

Title (en)

THERMAL-MAGNETIC TRIPPING MECHANISM OF A CIRCUIT BREAKER MADE OF SHAPE MEMORY EFFECT MATERIAL

Publication

EP 0147278 B1 19871223 (FR)

Application

EP 84402508 A 19841205

Priority

FR 8320898 A 19831226

Abstract (en)

[origin: EP0147278A2] 1. Thermal-magnetic trip device with a mechanism (40) of an electric circuit breaker comprising : - a stationary core (18) associated with a movable core (20) sliding by means of an air-gap (22), - a tubular control coil (12) surrounding coaxially said stationary and movable cores (18, 20), the air-gap (22) being crossed by a magnetic flux due to the passage of the current in the coil (12), - a spring (36) resetting the movable core (20) in spreaded position when the current intensity for excitation of the coil (12) is lower than the electromagnetic trip threshold, - a thermomechanical sensor (44) of shape memory effect alloy, sensitive for the temperature rise of the control coil (12), - and unlocking means cooperating with the movable core (20) and the thermomechanical sensor (44) to ensure the automatic tripping of the mechanism (40), characterized by the fact that the thermomechanical sensor (44) of shape memory effect alloy comprises a helical spring (46) arranged in a closed space (42) insides the insulating duct (14) supporting the coil (12), and that the ampere-turn number of the coil (12) is constant for all sizes of a range.

IPC 1-7

H01H 71/14; **H01H 71/40**

IPC 8 full level

H01H 71/14 (2006.01); **H01H 71/40** (2006.01)

CPC (source: EP)

H01H 71/145 (2013.01); **H01H 71/40** (2013.01); **H01H 2061/0115** (2013.01); **H01H 2071/407** (2013.01)

Cited by

DE102012011063A1; CN103871797A; DE4224046A1; US7423505B2; DE9405745U1; EP1187159A1; CN115220394A; CN109243936A; US7579935B2

Designated contracting state (EPC)

AT BE CH DE GB IT LI NL SE

DOCDB simple family (publication)

EP 0147278 A2 19850703; **EP 0147278 A3 19850821**; **EP 0147278 B1 19871223**; AT E31590 T1 19880115; DE 3468290 D1 19880204; FR 2557353 A1 19850628; FR 2557353 B1 19860411

DOCDB simple family (application)

EP 84402508 A 19841205; AT 84402508 T 19841205; DE 3468290 T 19841205; FR 8320898 A 19831226