Title (en)

AUTOMATIC VOLTAGE REGULATOR

Title (de)

AUTOMATISCHER SPANNUNGSREGLER

Title (fr)

RÉGULATEUR DE TENSION AUTOMATIQUE

Publication

EP 2275893 A2 20110119 (EN)

Application

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Abstract (en)

The present invention relates to an automatic voltage regulator, and more specifically, to an automatic voltage regulator capable of precisely controlling the output voltage level by using a toroidal autotransformer. The present invention relates to an automatic voltage regulator which converts the input voltage applied to an input terminal and outputs the converted volatage to an output terminal, the automatic voltage regulator comprising: a main winding unit having one end thereof connected to the input terminal and the other end thereof connected to the output terminal, and having a plurality of main windings and a plurality of first switches for switching so that the plurality of main windings are selectively serially connected; a field winding excited by at least one of the main windings connected serially by the first switches of the main winding unit; a second switch for selectively connecting one end of the field winding to the reference potential or the output terminal; a third switch for connecting the other end of the field winding to the reference potential or the input terminal; and a control unit which regulates the level of output voltage at the output terminal by switching control of the plurality of first switches, the second switch, and the third switch. The present invention has precise voltage control to enable the output of the voltage level desired by the user, and precisely carries out a variety of applications of power saving and voltage booster. In particular, the present invention can boost/reduce the input voltage to provide a desired target voltage within an error range of 1 volt or less. The present invention also comprises a simple relay switching circuit and excludes semiconductor switching devices, thereby being capable of operating adaptively in different system environments without an additional modification. Further, the present invention does not form many output tabs or auxiliary coils, and can regulate the voltage in a broader range, and at the same time can accurately output any values within the voltage regulation band.

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DOCDB simple family (publication)

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