

Title (en)  
METHOD FOR STABILIZING THE DC VOLTAGE IN A DC GRID, AND DC-TO-DC CONVERTER FOR CONNECTING A PV GENERATOR TO A DC GRID

Title (de)  
VERFAHREN ZUR STABILISIERUNG DER GLEICHSPANNUNG IN EINEM GLEICHSTROMNETZ UND GLEICHSPANNUNGSWANDLER ZUR VERBINDUNG EINES PV-GENERATORS MIT EINEM GLEICHSTROMNETZ

Title (fr)  
PROCÉDÉ DE STABILISATION DE LA TENSION CC DANS UN RÉSEAU CC, ET CONVERTISSEUR CC-CC POUR CONNECTER UN GÉNÉRATEUR PV À UN RÉSEAU CC

Publication  
**EP 4154371 A1 20230329 (DE)**

Application  
**EP 21728049 A 20210521**

Priority  
• DE 102020113871 A 20200523  
• EP 2021063640 W 20210521

Abstract (en)  
[origin: WO2021239616A1] The invention relates to a method for stabilizing a DC voltage in a DC grid (1) that comprises a DC bus (10) which is connected to a higher-order grid (11, 12) and to which an energy generating system (18) and at least one load (13) are connected. A variable electric grid output is exchanged between the DC bus and the higher-order grid in order to keep the DC voltage in the DC bus at a nominal voltage. The energy generating system comprises a PV generator (18a) which is connected to the DC bus via a DC-to-DC converter (18b) and which exchanges an electric generator output with the DC bus. In a normal operating mode, the generator output is set to a normal operating output by the DC-to-DC converter on the basis of an MPP output of the PV generator. In a grid support mode, the generator output is set to a grid support output on the basis of the DC voltage in the DC bus in order to counteract a power imbalance between the electric power supplied in total to the DC bus and the power drawn in total from the DC bus.

IPC 8 full level  
**H02J 1/14** (2006.01); **G05F 1/67** (2006.01); **H02J 1/10** (2006.01); **H02J 3/32** (2006.01); **H02J 3/38** (2006.01); **H02J 7/35** (2006.01)

CPC (source: EP US)  
**H02J 1/102** (2013.01 - US); **H02J 1/14** (2013.01 - EP US); **H02J 3/32** (2013.01 - US); **H02J 3/381** (2013.01 - EP US); **H02J 7/35** (2013.01 - US); **G05F 1/67** (2013.01 - EP); **H02J 1/102** (2013.01 - EP); **H02J 1/106** (2020.01 - EP); **H02J 3/32** (2013.01 - EP); **H02J 7/35** (2013.01 - EP); **H02J 2300/26** (2020.01 - EP US); **H02J 2300/28** (2020.01 - EP US); **H02J 2300/40** (2020.01 - EP); **H02J 2310/10** (2020.01 - EP); **Y02E 10/56** (2013.01 - EP)

Citation (search report)  
See references of WO 2021239616A1

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)  
BA ME

Designated validation state (EPC)  
KH MA MD TN

DOCDB simple family (publication)  
**DE 102020113871 A1 20211125**; EP 4154371 A1 20230329; US 2023084081 A1 20230316; WO 2021239616 A1 20211202

DOCDB simple family (application)  
**DE 102020113871 A 20200523**; EP 2021063640 W 20210521; EP 21728049 A 20210521; US 202217993007 A 20221123