Title (en)
METHOD AND DEVICE FOR CONTROLLING A THROTTLE VALVE OF AN INTERNAL COMBUSTION ENGINE

Title (de)
VERFAHREN UND VORRICHTUNG ZUR STEUERUNG EINER DROSSELKLAPPE EINES VERBRENNUNGSMOTORS

Title (fr)
PROCÉDÉ ET DISPOSITIF DE COMMANDE D'UN PAPILLON D'UN MOTEUR À COMBUSTION INTERNE

Publication
EP 4269772 A1 20231101 (EN)

Application
EP 23168916 A 20230420

Priority
IT 202200008210 A 20220426

Abstract (en)
Method for controlling a throttle valve of an internal combustion engine, the valve comprising an electric actuator for controlling a position of a shutter and a position sensor for detecting the position of the shutter, the method comprising a step of controlling said actuator by means of a cascade control scheme comprising an inner control loop and an outer control loop, so as to generate a control signal (Volt_act) given by the difference between a proportional contribution and an integral contribution, wherein the proportional contribution ($P\omega * e\_vel$) is a function of the signal generated by a controller (C1) of the outer loop and wherein the integral contribution (C_stim) is a function of at least a position estimation error (e_stim) between an estimated position (pos_stim) by means of an estimator and a measured position (pos_mis) by means of the position sensor.

IPC 8 full level
F02D 11/10 (2006.01); **F02D 41/14** (2006.01)

CPC (source: EP)
F02D 11/106 (2013.01); **F02D 41/1401** (2013.01); F02D 2041/1416 (2013.01); **F02D 2041/1418** (2013.01); F02D 2200/0404 (2013.01)

Citation (applicant)
YAODONG PANUMIT OZGUNEROGUZ HASAN DAGCI: "Variable-Structure Control of Electronic Throttle Valve", IEEE TRANSACTIONS ON INDUSTRIAL ELECTRONICS, vol. 55, November 2008 (2008-11-01), pages 3899 - 3907, XP011237275, DOI: 10.1109/TIE.2008.2005931

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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 ME MK MT NL NO PL PT RO RS SE SI SK SM TR

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BA

Designated validation state (EPC)
KH MA MD TN

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