

Title (en)  
SWITCHING A RAMP CURRENT FOR SUPER CONDUCTING WINDINGS OF A SUPERCONDUCTING MAGNET ASSEMBLY SWITCH ASSEMBLY

Title (de)  
SCHALTEN EINES RAMPENSTROMES FÜR SUPRALEITENDE WICKLUNGEN EINER SUPRALEITENDEN MAGNETANORDNUNGSSCHALTERANORDNUNG

Title (fr)  
COMMUTATION D'UN COURANT DE RAMPE POUR DES ENROULEMENTS SUPRACONDUCTEURS D'UN ENSEMBLE DE COMMUTATEUR À AIMANT SUPRACONDUCTEUR

Publication  
**EP 4068312 A1 20221005 (EN)**

Application  
**EP 21166640 A 20210401**

Priority  
EP 21166640 A 20210401

Abstract (en)  
The invention relates to switching a ramp current for super conducting windings of a superconducting magnet assembly switch assembly. In this respect, according to the invention, a superconducting magnet assembly (1) is provided which comprises super conducting windings (2) and a ramp current switch assembly (3), wherein the ramp current switch assembly (3) comprises a frame (4), a first current lead (5) and a second current lead (6) for supplying or drawing electrical current to or from the superconducting magnet windings (2), respectively, a flexible electrically conductive braid (7), and an actuator rod (8), wherein the first current lead (5) and the second current lead (6) are fixedly mounted to the frame (4), and the braid (7), at a first end (71), is fixedly connected to the first current lead (5), and at a second end (72), is fixedly connected to a first end (81) of the actuator rod (8), wherein the actuator rod (8) comprises a heater (9) for heating the actuator rod (8), and wherein the actuator rod (8), at a second end (82), is fixedly connected to the frame (8), the frame (8) being a counter bearing for the actuator rod (8) in such a way that heating or cooling the actuator rod (8) with the heater (9), due to thermal expansion of the actuator rod (8), leads to a movement of the second end (82) of the actuator rod (8) towards or away from the second current lead (6), respectively, such that a galvanically conducting electrical contact between the second end (72) of the braid (7) which is connected to the actuator rod (8) and the second current lead (6) is closed or opened, respectively. In this way, an easy and efficient method for ramp-up and ramp-down of super conducting windings (2) with reduced heat influx to the super conducting windings (2) is achieved.

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Citation (applicant)  
JP 2010192253 A 20100902 - AISIN SEIKI, et al

Citation (search report)  
[X] SU 639026 A1 19781225 - OBEDINENNYJ I YADERNYKH I [SU]

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