

ELECTRONIC MODULES AND MODULAR ELECTRONIC SYSTEMS TO OPTIMIZE THE MANAGEMENT AND CONTROL OF POWER CONVERTERS

Description:

The main objective of power electronics is the use of electronic devices to convert and control energy in a way that meets the requirements of the systems connected to its output. It has always been the power converters to be controlled and, in many other cases, the control algorithm to be applied, which has determined the electronic control system used. This has made it necessary for each power converter to develop a specific electronic control system, limiting the need to completely redesign the electronic control system in case of modification of the power hardware, bringing with it extra costs in its development. and materials. This invention allows electronic control systems for modular and scalable power converters that adapt easily and quickly to the requirements of the converters to be controlled and that allow the implementation of new control algorithms that appear without the need to change all the control hardware.

Keywords:

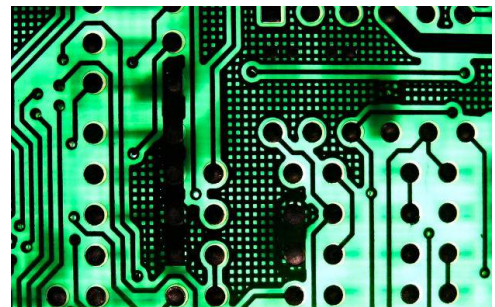
[Electronics](#), [Electronic Components](#), [Electronic System](#), [Power Converters](#)

Sectors:

[ICT](#), [Electronics](#), [Environment and Energy](#)

Areas:

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Advantages:

This electronic control system, being modular, allows it to be composed of a numerous set of cards or modules that can be easily interconnected with each other, as if it were a puzzle, to form in a short time a valid control hardware for any type of power converter in any application, and in which any known control algorithm can be implemented since it allows:

- Increase the number of measurements to be carried out (voltage, current, speed, temperature),
- Increase the number or change the type of semiconductors to control (directly linked to the converter topology),
- Store operating conditions or measurements with a datalogger (data logging device) with expandable storage capacity.

Uses and Applications:

The present invention falls within the area of power electronics and electrical engineering. Specifically, it is used in different applications in which one or more power converters appear, whatever the topology, configuration and type of semiconductor used.

Patent Number: ES2558951B2

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Filing Date: 27/11/2014

Protection Level: National (Spain)

Processing Status: Spanish patent