



- (51) International Patent Classification:
H02P 6/10 (2006.01) *H02P 6/18* (2006.01)
- (21) International Application Number:
PCT/US2014/021918
- (22) International Filing Date:
7 March 2014 (07.03.2014)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
61/784,606 14 March 2013 (14.03.2013) US
13/959,543 5 August 2013 (05.08.2013) US
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(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))

[Continued on next page]

(54) Title: SINE MODIFIED TRAPEZOIDAL DRIVE FOR BRUSHLESS DC MOTORS

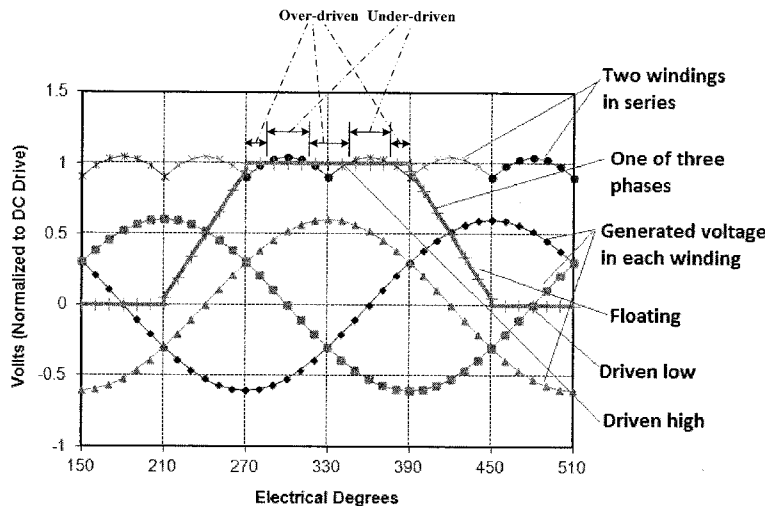


Figure 4

(57) Abstract: A pulse width modulated (PWM) trapezoidal commutation drive to a brushless direct current (BLDC) motor is sine modified so that the applied drive voltage substantially matches the induced voltage generated in the BLDC motor. The values of the cosine of the angles between -30 degrees and +30 degrees are used to modify the duty cycle of the PWM drive signal dependent upon the rotor angular positions determined from the times between the zero crossing BEMF voltages measured at the unconnected motor terminals.

WO 2014/159092 A3



— *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))* — *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

Published:

— *with international search report (Art. 21(3))*

(88) Date of publication of the international search report:
17 September 2015

INTERNATIONAL SEARCH REPORT

International application No PCT/US2014/021918
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A. CLASSIFICATION OF SUBJECT MATTER INV. H02P6/10 H02P6/18 ADD.		
According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED		
Minimum documentation searched (classification system followed by classification symbols) H02P		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) EPO-Internal, WPI Data		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2004/056632 A1 (NAKATSUGAWA JUNNOSUKE [JP] ET AL) 25 March 2004 (2004-03-25)	1,2,7-13
Y	paragraphs [0051], [0052], [0040], [0046]; figure 2	3-6,12,13
Y	paragraph [0072] - paragraph [0079]; figures 6,7	
Y	paragraphs [0038], [0008]	
Y	US 2004/263104 A1 (IWANAGA TAISHI [JP] ET AL) 30 December 2004 (2004-12-30)	3-6
Y	paragraph [0011]; figure 28	
Y	US 7 274 163 B1 (LAMBERT AARON M [US] ET AL) 25 September 2007 (2007-09-25)	12,13
A	column 1, line 57 - line 67	14,18
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<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> See patent family annex.		
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Date of the actual completion of the international search	Date of mailing of the international search report	
16 July 2015	28/07/2015	
Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer Schürle, Patrick	

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International application No
PCT/US2014/021918

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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