

Title (en)

SWITCHING AN AC/DC CONVERTER TO A DC GRID

Title (de)

ZUSCHALTEN EINES AC/DC UMRICHTERS AUF EIN DC NETZ

Title (fr)

COMMUTATION D'UN CONVERTISSEUR CA/CC SUR UN RÉSEAU CC

Publication

EP 4244965 A1 20230920 (DE)

Application

EP 21811302 A 20211112

Priority

- DE 102020129917 A 20201112
- EP 2021081547 W 20211112

Abstract (en)

[origin: WO2022101420A1] The invention relates to an electric system with a power converter (10) and a DC-DC converter (40). The power converter (10) is designed to transfer power between an AC side (16) of the power converter (10) and a DC side (18) of the power converter (10), wherein the AC side (16) of the power converter (10) can be connected to a grounded three-phase AC supply grid (12), and the DC side of the power converter (10) can be connected to an ungrounded DC grid (14). The power converter (10) has a bridge circuit (20), the AC connections (ACL1, ACL2, ACL3) of which can be connected to the AC side (16) of the power converter (10) via an AC relay (22) and the DC connections of which (DCL+, DCL-) can be connected to the DC side of the power converter (10) via isolating switches (26.1, 26.2). The DC-DC converter (40) has an output side (24) which faces the DC side (18) of the power converter (10), and the electric system has a measuring device (38) which is designed to measure a DC power converter voltage (UDCS) and a DC-DC output voltage (USym) being applied to the output side (24) of the DC-DC converter (40), wherein the DC power converter voltage (UDCS) and the DC-DC output voltage (USym) are applied on opposite sides of the isolating switches (26.1, 26.2). The electric system has a control unit (30) which is designed to actuate the DC-DC converter (40) such that a DC-DC output voltage (USym) that corresponds to the value of the DC power converter voltage (UDCS) is set on the output side (24) of the DC-DC converter (40). The invention additionally relates to a method for operating an electric system.

IPC 8 full level

H02M 1/00 (2006.01); **H02J 1/10** (2006.01); **H02M 1/32** (2007.01); **H02M 3/04** (2006.01); **H02M 7/797** (2006.01)

CPC (source: EP US)

H02J 1/00 (2013.01 - US); **H02J 1/102** (2013.01 - EP); **H02J 5/00** (2013.01 - EP); **H02M 1/0009** (2021.05 - US); **H02M 1/007** (2021.05 - EP); **H02M 1/32** (2013.01 - EP); **H02M 3/04** (2013.01 - US); **H02M 7/44** (2013.01 - US); **H02M 3/04** (2013.01 - EP); **H02M 7/797** (2013.01 - EP)

Citation (search report)

See references of WO 2022101420A1

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)

WO 2022101420 A1 20220519; CN 116438723 A 20230714; DE 102020129917 A1 20220512; EP 4244965 A1 20230920; JP 2023549105 A 20231122; US 2023283069 A1 20230907

DOCDB simple family (application)

EP 2021081547 W 20211112; CN 202180076222 A 20211112; DE 102020129917 A 20201112; EP 21811302 A 20211112; JP 2023526552 A 20211112; US 202318316303 A 20230512