

Title (en)
ELECTROMAGNET DRIVE DEVICE

Title (de)
ELEKTROMAGNETISCHE ANTRIEBSVORRICHTUNG

Title (fr)
DISPOSITIF DE PILOTAGE D'ÉLECTROAIMANT

Publication
EP 3147923 B1 20190501 (EN)

Application
EP 14892603 A 20140523

Priority
JP 2014063664 W 20140523

Abstract (en)
[origin: EP3147923A1] An electromagnet drive device includes a control microcomputer (13a, 13b) that controls the excitation current of an electromagnet (1) through a switching element (2). At the time of iron core initial attraction and the time of iron core re-attraction of the electromagnet (1), the control microcomputer (13a, 13b) calculates a winding resistance value of the electromagnet (1) from a voltage drop proportional to the amount of the excitation current of the electromagnet (1) and DC power supply voltage applied to the electromagnet (1), and pulse-controls the DC power supply voltage based on the calculated winding resistance value. In the time other than the time of iron core initial attraction and the time of iron core re-attraction, the control microcomputer (13a, 13b) transforms the DC power supply voltage into pulsed voltage to be applied to the electromagnet (1). Abstract as published The electromagnet drive device is provided with a control microcomputer (13a, 13b) for controlling the excitation current to an electromagnet (1), mediated by a switching element (2). At the time of iron core initial attraction and at the time iron core re-attraction in the electromagnet (1), the control microcomputer (13a, 13b) calculates an electromagnet (1) coil resistance value from the DC power voltage applied to the electromagnet (1) and a voltage drop that is proportional to the magnitude of the electromagnet (1) excitation current, and, based on the calculated coil resistance value, performs pulse control of the DC power source voltage. For times other than the time of iron core initial attraction and the time of iron core re-attraction, the control microcomputer (13a, 13b) turns the DC power voltage into a pulsed voltage, which is applied to the electromagnet (1).

IPC 8 full level
H01H 33/59 (2006.01); **H01H 47/32** (2006.01); **H02H 1/06** (2006.01)

CPC (source: EP KR)
H01H 33/59 (2013.01 - EP KR); **H01H 47/04** (2013.01 - EP); **H01H 47/325** (2013.01 - EP)

Cited by
EP3806127A1; WO2020165763A1

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

DOCDB simple family (publication)
EP 3147923 A1 20170329; EP 3147923 A4 20180117; EP 3147923 B1 20190501; CN 105097182 A 20151125; CN 105097182 B 20181214; CN 204537794 U 20150805; JP 6246347 B2 20171213; JP WO2015177919 A1 20170420; KR 101852285 B1 20180425; KR 20160114655 A 20161005; WO 2015177919 A1 20151126

DOCDB simple family (application)
EP 14892603 A 20140523; CN 201510054896 A 20150203; CN 201520075810 U 20150203; JP 2014063664 W 20140523; JP 2016520887 A 20140523; KR 20167023488 A 20140523