Energy Metering ICs Deliver 0.1 Percent Accuracy for both Active and Reactive Measurements

Analog Devices, Inc. introduces four energy metering ICs designed to improve the accuracy and performance of commercial, industrial, and residential smart meters. These energy metering ICs enable smart electricity meters to deliver improved customer billing accuracy, advanced power quality monitoring, and reduced operating costs for utility companies. The ADE7878, ADE7868, ADE7858, and ADE7854 high-accuracy energy metering ICs are designed for poly-phase configurations, including three and four wire, wye and delta services. The ICs feature 0.1 percent accuracy for both active and reactive energy measurements over a dynamic range of 1000:1 — a first for the industry — and 0.2 percent accuracy for both active and reactive energy measurements over a dynamic range of 3000:1. The new products also deliver 0.1 percent accuracy over 1000:1 dynamic range for RMS (root-mean square) current and voltage measurements.

In addition to per-phase and neutral-energy measurements, the ADE7868 and ADE7878 are able to monitor energy quality parameters such as SAG, peak, period, angle measurements, and phase sequence. Another industry first is the ability of the ADE7868 and ADE7878 to detect various tamper conditions—while continuing to operate properly—reducing field calls and meter troubleshooting time.

The ADE7878, ADE7868, ADE7858, and ADE7854 energy metering ICs are sampling now and are housed in a 40-lead LFCSP (lead-frame chip-scale package).

Source URL (retrieved on *09/18/2014 - 2:24pm*):
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