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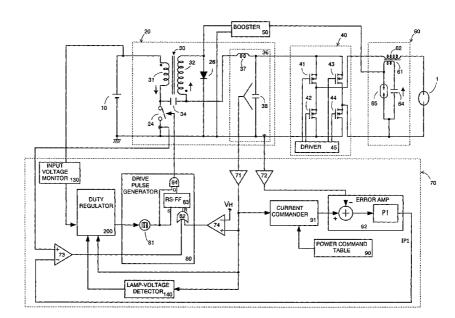
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(54) Title: BALLAST FOR A DISCHARGE LAMP



(57) Abstract: An improved ballast for a discharge lamp includes a DC-DC converter which receives an input DC voltage from a voltage source to provide a pre-starting voltage to make the lamp ready for being ignited or started. The DC-DC converter has a switching element which is driven to turn on and off for generating the pre-starting voltage. A start-accelerating means in included in the ballast in order to vary at least one of the switching frequency and the on-period of the switching element based upon the monitored input DC voltage in a direction of accelerating the increase of the output DC voltage to the pre-starting voltage until the output DC voltage reaches the pre-starting voltage.



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### INTERNATIONAL SEARCH REPORT

Internal Application No PCT/JP 02/00095

A. CLASSIFICATION OF SUBJECT MATTER IPC 7 H05B41/288 H05E H05B41/38 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) IPC 7 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, WPI Data C. DOCUMENTS CONSIDERED TO BE RELEVANT Category ° Citation of document, with indication, where appropriate, of the relevant passages Relevant to claim No. χ EP 1 021 072 A (HELLA KG HUECK & CO) 1-4.11-17, 19-22 19 July 2000 (2000-07-19) column 1, line 23 -column 1, line 56 column 2, line 5 -column 2, line 38; figure 1 DE 198 43 643 A (KOITO MFG CO LTD) Α 1,5, 6 May 1999 (1999-05-06) 19 - 22column 1, line 3 -column 1, line 25 column 6, line 29 -column 6, line 55; figures 1,9 Further documents are listed in the continuation of box C. Patent family members are listed in annex. ° Special categories of cited documents: "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the "A" document defining the general state of the art which is not considered to be of particular relevance invention "E" earlier document but published on or after the international \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone filing date \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such docu-"O" document referring to an oral disclosure, use, exhibition or ments, such combination being obvious to a person skilled other means \*P\* document published prior to the international filing date but later than the priority date claimed "&" document member of the same patent family Date of the actual completion of the international search Date of mailing of the international search report 30 July 2002 06/08/2002 Name and mailing address of the ISA Authorized officer European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk Tel. (+31–70) 340–2040, Tx. 31 651 epo nl, Fax: (+31–70) 340–3016 Speiser, P

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