

Title (en)  
UNIPOLAR TRANSVERSE FLUX MACHINE

Title (de)  
STATORDESIGN EINER UNIPOLAR-TRANSVERSALFLUSSMASCHINE

Title (fr)  
MACHINE A FLUX TRANSVERSAL UNIPOLAIRE

Publication  
**EP 1344300 A2 20030917 (DE)**

Application  
**EP 01989389 A 20011211**

Priority  
• DE 0104628 W 20011211  
• DE 10062073 A 20001213

Abstract (en)  
[origin: WO0249187A2] The invention relates to a unipolar transverse flux machine that comprises, for the purpose of modularity, at least one rotor module (15), two coaxial ferromagnetic rotor rings (16, 17) that are toothed across their outer periphery at a constant circular pitch, and a unipolarly magnetized permanent magnet ring (18) braced between said rings. At least one stator module (14) is concentric thereto and has a number of yoke-type stator poles (24, 25) that correspond to twice the number of teeth of the rotor module (15). Said stator poles are off-set from one another by a pole division (  $\tau$  ) and are disposed with their yoke legs opposite the rotor rings (16, 17), with an air gap in between. The machine is further provided with a toroid coil (23). In order to reduce the ripple content in the torque of the machine, at least one pair of stator pole groups (131 - 134) that have the same number of stator poles is provided. The stator pole groups are off-set from one another by an electrical angle  $\alpha = 180 \text{ DEG } C / \nu$  ,  $\nu$  being the ordinal number of the torque ripple suppressed by said off-set.

IPC 1-7  
**H02K 21/20**

IPC 8 full level  
**H02K 1/12** (2006.01); **H02K 1/16** (2006.01); **H02K 1/22** (2006.01); **H02K 1/26** (2006.01); **H02K 1/27** (2006.01); **H02K 21/20** (2006.01); **H02K 37/18** (2006.01)

CPC (source: EP US)  
**H02K 21/20** (2013.01 - EP US)

Citation (search report)  
See references of WO 0249187A2

Citation (examination)  
FRIEDRICH JÜRGEN K.-H.: "Bauformen und Betriebsverhalten modularer Dauermagnetmaschinen", DISSERTATION VON DER FAKULTÄT FÜR ELEKTROTECHNIK DER UNIVERSITÄT DER BUNDESWEHR MÜNCHEN, 1991, NEUBIBERG, GERMANY, pages 1 - 41, XP002387835

Cited by  
RU195975U1

Designated contracting state (EPC)  
DE ES FR GB IT

DOCDB simple family (publication)  
**WO 0249187 A2 20020620**; **WO 0249187 A3 20021024**; DE 10062073 A1 20020620; EP 1344300 A2 20030917; JP 2004516780 A 20040603; US 2004075357 A1 20040422; US 6847135 B2 20050125

DOCDB simple family (application)  
**DE 0104628 W 20011211**; DE 10062073 A 20001213; EP 01989389 A 20011211; JP 2002550383 A 20011211; US 45046303 A 20031112