

Title (en)

SYSTEM FOR CHARGING AN ENERGY STORE, AND METHOD FOR OPERATING THE CHARGING SYSTEM

Title (de)

SYSTEM ZUM LADEN EINES ENERGIESPEICHERS UND VERFAHREN ZUM BETRIEB DES LADESYSTEMS

Title (fr)

SYSTÈME DE CHARGE D'UN ACCUMULATEUR D'ÉNERGIE ET PROCÉDÉ DE FONCTIONNEMENT DU SYSTÈME DE CHARGE

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Application

EP 11802766 A 20111229

Priority

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Abstract (en)

[origin: WO2012107148A1] The invention relates to a system for charging at least one energy storing cell (5) in a controllable energy store (2) that is used to control and supply electric energy to an n-phase electric machine (1), wherein $n = 1$. The controllable energy store (2) has n parallel energy supply branches (3-1, 3-2, 3-3), each of which has at least two serially connected energy storing modules (4), each said energy storing module comprising at least one electric energy storing cell (5) with a corresponding controllable coupling unit (6). The energy supply branches (3-1, 3-2, 3-3) can be connected to a reference bus (T-), and each energy supply branch can be connected to a phase (U, V, W) of the electric machine (1). The coupling units (6) bridge the respective corresponding energy storing cells (5) or connect same into the respective energy supply branch (3-1, 3-2; 3-3) dependent on control signals. The aim of the invention is to allow at least one energy storing cell (5) to be charged. This is achieved in that at least one external energy source (10) can be connected to an energy supply branch (3-1; 3-2; 3-3) and to the reference bus (T-).

IPC 8 full level

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Citation (search report)

See references of WO 2012107148A1

Citation (examination)

- US 5932990 A 19990803 - KANEKO AKIRA [JP]
- WO 2012038175 A2 20120329 - BOSCH GMBH ROBERT [DE], et al & EP 2619892 A2 20130731 - BOSCH GMBH ROBERT [DE]
- EP 0907238 A1 19990407 - YASKAWA DENKI SEISAKUSHO KK [JP]
- EP 2658738 A2 20131106 - BOSCH GMBH ROBERT [DE]

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