New Product Release FOR IMMEDIATE RELEASE

New Interface Provides Improved Noise Immunity for Vibrating-Wire Measurements

LOGAN, Utah (April 30, 2008) – The new AVW200 Vibrating-Wire Interface module promises to significantly improve vibrating-wire measurements that are often used for bridge monitoring. Because measuring vibrating-wire sensors involves low-level, audio-band signals, external electromagnetic noise can interfere and make it difficult to determine the resonant frequency of the sensor. If the external noise is bad enough, it can render data useless. The AVW200 applies a new method for measuring a sensor's frequency, which allows the sensor's resonant frequency to be identified and accurately measured, even in noisy environments.

The traditional method uses a time-domain approach in which the natural or resonant frequency at which the wire is oscillating is determined by exciting the wire with an AC excitation, stopping the excitation, and then measuring time between response pulses. In addition to refining the AC excitation, the new method featured in the AVW200 takes advantage of a built-in spectrum analyzer that uses spectral interpolation instead of the traditional pulse-timing approach. It samples the returned signal, performs an FFT (fast Fourier transform) to discriminate between spectral components, and then identifies and measures the resonant frequency of the sensor.

Along with improved noise immunity, the new method provides other important benefits. It provides much better measurement resolution (improving from 0.01 Hz to 0.001 Hz) as well as diagnostic information about the measured frequency. This diagnostic information includes the signal-to-noise ratio, amplitude of the dominant frequency, and an optional spectrum showing all of the frequency components.

The AVW200 can be used via SDI-12, RS-232, or PakBus network protocol. Its low power consumption and rugged design match the durability and long-term stability of vibrating-wire sensors. Wireless versions are also available, allowing for remote deployment separate from the datalogger. We expect the AVW200 to build on our reputation for providing quality measurement products for both research and day-to-day applications. For more AVW200 information, visit www.campbellsci.com/avw200.

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