

DEVICE FOR MEASURING CHARACTERISTIC CURVES IN PHOTOVOLTAIC SYSTEMS

Description:

The most important information to analyze the proper operation of a solar cell (CS), a photovoltaic panel (PV) or a group of them, is to be able to have their actual current-voltage (IV) and power-voltage (PV) curves from which they leave the factory until their useful life (tens of years) is exhausted. Thus, the present invention consists of a measuring device capable of measuring the characteristic curves in photovoltaic systems, such as: current versus voltage (I-V) and power versus voltage (P-V); of a solar cell (CS), a photovoltaic panel (PV) or a group of them. Furthermore, it is characterized by being formed by one or more DC / DC (Direct Current / Direct Current) converters connected in parallel, one or more solar cells (CS) or photovoltaic panels (PV); a capture and visualization equipment (connected in parallel with the solar panels or cells and the converter (s)) and a control circuit connected to the converters.

Keywords:

[Tension](#), [Current](#), [Curve](#), [Photovoltaic Panels](#), [Converters](#), [Renewable Energy](#)

Sectors:

[Engineering](#), [Environment and Energy](#)

Areas:

[Technological Improvements](#)



Advantages:

Among the advantages of the present invention are: • The proposed procedure and the developed system allow the capture in real time, as well as the visualization of the I-V and P-V curves of a CS, PV or a group of them with great fidelity and very little noise. • Even pieces of curves not connected to each other can be measured, captured and visualized in real time. • The converters can be connected in parallel and can operate in interpolated mode, which makes it possible to significantly increase the working power of the system object of the invention in a scalable way. • The interpolation technique used in the present invention is ideal for power applications (grouped PV) where it is required to obtain its I-V and P-V curves.

Uses and Applications:

This technology has its application in the photovoltaic energy sector, since it allows measuring the characteristic curves of photovoltaic systems, allowing the analysis of their correct operation.

Patent Number: ES2352408

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Filing Date: 22/05/2009

Protection Level: National (Spain)

Processing Status: Spanish protection application