

Title (en)  
CONTACTOR FOR AN ELECTRIC STARTER AND METHOD FOR SWITCHING THE CONTACTOR

Title (de)  
ELEKTROMAGNETISCHER SCHALTER FÜR EINE STARTVORRICHTUNG SOWIE VERFAHREN ZUM SCHALTEN DES  
ELEKTROMAGNETISCHEN SCHALTERS

Title (fr)  
CONTACTEUR POUR DÉMARREUR ÉLECTRIQUE ET MÉTHODE POUR COMMUTER LE CONTACTEUR

Publication  
**EP 2342726 A2 20110713 (DE)**

Application  
**EP 09744383 A 20091027**

Priority  
• EP 2009064153 W 20091027  
• DE 102008043186 A 20081027

Abstract (en)  
[origin: WO2010049421A2] The invention relates to an electromagnetic switch (16) for a starting device (10), comprising two contacts (180, 181) that are electroconductively interconnected by a mobile contact bridge (184). At least one of the two contacts (180, 181) preferably comprises a contact surface (300) fixed to a contact stud (150, 151). According to the invention, a) the contact surface (300) is at least essentially flat, and an edge (279) of the contact bridge (184), providing electrical contact between the contact bridge (184) and the contact (180, 181), is arranged in such a way that, once it has come into contact with the contact surface (300), it enables a linear contact between the contact (189, 181) and the contact bridge (184), or b) the contact surface (300) comprises bumps lying essentially in one plane, and an edge (279) of the contact bridge (184), providing electrical contact between the contact bridge (184) and the contact (180, 181), is arranged in such a way that, once it comes into contact with the contact surface (300), it enables essentially a multiple-point contact between the contact (180, 181) and the contact bridge (184), or c) a surface (318) of the contact bridge (184), oriented towards the contact (180, 181), and a longitudinal axis (312) of the contact stud (150, 151), form an angle ( $\beta$ ) oriented towards a central axis (315) of the switch (16) and larger than  $90^\circ$ , or d) a surface (318) of the contact bridge (184), oriented towards the contact (180, 181), and a longitudinal axis (312) of the contact stud (150, 151), form an angle ( $\beta$ ) which is radially outwardly oriented towards a central axis (315) of the switch (16) and is larger than  $90^\circ$ . The invention also relates to a method for switching an electromagnetic switch, preferably a starting device (10), comprising two contacts (180, 181) that are connected by a mobile contact bridge (184). When the contact bridge (184) is contacted by at least one of the two contacts (180, 181), a rubbing movement is generated between the contact bridge (184) and the contact surface (300) of the contact (180, 181).

IPC 8 full level  
**H01H 1/06** (2006.01); **H01H 1/36** (2006.01); **H01H 51/06** (2006.01)

CPC (source: EP US)  
**F02N 11/087** (2013.01 - EP US); **H01H 1/06** (2013.01 - EP US); **H01H 1/18** (2013.01 - EP US); **H01H 50/54** (2013.01 - US); **H01H 50/546** (2013.01 - US); **H01H 51/065** (2013.01 - EP US); **H01H 50/60** (2013.01 - US)

Citation (search report)  
See references of WO 2010049421A2

Designated contracting state (EPC)  
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 SE SI SK SM TR

Designated extension state (EPC)  
AL BA RS

DOCDB simple family (publication)  
**DE 102008043186 A1 20100429**; CN 102265364 A 20111130; CN 102265364 B 20141210; EP 2342726 A2 20110713; EP 2342726 B1 20160831; ES 2605748 T3 20170316; HU E029788 T2 20170428; JP 2012507111 A 20120322; JP 5683472 B2 20150311; US 2011279202 A1 20111117; US 8786388 B2 20140722; WO 2010049421 A2 20100506; WO 2010049421 A3 20100624

DOCDB simple family (application)  
**DE 102008043186 A 20081027**; CN 200980152621 A 20091027; EP 09744383 A 20091027; EP 2009064153 W 20091027; ES 09744383 T 20091027; HU E09744383 A 20091027; JP 2011532666 A 20091027; US 200913126298 A 20091027