

Inverter power and mixing





Overview

How does an inverter work?

The inverter first converts the input AC power to DC power and again creates AC power from the converted DC power using PWM control. The inverter outputs a pulsed voltage, and the pulses are smoothed by the motor coil so that a sine wave current flows to the motor to control the speed and torque of the motor.

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.

Why do inverters need frequency mixing?

In addition to efficiency and power quality, adjusting frequency mixing allows inverters to adapt better to varying load conditions. Electrical demands can fluctuate due to different operating conditions, and inverters that can dynamically adjust their output frequency are better equipped to handle these changes.

What is a switch-mode inverter used to drive an AC motor?

The switch-mode inverter used to drive an AC motor in figure 3 is actually a converter where power can flow in both directions. Take for example if the motor was in a car. Normally it will require power as it must power the car, however, when the car is breaking it could be reversed, and used to generate power.



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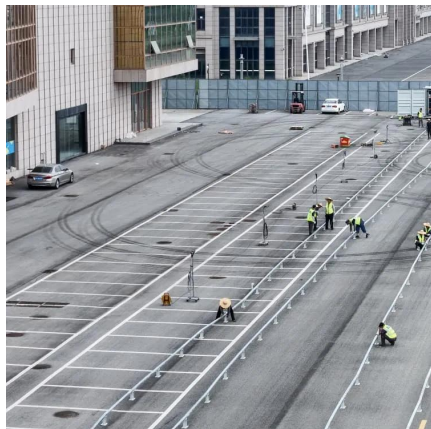


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