

Title (en)

DEVICE AND METHOD FOR STARTING AN INTERNAL COMBUSTION ENGINE ARRANGED IN A VEHICLE

Title (de)

VORRICHTUNG UND VERFAHREN ZUM STARTEN EINES IN EINEM FAHRZEUG ANGEORDNETEN VERBRENNUNGSMOTORS

Title (fr)

DISPOSITIF ET PROCÉDÉ DE DÉMARRAGE D'UN MOTEUR À COMBUSTION INTERNE DISPOSÉ DANS UN VÉHICULE

Publication

EP 2699461 A2 20140226 (DE)

Application

EP 12715972 A 20120417

Priority

- DE 102011007874 A 20110421
- EP 2012057012 W 20120417

Abstract (en)

[origin: WO2012143354A2] The invention relates to a device and a method for starting an internal combustion engine (10) that is arranged in a vehicle. For this purpose, the following are provided: an electric machine (24, 24') that is designed to drive the internal combustion engine (10) at least temporarily and a first storing unit (28, 28', 50) that is designed to store electric energy. Furthermore, an adjusting unit (26, 26') is provided via which the electric machine (24, 24') can be connected to the first storing unit (28, 28', 50). The adjusting unit (26, 26') is designed to detect at least one defined internal combustion engine operating state and/or at least one defined vehicle operating state and to adjust an electric variable at least dependent on the detected internal combustion engine operating state and/or the detected vehicle operating state, said electric variable determining an electric power that is drawn from the first storing unit (28, 28', 50) when the internal combustion engine (10) is driven by the electric machine (24, 24'), or to adjust the drawn electric power itself.

IPC 8 full level

B60W 10/24 (2006.01); **B60W 10/06** (2006.01); **B60W 50/04** (2006.01)

CPC (source: CN EP US)

B60L 50/16 (2019.01 - EP US); **F02N 11/00** (2013.01 - US); **F02N 11/087** (2013.01 - CN EP US); **H02P 7/29** (2013.01 - EP US);
B60L 2260/26 (2013.01 - EP US); **F02N 11/0866** (2013.01 - EP US); **F02N 11/10** (2013.01 - EP US); **F02N 2011/0888** (2013.01 - EP US);
Y02T 10/64 (2013.01 - EP US); **Y02T 10/70** (2013.01 - US); **Y02T 10/7072** (2013.01 - EP US)

Citation (search report)

See references of WO 2012143354A2

Citation (examination)

DE 10200909027234 A1 20101230 - BOSCH GMBH ROBERT [DE]

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

DOCDB simple family (publication)

DE 102011007874 A1 20121025; CN 103648877 A 20140319; CN 103648877 B 20170215; EP 2699461 A2 20140226;
JP 2014517188 A 20140717; JP 6089027 B2 20170301; US 2014048031 A1 20140220; US 9399977 B2 20160726;
WO 2012143354 A2 20121026; WO 2012143354 A3 20130502

DOCDB simple family (application)

DE 102011007874 A 20110421; CN 201280019631 A 20120417; EP 12715972 A 20120417; EP 2012057012 W 20120417;
JP 2014505590 A 20120417; US 201314058540 A 20131021