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(54) Title: METHODS AND APPARATUS FOR THREE-PHASE RECTIFIER WITH LOWER VOLTAGE SWITCHES

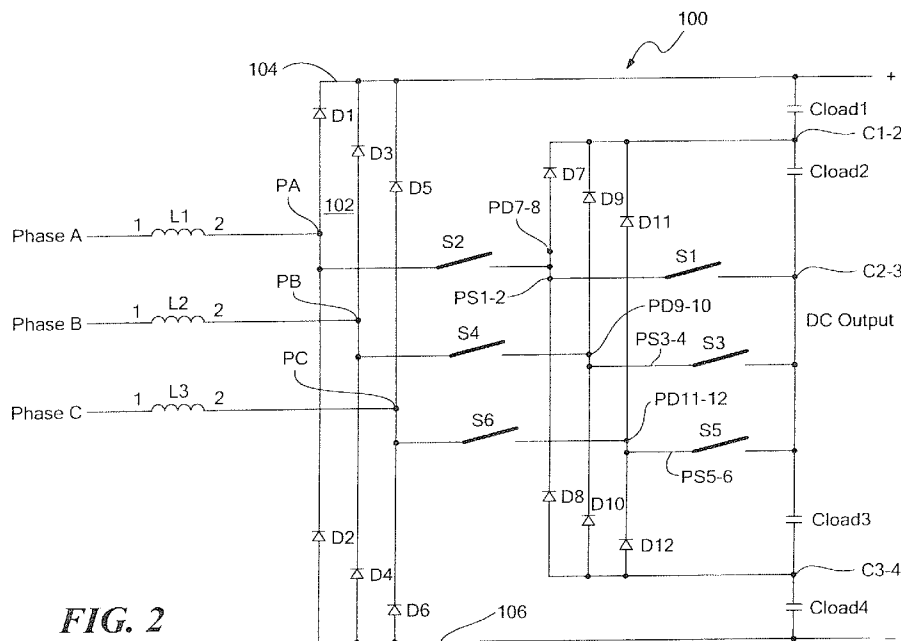


FIG. 2

(57) Abstract: Methods and apparatus to provide a rectifier having a high power factor not limited by voltage ratings of switching devices. Methods and apparatus can include pairs of series-coupled switches coupled to a respective phase signal to, along with respective diode pairs, apportion voltage over a series of load capacitors coupled across the rectifier DC output terminals.

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**A. CLASSIFICATION OF SUBJECT MATTER**  
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**B. FIELDS SEARCHED**

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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 practical, search terms used)

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**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X  A	EP 0 660 498 A (IXYS SEMICONDUCTOR GMBH [DE]) 28 June 1995 (1995-06-28)  figure 4  -----  -/--	1-14  15, 16

Further documents are listed in the continuation of Box C.

See patent family annex.

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	VIITANEN T ET AL: "Space vector modulation and control of a unidirectional three-phase/level/switch vienna i rectifier with lcl-type ac filter" PESC'03. 2003 IEEE 34TH. ANNUAL POWER ELECTRONICS SPECIALISTS CONFERENCE. CONFERENCE PROCEEDINGS. ACAPULCO, MEXICO, JUNE 15 - 19, 2003; [ANNUAL POWER ELECTRONICS SPECIALISTS CONFERENCE], NEW YORK, NY ; IEEE, US, vol: 3, 15 June 2003 (2003-06-15), pages 1063-1064, XP010647953 ISBN: 978-0-7803-7754-7	1-14
A	figure 2	15,16
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A	figure 1b	15,16
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A	figure 5	15,16

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