

Title (en)

DEVICE AND METHOD FOR DETERMINING FREQUENCY AND AMPLITUDE OF AN OSCILLATING STRUCTURE, ESPECIALLY FOR MEASURING ACCELERATION OR ROTATIONAL RATES

Title (de)

VORRICHTUNG UND VERFAHREN ZUR BESTIMMUNG VON FREQUENZ UND AMPLITUDE EINER SCHWINGENDEN STRUKTUR, INSBESONDERE ZUR MESSUNG VON BESCHLEUNIGUNGEN ODER DREHRATEN

Title (fr)

DISPOSITIF ET PROCEDE POUR DETERMINER LA FREQUENCE ET L'AMPLITUDE D'UNE STRUCTURE OSCILLANTE, NOTAMMENT POUR MESURER DES ACCELERATIONS ET DES VITESSES DE ROTATION

Publication

**EP 1102996 A1 20010530 (DE)**

Application

**EP 00947781 A 20000606**

Priority

- DE 0001824 W 20000606
- DE 19925979 A 19990608

Abstract (en)

[origin: WO0075676A1] The invention relates to a device for determining frequency and/or amplitude of an oscillating structure that is especially used in measuring acceleration or rotational rates. Said device has a movable element (2) that can be excited to produce an oscillation. A pair of position sensors (10, 11) is used for determining the deflection of the movable element (2), whereby the position sensors (10, 11) are disposed in such a way that their measured values mutually exceed or fall short of each other during a half-wave of the oscillation. A comparator is used for comparing the measured values of both position sensors (10, 11), on the basis of which a threshold value (Us) is determined for the half-wave of the oscillation. A time measuring device is used for determining the duration during which the measured value of one of the two position sensors (10, 11) exceeds or falls short of the threshold value (Us). The position sensors (10, 11) can be, for instance, capacitances whose electrodes are disposed stepwise. The amplitude of the oscillation is determined independently of any possible parallel displacement of the movable element (2) so that no further disruption of measuring results occurs.

IPC 1-7

**G01P 15/10**; **G01C 19/56**

IPC 8 full level

**G01P 9/04** (2006.01); **G01C 19/56** (2006.01); **G01H 11/06** (2006.01); **G01P 1/00** (2006.01); **G01P 1/04** (2006.01); **G01P 15/14** (2013.01)

CPC (source: EP US)

**G01P 1/00** (2013.01 - EP US); **G01P 1/04** (2013.01 - EP US); **G01P 15/14** (2013.01 - EP US)

Citation (search report)

See references of WO 0075676A1

Designated contracting state (EPC)

DE ES FR GB IT SE

DOCDB simple family (publication)

**DE 19925979 A1 20001228**; **DE 19925979 B4 20040701**; CN 1319187 A 20011024; EP 1102996 A1 20010530; JP 2003501663 A 20030114; US 6631641 B1 20031014; WO 0075676 A1 20001214

DOCDB simple family (application)

**DE 19925979 A 19990608**; CN 00801060 A 20000606; DE 0001824 W 20000606; EP 00947781 A 20000606; JP 2001501899 A 20000606; US 76222101 A 20010205