Title (en)

ENERGY CONVERSION SYSTEM

Title (de)

ENERGIEUMWANDLUNGSSYSTEM

Title (fr)

SYSTÈME DE CONVERSION D'ÉNERGIE

Publication

EP 2661807 A4 20180214 (EN)

Application

EP 11855231 A 20111221

Priority

- NO 20110018 A 20110107
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Abstract (en)

[origin: WO2012093942A1] An energy conversion system is disclosed, which comprises an electrical machine (32) or a group of electrical machines (32), where each separate winding group (50) inside one electrical machine (32) or individual electrical machine (32) in the group of electrical machines (32) is galvanically connected to an associated power converter (rectifier or inverter) unit (33). Energy storage circuits (DC links) (34) of the converters (33) are connected to one another in series forming a common high DC voltage (45). Alternatively AC/AC converter elements (33) are connected in series forming a high AC voltage (121). Furthermore, each separate winding group (50) inside one electrical machine (32) or individual electrical machine (32) in the group of electrical machines (32) is surrounded by an electrical screen (60, 60A-E) of conductive or semi-conductive material for redistribution of electric potentials inside the system. The potential redistribution allows slot insulation of electric machines (32) to be designed for considerably lower voltage than the common high AC voltage (121) or high DC voltage (45). This means thinner slot insulation, better heat transfer in the machine, better fault detection and the machine size considerably smaller than of the corresponding machine with high-voltage insulation.

IPC 8 full level

H02M 7/49 (2007.01); **H02J 3/38** (2006.01); **H02K 3/48** (2006.01); **H02K 7/02** (2006.01)

CPC (source: EP US)

H02K 3/28 (2013.01 - EP US); **H02K 9/08** (2013.01 - EP); **H02K 9/14** (2013.01 - EP); **H02K 9/18** (2013.01 - EP); **H02K 9/19** (2013.01 - EP US); **H02K 11/0141** (2020.08 - EP US); **H02K 11/20** (2016.01 - EP); **H02M 5/458** (2013.01 - EP); **H02M 7/10** (2013.01 - EP); H02J 3/381 (2013.01 - EP US); H02J 2300/28 (2020.01 - EP US); H02K 7/1838 (2013.01 - EP); H02K 21/24 (2013.01 - EP); H02K 2213/12 (2013.01 - EP); H02M 7/49 (2013.01 - EP); Y02E 10/72 (2013.01 - EP); Y02E 10/76 (2013.01 - EP)

Citation (search report)

- [XI] WO 0169758 A1 20010920 - ABB AB [SE], et al
- [AD] US 2009212568 A1 20090827 - MAIBACH PHILIPPE [CH], et al
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- [A] DATABASE WPI Week 199305, Derwent World Patents Index; AN 1993-045776, XP002776854
- See references of WO 2012093942A1

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

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