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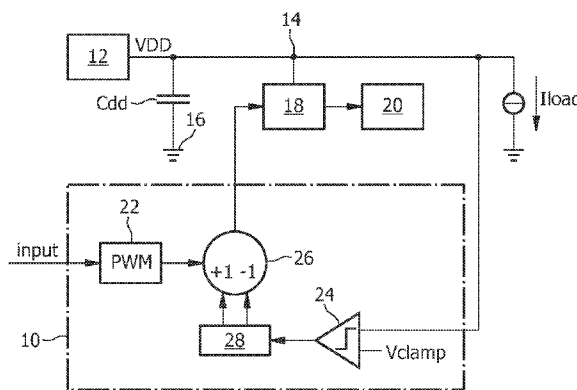
- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

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(54) Title: METHOD FOR CONTROLLING A DECELERATION PROCESS OF A DC MOTOR AND CONTROLLER



(57) Abstract: The invention is directed to a method for controlling a deceleration process of a DC motor (20), wherein the DC motor (20) is driven by a bridge driver (18) coupled to a power supply (12) intended to provide a supply voltage VDD at a power supply output (14), the method comprising the following steps: applying a deceleration PWM signal to the bridge driver (18) for decelerating the DC motor (20), and controlling the bridge driver (18) such that a motor-induced back current is reduced, if the voltage at the power supply output (14) exceeds a voltage threshold which is higher than VDD. In accordance with the invention the step of controlling the bridge driver (18) such that a motor-induced back current is reduced, if the voltage at the power supply output (14) exceeds a voltage threshold which is higher than VDD comprises: if the voltage at the power supply output exceeds the voltage threshold, changing stepwise the pulse width of the deceleration PWM signal in a first direction until the voltage at the power supply (14) output reaches or falls below the voltage threshold, and then, if the voltage at the power supply output (14) has fallen below the voltage threshold, changing stepwise the pulse width of the deceleration PWM signal in a second direction opposite to the first direction until the voltage at the power supply output (14) again reaches or exceeds the voltage threshold. The invention is also directed to a controller suitable to carry out the above method.



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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) H02P		
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.
Y	KR 2002 0068740 A (LG ELECTRONICS INC [KR]) 28 August 2002 (2002-08-28) abstract; figures 1-6	1-8
Y	JP 09 247978 A (TOKYO SHIBAURA ELECTRIC CO) 19 September 1997 (1997-09-19) abstract; figure 1	1-8
Y	JP 2001 333587 A (YASKAWA ELECTRIC CORP) 30 November 2001 (2001-11-30) abstract; figures 1,2,5	1-8
A	JP 61 150682 A (YASKAWA DENKI SEISAKUSHO KK) 9 July 1986 (1986-07-09) abstract; figures 1-4	1-8
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<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> See patent family annex.		
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A document defining the general state of the art which is not considered to be of particular relevance *E* earlier document but published on or after the international 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) *O* document referring to an oral disclosure, use, exhibition or other means *P* document published prior to the international filing date but later than the priority date claimed		** 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 invention *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 *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 documents, such combination being obvious to a person skilled in the art. *&* document member of the same patent family
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Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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INTERNATIONAL SEARCH REPORT

Information on patent family members

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