

Title (en)

Magnetic-release mechanism for an earth fault circuit breaker.

Title (de)

Magnetauslöser für Fehlerstromschutzschalter.

Title (fr)

Mécanisme de déclenchement magnétique pour disjoncteur à courant de défaut.

Publication

EP 0228345 A1 19870708 (DE)

Application

EP 86810539 A 19861125

Priority

CH 532885 A 19851213

Abstract (en)

1. Magnetic trip for residual-current-operated circuit breakers comprising a permanent magnet (22), a coil (20) with metal core (18), a yoke (12), an armature (28) which can be rotated by means of spring force and is supported on a support plate (34) of the yoke (12), and a plunger (47) which can be operated by means of this armature, for tripping the latching mechanism, the yoke (12) with the metal core (18), cantilevering into the coil (20) and the armature (28) consisting of a highly permeable metal alloy with a low coercive force, characterized in that - the yoke (12) consists of two yoke plates (14, 16) which rest against one another separated by a magnetically poorly conducting diaphragm (48) with one integral support (38) each for the armature support, in which arrangement an integral coupling-in point (26) for the permanent magnet flux being constructed at one end each and, at the other end, the pole face (30) of one yoke plate (16) or of the metal core (18) in the coil (20) and the pole face (32) of the other yoke plate (14) which is not protruding into the coil (20) engages the armature (28) in a contact-making manner, and - in the area of the axis of rotation (B) of the armature (28) at least one magnetically poorly conducting zone is formed which prevents a magnetic short-circuit between the two yoke plates (14, 16).

Abstract (de)

Ein Magnetauslöser für Fehlerstromschutzschalter hat ein Joch (12) aus zwei durch ein magnetisch schlecht leitendes Diaphragma (48) getrennt aneinanderliegenden Jochblechen (14,16). Diese haben je eine angeformte Auflage (38) für die Ankerlagerung. Die Jochbleche (14,16) haben einends je eine angeformte Einkoppelungsstelle (26) für den Dauermagnetfluss, andernends stehen die Polflächen (30,32) des Metallkerns (18) und des nicht in die Spule hineinragenden Polblechs (14) mit dem Anker (28) in kontaktschlüssigem Eingriff. Im Bereich der Schwenkachse (B) des Ankers (28) sind magnetisch schlecht leitende Zonen ausgebildet, welche einen magnetischen Kurzschluss zwischen den beiden Jochblechen (14,16) verhindern.

IPC 1-7

H01H 71/32

IPC 8 full level

H01H 71/32 (2006.01); **H01H 77/08** (2006.01); **H01H 83/02** (2006.01)

CPC (source: EP)

H01H 71/323 (2013.01)

Citation (search report)

- [YD] FR 2112415 A1 19720616 - HARTMANN & BRAUN AG
- [Y] EP 0154619 A2 19850911 - FELTEN & GUILLEAUME AG OESTER [AT]
- [Y] AT 375210 B 19840710 - BIEGELMEIER GOTTFRIED
- [A] AT 361571 B 19810325 - FELTEN & GUILLEAUME AG OESTER, et al
- [A] AT 337812 B 19770725 - FELTEN & GUILLEAUME AG OESTER [AT], et al
- [A] DE 1078227 B 19600324 - SIEMENS AG

Cited by

EP0316295A3; EP1777722A3; DE102010004099B4; CN108074785A; AT403534B; DE10210826A1; DE3640971A1; DE19637077A1; EP0829895A3; GB2347272A; GB2347272B; AU747153B2; EP0773571A1; EP0786789A3; CN108281332A; CN118098894A; DE102010004099A1; WO9933078A1; WO9413003A1

Designated contracting state (EPC)

AT BE CH DE ES FR GB IT LI NL SE

DOCDB simple family (publication)

EP 0228345 A1 19870708; EP 0228345 B1 19890830; AT E46056 T1 19890915; DE 3665375 D1 19891005; ES 2011457 B3 19900116; JP S62188122 A 19870817

DOCDB simple family (application)

EP 86810539 A 19861125; AT 86810539 T 19861125; DE 3665375 T 19861125; ES 86810539 T 19861125; JP 29743986 A 19861213