

Title (en)
METHOD FOR OPERATING A FUEL SUPPLY ARRANGEMENT, CONTROL DEVICE FOR A FUEL SUPPLY ARRANGEMENT, FUEL SUPPLY ARRANGEMENT AND COMPUTER PROGRAM PRODUCT

Title (de)
VERFAHREN ZUM BETREIBEN EINER KRAFTSTOFFVERSORGUNGSANLAGE, STEUERUNGSVORRICHTUNG FÜR EINE KRAFTSTOFFVERSORGUNGSANLAGE, KRAFTSTOFFVERSORGUNGSANORDNUNG UND COMPUTERPROGRAMMPRODUKT

Title (fr)
PROCÉDÉ POUR FAIRE FONCTIONNER UN DISPOSITIF D'ALIMENTATION EN CARBURANT, DISPOSITIF DE COMMANDE POUR DISPOSITIF D'ALIMENTATION EN CARBURANT, DISPOSITIF D'ALIMENTATION EN CARBURANT ET PRODUIT DE PROGRAMME INFORMATIQUE

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Application
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Abstract (en)
[origin: EP2796695A1] A method for operating a fuel supply arrangement (10) for an internal combustion engine is disclosed. The fuel supply arrangement (10) comprises a fuel reservoir (24), a pump (20) hydraulically coupled to the fuel reservoir (24) for pressurizing the fuel in the fuel reservoir, at least one fuel injection valve (26) hydraulically coupled to the fuel reservoir (24) for dispensing fuel from the fuel supply arrangement (10) through an injection nozzle (261) of the fuel injection valve (26), the fuel injection valve (26) comprising a valve needle (263) which is displaceable for sealing and unsealing the injection nozzle (261) and an electromagnetic actuator assembly (265) having a solenoid (267) for displacing the valve needle (263), and a control device (40) for energizing the solenoid (267) and for measuring an electrical current (I) through the solenoid (267). The method comprises energizing the solenoid (267) to displace the valve needle (263) to a fully open position for unsealing the injection nozzle (261) by means of operating the control device (40) in such fashion that the electrical current (I) through the solenoid (267), during a first period of time (T 1), rises to a peak value (I P) and subsequently decreases to a value within a first current range (DI 1), and, in a subsequent second period of time (T 2), is maintained within the first current range (DI 1), the upper limit (I 1U) of the first current range (DI 1) having a smaller magnitude than the peak value (I P) in the first period of time (T 1), operating the control device (40) for measuring the electrical current (I) through the solenoid (267) at least during the second period of time (T 2), determining a point in time (to) at which the valve needle (263) has reached the fully open position by means of evaluating the measured electrical current (I), and inferring the fuel pressure in the fuel reservoir (24) from the determined point in time (to) at which the valve needle (263) has reached the fully open position. Further, a control device (40), a fuel supply arrangement (10) and a computer program product are disclosed.

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Cited by
CN110959068A; KR20170134686A; JP2017025803A; WO2019043196A1; WO2017013830A1; WO2017129394A1; WO2016180594A1; US10746119B2

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