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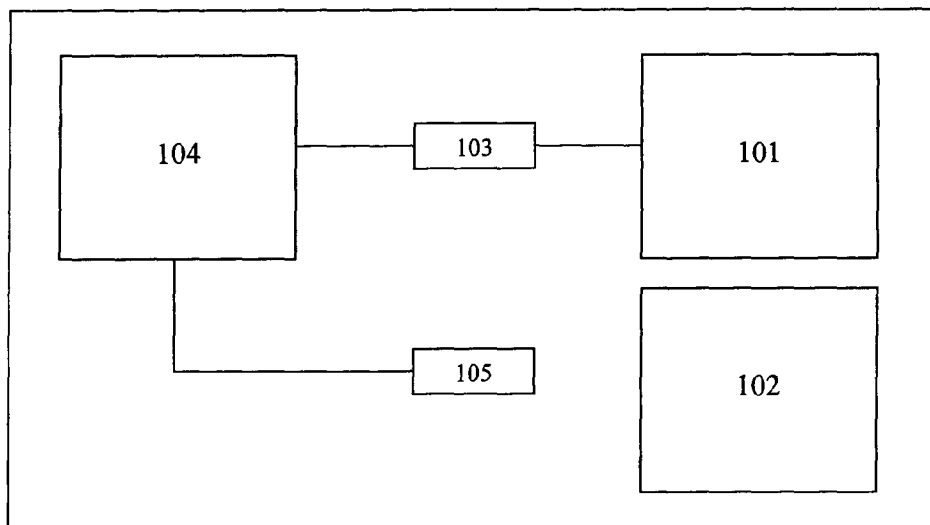
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(54) Title: DRIVING BRUSHLESS DC MOTORS



(57) Abstract: When a stall-rotor event occurs in a BLDC motor (100), the controller unit (104) periodically alternates (at a selected frequency) the direction of current supplied to the coils and thus correspondingly varies the direction of the torque applied to the coils. The frequency of alternation is appropriately selected in order to lower the effective friction experienced by the rotor (102) and thus to maximize the possibility to overcome the stall-rotor event. The mean current flow applied to the coils is not equal in each direction. In one direction, corresponding to the desired direction of rotation of the rotor (102), a larger mean current is applied than in the other direction. Accordingly, the average value of the alternating rotor torque corresponds to the desired direction of rotation. Accordingly, this ensures that rotation occurs in the desired direction when the stall-rotor event is overcome.

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## C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages  | Relevant to claim No. |
|-----------|---|-----------------------|
| X         | US 6 078 152 A (DIETERLE ROLAND [DE] ET AL) 20 June 2000 (2000-06-20)<br>column 1, line 1 - column 2, line 5;<br>figures 1-7<br>column 8, lines 40-64; claims 1-3 | 1-19                  |
| A         | US 6 204 618 B1 (WANG KING YIN [TW] ET AL) 20 March 2001 (2001-03-20)<br>column 2, lines 16-60; figures 1-3,9<br>column 3, line 22 - column 4, line 52            | 1-19                  |
| A         | DE 20 2005 009054 U1 (HSU HSIA YUAN [TW]) 22 September 2005 (2005-09-22)<br>paragraphs [0001] - [0016]  | 1-19                  |

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