

Title (en)
METHOD AND CIRCUIT ARRANGEMENT FOR OPERATING AT LEAST ONE DISCHARGE LAMP

Title (de)
VERFAHREN UND SCHALTUNGSANORDNUNG ZUM BETREIBEN MINDESTENS EINER ENTLADUNGSLAMPE

Title (fr)
PROCÉDÉ ET AGENCEMENT DE CIRCUITS POUR FAIRE FONCTIONNER AU MOINS UNE LAMPE À DÉCHARGE

Publication
EP 2274960 A1 20110119 (DE)

Application
EP 08736581 A 20080425

Priority
EP 2008055074 W 20080425

Abstract (en)
[origin: WO2009129860A1] The present invention relates to a method for operating at least one discharge lamp (LP) in a circuit arrangement comprising an input with a first and a second input connection for connecting a DC supply voltage (U_{Zw}); an output with at least one first and a second output connection for connecting the at least one discharge lamp (LP); an inverter with at least one first (T1) and a second electronic switch (T2), said switches being coupled in series between the first and the second input connection, wherein a middle point (M) of the inverter is formed between the first (T1) and the second switch (T2); an ignition device comprising a lamp choke (L1) and a resonance capacitor (C2); a preheating device comprising the series connection of a primary inductor (P1), a third electronic switch (T3) and a current measurement resistor (R1) and coupled between the middle point (M) of the inverter and the second input connection, and a first (SI1) and a second (SI2) secondary inductor coupled to the primary winding (P1), wherein the first (SI1) secondary inductor is coupled to the first output connection and the second secondary inductor (SI2) is coupled to the second output connection; a control device (MC) coupled to the current measurement resistor (R1), at least two sets of operating parameters associated with different types of discharge lamps being stored in said control device, wherein one set of operating parameters represents a current operating parameter set, wherein the control device (MC) is designed to actuate at least the first (T1), the second (T2) and the third (T3) electronic switch according to the current operating parameter set; wherein in the preheating phase a first value (Res1_{neu}) of the voltage drop correlating with the reciprocal of the electrical resistance of at least one coil (E1) of the at least one discharge lamp (LP) is determined by way of the current measurement resistor (R1) at a first time (t1), and a second value (Res2_{neu}) of the voltage drop correlating with the reciprocal of the electrical resistance of the at least one coil (E1) of the at least one discharge lamp (LP) is determined by way of the current measurement resistor (R1) at a second time (t2), wherein the second time (t2) is after the first time (t1); characterized by the following steps: a) determining the difference between the first (Res1_{neu}) and the second value (Res2_{neu}) (step 140); b) b1) if the difference is greater than a first threshold value (S1) (steps 150 through 230): Executing an algorithm for lamp type recognition; b2) if the difference is not greater than the first threshold value (S1): c1) if the difference is greater than a second threshold value (S2), wherein the second threshold value (S2) is less than the first threshold value (S1) (step 240): d1) if the second value is greater than a third threshold value (S3) (step 270): Determining a coil short circuit (step 280); d2) if the second value is not greater than the third threshold value (S3): operating the lamp using the current set of operating parameters (step 290). The invention also relates to a corresponding circuit arrangement for operating at least one discharge lamp (LP).

IPC 8 full level
H05B 41/295 (2006.01)

CPC (source: EP US)
H05B 41/295 (2013.01 - EP US)

Citation (search report)
See references of WO 2009129860A1

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR

Designated extension state (EPC)
AL BA MK RS

DOCDB simple family (publication)
WO 2009129860 A1 20091029; CN 102017809 A 20110413; CN 102017809 B 20131106; EP 2274960 A1 20110119; EP 2274960 B1 20130227; KR 20110007225 A 20110121; US 2011037393 A1 20110217; US 8796941 B2 20140805

DOCDB simple family (application)
EP 2008055074 W 20080425; CN 200880128823 A 20080425; EP 08736581 A 20080425; KR 20107026445 A 20080425; US 98942108 A 20080425