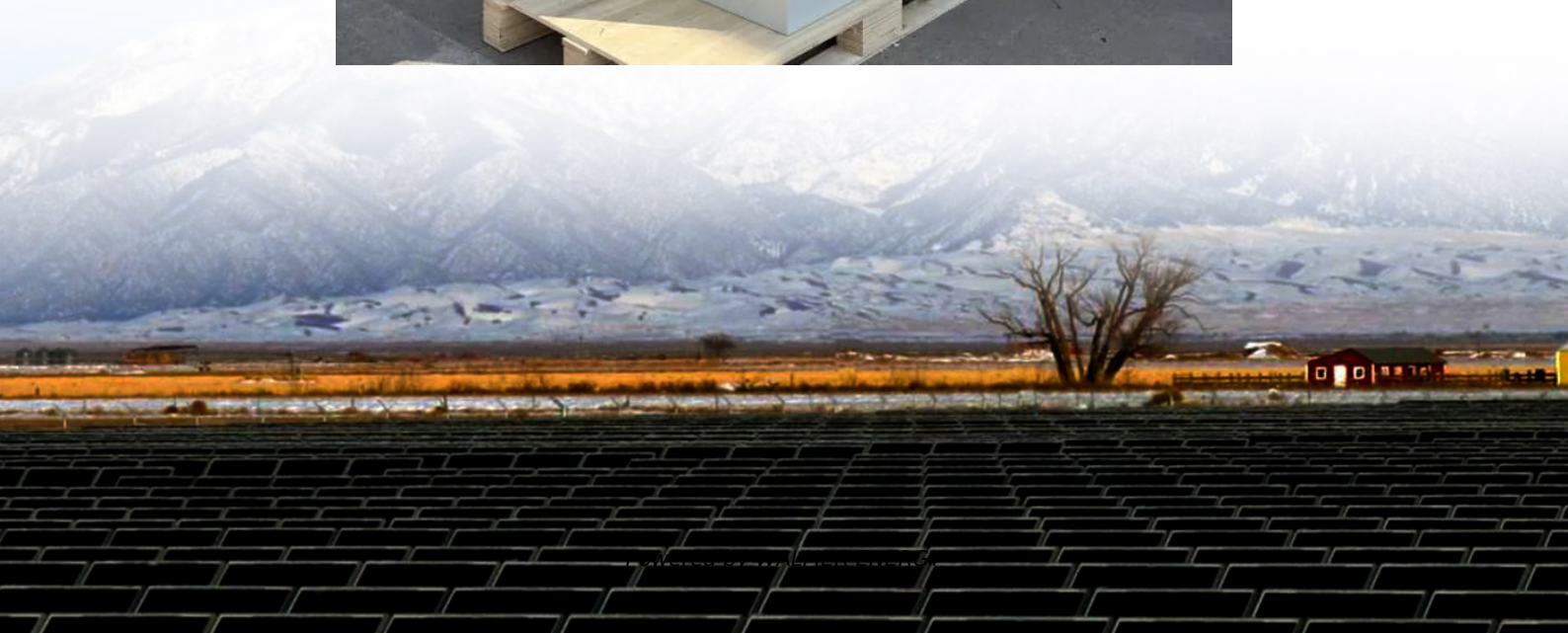


DC speed regulator with inverter





Overview

How does an inverter control the speed of an induction motor?

Principle of Speed Control The inverter unit controls the speed of a three-phase induction motor by changing the frequency, f , of the voltage applied to the motor.

How does an inverter unit control a three-phase induction motor?

The inverter unit controls the speed of a three-phase induction motor by changing the frequency, f , of the voltage applied to the motor. The inverter unit changes the frequency, f , by changing the ON/OFF cycle of the six switching elements, and the rotational speed (N) of the motor changes in proportion to the expression in formula (1).

How do servo and stepper motors control speed?

When focusing attention on the speed control segment of the motor market, servo and stepper motors control their speed with a pulse train, while the induction motor and the brushless DC motor control speed with an external resistor and/or DC voltage.

How to adjust AC speed control motor?

This method is not so easy to do with an AC speed control motor. Alternately, the AC voltage can be adjusted by setting the ON/OFF time of every half cycle of the AC voltage (50 or 60Hz) applied to the motor using a switching element (thyristor or triac) that can directly turn on and off the AC voltage as shown Fig. 7 and Fig. 8.



DC speed regulator with inverter

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