

Title (en)
DC CIRCUIT BREAKER

Title (de)
GLEICHSTROMSCHUTZSCHALTER

Title (fr)
DISJONCTEUR CC

Publication
EP 4095877 A4 20230322 (EN)

Application
EP 20916137 A 20200121

Priority
JP 2020001965 W 20200121

Abstract (en)
[origin: EP4095877A1] A direct-current circuit breaker includes a circuit breaker that interrupts a direct current flowing through a direct-current line. The direct-current circuit breaker includes: a resonant circuit including a capacitor, a reactor, and a switch connected in series to each other; a lightning arrester including a plurality of columns each including a stack of a plurality of nonlinear resistive elements, the lightning arrester being connected in parallel to the capacitor; an operation processor (11) that controls an opening operation and a closing operation by each of the circuit breaker and the switch; a monitor (12) that monitors the presence or absence of an anomaly in each of the plurality of columns; and a lock processor (13) that locks operations of the circuit breaker and the switch controlled by the operation processor (11) in a case where there is an anomaly in at least one or some columns out of the plurality of columns.

IPC 8 full level
H01H 33/59 (2006.01)

CPC (source: EP)
H01H 33/596 (2013.01)

Citation (search report)
• [YA] WO 2019012609 A1 20190117 - MITSUBISHI ELECTRIC CORP [JP]
• [YA] JP S56158642 U 19811126
• [YA] NISHIWAKI ET AL: "Realization of Heavy-duty Zinc-oxide Type Lightning Arrestors by Parallel Connection", IEEJ TRANSACTIONS ON POWER AND ENERGY, IEEJ, JP, vol. 102, no. 5, 20 May 1982 (1982-05-20), pages 320 - 326, XP009530155, ISSN: 0385-4213
• [YA] YAMAZAKI TUTOMU ET AL: "Surge Arresters Monitoring Systems in AC-DC Converter Stations", IEEJ TRANSACTIONS ON POWER AND ENERGY, IEEJ, JP, vol. 113, no. 4, 20 May 1993 (1993-05-20), pages 376 - 382, XP009530154, ISSN: 0385-4213
• See references of WO 2021149158A1

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CN116666021A

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)
EP 4095877 A1 20221130; EP 4095877 A4 20230322; JP 6758554 B1 20200923; JP WO2021149158 A1 20210729;
WO 2021149158 A1 20210729

DOCDB simple family (application)
EP 20916137 A 20200121; JP 2020001965 W 20200121; JP 2020535160 A 20200121