

Title (en)
SHORT-CIRCUITING DEVICE FOR USE IN LOW-VOLTAGE AND MEDIUM-VOLTAGE SYSTEMS FOR THE PROTECTION OF PROPERTY AND PERSONS

Title (de)
KURZSCHLIESSEINRICHTUNG FÜR DEN EINSATZ IN NIEDER- UND MITTELSPANNUNGSANLAGEN ZUM SACH- UND PERSONENSCHUTZ

Title (fr)
DISPOSITIF DE MISE EN COURT-CIRCUIT DESTINÉ À ÊTRE UTILISÉ DANS DES SYSTÈMES À BASSES ET MOYENNES TENSIONS POUR LA PROTECTION DES BIENS ET DES PERSONNES

Publication
EP 3735703 B1 20230830 (DE)

Application
EP 18812155 A 20181203

Priority
• DE 102018100076 A 20180103
• EP 2018083269 W 20181203

Abstract (en)
[origin: WO2019134777A1] The invention relates to a short-circuiting device for use in low-voltage and medium-voltage systems for the protection of property and persons, comprising: a switching element, which can be operated by the tripping signal of a fault detection device; two mutually opposite contact electrodes having power supply means, which contact electrodes can be brought into contact with an electrical circuit having connection points at different potential; furthermore, in at least one of the contact electrodes, a movable contact part, which is under mechanical preload and executes a movement to the further contact electrode with the assistance of spring force in the event of a short circuit; and a sacrificial element as a spacer between the contact electrodes, with an electrical connection between the sacrificial element and the switching element on the one hand and one of the contact electrodes on the other hand, in order to deliberately cause current-flow-induced thermal deformation or destruction of the sacrificial element. According to the invention, the movable contact part is in the form of a hollow cylinder which is closed on one side, and a spring for generating preload is inserted in the hollow cylinder. The hollow cylinder is movably guided in a complementary cutout in the first contact electrode, a sliding contact thus being formed. In the region of the base of the closed hollow cylinder, the cylinder wall of said hollow cylinder transitions into a cone at the outer circumference. Furthermore, a first pin-like extension, opposite to which a second pin-like extension insulated from the contact electrodes is situated, extends within the hollow cylinder, proceeding from the base. The sacrificial element, in the form of a bolt or screw, is arranged between the first and the second pin-like extension. A cutout, which has an internal cone and is matched to the external cone of the movable contact, is provided in the second contact electrode. The external cone and the internal cone form a bounce-free short-circuit contact region having frictional locking and interlocking connection on account of plastic deformation which occurs. Furthermore, according to the invention the switching element is designed as an auxiliary short-circuiter on the basis of an electric match.

IPC 8 full level
H01H 37/76 (2006.01); **H01H 39/00** (2006.01); **H01H 79/00** (2006.01)

CPC (source: EP US)
H01H 37/761 (2013.01 - US); **H01H 37/765** (2013.01 - EP US); **H01H 39/004** (2013.01 - EP US); **H01H 79/00** (2013.01 - EP); **H01H 39/00** (2013.01 - US)

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)
DE 102018100076 B3 20190613; AU 2018399890 A1 20200716; AU 2018399890 B2 20220106; CN 111684562 A 20200918; CN 111684562 B 20240903; EP 3735703 A1 20201111; EP 3735703 B1 20230830; US 11145477 B2 20211012; US 2021066009 A1 20210304; WO 2019134777 A1 20190711

DOCDB simple family (application)
DE 102018100076 A 20180103; AU 2018399890 A 20181203; CN 201880088706 A 20181203; EP 18812155 A 20181203; EP 2018083269 W 20181203; US 201816957825 A 20181203