Title (en)
Method of controlling an electromagnetic actuator

Title (de)
Verfahren zur Steuerung eines elektromagnetischen Betätigers

Title (fr)
Procédé pour commander un actionneur électromagnétique

Publication
EP 2514956 A1 20121024 (EN)

Application
EP 11163590 A 20110422

Priority
EP 11163590 A 20110422

Abstract (en)
A method of controlling an electromagnetic actuator having an excitation coil and a movable armature is presented. An actuating event is triggered by applying a control signal to move said armature from a rest position thereof towards an actuating position. The method comprising the steps of: determining a switch-off time (t_{off}) at which the armature returns to its rest position; determining a time (t_{max}) at which the armature reaches an extremum of its stroke during the actuation event; computing a switch-on time on the assumption that the switch-on time (t_{on}) is separated from the switch-off time by an actuating duration (t_{act}), which represents approximately twice the time separating the extremum stroke time (t_{max}) from the switch-off time (t_{off}).

IPC 8 full level
F02D 41/20 (2006.01)

CPC (source: EP)
F02D 41/20 (2013.01); F02D 2041/2055 (2013.01)

Citation (applicant)
• WO 03023211 A1 20030320 - BOSCH GMBH ROBERT [DE], et al
• US 6382198 B1 20020507 - SMITH JAMES CRAIG [US], et al

Citation (search report)
• [I] WO 2011039043 A1 20110407 - BOSCH GMBH ROBERT [DE], et al
• [I] DE 102008040222 A1 20100114 - BOSCH GMBH ROBERT [DE]
• [A] DE 4011217 A1 19911010 - LUCAS IND PLC [GB]
• [A] DE 102009027290 A1 20100415 - BOSCH GMBH ROBERT [DE]

Cited by
DE102017215017A1; US8960225B2; WO2012152835A3; WO2014121982A1; WO2022090397A1; US10401398B2; US10712373B2

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

Designated extension state (EPC)
BA ME

DOCDB simple family (publication)
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