

Title (en)

METHOD AND DEVICE FOR CURRENT LIMITATION WITH AN AUTOMATIC CURRENT LIMITER

Title (de)

VERFAHREN UND VORRICHTUNG ZUR STROMBEGRENZUNG MIT EINEM SELBSTBETÄTIGTEN STROMBEGRENZER

Title (fr)

PROCEDE ET DISPOSITIF PERMETTANT DE LIMITER LE COURANT AU MOYEN D'UN LIMITEUR DE COURANT A ACTIONNEMENT AUTOMATIQUE

Publication

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Application

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Abstract (en)

[origin: WO2005006373A1] The invention relates to a method and a device (1) for combined current limitation and power breaking and to a switchgear having said device (1). In a combined current limiter/power braker (1) according to the invention, a movable electrode (3, 3') is guided automatically along a resistance element (5) for the current limiting path (31) by an overcurrent-dependent force ( $F_{mag}$ ) for the purpose of current limitation and brought to an insulator (8) in a serial arrangement for power breaking purposes. Examples of embodiments are, inter alia, the utilization of Lorenz force for automatic current limitation; movable electrodes (3, 3') realized by means of liquid metal (3) or a movable solid conductor (3'); an electrical resistance (RX) increasing non-linearly in the direction of movement (x) for smooth power limitation characteristics and a resistance element (5) in the form of a dielectric matrix (5) with several channels (3a) for the liquid metal (3). Amongst the advantages achieved are electric arc-free, reversible current limitation and power breaking, which is also suitable for high voltages and currents, rapid reaction times, little wear and easy maintenance.

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