Abstract: A BLDC motor assembly and method for manufacturing same is disclosed. The motor has a housing, a shaft supported for rotation within the housing, a stator disposed within the housing for generating an electro-magnetic field, a rotor operatively coupled to the shaft and disposed for powered rotation within the stator in response to the electro-magnetic field, at least one temperature sensitive electronic device (TSED) disposed within the housing and electrically connected to the stator for controlling or measuring an aspect of the electro-magnetic field, and a fuel resistant and electrically insulated polymeric material encapsulating the TSED so that the TSED is protected from adverse temperature and chemical agents without the need for a separate internal container or pre-potting operating. The TSED, which may be carried on a printed circuit board within the housing, is thus overmolded with polymeric material so that the polymeric material fills, or substantially fills, a space within the housing. Not only is the cost and weight associated with a prior art dedicated container for the electronics eliminated, but this invention allows greater design freedom in the location or placement of the various electrical devices within the housing for better motor efficiency and/or protection.
Published:
— with international search report

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INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER
IPC: H02K 11/00(2006.01),1/04(2006.01),9/00(2006.01)

USPC: 310/68R, 71,43,52,54,87-89,29/596-598
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)

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)
EAST

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>US 5,806,169 (Trago et al) 15 September 1988 (15.09.1988) figures 3.</td>
<td>24-34</td>
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<tr>
<td>A</td>
<td>US 6,552,901 (HILDEBRANDT) 22 April 2003 (22.04.2003) figures 1-6.</td>
<td>24-34</td>
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</tbody>
</table>

* Further documents are listed in the continuation of Box C.

See patent family annex.

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Name and mailing address of the ISA/US
Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
Facsimile No. (571) 273-3201

Authorized officer
/THANH LAM
Telephone No. 571-272-2026

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