



Renewable energy set, wind energy, consumer unit, multimeter, sensors, interface

EQ338B

Function

Intended for the study of: Renewable energies. Wind energy. The generation of electrical energy through a wind turbine and the importance of the blade angle. Wind energy. Wind farm. The influence of blade angle on wind energy generation. The consumption unit. Influence of wind turbine blades on electrical energy generation. Importance of the size of the propeller blades in the wind turbine. The multiplier box of a wind turbine. The gear coupling. The frequencies and angular velocities in the gears of an amplifier. The transmission ratio between gears. The generation of electrical energy through a wind turbine, with interface. The frequency and rotation speed of the wind turbine. Determining the rotation frequency of the wind turbine. Obtaining the graph of the alternating voltage at the wind turbine terminals. Determining the electrical frequency of the wind turbine. The relationship between the rotational speed, synchronous speed of the wind turbine, and the electrical frequency. Calculation of percentage relative error. Three-phase system in a wind turbine, line voltage and phase voltage, etc.

Knowledge areas

Metrology

Key Experiments

Generación de energía eléctrica a través de un aerogenerador

The frequency and the speed of rotation of a wind turbine
Three-phase system in a wind turbine: line voltage and phase voltage

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