Use case brief

Smarter air-flow monitoring using XENSIV™ pressure sensors

Air-flow monitoring provides a smarter way to alert consumers to the build-up of blockages and enhance motor performance

There are many appliances around the home that have filters to trap dust such as vacuum cleaners, HVAC units, hairdryers, and kitchen extractors. However, the consumer is currently unaware of the optimum time to clean or replace the filters. Build-up of dirt in filters can reduce the air flow so the device does not perform as well as it should. In addition, the motors are put under strain which could cause them to burn out with a possible warrantee claim against the equipment manufacturer.

The smarter solution, securing optimized performance, is to monitor the air flow so that the customer is alerted to the need to attend to the filter before it is an issue. Or, if a blockage has occurred, exactly where it is located so that it can be easily removed.

The XENSIV™ Pressure sensor DPS368 has a unique, robust design using a special gel to protect it from vibration, dirt, humidity and water to IPx8 (1 hour under water at depth of 50 m).

Our innovative DPS368 is the smallest pressure sensor on the market and uses less than half the energy of competitor products thanks to it using capacitive sensing technology rather than the usual piezoresistive approach. This, combined with its accuracy and a SNR that is a quarter that of rivals, also means it is ideal for accurate breath monitoring. For example, incorporating it into an inhaler makes it smart as it knows how much is being inhaled with each intake and then adjusts the drug dosing to achieve the correct amount.

Another example is respiratory aids such as CPAP (Continuous Positive Airway Pressure) masks that deliver air for patients at an elevated pressure to overcome obstructions in the airway. These become smarter by knowing the precise air pressure being delivered so that the equipment can be accurately optimized for the patient's needs.

Product's benefits for your application

- Hardly affected by air temperature changes
- Easy to integrate
- High sensitivity of ±0.002 hPa
- Small size (2 x 2.5 x 1.1 mm)
- Low energy consumption so ideal for portable devices
- Robust design to IPx8 to resist dust, humidity and water



Order the evaluation board today and see how you can benefit from smarter air-flow monitoring.





www.infineon.com/pressure

© 2021 Infineon Technologies AG. All Rights Reserved. Date: 07/2021