Omron and STMicroelectronics enable smarter gas metering

Medical Design Technology

The flow sensor they have developed is a key component for the smart turn-key gas meter solution that ST is developing.

Like electricity meters some years ago, gas metering is beginning to move from traditional mechanical meters to sophisticated new electronic solutions incorporating functions such as Automatic Meter Reading (AMR). ST estimates that there are some 500 million mechanical gas meters in the world and most major gas providers are preparing programs to replace their traditional meters with more accurate, reliable and efficient electronic meters.

At the heart of the unique cooperation between a leader in metering devices and a leader in automation technology is a proprietary Omron transducer and a companion analog front-end chip developed by ST. These valuable technologies have been integrated into a complete stand-alone subsystem. The resulting flow sensor, which incorporates leading-edge MEMS (Micro-Electro-Mechanical Systems) micro-thermal sensor technology, is intrinsically compensated for both temperature and pressure variations, while a built-in circuit compensates for the variation of multiple gas composition. The sensor is dust-resistant to comply with international gas-meter standards.

“Building on our successful collaboration with ST in MEMS microphones, we are confident that this new collaboration will put both partners at the forefront of the emerging market for electronic gas meters,” said **Yoshio Sekiguchi**, Senior General Manager of the Micro Devices Division of Omron Corporation.

Mounted on a small PCB (Printed-Circuit-Board) measuring 7.2x8.6 cm, the gas-flow sensor provides high accuracy with very low power consumption, built-in motor drivers for valve control, and protection against temperature and vibration effects. The sensor board includes an ultra-low power STM8L152 microcontroller with 32 Kbytes of flash memory and an LCD display driver, the STLM20 temperature sensor, the LIS332AR accelerometer and the M41T82 real-time clock, as well as power-management and motor-control devices.

“As demand for smarter gas metering starts to take off, this collaboration with Omron puts us ahead of the field and will enable us to repeat the enormous success we have achieved in smart electricity meters,” said **Benedetto Vigna**, General Manager of the MEMS, Sensors and High-Performance Analog Division of STMicroelectronics, noting that the meter kit will greatly reduce purchasing costs and accelerate time-to-market for meter manufacturers.

This expanded relationship, which builds on a cooperative effort that Omron and ST

launched in November 2009, further strengthens ST's position in the increasingly important field of 'intelligent measurement,' i.e. applications such as electricity, gas and water metering where miniature sensors and ultra-low-power microcontrollers are combined to gather more accurate and reliable data and communicate the data to host systems that can provide the consumer with real-time information on cost and usage patterns, thereby helping them to minimize their use of non-renewable resources.

Further information will be available from both companies at ST's stand (Hall A5, Booth 207) at Electronica, November 9-12, 2010, in Munich.

About OMRON
Headquartered in Kyoto, Japan, Omron Corporation is a global leader in the field of automation. Established in 1933, and headed by President Hisao Sakuta, Omron has more than 36,000 employees in over 35 countries working to provide products and services to customers in a variety of fields including industrial automation, electronic components industries, social systems and healthcare. The company is divided into five regions with head offices in Japan (Kyoto), Asia Pacific (Singapore), China (Shanghai), Europe (Amsterdam) and US (Chicago). For more information, visit Omron's website at http://www.omron.com/

About STMicroelectronics
STMicroelectronics is a global leader serving customers across the spectrum of electronics applications with innovative semiconductor solutions. ST aims to be the undisputed leader in multimedia convergence and power applications leveraging its vast array of technologies, design expertise and combination of intellectual property portfolio, strategic partnerships and manufacturing strength. In 2009, the Company's net revenues were $8.51 billion. Further information on ST can be found at www.st.com.
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