

Title (en)
ELECTRIC PUMP FOR A HYBRID VEHICLE

Title (de)
ELEKTRISCHE PUMPE FÜR EIN HYBRIDFAHRZEUG

Title (fr)
POMPE ÉLECTRIQUE POUR UN VÉHICULE HYBRIDE

Publication
EP 2973961 A4 20161012 (EN)

Application
EP 13878408 A 20131219

Priority
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Abstract (en)
[origin: WO2014143303A1] A hydraulic system for a hybrid module which is located between an engine and a transmission includes a parallel arrangement of a mechanical pump and an electric pump. Each pump is constructed and arranged to deliver oil to other portions of the hydraulic system depending on the operational mode. Three operational modes are described including an electric mode, a transition mode, and a cruise mode. Various monitoring and control features are incorporated into the hydraulic system.

IPC 8 full level
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Citation (search report)
• [X] US 2009175751 A1 20090709 - NAKAYOSHI HIDEKI [JP]
• [X] US 2010290934 A1 20101118 - HADAR GIL [CA], et al
• [X] EP 2333343 A2 20110615 - JTEKT CORP [JP]
• [X] US 2005031465 A1 20050210 - DREIMAN NELIK I [US], et al
• [A] EP 2495442 A2 20120905 - TI GROUP AUTOMOTIVE SYS LLC [US]
• See references of WO 2014143303A1

Designated contracting state (EPC)
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