

Title (en)
HYBRID FILM TYPE SENSOR

Title (de)
SENSOR VOM HYBRIDSCHICHTTYP

Title (fr)
CAPTEUR DE TYPE FILM HYBRIDE

Publication
EP 1161678 A4 20070221 (EN)

Application
EP 00978779 A 20001120

Priority
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Abstract (en)
[origin: WO0136956A1] A miniaturized gas sensor comprises a thick-or-thin type electrodes, on a non-conductive supportive susbtrate (1), and in contact with a solid ionomer electrolyte (8), for the detection of toxic gases, i.e., carbon monoxide, and other oxidizable or reducible gases and vapors is described. The all-solid planar sensor cell has two or more film type electrodes (4, 5, 7) arranged on a non-conductive planar surface of a supportive substrate. The electrodes are discret and in intimate contact with the same solid polymer ionomer membrane. The sensor cell contains no liquid electrolyte and is operated in a constant-voltage, potentiostatic or potentiodynamic mode. A high sensitivity to a select gas or vapor is achieved by a novel three-phase contact area design for a sensing electrode which provides contact with the solid ionomer electrolyte, as well as the gas sample via diffusion openings or holes (2) that penetrate through the supportive substrate.

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IPC 8 full level
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CPC (source: EP)
G01N 27/4074 (2013.01); **G01N 27/3335** (2013.01)

Citation (search report)
• [X] US 4900405 A 19900213 - OTAGAWA TAKAAKI [US], et al
• [XY] US 4812221 A 19890314 - MADOU MARC J [US], et al
• [Y] US 4820386 A 19890411 - LACONTI ANTHONY B [US], et al
• [Y] US 5573648 A 19961112 - SHEN YOUSHENG [US], et al
• See references of WO 0136956A1

Citation (examination)
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• VAN DER WAL P D ET AL: "Extremely stable Nafion based carbon monoxide sensor", SENSORS AND ACTUATORS B: CHEMICAL: INTERNATIONAL JOURNAL DEVOTED TO RESEARCH AND DEVELOPMENT OF PHYSICAL AND CHEMICAL TRANSDUCERS, ELSEVIER S.A, CH, vol. 35, no. 1, 1 September 1996 (1996-09-01), pages 119 - 123, XP004049741, ISSN: 0925-4005, DOI: 10.1016/S0925-4005(97)80040-8

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