

Variable frequency DC inverter





Overview

Is a motor inverter the same as a variable frequency drive?

A motor inverter and a variable frequency drive (VFD) are related, but not identical. The term motor inverter often refers to the DC-to-AC conversion stage that powers a motor. At the same time, a VFD is the full control system—including rectifier, DC bus, inverter stage, and control logic—for adjusting motor speed, torque, and protection.

What is a frequency inverter?

A frequency inverter is an electronic device that converts the fixed frequency and fixed voltage from your electrical supply (e.g., 50Hz or 60Hz, 240V or 480V) into a variable frequency and variable voltage output. This allows the operator to precisely control the speed and power of a standard AC induction motor.

How do I choose a frequency converter / inverter / VFD?

Selecting between frequency converters, inverters, and VFDs depends on specific needs, as each serves unique functions:
Function: Frequency converters control AC power frequency, while inverters convert DC to AC.
Output: Frequency converters provide variable AC output, ideal for motor and equipment control.

How does a frequency inverter convert fixed power to variable power?

The process of converting fixed power to variable power involves three key stages:
Rectification (AC to DC): The frequency inverter first takes the incoming Alternating Current (AC) power and converts it to Direct Current (DC) using a component called a rectifier. This DC power is stored in a DC bus (a set of capacitors).



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