



(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:  
**01.06.2016 Bulletin 2016/22**

(51) Int Cl.:  
**H05B 37/02 (2006.01) H05B 33/08 (2006.01)**

(43) Date of publication A2:  
**13.04.2016 Bulletin 2016/15**

(21) Application number: **15174194.9**

(22) Date of filing: **29.06.2015**

(84) Designated Contracting States:  
**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**  
 Designated Extension States:  
**BA ME**  
 Designated Validation States:  
**MA**

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(30) Priority: **08.10.2014 US 201414509711**

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(54) **DRIVING CIRCUIT WITH DIMMING CONTROLLER FOR DRIVING LIGHT SOURCES**

(57) A driving circuit includes a power converter, a dimming controller and a current path coupled to the dimming controller. The power converter receives input power from a rectifier and provides output power to a light source. A power switch transfers power from an AC power source to the rectifier when the power switch is on. The dimming controller receives a switch monitoring sig-

nal indicative of the state of the power switch. An average current flowing through the light source has a first value if the power switch is on. The dimming controller is operable for adjusting the average current based on the switch monitoring signal. A current flows from the AC power source through the current path to ground when the power switch is off.

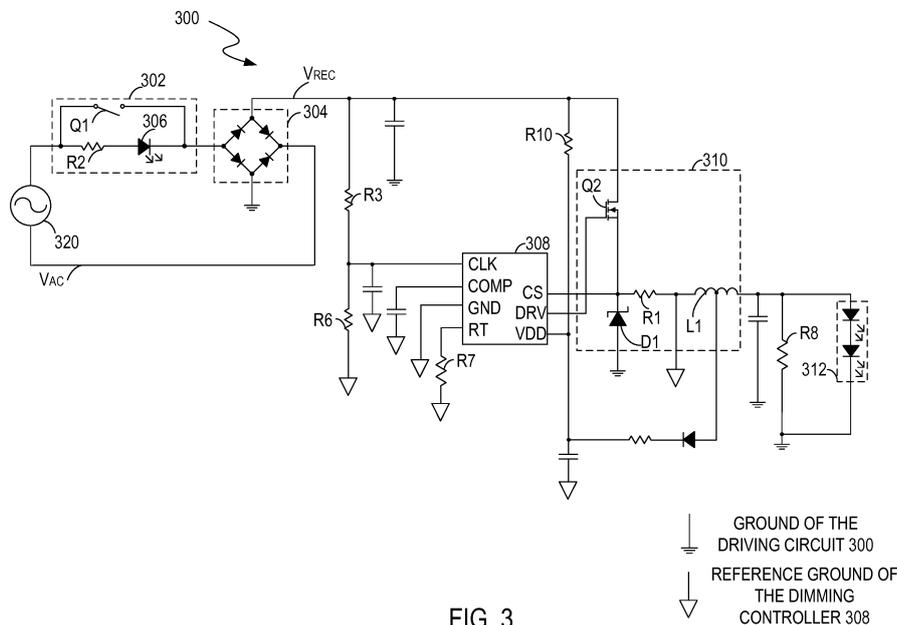


FIG. 3



EUROPEAN SEARCH REPORT

Application Number  
EP 15 17 4194

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	EP 2 611 263 A2 (O2MICRO INC [US]) 3 July 2013 (2013-07-03) * paragraphs [0105] - [0129]; figures 20-22 *  -----	1-14	INV. H05B37/02  ADD. H05B33/08
			TECHNICAL FIELDS SEARCHED (IPC)
			H05B
The present search report has been drawn up for all claims			
Place of search <b>Munich</b>		Date of completion of the search <b>21 April 2016</b>	Examiner <b>Waters, Duncan</b>
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone                      Y : particularly relevant if combined with another document of the same category                      A : technological background                      O : non-written disclosure                      P : intermediate document</p> <p>T : theory or principle underlying the invention                      E : earlier patent document, but published on, or after the filing date                      D : document cited in the application                      L : document cited for other reasons                      .....                      &amp; : member of the same patent family, corresponding document</p>			

EPO FORM 1503 03/02 (P04C01)



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**CLAIMS INCURRING FEES**

The present European patent application comprised at the time of filing claims for which payment was due.

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Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

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No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

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**LACK OF UNITY OF INVENTION**

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

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see sheet B

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All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

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As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

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Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

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None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

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The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).

**LACK OF UNITY OF INVENTION  
SHEET B**Application Number  
EP 15 17 4194

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The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

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## 1. claims: 1-14

Dimming by regulating an average current

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## 1.1. claims: 1-11

Dimming controller comprising a monitoring terminal, a control terminal and a power terminal.

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## 1.2. claims: 12-14

Method of adjusting average current flowing through a light source based on the OFF-time of a power switch.

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Please note that all inventions mentioned under item 1, although not necessarily linked by a common inventive concept, could be searched without effort justifying an additional fee.

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**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 15 17 4194

5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.  
The members are as contained in the European Patent Office EDP file on  
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

21-04-2016

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 2611263 A2	03-07-2013	BR 102012033492 A2	05-05-2015
		EP 2611263 A2	03-07-2013
		JP 2013140931 A	18-07-2013
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EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82