



NEW HONEYWELL SELF-DIAGNOSING SENSORS IMPROVE PERFORMANCE AND SAFETY OF AIRCRAFT SYSTEMS

News / Manufacturer



Honeywell announced a new series of self-diagnosing sensors designed to improve the performance of aircraft systems and reduce maintenance costs associated with false readings.

Honeywell, a leading provider of aerospace sensors as well as propulsion engines, cockpit and cabin electronics, wireless connectivity services and logistics for the aerospace industry, is introducing Integral Health Monitoring (IHM) series [proximity sensors](#) that can detect when a sensor has been damaged or otherwise impacted. The patented proximity sensors can be designed into a range of aircraft systems such as thrust reverser actuation systems, flight controls, aircraft doors, cargo loading systems, evacuation slide locks and landing gear.

"Aircraft operators who receive a sensor reading often cannot be sure if they have a system issue that needs to be addressed or if the sensor itself is malfunctioning," said Graham Robinson, president of Honeywell's [Sensing and Internet of Things business](#), which produces more than 50,000 sensing products for a range of industries from aerospace to medical to oil and gas. "Leveraging Honeywell's technical expertise in the aerospace industry, we innovated a circuit that can detect whether a sensor reading is correct or the result of damage or some other problem with the sensor itself."

The proximity sensors are configurable, non-contact devices designed to sense the presence or absence of a target in harsh-duty aircraft applications such as determining when a thrust reverser is not fully closed. The sensors can detect most internal failures and display a fault output to a pilot or maintenance worker in order to help reduce aircraft downtime and maintenance costs.

"With our health monitoring capabilities, proximity sensors can notify engineers or operators of potential issues with a system before or after the component fails," said Robinson. "The sensor fault-detection provides mechanics on the ground with the information they need to perform inspections and repairs without a long and costly troubleshooting process."

For example, proximity sensors in aircraft landing gear systems provide a pilot with a fault alert on landing approach to warn if the landing gear is not completely deployed. With Honeywell's health-monitoring feature, the IHM proximity sensors can indicate if the error message was caused by the sensor itself rather than an issue with the landing gear.

Honeywell also introduced [Linear Variable Differential Transformers](#) (LVDT), which are used in engine mechanisms, pilot controls and nose-wheel steering applications, and provide next-generation aircraft with continuous position monitoring and are designed for use in harsh environments. The LVDT sensors are already being incorporated into Honeywell-manufactured aircraft systems and can support other component and system manufacturers.

For both new sensors, Honeywell offers design engineering support and a standard design platform in which the engineering work is performed upfront to provide an off-the-shelf solution to speed up customer design cycle times.

Honeywell sensors and switches have been used on [commercial, business and military aircraft](#) for more than 30 years and can be found in [a range of applications](#) such as engines, fuel pumps, exit doors, landing gear, cargo doors, cabin controls and auxiliary power units.

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13 AUGUST 2017

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