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- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(Hi))

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(54) **Title:** COMMUNICATION WITHIN A POWER INVERTER USING TRANSFORMER VOLTAGE FREQUENCY

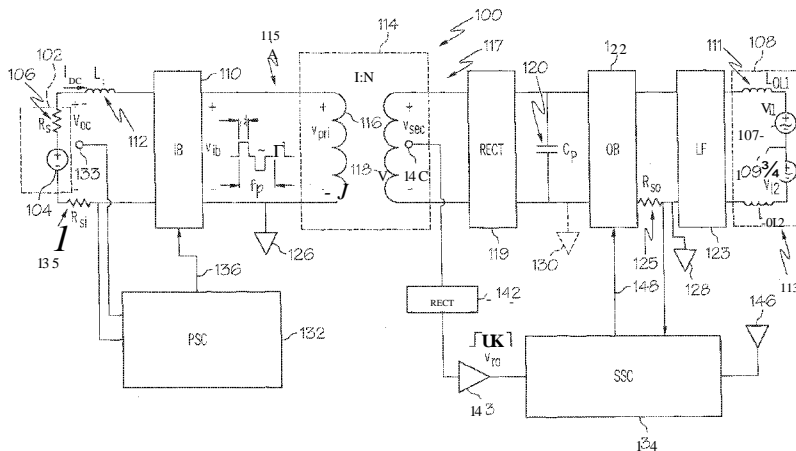


FIG. 1

(57) **Abstract:** A power inverter may include a transformer serving as an isolation barrier. The power inverter may include a first controller on one side of the isolation barrier. The first controller may encode the frequency of an input voltage of the transformer with one or more operating conditions of a direct current power supply electrically coupled to the inverter. A second controller on the other side of the isolation barrier may determine a frequency associated with an output voltage of the transformer. The second controller may decode the frequency associated with the output voltage of the transformer to determine the encoded operating conditions.

WO 2012/006092 A3

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2011/042190**A. CLASSIFICATION OF SUBJECT MATTER*****H02M 7/48(2007.01)i, G05F 1/24(2006.01)I***

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 7/48; H01M 8/04; H02M 7/537; H01M 8/00; H02M 3/18; H02M 3/24

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: "Converter", "Inverter", "Transformer", "Bridge Circuit", "Diode", "Rectifier", "Controller"

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6602627 B2 (Alpha Technologies Inc) 05 Aug. 2003 see the abstract, claims 1-30, column 9 line 18 - column 11 line 2, figures 1-10	1-20
A	US 2006-0256598 A1 (Kwok-Pun Ho et. al) 16 Nov. 2006 see the abstract, claims 1-9, figures 1-5	1-20
A	US 6339538 B1 (Clayton Kling Philips Handleman) 15 Jun. 2002 see the abstract, claims 1-17, figures 1-6	1-20
A	US 6704213 B2 (ABB Schweiz AG) 09 Mar. 2004 see the abstract, claims 1-13, figures 1-5	1-20
A	US 2008-0096068 A1 (Toyota Jidosha Kabushiki Kaisha) 24 Apr. 2008 see the abstract, claims 1-8, figures 1-3	1-20

 Further documents are listed in the continuation of Box C. See patent family annex.

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"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

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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