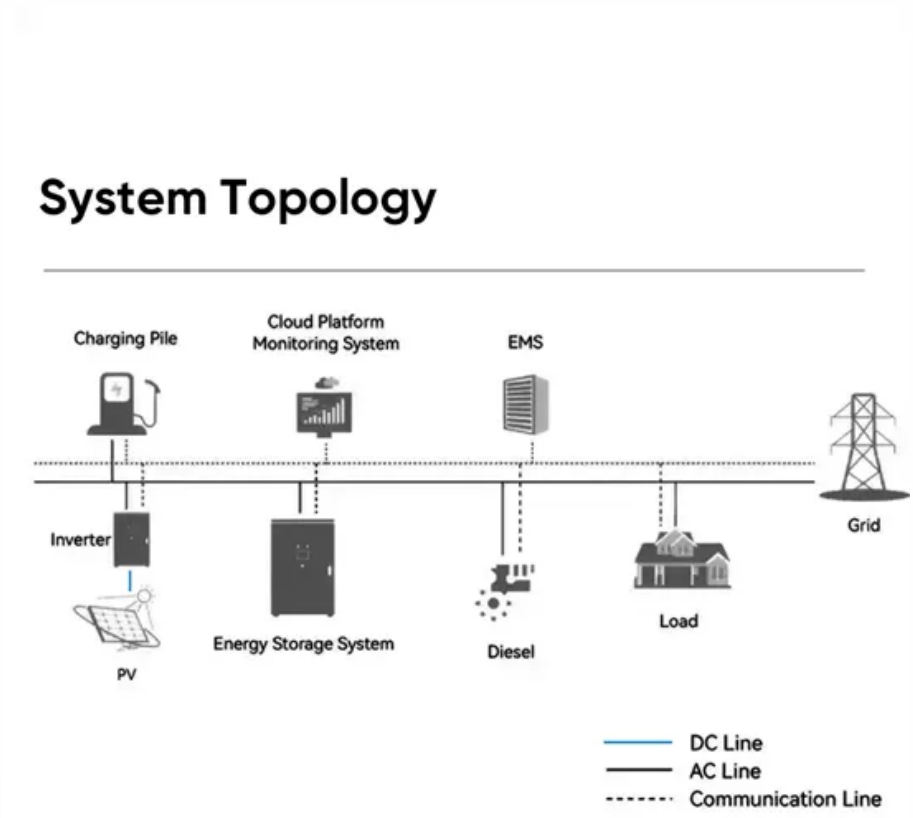
SolarInnovate Energy Solutions

Inverter constant DC voltage control



Overview

In this method of control, an ac voltage controller is connected at the output of the inverter to obtain the required (controlled) output ac voltage. The block diagram representation of this method is shown in the below figure. The voltage control is primarily achieved by varying the firing.

The external control of dc input voltage is a technique that is adapted to control the dc voltage at the input side of the inverter itself to get a desired.

The output voltage of an inverter can be adjusted by employing the control technique within the inverter itself. This control technique can be accomplished by the following two.

What is a constant voltage inverter?

If the voltage control is available in the inverter itself, the input voltage of the Three Phase Inverter is constant and a simple diode rectifier suffices on the line side. The Three Phase Inverter uses PWM for voltage control and hence is called a PWM inverter or constant voltage inverter (Fig. 3.93).

How to control the output voltage of an inverter?

When the available input voltage source is dc, the inverter’s input voltage can be controlled by using a chopper. The block diagram for controlling the output voltage of the inverter when the input voltage available is constant is of constant DC type is shown below.

How does an inverter control a motor?

An inverter uses this feature to freely control the speed and torque of a motor. This type of control, in which the frequency and voltage are freely set, is called pulse width modulation, or PWM. The inverter first converts the input AC power to DC power and again creates AC power from the converted DC power using PWM control.

What is voltage control of inverter?

Voltage control of inverters is employed in order to compensate for changes in

input dc voltage. Basically, there are three techniques by which the voltage can be controlled in an inverter. They are, Internal control of Inverter.

What is internal control of inverter?

Internal control of Inverter. In this method of control, an ac voltage controller is connected at the output of the inverter to obtain the required (controlled) output ac voltage. The block diagram representation of this method is shown in the below figure.

What are the disadvantages of a DC link inverter?

The main disadvantage of this method is that the transformer has to be designed for low frequencies and its size is large. The system also has an extremely poor dynamic response. Voltage control within the Inverter: The dc link voltage is constant and the inverter is controlled to provide-both variable voltage and variable frequency.

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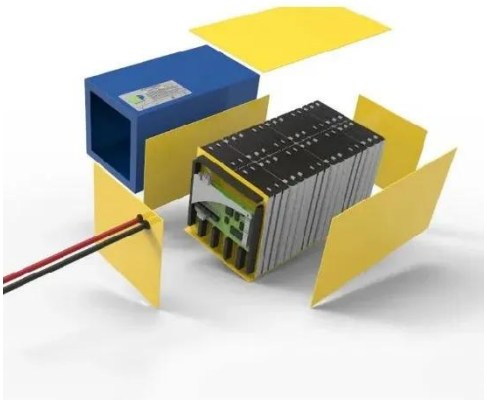

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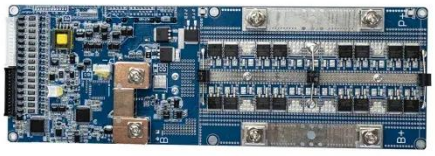

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