

Press Release

Azoteq announces the IQS620: a capacitive, inductive and Hall-effect combination sensor, optimized for consumer electronics

Azoteq's IQS620 is the first capacitive sensor with inductive and Hall-effect sensing capabilities in a single DFN(3x3)-10 package

Austin, Texas, August 3rd - **Azoteq**, a pioneer in sensor fusion, today announced the release to market of the IQS620. The IQS620 is the first capacitive touch and proximity sensor, along with inductive and Hall-effect sensing, in a single, low-profile DFN(3x3)-10 package.

The IQS620 ProxFusion™ IC is a multifunctional “sensing tool” in which capacitance, inductance, Hall-effect and temperature sensing can be configured. The inductive sensing is suitable for the detection of metallic objects, while capacitive sensing provides human touch and proximity detection. Highly configurable power modes and sensing configurations enable a wide variety of applications, including wearables, mobile devices and security. The device offers various options to address the latest SAR requirements (EN50566:2013).

“The IQS620 is the ‘Swiss army knife’ of capacitive sensors and offers the added value of combination sensing at a price point that rivals other, similar, capacitive-only sensors,” said Jean Viljoen, VP of Marketing.

Features:

Capacitive sensing:

- Full auto-tuning with adjustable sensitivity
- 2 pF to 200 pF external capacitive load capability
- Proximity / touch
- Proximity / touch / deep touch options (SAR)
- Release detection algorithm for SAR UI
- Movement detection algorithm for SAR UI
- Proximity wake-up
- Proximity enable on Hall-effect event

Inductive sensing:

- Only external sense coil required (PCB trace)
- Distinguishes between metal and other materials
- Distinguishes between metal types (ferrous and non-ferrous)

Hall-effect sensor:

- On-chip Hall plates
- No external components required

- Continuous auto-calibration, compensation for wear or small displacements of the sensor or magnet
- Dual direction Hall switch sensor UI
- Two-level detection (widely variable)
- Detection range 10 mT to 100 mT

Low power consumption:

- 130 μ A (100 Hz response, 1 ch inductive)
 - 105 μ A (100 Hz response, 2 ch Hall)
 - 90 μ A (100 Hz response, 3 ch capacitive)
 - 75 μ A (100 Hz response, 1 ch cap. SAR)
 - 46 μ A (20 Hz response, 1 ch inductive)
 - 38 μ A (20 Hz response, 2 ch Hall)
 - 32 μ A (20 Hz response, 3 ch capacitive)
 - 27 μ A (20 Hz response, 1 ch cap. SAR)
 - 2.5 μ A (4 Hz response, 1 ch cap. wake-up)
- Standard I²C interface
 - Optional **RDY indication** for event-mode operation
 - Supply voltage:
 - IQS620: 2.0 V to 3.6 V
 - IQS620A: 1.8 V to 3.6 V (release to market in Q4, 2017)

Applications

- Mobile electronics (phones/tablets)
- SAR safety requirements for laptops, tablets and phones
- Wearable devices
- White goods and appliances
- Human interface devices
- Proximity-activated backlighting
- Applications with long-term activation
- Aftermarket automotive

Availability

IQS620(A) samples, production quantity and evaluation kits are available from Mouser & Digi-Key now. Comprehensive engineering support is available from the [ARM® mbed™ community](#). Sample code for Arduino Uno is available on Azoteq's website, with STMicro's Nucleo following shortly.

About Azoteq (Pty) Ltd

Azoteq (www.azoteq.com) is a pioneer in sensor fusion. With more than 12 years of capacitive sensing experience, the sensor offering is now expanded to include multi-sensor

technologies on single ICs. The first generation of ProxFusion™ offers capacitive sensing, Hall-effect, IR, PIR, inductive and ambient light sensing. Azoteq has design and manufacturing centers in South Africa and China, and sales offices and distributors in South Africa, Asia, Europe and the USA.

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