

Title (en)

VOLTAGE LIMITING ENERGY ABSORBER WITH FAST THERMAL RECOVERY

Title (de)

SPANNUNGSBEGRENZENDER ENERGIEABSORBER MIT SCHNELLER THERMISCHER RÜCKGEWINNUNG

Title (fr)

ABSORBEUR D'ÉNERGIE LIMITANT LA TENSION À RÉCUPÉRATION THERMIQUE RAPIDE

Publication

EP 3570299 A1 20191120 (EN)

Application

EP 18173212 A 20180518

Priority

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Abstract (en)

An energy absorption device (1) for a circuit breaker, in particular a solid-state or a hybrid circuit breaker, includes an energy absorber (20) arranged within an enclosure (10) and a two-phase cooling arrangement. The two-phase cooling arrangement has one or more fluid distribution units (110) configured to direct a cooling fluid in a liquid state toward the energy absorber (20), the energy absorber (20) being cooled due to evaporation of the cooling fluid. A circuit breaker, in particular solid-state or hybrid circuit breaker, includes one or more energy absorption devices (2, 3, 4). A method for two-phase cooling of an energy absorber (20) of a circuit breaker, in particular a solid-state or hybrid circuit breaker, includes: after a switching operation of the circuit breaker, directing a cooling fluid in a liquid state toward the energy absorber (20). Thereby, the energy absorber (20) is cooled due to evaporation of the cooling fluid.

IPC 8 full level

H01C 1/082 (2006.01); **F28D 15/04** (2006.01); **H01C 7/12** (2006.01); **H01T 1/14** (2006.01); **H01T 4/04** (2006.01); **H05K 7/20** (2006.01)

CPC (source: EP)

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Citation (search report)

- [A] FR 2658656 A1 19910823 - ALSTHOM GEC [FR]
- [A] US 2004250999 A1 20041216 - KRAMER GARY W [US], et al
- [A] EP 3171111 A1 20170524 - L-3 COMMUNICATIONS CORP [US]
- [A] US 4153921 A 19790508 - KRESGE JAMES S, et al

Cited by

KR20210101153A; CN114999751A; WO2021158026A1; WO2024025273A1; WO2021145663A1

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BA ME

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