

Title (en)

GAS SENSOR DESIGN AND METHOD FOR USING THE SAME

Title (de)

GESTALTUNG EINES GASENSORS UND DEREN GEBRAUCH

Title (fr)

CONFIGURATION DE CAPTEUR A GAZ ET PROCEDE D'UTILISATION ASSOCIE

Publication

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Application

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Abstract (en)

[origin: WO0127602A2] The gas sensor employs a reference gas channel which enables simultaneous or sequential pumping of oxygen and sensing of the exhaust gas (e.g., to determine if the exhaust gas is rich or lean). The method comprises: using a gas sensor comprising a first electrode and a reference electrode with an electrolyte disposed therebetween, wherein the first electrode and reference electrode are in ionic communication, and a reference gas channel in fluid communication with the reference electrode and an exterior of the sensor; introducing an exhaust gas to the first electrode; applying a voltage to the reference electrode; ionizing oxygen at the first electrode; transferring the ionized oxygen across the electrolyte to the reference electrode; forming molecular oxygen at the reference electrode; ionizing the molecular oxygen on the reference electrode; transferring the ionized oxygen across the electrolyte to the first electrode to create a voltage; and measuring the voltage.

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