

Title (en)  
METHOD FOR OPERATING AT LEAST ONE LED BY MEANS OF DITHERING

Title (de)  
VERFAHREN ZUM BETREIBEN VON WENIGSTENS EINER LED MITTELS DITHERING

Title (fr)  
PROCÉDÉ DE FONCTIONNEMENT D'AU MOINS UNE DEL PAR VIBRATIONS

Publication  
**EP 2777364 B1 20160316 (DE)**

Application  
**EP 12810034 A 20121112**

Priority  
• AT 6192011 U 20111111  
• AT 2012000289 W 20121112

Abstract (en)  
[origin: WO2013067564A1] Operating circuit for at least one LED, in which a supply voltage for at least one LED is provided by a clocked switch (S1), wherein when the switch (S1) is switched on, energy is buffer-stored in a coil (L1), which energy is discharged when the switch (S1) is switched off via at least one LED, and an open-loop/closed-loop control unit (SR) actuates the switch (S1) in such a way that the LED current (iLED) is regulated to a predetermined value and, in order to adjust the brightness of the LED, in each case low-frequency PWM packets of adjustable width are generated, characterized in that, during a low-frequency PWM packet, the switch-on time of the switch (S1) after a plurality of pulses of an adjustable switch-on time is altered to the next higher or lower adjustable switch-on time, and the remaining pulses are output with this altered switch-on time, with the result that the number of pulses with the two adjusted switch-on times assume a specific ratio and an averaged value for the current through the LED results, which value corresponds to the preset by a setpoint value and, in the event of a specific brightness value and therefore a specific width of the low-frequency PWM packet being undershot, individual pulses of the one adjusted switch-on time are omitted, and therefore the ratio of the number of pulses with the two adjusted switch-on times deviates in comparison with the operation with the same LED current during a low-frequency PWM packet with a greater width.

IPC 8 full level  
**H05B 33/08** (2006.01); **H05B 44/00** (2022.01)

CPC (source: EP US)  
**H05B 45/3725** (2020.01 - EP US); **H05B 45/375** (2020.01 - EP US)

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

DOCDB simple family (publication)  
**WO 2013067564 A1 20130516**; DE 112012004722 A5 20140821; EP 2777364 A1 20140917; EP 2777364 B1 20160316

DOCDB simple family (application)  
**AT 2012000289 W 20121112**; DE 112012004722 T 20121112; EP 12810034 A 20121112