

Title (en)

INVERTER CAPABLE OF SWITCHING BETWEEN SINGLE-PHASE OPERATION AND THREE-PHASE OPERATION

Title (de)

WECHSELRICHTER MIT DER FÄHIGKEIT ZWISCHEN EINPHASENBETRIEB UND DREIPHASENBETRIEB UMZUSCHALTEN

Title (fr)

ONDULEUR POUVANT COMMUTER ENTRE UN FONCTIONNEMENT MONOPHASÉ ET UN FONCTIONNEMENT TRIPHASÉ

Publication

**EP 4128512 A1 20230208 (DE)**

Application

**EP 21714878 A 20210326**

Priority

- EP 20166233 A 20200327
- EP 2021057987 W 20210326

Abstract (en)

[origin: WO2021191434A1] In order to achieve improved single-phase operation (EB) of an inverter (1) having a first input pole (A) and a second input pole (B) and comprising at least three phase branches (U, V, W), each having at least one upper power circuit breaker (SU1+, SV1+, SW1+) and at least one lower power circuit breaker (SU1-, SV1-, SW1-) connected in series to the at least one upper power circuit breaker (SU1+, SV1+, SW1+) via an output pole (u, v, w), a switching unit (5) is provided, which is designed to switch the inverter (1) from multi-phase operation (MB) to single-phase operation (EB) by closing a centre point connection switch (S2) in order to connect the third output pole (w) to the DC link middle point (M), and wherein the switching unit (5) is further designed, in single-phase operation (EB), to effect a control of the upper and lower power circuit breakers (SW1+, SW1-) of the third phase branch (W) for symmetrising the DC link voltages (UC1, UC2) at the first and second DC link capacitors (C1, C2).

IPC 8 full level

**H02M 7/48** (2006.01); **H02M 1/10** (2006.01); **H02M 7/483** (2006.01); **H02M 7/487** (2006.01); **H02M 7/53** (2006.01)

CPC (source: EP IL US)

**H02M 1/0043** (2021.05 - US); **H02M 1/10** (2013.01 - IL); **H02M 7/487** (2013.01 - EP IL US); **H02M 7/537** (2013.01 - US); **H02M 1/10** (2013.01 - EP); **Y02E 10/56** (2013.01 - EP)

Citation (search report)

See references of WO 2021191434A1

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 2021191434 A1 20210930**; AU 2021245033 A1 20221020; AU 2021245033 B2 20231116; BR 112022015785 A2 20221011; CN 115315893 A 20221108; EP 4128512 A1 20230208; IL 296744 A 20221101; US 2023120415 A1 20230420

DOCDB simple family (application)

**EP 2021057987 W 20210326**; AU 2021245033 A 20210326; BR 112022015785 A 20210326; CN 202180023343 A 20210326; EP 21714878 A 20210326; IL 29674422 A 20220922; US 202117914446 A 20210326