Signal conditioner IC offers enhanced on-board diagnostics

Dresden, Germany – July 7, 2011 -- ZMD AG has introduced the ZSSC3008 sensor signal conditioning integrated circuit (IC). The ZSSC3008 is a cost-effective solution for resistive bridge sensor systems that require second-order linearity correction for a wide range of sensors.

“Customers using the ZSSC3008 benefit from its non-linear compensation feature for improved accuracy” says Steve Ramdin, ZMDI product manager. “This compensation feature, for example, makes it possible to use less expensive transducers, providing customers in industrial, medical and automotive markets with solutions that are high performance and cost effective.”

The ZSSC3008 is optimized for those applications with sensors that do not require temperature compensation because they have an intrinsically low temperature coefficient (TC). This includes ceramic pressure sensors, thin-film pressure sensors with good TC performance, and oil-filled stainless steel or passively compensated sensors. The calibrated ZSSC3008 and a specific sensor are mated digitally: fast, precise, and without the cost overhead associated with trimming by external devices or laser.

Device Features

The ZSSC3008 offers a full complement of on-board diagnostics and protection features such as EEPROM signature, bridge connection checks, bridge input-short and open-bridge detection, power loss detection, and output current limits for short-circuit protection. For sensor correction, the device employs offset correction and gain programming to precisely calibrate the bridge output signal. Two analog and

one digital outputs offer versatility across many applications.

Programming and single-pass calibration of the sensor and the ZSSC3008 is implemented in a standard PC environment using the ZSSC3008KIT development tools. The kit includes the device in an SOP8 package, development board, USB cable, and calibration software.

The ZSSC3008's standard supply voltage is 2.7 to 5.5V, or up to 30V with external JFET. Accuracy is 0.25 % over the -25 to +85°C range, and 0.5 % from -40 to +125°C. Depending upon configuration, current consumption typically ranges from 1mA down to 250?A.. Response time is typically 1ms.

Packaging and Pricing

The ZSSC3008 is housed in a SOP8 package. Unit prices start at 1,40 EUR, or USD1.83, in volumes of 1,000 devices. For high-volume pricing, please contact a ZMDI sales representative at www.ZMDI.com [1].

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[1] http://www.ZMDI.com