

Title (en)
METHOD FOR ACTUATING A SEMICONDUCTOR POWER SWITCH, ACTUATION CIRCUIT FOR A SEMICONDUCTOR POWER SWITCH, AND ELECTRONIC CIRCUIT BREAKER

Title (de)
VERFAHREN ZUM ANSTEUERN EINES LEISTUNGSHALBLEITERSCHALTERS, ANSTEUERSCHALTUNG FÜR EINEN LEISTUNGSHALBLEITERSCHALTER SOWIE ELEKTRONISCHER SCHUTZSCHALTER

Title (fr)
PROCÉDÉ D'ACTIONNEMENT D'UN COMMUTATEUR D'ALIMENTATION À SEMI-CONDUCTEUR, CIRCUIT D'ACTIONNEMENT D'UN COMMUTATEUR D'ALIMENTATION À SEMI-CONDUCTEUR ET DISJONCTEUR ÉLECTRONIQUE

Publication
EP 4091250 A1 20221123 (DE)

Application
EP 21823774 A 20211122

Priority
• DE 102020216405 A 20201221
• EP 2021082506 W 20211122

Abstract (en)
[origin: WO2022135808A1] The invention relates to a method for actuating a semiconductor power switch (14A, 14B) of an AC circuit which can be activated or deactivated by the semiconductor power switch. The method has the following steps: a) ascertaining the present current value and the present voltage value of the AC circuit; b) ascertaining whether the present current value exceeds a specifiable maximum value and if so, c1) generating an actuation signal for deactivating the current circuit, c2) generating an actuation signal for activating the current circuit within a period of time after generating the actuation signal for deactivating the current circuit, wherein the period of time is less than or equal to the period duration of the voltage, and c3) ascertaining whether the present current value exceeds a specifiable maximum value, which corresponds to the previous maximum value or is less than the previous maximum value, after activating the current circuit. If so, steps c1), c2), and c3) are repeated. In step d), a malfunction is detected, and the actuation signal is permanently output in order to disconnect the current circuit, and the method is terminated if the number of repetitions of steps c1), c2), and c3) exceeds a value n. Otherwise, in step e), the actuation signal for activating the current circuit is continued to be generated if, in step b) or step c3), it was ascertained that the present current value exceeds the respective maximum value, and the method is continued with step a).

IPC 8 full level
H03K 17/082 (2006.01); **H02H 3/08** (2006.01); **H03K 17/687** (2006.01)

CPC (source: EP US)
H02H 9/001 (2013.01 - US); **H03K 17/0822** (2013.01 - EP US); **H03K 17/6874** (2013.01 - EP); **H03K 2217/0009** (2013.01 - EP US)

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 2022135808 A1 20220630; CN 115244853 A 20221025; DE 102020216405 A1 20220623; EP 4091250 A1 20221123; US 2023344424 A1 20231026

DOCDB simple family (application)
EP 2021082506 W 20211122; CN 202180021117 A 20211122; DE 102020216405 A 20201221; EP 21823774 A 20211122; US 202117907770 A 20211122