

Title (en)
HIGHLY CONFIGURABLE CAPACITIVE TRANSDUCER INTERFACE CIRCUIT

Title (de)
KONFIGURIERBARE SCHNITTSTELLENSCHALTUNG EINES KAPAZITIVEN TRANSDUKTORS

Title (fr)
CIRCUIT D'INTERFACE DE TRANSDUCTEUR SERVANT A EVALUER UNE CAPACITE ET PRESENTANT DE NOMBREUSES POSSIBILITES DE CONFIGURATION

Publication
EP 1224478 A4 20040519 (EN)

Application
EP 00982671 A 20001016

Priority
• US 0041207 W 20001016
• US 15983299 P 19991015

Abstract (en)
[origin: WO0131351A1] A transducer interface circuit (10) for use with a capacitive sensor (20). The interface circuit (10), provided on application specific IC, includes numerous trims and adjustments that permit it to operate with a differential, balanced-pair sensors (20A) or a singled-ended sensor (20B). In particular, the circuit (10) provides a capacitive adjustment section (100) and a capacitive trans-impedance amplifier section (200) that are configured with capacitor adjustment controls (110) and gain adjustment controls (210) that, along with other controls, are provided as control registers. The capacitive trans-impedance amplifier section (300) periodically reverses the voltages across the sensor (20), and the capacitive adjustment section (200), after blanking a feedback capacitance (CF) that is used to integrate excess charge caused by a difference in capacitance. A low pass filter section (300) provides bandwidth adjustment without requiring any external components. An output buffer section (400) includes further trim controls for gain and offset, is also governed by an offset selection bit SOFF that adjusts the output range to be optimally suited for the balanced-pair sensors (20A) or a singled-ended sensor (20B).

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G01R 27/26; **G01D 5/24**; **G01D 3/02**

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G01D 5/24 (2006.01); **G01R 27/26** (2006.01); **G01R 19/25** (2006.01)

CPC (source: EP)
G01R 27/2605 (2013.01); **G01R 19/2506** (2013.01)

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• [A] EP 0816818 A2 19980107 - SIEMENS AG [DE]
• [X] PATENT ABSTRACTS OF JAPAN vol. 1997, no. 07 31 July 1997 (1997-07-31)
• See references of WO 0131351A1

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