

Title (en)

A reactor arrangement for alternating electrical current

Title (de)

Reaktoranordnung für Wechselstrom

Title (fr)

Agencement de réacteur pour courant électrique alternatif

Publication

EP 2117020 A1 20091111 (EN)

Application

EP 08155638 A 20080505

Priority

EP 08155638 A 20080505

Abstract (en)

The invention relates to a reactor arrangement that comprises a magnetic core structure (101), a winding (102), and a permanent magnet (103, 103a). The permanent magnet generates a biasing magnetic flux component into a first part (104) and into a second part (105) of the magnetic core structure. The winding magnetizes the first part of the magnetic core structure in a direction opposite to the biasing magnetic flux component when electrical current is positive and the second part of the magnetic core structure in a direction opposite to the biasing magnetic flux component when the electrical current is negative. Hence, the biasing magnetic flux component can be utilized for locally relieving magnetic saturation of the magnetic core structure during both negative and positive temporal portions of the electrical current. Therefore, the size and the weight of the magnetic core structure can be reduced.

IPC 8 full level

H01F 37/00 (2006.01); **H01F 3/10** (2006.01)

CPC (source: EP)

H01F 3/10 (2013.01); **H01F 37/00** (2013.01); **H01F 30/12** (2013.01); **H01F 2003/103** (2013.01)

Citation (applicant)

US 3968465 A 19760706 - FUKUI MASAHIKO, et al

Citation (search report)

- [X] JP 2001358025 A 20011226 - MITSUBISHI ELECTRIC CORP
- [X] JP H0484405 A 19920317 - TABUCHI DENKI KK
- [X] DE 3202600 A1 19820909 - ZUMTOBEL AG [AT]
- [A] US 6191676 B1 20010220 - GABOR GEORGE [US]
- [A] US 2003179594 A1 20030925 - BRUCKMANN MANFRED [DE], et al

Cited by

EP2506273A4; GB2607636A; WO2020221388A1; WO2022258225A1

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR

Designated extension state (EPC)

AL BA MK RS

DOCDB simple family (publication)

EP 2117020 A1 20091111

DOCDB simple family (application)

EP 08155638 A 20080505