

Media Release

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Sensirion inside: Hydrogen detector by Hyundai Kefico

The leading developer and manufacturer of core parts for automotive electronic management systems in South Korea has recently launched a hydrogen leak detector that provides reliable real-time monitoring. To achieve maximum durability even in the harshest environments, Hyundai Kefico relies on Sensirion sensors.

Stäfa, Switzerland – Fuel cell electric vehicles (FCEVs) have become increasingly important in recent years as the demand for cleaner alternatives to petrol and natural gas has grown. FCEVs are similar to other electric vehicles in that they use electricity to power an electric motor. What sets them apart, however, is that FCEVs generate electricity using a fuel cell that is powered by hydrogen, rather than drawing electricity from a battery alone. In the fuel cell stack, pure hydrogen (H₂) flows through a membrane and combines with atmospheric oxygen (O₂) to produce electricity. However, because hydrogen has a lower ignition energy than petrol or natural gas and therefore ignites more easily, there is a risk of explosion if the hydrogen leaks.



Hyundai Kefico's hydrogen gas sensor

The answer to this problem is a sensor that constantly monitors the level of hydrogen in the fuel cell. To minimize vehicle failures, Hyundai Kefico has developed a hydrogen gas sensor that detects even the smallest hydrogen leaks in vehicles in real time, ensuring driver safety. Once a hydrogen leak is detected, the sensor outputs a signal in the form of analog voltages. The vehicle can then initiate all relevant safety mechanisms to prevent breakdowns. This makes the sensor ideal for applications such as fuel tanks, delivery systems and fuel cell stacks.

“Sensirion and Hyundai Kefico are both committed to creating a cleaner and more sustainable world. Thanks to this valuable partnership, we have succeeded in developing a hydrogen detector sensor that achieves maximum durability and reliability even in the harshest environments. Together, we are striving to achieve our goal.”
Moonsung Shin, Team manager of Sensor Design at Hyundai Kefico.

About Sensirion – Experts for Environmental and Flow Sensor Solutions

Sensirion is one of the world's leading developers and manufacturers of sensors and sensor solutions that improve efficiency, health, safety, and comfort. Founded in 1998, Sensirion now employs around 1'000 people at its headquarters in Stäfa, Switzerland and in numerous international subsidiaries. Sensirion sensors can be used to measure a wide range of environmental parameters and flow rates precisely and reliably. The company's aim is to make the world smarter with pioneering sensor technology. As a pioneer in innovation, Sensirion develops solutions for the specific needs of customers and partners from the automotive, industrial, medical technology and consumer electronics markets, as well as high-quality products for cost-efficient mass production. More information and current key figures at www.sensirion.com.

About Hyundai Kefico – Korea Eco-Friendly Innovative Corporation

Hyundai Kefico has grown to become South Korea's leading developer and manufacturer of core parts for automotive electronic management systems. As electronic auto parts have become increasingly important, the company has focused its efforts on obtaining important and proprietary technologies. With pioneering environmentally friendly technologies, the company is now preparing for the next generation of electric vehicles.