

Title (en)

Control circuit and method for a proportional solenoid valve, particularly for use on motor vehicles

Title (de)

Steuerschaltung und Steuerungsverfahren für ein Proportionalmagnetventil, insbesondere für Kraftfahrzeuge

Title (fr)

Circuit et procédé de commande d'électrovanne proportionnelle, notamment pour véhicules automobiles

Publication

EP 1657726 A1 20060517 (EN)

Application

EP 05110774 A 20051115

Priority

IT TO20040804 A 20041116

Abstract (en)

What is described is a control circuit for a solenoid valve having a control winding or solenoid (L), comprising: a drive branch provided with a switching device (M) for selectively connecting the winding (L) of the solenoid valve to a source of continuous supply voltage (V B); a branch for recirculating the transient discharge current which is established whenever the winding (L) is disconnected from the source; and a resistor (R S) for sensing the current flowing in the winding (L), located in the recirculation branch and connected to a conductor maintained at a reference potential. The control method proposed by the invention comprises the steps of: connecting the winding (L) to the source of continuous supply voltage (V B) for an activation time interval having a predetermined fixed duration (T ON); and breaking the connection between the winding (L) and the said source for an inactivation time interval of variable duration (T OFF), modulated by the comparison of the transient discharge current flowing in the winding (L) and a threshold value indicating a desired value of excitation current.

IPC 8 full level

H01F 7/18 (2006.01)

CPC (source: EP)

H01F 7/1844 (2013.01)

Citation (search report)

- [XY] EP 1381060 A1 20040114 - SANKEN ELECTRIC CO LTD [JP]
- [XY] US 4680667 A 19870714 - PETRIE ADELORE F [US]

Cited by

CN103325523A; CN111983373A; US11529937B2; WO2017203289A1

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