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(54) **Power conditioner and program**

(57) Accuracy of a determination whether a power conditioner (10) is started up is improved.

The power conditioner includes a start-up determination unit (106) and a cutoff controller (104). The start-up determination unit determines whether a startable power is obtained from a power supply (200) by causing a controller (102) to operate an inverter (40), when the voltage outputted from the power supply is greater than

or equal to a reference voltage while the inverter is electrically cut off from a system power supply (300) or a load (310) through a cutoff unit (50). The cutoff controller electrically connects the inverter and the load or the system power supply through a cutoff unit when the start-up determination unit determines that the startable power is obtained from the power supply.

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EUROPEAN SEARCH REPORT

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	JP 2009 247184 A (MITSUBISHI ELECTRIC CORP) 22 October 2009 (2009-10-22) * the whole document *	1-5	INV. G05F1/67
X	JP 2004 319946 A (KYOCERA CORP) 11 November 2004 (2004-11-11) * the whole document *	1-5	
X	JP 2002 271991 A (KYOCERA CORP; FUJI ELECTRIC CO LTD) 20 September 2002 (2002-09-20) * the whole document *	1-5	
A	EP 2 365 626 A2 (OMRON TATEISI ELECTRONICS CO [JP]) 14 September 2011 (2011-09-14) * the whole document *	1-5	
			TECHNICAL FIELDS SEARCHED (IPC)
			G05F
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
The Hague		18 August 2014	Schobert, Daniel
CATEGORY OF CITED DOCUMENTS		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	
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			

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

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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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18-08-2014

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
JP 2009247184 A	22-10-2009	NONE	
JP 2004319946 A	11-11-2004	JP 4511127 B2 JP 2004319946 A	28-07-2010 11-11-2004
JP 2002271991 A	20-09-2002	NONE	
EP 2365626 A2	14-09-2011	CN 102195500 A EP 2365626 A2 JP 5071498 B2 JP 2011188663 A KR 20110102143 A US 2011235384 A1	21-09-2011 14-09-2011 14-11-2012 22-09-2011 16-09-2011 29-09-2011

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