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- (71) Applicant (for all designated States except US): **CIR-RUS LOGIC, INC.** [US/US]; 2901 Via Fortuna, Austin, Texas 78746 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **MELANSON, John, L.** [US/US]; 901 W. 9th Street, #201, Austin, Texas 78703 (US). **KING, Eric, J.** [US/US]; 1050 Trail Head Circle, Dripping Springs, Texas 78620 (US).
- (74) Agent: **CHAMBERS, Kent, B.**; Hamilton & Terrile, LLP, P.O. Box 203518, Austin, Texas 78720 (US).

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(54) Title: COORDINATED DIMMER COMPATIBILITY FUNCTIONS

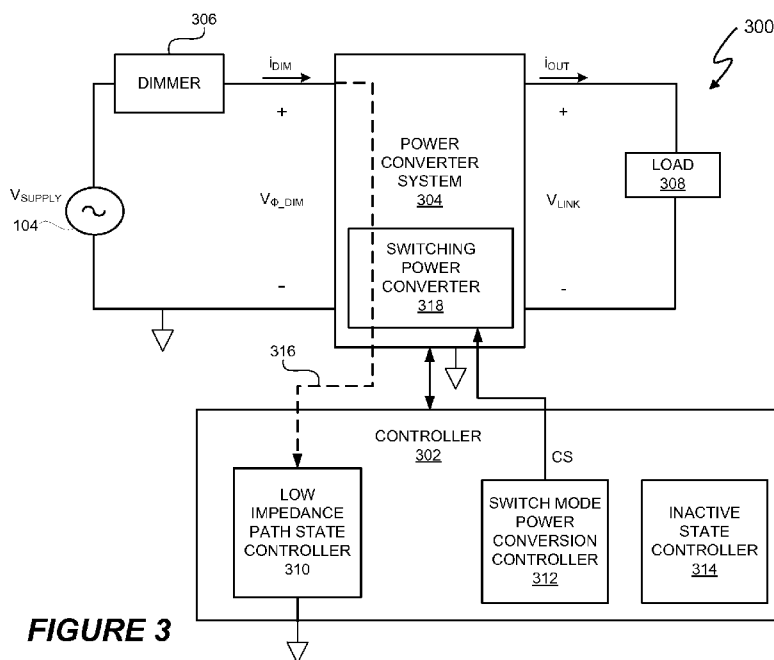


FIGURE 3

(57) Abstract: A system and method includes a controller that is configured to coordinate (i) a low impedance path for a dimmer current, (ii) control of switch mode power conversion and (iii) an inactive state to, for example, to allow a dimmer to function normally from cycle to cycle of an alternating current (AC) supply voltage. In at least one embodiment, the dimmer functions normally when the dimmer conducts at a correct phase angle indicated by a dimmer input setting and avoids prematurely resetting while conducting. In at least one embodiment, by coordinating functions (i), (ii), and (iii), the controller controls a power converter system that is compatible with a triac-based dimmer. In at least one embodiment, the controller coordinates functions (i), (ii), and (iii) in response to a particular dimming level indicated by a phase cut, rectified input voltage supplied to the power converter system.

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A. CLASSIFICATION OF SUBJECT MATTER  
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ADD.  
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED  
Minimum documentation searched (classification system followed by classification symbols)  
H02M H05B  
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)  
EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2007/182338 A1 (SHTEYNBERG ANATOLY [US] ET AL) 9 August 2007 (2007-08-09) abstract; figures 6-11 page 5, paragraph 47 - page 6, paragraph 55 page 7, paragraph 64 - page 9, paragraph 80	1-34
X,P	----- US 2010/213859 A1 (SHTEYNBERG ANATOLY [US] ET AL) 26 August 2010 (2010-08-26)  page 2, paragraph 13; figures 8-11 page 7, paragraph 73 - page 10, paragraph 101 -----	1,5, 10-12, 14-17, 21,22, 27-29, 31-34

Further documents are listed in the continuation of Box C.

See patent family annex.

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Name and mailing address of the ISA/

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040,  
Fax: (+31-70) 340-3016

Authorized officer

Brosa, Anna-Maria

# INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2007182338	A1	09-08-2007	NONE
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US 2010213859	A1	26-08-2010	NONE
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