

Title (en)
ELECTRIC MACHINE

Title (de)
ELEKTRISCHE MASCHINE

Title (fr)
MACHINE ÉLECTRIQUE

Publication
EP 2467923 A2 20120627 (DE)

Application
EP 10732994 A 20100716

Priority
• DE 102009028605 A 20090818
• EP 2010060356 W 20100716

Abstract (en)
[origin: WO2011020665A2] The invention relates to an electric machine (10), particularly a generator or a starter generator for a motor vehicle, comprising a converter (64) which is arranged on a cooling element (53) and composed of semiconductor switching elements (58, 59) actuated synchronously with the phase frequency for rectifying a generator alternating voltage or supplying a motor from a DC voltage source (61). According to the invention, the cooling element (53) has a base plate (55) and cooling fins (54), wherein the ratio of the surface wetted by coolant to the volume of the cooling element (53) ranges from 0.5 to 1.5 [l/mm], preferably from 0.8 to 1.0 [l/mm].

IPC 8 full level
H02K 11/00 (2006.01); **H02K 11/04** (2006.01); **H02P 9/48** (2006.01)

CPC (source: EP US)
H02K 11/05 (2016.01 - EP US); **H02P 9/48** (2013.01 - EP US); **F02N 11/04** (2013.01 - EP US); **F28D 2021/0029** (2013.01 - EP US)

Citation (search report)
See references of WO 2011020665A2

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 SE SI SK SM TR

Designated extension state (EPC)
BA ME RS

DOCDB simple family (publication)
DE 102009028605 A1 20110224; CN 102577047 A 20120711; EP 2467923 A2 20120627; IN 1549DEN2012 A 20150605; US 2012206094 A1 20120816; US 9000719 B2 20150407; WO 2011020665 A2 20110224; WO 2011020665 A3 20120329

DOCDB simple family (application)
DE 102009028605 A 20090818; CN 201080046821 A 20100716; EP 10732994 A 20100716; EP 2010060356 W 20100716; IN 1549DEN2012 A 20120221; US 201013391437 A 20100716