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(54) **ELECTRONIC DEVICE AND METHOD FOR CONTROLLING AN ELECTRIC ENERGY CONVERTER, RELATED ELECTRONIC CONVERSION SYSTEM AND COMPUTER PROGRAM**

(52) **U.S. Cl.**

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ABSTRACT

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An electronic control device controls an energy converter delivering a total output voltage and/or an output current from a plurality of elementary DC input voltages, each coming from a respective source of energy. The converter has a number of conversion modules, each receiving an elementary DC input voltage from a respective source and delivering an elementary output voltage. The conversion modules are connected in series by the outputs thereof and the total output voltage is equal to the sum of the elementary output voltages. Each conversion module includes a number of switches for converting the elementary DC input voltage into the respective elementary output voltage. The control device has a number of elementary controllers and a main controller connected to the elementary controllers. Each elementary controller is associated with a respective conversion module and controls the switches of the module.

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