

Title (en)

Microcontroller, switch-mode power supply and electronic ballast for operating at least one lamp

Title (de)

Mikrocontroller, Schaltnetzteil und Vorschaltgerät zum Betrieb mindestens einer elektrischen Lampe

Title (fr)

Microcontrôleur, alimentation à découpage et ballast électronique pour la mise en oeuvre d'au moins une lampe

Publication

EP 1227707 B1 20070905 (DE)

Application

EP 01129890 A 20011214

Priority

DE 10102940 A 20010123

Abstract (en)

[origin: US2002097008A1] The invention relates to a microcontroller (MC) having at least one device (G) for generating pulse-width modulated or frequency modulated control signals for a switched-mode power supply. According to the invention, this device (G) has a device (SQ1, SS1) for the alternate charging and discharging of an electric charge store (C27) that can be connected to the microcontroller (MC), control means for this device (SQ1, SS1) for controlling the charging and discharging operations, and evaluation means in order to evaluate the time periods which are needed for the individual charging and discharging operations; to generate pulse-width modulated or frequency modulated control signals. The microcontroller (MC) according to the invention generates finely graduated, frequency modulated or pulse-width modulated control signals which are independent of the operating cycle frequency of the microcontroller (MC). The invention further relates to a switched-mode power supply having such a microcontroller (MC) and an electronic ballast for operating at least one electric lamp, and also to an operating method for electric lamps. The frequency modulated or pulse-width modulated control signals for the inverter transistors (V2, V3), for the step-up converter transistor (V1) and for the transistor (V4) of the lamp electrode heating device of the ballast are generated directly by the microcontroller (MC).

IPC 8 full level

H05B 41/392 (2006.01)

CPC (source: EP US)

H05B 41/3921 (2013.01 - EP US)

Designated contracting state (EPC)

AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

DOCDB simple family (publication)

EP 1227707 A2 20020731; EP 1227707 A3 20050112; EP 1227707 B1 20070905; AT E372659 T1 20070915; CA 2368897 A1 20020723; DE 10102940 A1 20020808; DE 50112958 D1 20071018; US 2002097008 A1 20020725; US 6717374 B2 20040406

DOCDB simple family (application)

EP 01129890 A 20011214; AT 01129890 T 20011214; CA 2368897 A 20020122; DE 10102940 A 20010123; DE 50112958 T 20011214; US 4164602 A 20020110