Title (en)

SENSOR CELL FOR AN ELECTROCHEMICAL FUEL CELL STACK

Title (de)

SENSORZELLE FÜR ELEKTROCHEMISCHE BRENNSTOFFZELLENSTAPEL

Title (fr)

ELEMENT DETECTEUR DE PILE A COMBUSTIBLE

Publication

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Application

EP 99927631 A 19990702

Priority

- CA 9900611 W 19990702
- US 9153198 P 19980702

Abstract (en)

[origin: WO0002282A1] An electrochemical fuel cell stack includes a plurality of fuel cells. At least one of the fuel cells is a sensor cell. The sensor cell has at least one structural dissimilarity with respect to the remaining fuel cells of the plurality. The structural dissimilarity may include, for example, a reduced sensor cell electrochemically active area, reduced electrocatalyst loading, modified anode or cathode flow field, different electrocatalyst composition, or a modified coolant flow field configuration. The sensor cell operates under substantially the same conditions as the remaining cells in the stack. However, in response to a change in a particular stack operating condition, an electrical or thermal response, preferably a voltage change, is induced in the sensor cell which is not simultaneously induced in the remaining fuel cells. Thus, the sensor cell can detect undesirable conditions and its response can be used to initiate corrective action. More than one sensor cell, specific to different types of conditions, may be employed in the stack. In the absence of undesirable conditions, the sensor cell can function as a power-producing fuel cell.

IPC 1-7

H01M 8/04; G01R 31/36

IPC 8 full level

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CPC (source: EP US)

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Citation (search report)

See references of WO 0002282A1

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