

Title (en)

COOLING CONTROLLER OF INTERNAL COMBUSTION ENGINE

Title (de)

KÜHLUNGSSTEUERUNG FÜR VERBRENNUNGSMOTOR

Title (fr)

COMMANDE DE REFROIDISSEMENT DE MOTEUR À COMBUSTION INTERNE

Publication

EP 2045452 A4 20160824 (EN)

Application

EP 07790595 A 20070711

Priority

- JP 2007063791 W 20070711
- JP 2006190205 A 20060711

Abstract (en)

[origin: EP2045452A1] When the coolant temperature is greater than or equal to a threshold value while an engine 1 is stopped, a cooling apparatus is driven to cool the engine 1. The threshold value is set as follows. That is, when the crank angle at the completion of stopping of the engine 1 is a crank angle at which a piston 4 of a cylinder (first combustion cylinder) in which a compression stroke takes place for the first time after the subsequent initiation of starting of the engine is at the bottom dead center, the threshold value is set to a coolant temperature (lower limit value) that does not cause pre-ignition in the initial explosion cylinder at the subsequent initiation of starting of the engine. Also, when the crank angle at the completion of stopping of the engine 1 is a crank angle at which the position of the piston 4 in the initial explosion cylinder is closer to the top dead center than the bottom dead center, the closer to the top dead center the position of the piston 4 provided by a crank angle, the higher the threshold value, which is set to a value higher than the lower limit value, becomes.

IPC 8 full level

F01P 7/16 (2006.01); **F01P 7/04** (2006.01)

CPC (source: EP)

F01P 7/164 (2013.01); **F01P 7/167** (2013.01); **F01P 7/048** (2013.01); **F01P 2005/125** (2013.01); **F01P 2025/60** (2013.01); **F01P 2031/30** (2013.01); **F02D 41/009** (2013.01); **F02D 41/065** (2013.01); **F02N 11/0814** (2013.01); **F02N 2019/008** (2013.01); **F02N 2200/021** (2013.01); **F02N 2200/023** (2013.01); **F02N 2200/061** (2013.01)

Citation (search report)

- [A] JP 2000265879 A 20000926 - MITSUBISHI MOTORS CORP
- [A] US 6986331 B2 20060117 - MIZUTANI KOICHI [JP]
- [A] JP 2001173488 A 20010626 - MITSUBISHI MOTORS CORP
- See references of WO 2008007686A1

Cited by

CN103029569A; CN102191991A; DE102011004998B4; CN102449281A; CN104093960A; EP2813695A4; US9404410B2; US8733299B2; FR2944236A1; CN102449282A; CN104033230A; US2014257676A1; US9828932B2; DE102014102410B4; WO2010116106A1

Designated contracting state (EPC)

DE FR GB IT

DOCDB simple family (publication)

EP 2045452 A1 20090408; **EP 2045452 A4 20160824**; **EP 2045452 B1 20171025**; JP 2008019733 A 20080131; JP 4327826 B2 20090909; WO 2008007686 A1 20080117

DOCDB simple family (application)

EP 07790595 A 20070711; JP 2006190205 A 20060711; JP 2007063791 W 20070711