

Title (en)  
Relay with integrated safety circuit

Title (de)  
Relais mit integrierter Sicherheitsbeschaltung

Title (fr)  
Relais doté d'une commutation de sécurité intégrée

Publication  
**EP 2383765 B1 20200115 (DE)**

Application  
**EP 11002955 A 20110408**

Priority  
DE 102010018755 A 20100429

Abstract (en)  
[origin: EP2383765A1] The relay (10) has a coil housing (14) comprising a movable armature (24) allowing or disconnecting current flow over two main contact terminals (16.1, 16.2) by magnetic flow that is generated in a coil arrangement (22) using coil current. A control unit (26) is provided on the coil housing for controlling the coil current, and is formed on a round board. Spring-mounted contact pins (28.1) are provided for contacting the control unit, and are electrically connected with control electrodes (20.1, 20.2), where coil unloading is examinable by the control unit.

IPC 8 full level  
**H01H 50/02** (2006.01); **H01H 47/22** (2006.01)

CPC (source: EP US)  
**H01H 47/22** (2013.01 - EP US); **H01H 50/02** (2013.01 - EP US)

Citation (examination)

- DE 19744396 A1 19990415 - HEINRICH KISSLING GMBH & CO KG [DE]
- EP 0017129 A1 19801015 - SAUER HANS [DE], et al
- DE 602005002015 T2 20080515 - INTERNAT CONTROLS AND MEASUREM [US]

Citation (opposition)  
Opponent : E-T-A Elektrotechnische Apparate GmbH

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- DE 4415929 A1 19951109 - SIEMENS AG [DE]
- DE 3306019 C2 19841213
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- DE 1514099 A1 19691002 - KIENINGER & OBERGFELL
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- EP 0789378 A1 19970813 - ASEA BROWN BOVERI [SE]
- DE 69618090 T2 20020711 - VALEO EQUIP ELECTR MOTEUR [FR]
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- US 5914849 A 19990622 - PERREIRA G STEPHEN [US]
- US 2010033276 A1 20100211 - NIIMI MASAMI [JP], et al
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- EP 0017129 A1 19801015 - SAUER HANS [DE], et al
- DE 10105205 A1 20020814 - MAERKLIN & CIE GMBH GEB [DE]
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- US 2004240140 A1 20041202 - MALLER DENNIS A [US], et al
- DE 3152626 C1 19930429 - ASEA BROWN BOVERI
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- DE 2525729 B2 19780420
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- DE 1965805 A1 19701203 - LANDIS & GYR AG

  
Opponent : Layher AG

- EP 1353348 A1 20031015 - MATSUSHITA ELECTRIC WORKS LTD [JP]
- US 2004240140 A1 20041202 - MALLER DENNIS A [US], et al
- EP 2019454 A2 20090128 - BOSCH GMBH ROBERT [DE]
- DE 19744396 A1 19990415 - HEINRICH KISSLING GMBH & CO KG [DE]
- EP 0017129 A1 19801015 - SAUER HANS [DE], et al
- DE 602005002015 T2 20080515 - INTERNAT CONTROLS AND MEASUREM [US]
- US 2010033276 A1 20100211 - NIIMI MASAMI [JP], et al
- WO 0113395 A1 20010222 - SIEMENS AG [DE], et al
- US 2008218928 A1 20080911 - BAEK SEUNG MOON [KR]
- US 2005135040 A1 20050623 - SUZUKI HIROHISA [JP], et al

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE 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)  
**EP 2383765 A1 20111102; EP 2383765 B1 20200115**; CA 2737696 A1 20111029; DE 102010018755 A1 20111103;  
US 2011267158 A1 20111103

DOCDB simple family (application)

