

Title (en)  
ELECTROMAGNETIC RELAY

Title (de)  
ELEKTROMAGNETISCHES RELAIS

Title (fr)  
RELAIS ELECTROMAGNETIQUE

Publication  
**EP 3089190 A4 20171129 (EN)**

Application  
**EP 14841354 A 20140806**

Priority  
• JP 2013272856 A 20131227  
• JP 2014070777 W 20140806

Abstract (en)  
[origin: EP3089190A1] Provided is a long-life electromagnetic relay capable of flowing electric current under a stable contact resistance, in which in which a movable contact plate assembly 50 having a plurality of stacked movable contact plates is moved by an actuator plate 70 which moves reciprocatingly by magnetic force generated by an application of electric current to an electromagnetic unit so that a pair of movable contacts 57, 58 mounted on first and second divided plate portions 55,56 extending in parallel in its longitudinal direction make and break contacts with a pair of stationary contacts mounted on a stationary contact terminal 31, 32, wherein the relay is configured so that one opening/closing movable contact of the pair of movable contacts makes a contact with one opening/closing movable contact 57 of the pair of movable contacts 57, 58 and then the other conducting movable contact 58 of the pair of stationary contacts makes a contact with the other conducting stationary contact 32.

IPC 8 full level  
**H01H 50/56** (2006.01); **H01H 9/38** (2006.01)

CPC (source: CN EP)  
**H01H 9/38** (2013.01 - EP); **H01H 50/56** (2013.01 - CN EP); **H01H 50/642** (2013.01 - CN EP)

Citation (search report)  
• [Y] US 2009033446 A1 20090205 - GRUNER PHILIPP [US], et al  
• [Y] DE 9404775 U1 19940609 - GRUNER KG RELAIS FABRIK [DE]  
• [Y] JP 2002008506 A 20020111 - NAGANO FUJITSU COMPONENT KK  
• [Y] JP 2005183097 A 20050707 - MATSUSHITA ELECTRIC WORKS LTD  
• [Y] JP H027840 U 19900118  
• See references of WO 2015098171A1

Cited by  
US10964504B2; US11398362B2; US11456136B2; WO2021001468A1; US11289280B2; US11694856B2; US10811205B2; US2019013172A1; US10650996B2; US10714291B2; US10784055B2; US11456135B2

Designated contracting state (EPC)  
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DOCDB simple family (publication)  
**EP 3089190 A1 20161102; EP 3089190 A4 20171129; EP 3089190 B1 20201007**; BR 112015004480 A2 20180417; CN 104969325 A 20151007; CN 104969325 B 20171110; JP 2015127996 A 20150709; JP 5741679 B1 20150701; MX 2015003168 A 20160111; RU 2015107869 A 20180201; WO 2015098171 A1 20150702

DOCDB simple family (application)  
**EP 14841354 A 20140806**; BR 112015004480 A 20140806; CN 201480001681 A 20140806; JP 2013272856 A 20131227; JP 2014070777 W 20140806; MX 2015003168 A 20140806; RU 2015107869 A 20140806