(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
10 November 2005 (10.11.2005)

PCT

(10) International Publication Number
WO 2005/106962 A2

(51) International Patent Classification[7]: H01L 29/84

(21) International Application Number:
PCT/US2005/012282

(22) International Filing Date: 11 April 2005 (11.04.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10/827,026 19 April 2004 (19.04.2004) US

(71) Applicant *(for all designated States except US)*: **MYKROLIS CORPORATION** [US/US]; 129 Concord Road, Billerica, MA 01821-4600 (US).

(72) Inventor; and
(75) Inventor/Applicant *(for US only)*: **MAI, Hei** [US/US]; 2509 Hunters Run Drive, Plano, TX 75025 (US).

(74) Agent: **SPRINKLE IP LAW GROUP**; ADAIR, John, L., 1301 W. 25th Street, Suite 408, Austin, TX 78705 (US).

(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— *without international search report and to be republished upon receipt of that report*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

WO 2005/106962 A2

(54) Title: PRESSURE SENSOR DEVICE AND METHOD

(57) Abstract: Embodiments of the present invention provide a diaphragm pressure gauge with an interface printed circuit board ("PCB") contained in a reference pressure chamber of the diaphragm pressure gauge for receiving signals from one or more sensing elements in the reference pressure chamber. The sensing elements can comprise, for example, piezoelectric strain gauges, piezoresistive strain gauges, capacitor elements or other elements used in determining the deflection in the diaphragm. The interface PCB can be configured to connect the sensing elements to pass-through electrical connections in the housing of the reference pressure chamber. Thus, signals can be communicated from the sensing elements, through the interface board and out of the reference pressure chamber via the pass-through electrical connections.