Title (en)

ROTATIONAL ANGLE SENSOR

Title (de)

DREHWINKELSENSOR

Title (fr)

CAPTEUR D'ANGLE DE ROTATION

Publication

EP 3420315 A1 20190102 (DE)

Application

EP 16826067 A 20161227

Priority

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- EP 2016082707 W 20161227

Abstract (en)

[origin: WO2017144144A1] The invention relates to a rotational angle sensor (10) comprising: a stator element (12), which has a stator transmitting coil (20) and at least one stator receiving coil (22); a rotor element (14), which is mounted for rotation with respect to the stator element (12) about an axis of rotation (A) and which has a rotor receiving coil (28) and a rotor transmitting coil (30), which are electrically connected to each other; wherein the rotor receiving coil (28) is inductively coupled to the stator transmitting coil (20) such that an electromagnetic field produced by the stator transmitting coil (20) induces a current in the rotor receiving coil (28), which current flows through the rotor transmitting coil (30) such that the rotor transmitting coil (30) produces a further electromagnetic field; wherein the at least one stator receiving coil (22) is inductively coupled to the rotor transmitting coil (30) in such a way that the inductive coupling is dependent on a rotational angle between the stator element (12) and the rotor element (14), and the electromagnetic field produced by the rotor transmitting coil (30) induces at least one angle-dependent alternating voltage in the at least one stator receiving coil (22). The at least one stator receiving coil (22) has at least two circular-ring-sector-shaped partial windings (32a, 32b), which divide the stator element (12) into sectors, and the rotor transmitting coil (30) has an identical number of sickle-shaped partial windings (34a, 34b), which extend around the axis of rotation (A) one after the other.

IPC 8 full level

G01D 5/20 (2006.01)

CPC (source: EP KR US)

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Citation (search report)

See references of WO 2017144144A1

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DOCDB simple family (publication)

DE 102016202867 B3 20170406; CN 109073416 A 20181221; CN 109073416 B 20200526; EP 3420315 A1 20190102; FR 3048079 A1 20170825; FR 3048079 B1 20190913; JP 2019506611 A 20190307; JP 6605748 B2 20191113; KR 20180115705 A 20181023; US 10907992 B2 20210202; US 2019025088 A1 20190124; WO 2017144144 A1 20170831

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DE 102016202867 A 20160224; CN 201680084866 A 20161227; EP 16826067 A 20161227; EP 2016082707 W 20161227; FR 1751281 A 20170217; JP 2018544487 A 20161227; KR 20187024339 A 20161227; US 201616079728 A 20161227