

Title (en)

METHOD FOR DETERMINING VIBRATION BEHAVIOR OF AN ELECTRIC MOTOR AND/OR OF ITS INSTALLATION ENVIRONMENT, AND CORRESPONDING ELECTRIC MOTOR AND FAN

Title (de)

VERFAHREN ZUM BESTIMMEN EINES SCHWINGUNGSVERHALTENS EINES ELEKTROMOTORS UND/ODER DESSEN EINBAUUMGEBUNG, SOWIE ENTSPRECHENDER ELEKTROMOTOR UND VENTILATOR

Title (fr)

PROCÉDÉ DE DÉTERMINATION DU COMPORTEMENT VIBRATOIRE D'UN MOTEUR ÉLECTRIQUE ET/OU DE SON ENVIRONNEMENT D'INSTALLATION, MOTEUR ÉLECTRIQUE ET VENTILATEUR CORRESPONDANTS

Publication

EP 4153955 A1 20230329 (DE)

Application

EP 22731986 A 20220427

Priority

- DE 102021204463 A 20210504
- DE 2022200076 W 20220427

Abstract (en)

[origin: WO2022233373A1] The invention relates to a method for determining vibration behavior of an electric motor (1), more particularly an electric motor of a fan, and/or of its installation environment, wherein rotational motion of a rotor of the electric motor can be braked in a braking operation. The method comprises the steps of: • producing a jerk by triggering a braking operation or an accelerating operation or by changing a braking operation or an accelerating operation, • producing (S3) sensed vibration values by sensing vibrations of at least one part of the electric motor by means of at least one vibration sensor (9), • determining (S4) spectral components by means of a frequency analysis of the sensed vibration values, and • determining (S5) vibration behavior of the electric motor and/or of its installation environment by evaluating the spectral components. The invention also relates to a corresponding electric motor (1), to a fan, and to a system, which can each be designed to carry out the method.

IPC 8 full level

G01H 1/00 (2006.01); **G01H 13/00** (2006.01); **G01M 1/16** (2006.01); **H02K 11/00** (2006.01)

CPC (source: EP)

G01H 1/003 (2013.01); **G01H 13/00** (2013.01); **G01M 7/00** (2013.01); **H02P 3/06** (2013.01); **H02P 23/04** (2013.01); **H02P 29/50** (2016.02); **H02K 2209/00** (2013.01)

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

Designated validation state (EPC)

KH MA MD TN

DOCDB simple family (publication)

DE 102021204463 A1 20221110; BR 112023020954 A2 20231212; CN 117280185 A 20231222; EP 4153955 A1 20230329; JP 2024517440 A 20240422; WO 2022233373 A1 20221110

DOCDB simple family (application)

DE 102021204463 A 20210504; BR 112023020954 A 20220427; CN 202280031545 A 20220427; DE 2022200076 W 20220427; EP 22731986 A 20220427; JP 2023566782 A 20220427