

Title (en)

OPTIMIZED SYNCHRONOUS RELUCTANCE MOTOR ASSISTED BY PERMANENT MAGNETS

Title (de)

OPTIMISierter SYNCHRONER RELUKTANZMOTOR MIT UNTERSTÜTZUNG DURCH PERMANENTMAGNETEN

Title (fr)

MOTEUR À RÉLUCTANCE SYNCHRONE PERFECTIONNÉ ASSISTÉ PAR DES AIMANTS PERMANENTS

Publication

EP 3084937 A2 20161026 (EN)

Application

EP 14830671 A 20141216

Priority

- IT VR20130056 U 20131219
- IB 2014066955 W 20141216

Abstract (en)

[origin: WO2015092672A2] A permanent magnet-assisted synchronous reluctance motor (1) comprises a stator (2) equipped with stator windings (4) defining a seat wherein a substantially cylindrical rotor (3) is positioned comprising a plurality of circular elements (5) adjacent to one another and one after the other, each of the circular elements (5) is equipped with a central axis of symmetry (12), the rotor (3) being rotary associated with respect to the stator (2) around the central axis of symmetry (12), the rotor (3) comprising seats (7), separated from one another by portions for conveying a magnetic flux (8), in which permanent magnets (9, 10, 11) are positioned in a number such as to determine a value of the phase difference between current and voltage for the permanent magnet- assisted synchronous reluctance motor (1) of $\cos\phi$ comprised between 0.75 and 0.82.

IPC 8 full level

H02K 21/14 (2006.01); **H02K 1/24** (2006.01); **H02K 1/27** (2006.01)

CPC (source: EP)

H02K 1/246 (2013.01); **H02K 1/276** (2013.01)

Citation (search report)

See references of WO 2015092672A2

Citation (examination)

- WO 2013020312 A1 20130214 - GREE ELECTRIC APPLIANCES INC [CN], et al & EP 2741400 A1 20140611 - GREE ELECTRIC APPLIANCES INC [CN], et al
- EP 2741400 A1 20140611 - GREE ELECTRIC APPLIANCES INC [CN], et al
- US 2003094875 A1 20030522 - SAKUMA MASAFUMI [JP], et al
- CN 103095078 A 20130508 - TAICANG FUTIAN RUILANDE MOTOR CO LTD
- ROBERT VARTANIAN ET AL: "Power factor improvement of synchronous reluctance motors (SynRM) using permanent magnets for drive size reduction", APPLIED POWER ELECTRONICS CONFERENCE AND EXPOSITION (APEC), 2012 TWENTY-SEVENTH ANNUAL IEEE, IEEE, 5 February 2012 (2012-02-05), pages 628 - 633, XP032127734, ISBN: 978-1-4577-1215-9, DOI: 10.1109/APEC.2012.6165884

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