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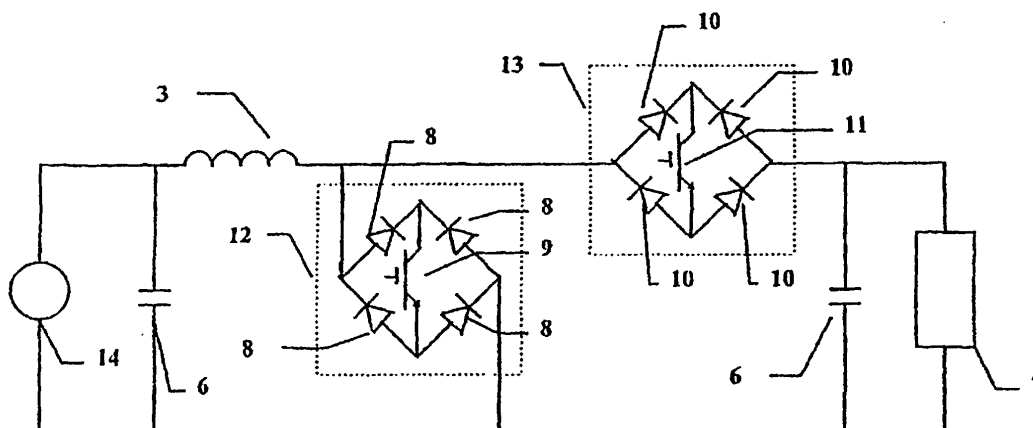
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(54) **A method and system for alternating current regulation**

(57) Circuitry and methods for regulating alternating current regulation uses energy storage and release principles to boost or buck voltage to permit regulated ac operation with parallel and series bi-directional switch elements (12) and (13) operated at either variable duty cycles or frequencies to accommodate bipolar ac oper-

ation. Each bi-directional switch element may include a diode bridge (8) or (10) and directionally limited switches such as semiconductor switches. The system can be used to regulate ac even during sub-cycle dips, can be used to simulate controlled dips, can be used to correct power factor for loads, and can be applied in multiphase operations.

FIG. 5





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EUROPEAN SEARCH REPORT

Application Number
EP 04 07 6919

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	US 4 651 265 A (BRENNEN MICHAEL B ET AL) 17 March 1987 (1987-03-17) * column 5, line 8 - column 8, line 14 *	1-5,7-20	G05F1/12
X	* the whole document *	6	
A	US 3 825 815 A (GYUGYI L ET AL) 23 July 1974 (1974-07-23) * the whole document *	1-5,7-20	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			G05F
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 29 September 2004	Examiner Villafuerte Abrego
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			

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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- ☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

- ☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☒ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:
- ☐ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:



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**LACK OF UNITY OF INVENTION
SHEET B**

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The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1-5, 7-20

A method and a simulator of disturbances on low frequency AC power sources across a load.

1.1. claim: 6

A method of adjusting low frequency AC power factor.

Please note that all inventions mentioned under item 1, although not necessarily linked by a common inventive concept, could be searched without effort justifying an additional fee.

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 04 07 6919

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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29-09-2004

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