Press Release

ams introduces industry's first total solution for 24/7 heart rate measurement for wearables

The AS7000, the first member of ams' biosensor family, offers highest-accuracy, low power optical pulse rate measurement

Unterpremstaetten, Austria (30 September, 2015), ams AG (SIX: AMS), a leading provider of high performance sensors and analog ICs, today announced the launch of the AS7000, the first member of a new family of health/fitness solutions aimed at wearable devices. The AS7000 solution incorporates a highly integrated optical sensor module accompanied by software to provide industry-leading, highest accuracy optical heart rate measurements (HRM) and heart rate variation (HRV) readings, backed by opto-mechanical design-in support from ams.

Housed in a compact 6.1mm x 4.1mm x 1.0mm package, the AS7000 is the industry's first complete integrated health and fitness solution for wearables intended to be worn constantly, at rest and when exercising. The introduction of the module raises the prospect of devices such as fitness bands as well as sports and smart watches allowing for accelerated design cycles and replacing the cumbersome, uncomfortable electro-cardiogram (ECG) chest strap in lifestyle, fitness and health monitoring applications.

The ams solution contains the AS7000 module including the LEDs, photo-sensor, analog front end (AFE) and controller as well as application software required to implement an accurate optical HRM/HRV fitness band product. In addition to HRM/HRV, the module also enables skin temperature and skin resistivity measurements by providing interfaces to external sensors.

Drawing on its expertise in optical sensing in mobile devices, ams provides OEMs with electrical, mechanical and optical design guidelines to enable them to quickly realize a successful implementation. These guidelines address critical opto-mechanical challenges such as the design and material of the wrist strap and housing, and specific optical design considerations such as the air gap and glass thickness.

The operation of the AS7000 is based on photoplethysmography (PPG), an HRM method which measures the pulse rate by sampling light modulated by the blood vessels, which expand and contract as blood pulses through them. Unlike existing optical AFEs, which produce raw PPG readings, the AS7000 integrates a digital processor which implements algorithms developed by ams. These convert the PPG readings into digital HRM and HRV values.

When the AS7000 is paired with an external accelerometer, these algorithms also filter out motion artifacts attributable to the beating of the heart which interfere with PPG readings. Combined with the low noise and high sensitivity of the AS7000's analog circuitry, this means that the module can maintain high accuracy whether the user is resting or exercising.

The AS7000's low-power design is particularly well suited to application in fitness bands, smart watches, sports watches, and devices in which board space is limited and in which users look for extended, multi-day intervals between battery recharges.

'Unique ams innovations which reduce noise, compensate for motion artifacts and conserve energy have resulted in a breakthrough for the health-monitoring and fitness-monitoring markets.The AS7000 is ideally suited to customers seeking a total solution that enables a quick time to market when adding health and fitness features to their wearables,' said Ronald Tingl, Biosensors Senior Marketing Manager for the Advanced Optical Solutions Division.

A complete HRM/HRV wristband demonstration kit is available on request from ams. Containing a fitness band-mounted AS7000, it uploads its HRM and HRV readings via a Bluetooth® interface board to any smartphone or tablet running the Android™ operating environment. An ams-developed heart rate app presents HRM and HRV readings and allows for real time logging of all the data.

The AS7000 is available for sampling now. Unit pricing is $6.00 in order quantities of 1,000.

A demonstration kit for the AS7000 is available. For sample requests and for more technical information, please go to www.ams.com/Biosensor/AS7000.

About ams

ams is a global leader in the design and manufacture of advanced sensor solutions and analog ICs. Our mission is to shape the world with sensor solutions by providing a seamless interface between humans and technology. ams' high-performance analog products drive applications requiring extreme precision, dynamic range, sensitivity, and ultra-low power consumption. Products include sensors, sensor interfaces, power management and wireless ICs for consumer, communications, industrial, medical, and automotive markets.

With headquarters in Austria, ams employs over 1,800 people globally and serves more than 8,000 customers worldwide. ams is listed on the SIX Swiss stock exchange (ticker symbol: AMS). More information about ams can be found at www.ams.com.

Join ams social media channels:

Follow us on twitter https://twitter.com/amsAnalog or

Share with https://www.linkedin.com/company/ams-ag

for further information

Media Relations

ams AG
Ulrike Anderwald
Marketing Communications
T +43 (0) 3136 500 31200
press@ams.com
www.ams.com

Technical Contact

ams AG
Ronald Tingl
Senior Marketing Manager
T +43 3136 500 31241
ronald.tingl@ams.com
www.ams.com