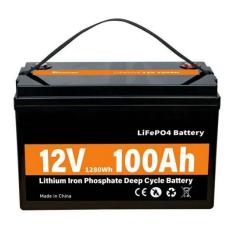
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