

Title (en)  
COOLING CONTROLLER FOR INTERNAL COMBUSTION ENGINES

Title (de)  
KÜHLREGLER FÜR VERBRENNUNGSMOTOREN

Title (fr)  
UNITÉ DE COMMANDE DE REFROIDISSEMENT POUR MOTEURS À COMBUSTION INTERNE

Publication  
**EP 2863030 A4 20160224 (EN)**

Application  
**EP 12879327 A 20120618**

Priority  
JP 2012065530 W 20120618

Abstract (en)  
[origin: EP2863030A1] A cooling control system for an engine is provided. Cooling water circulate within a cooling circuit via a water pump and the engine, and a bypass circuit is formed to circulate the cooling water without passing through the engine. A first temperature sensor is disposed on the cooling circuit, and a second temperature sensor is disposed on the bypass circuit to detect a temperature of the cooling water. A switching valve controls a flow rate of the cooling water flowing through the cooling circuit, and the switching valve is provided with a water passage that allows the cooling water to flow therethrough when is closed. The cooling control system is configured to estimate an amount of clogging of the water passage based on a temporal change in a temperature difference between temperatures of the cooling water detected by the first temperature sensor and the second temperature sensor, under a condition in that the engine is stopped, the switching valve is closed, and the water pump is driven.

IPC 8 full level  
**F01P 7/16** (2006.01); **F01P 7/04** (2006.01); **F01P 7/14** (2006.01); **F01P 11/14** (2006.01)

CPC (source: CN EP US)  
**F01P 3/20** (2013.01 - US); **F01P 5/10** (2013.01 - US); **F01P 7/165** (2013.01 - US); **F01P 7/167** (2013.01 - CN EP US);  
**F01P 11/14** (2013.01 - EP US); **F01P 2023/08** (2013.01 - CN EP US); **F01P 2025/60** (2013.01 - US); **F01P 2031/30** (2013.01 - CN EP US);  
**F01P 2050/24** (2013.01 - EP US)

Citation (search report)

- [AD] US 2012137992 A1 20120607 - KINOMUKA SHIGEKI [JP], et al
- [A] US 2008302316 A1 20081211 - BROWN MYRON L [US]
- [A] JP 2011111962 A 20110609 - AISIN SEIKI
- See references of WO 2013190619A1

Cited by  
EP2993326A4; US9903260B2

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)  
**EP 2863030 A1 20150422; EP 2863030 A4 20160224**; CN 104379894 A 20150225; JP 5910743 B2 20160427; JP WO2013190619 A1 20160208;  
US 2015240702 A1 20150827; WO 2013190619 A1 20131227

DOCDB simple family (application)  
**EP 12879327 A 20120618**; CN 201280074088 A 20120618; JP 2012065530 W 20120618; JP 2014521109 A 20120618;  
US 201214408328 A 20120618