

Title (en)
METHOD FOR STARTING AN INTERNAL COMBUSTION ENGINE

Title (de)
VERFAHREN ZUM STARTEN EINER BRENNKRAFTMASCHINE

Title (fr)
PROCÉDÉ DE DÉMARRAGE D'UN MOTEUR À COMBUSTION INTERNE

Publication
EP 2721284 B1 20200219 (DE)

Application
EP 12730356 A 20120605

Priority
• AT 8872011 A 20110617
• AT 2012000153 W 20120605

Abstract (en)
[origin: WO2012171049A1] The invention relates to a method for starting an internal combustion engine (1), particularly a stationary gas engine, which is driven by at least one starter motor (2). The starting process is interrupted once the starter motor (2) has been started if the angular acceleration (a) of the internal combustion engine (1) remains below a predefinable acceleration value and/or if, within a predefinable first time period (tA), the actual rotational speed (n) remains below a predefinable first rotational speed threshold value (nA) and/or if, within a predefinable second time period, the average rotational speed of the internal combustion engine (1) remains below a predefinable second rotational speed threshold value. The starter motor (2) is designed as a pneumatic starter motor (2) and the compressed air supply thereof is controlled by a compressed air valve (3) which can be switched between a fully opened position and a fully closed position, the pneumatic starter motor (2) being started by the compressed air valve (3) being fully opened.

IPC 8 full level
F02N 7/08 (2006.01); **F02N 15/10** (2006.01)

CPC (source: EP KR US)
F02N 7/08 (2013.01 - EP KR US); **F02N 11/08** (2013.01 - US); **F02N 11/0848** (2013.01 - US); **F02N 11/087** (2013.01 - US); **F02N 11/10** (2013.01 - KR US); **F02N 11/101** (2013.01 - US); **F02N 11/106** (2013.01 - EP KR US); **F02N 15/00** (2013.01 - KR US); **F02N 15/10** (2013.01 - EP KR US)

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)
WO 2012171049 A1 20121220; AT 511612 A4 20130115; AT 511612 B1 20130115; BR 112013032379 B1 20210518; CN 103717876 A 20140409; CN 103717876 B 20160525; EP 2721284 A1 20140423; EP 2721284 B1 20200219; JP 2014519575 A 20140814; JP 6163484 B2 20170712; KR 101675189 B1 20161110; KR 20140045407 A 20140416; US 2014102409 A1 20140417; US 9316197 B2 20160419

DOCDB simple family (application)
AT 2012000153 W 20120605; AT 8872011 A 20110617; BR 112013032379 A 20120605; CN 201280036265 A 20120605; EP 12730356 A 20120605; JP 2014514998 A 20120605; KR 20137033300 A 20120605; US 201314107310 A 20131216