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[Continued on next page]

(54) Title: CONVERTER CELL WITH REDUCED POWER LOSSES, HIGH VOLTAGE MULTILEVEL CONVERTER AND ASSOCIATED METHOD

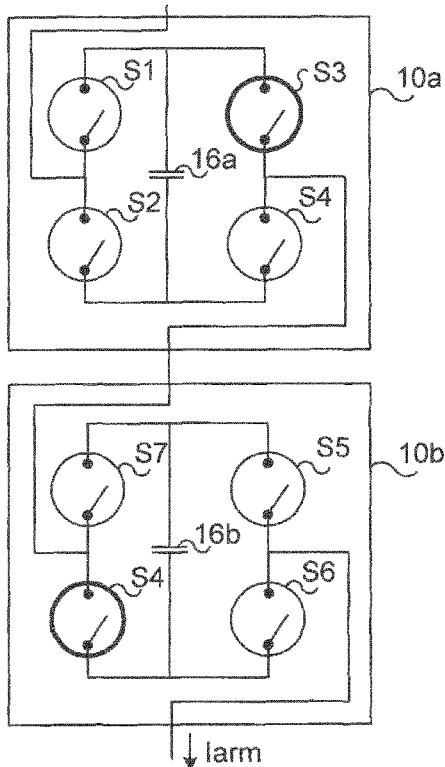


Fig. 4

(57) Abstract: It is presented a converter cell (10a; 10b) arranged to be used in a high voltage multilevel converter. The converter cell comprises: an energy storage element (16a; 16b) and a plurality of switching elements (S1,..., S8). The plurality of switching elements comprises at least one thyristor (S3; S8) and a plurality of transistors (S1, S2, S4; S5, S6, S7). Each one of the at least one thyristor (S3; S8) is provided in a position for a switching element in the converter cell where, during normal operation of the converter cell, the at least one thyristor is in a continuous conducting state. This reduces the power losses of the converter cell. A corresponding multilevel converter and a method are also presented.

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TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
INV. H02M7/5388 H02M7/219 H02M7/483 H02M1/00
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

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 practicable, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

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Y	US 2012/063185 A1 (JANNING JOERG [DE]) 15 March 2012 (2012-03-15) figures 2,3 paragraphs [0001], [0015], [0035], [0036], [0037], [0039], [0040], [0048] -----	1-11
Y	DE 19 10 677 A1 (TOKYO SHIBAURA ELECTRIC CO) 2 October 1969 (1969-10-02) figures 5,6,7,8 -----	1-11
Y	WO 2012/116738 A1 (ABB RESEARCH LTD [CH]; BERGGREN BERTIL [SE]; NORRGA STEFAN [SE]; JONSS) 7 September 2012 (2012-09-07) figures 4,5 page 39, lines 9-15 -----	4,5
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See patent family annex.

* Special categories of cited documents :

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Date of the actual completion of the international search 13 February 2015	Date of mailing of the international search report 27/02/2015
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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 Zettler, Karl-Rudolf
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INTERNATIONAL SEARCH REPORT

International application No
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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
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INTERNATIONAL SEARCH REPORT

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International application No

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