



TECHNICAL SCHOOL

CB Engineering offers complimentary Technology Schools each spring and fall. The schools are designed to introduce and / or update attendees on technological advances that can have significant effects on the accuracy, reliability and functionality of the equipment they utilize. A few examples of the types of topics presented in recent sessions are below.

Safety Integrity Levels

Presented by Bud Adler, Moore Industries

Despite the reliability delivered by today's process transmitters and valve controllers, devices do fail. The more risk associated with a failure, the more important it is to ensure the operational integrity of the device. Bud will explain the intent of the ANSI/ISA 84.01 and IEC 61508 standards as they relate to field instrumentation and explain how HART Loop Monitors may be used to increase loop reliability and increase Safety Integrity Level (SIL).

Addressable Safety Systems / Approvals / Testing

Presented by Garry Peterson, Det-Tronics

Reliability and fault tolerance in a flame and gas safety system is of prime importance. Garry will explain the architecture of the Detronics system and how it satisfies the requirement of the utmost in reliability.

Vortex Meters / Fugitive Emissions

Presented by Pat Irwin, Yokogawa

Certain designs of vortex meters allow for an increased level of security against the possibility of fugitive emissions. Pat will discuss how Yokogawa's hermetically sealed sensor eliminates potential emissions and isolates the sensor from the process.

HART

Presented by Bud Adler, Moore Industries

Bud will describe ways to use HART Loop Monitors to "unlock the hidden secrets" of in-place legacy instruments and achieve similar process improvements and diagnostic capabilities as would be available with all-digital strategies.

Digital Vortex Meters

Presented by Pat Irwin, Yokogawa

The digital Yewflo vortex meter features a new digital signal processing (DSP) amplifier to analyze the vortex waveform into its spectral components to filter noise from signal for the most stable measurement possible. Also featuring an auto noise balance function, this new meter will provide excellent vibration immunity for stable, accurate measurements at low flows without any need for start-up tuning. The user benefits through greater reliability, reduced maintenance and a lower total cost of ownership.

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Advances in pH Measurement

Presented by Steve Rupert, Yokogawa Corp. of America

pH is a critical measurement in many applications. From pharmaceutical fermenters to cooling towers, accurate measurement and control of pH is essential to achieve optimal operating conditions and ensure the best product quality, efficiency, and longevity of the equipment. Diagnostic-based, intelligent pH analyzers combined with a wide variety of rugged sensors and industrial fittings are critical in achieving accurate, repeatable pH measurement.

Improving Product Quality Using a Digital Refractometer

Presented by Keijo Pyorala, K-Patents

Refractometers are commonly used to determine the concentration of dissolved solids by making an optical measurement of a solution's refractive index. This measurement has been an important element in processing industries including chemical, pulp and paper, food and beverage, sugar and sweeteners for more than a century. Digital technology utilizing solid state optics, CCD-camera and other elements common in camcorders, offers an accurate and maintenance-free way to measure concentrations in thousands of different process applications.

Recorder - Controllers Make a Comeback

Presented by Mark Hudson, Yokogawa

The combination of paperless data recording, subsystem communication and control in a single device is new again. Now you can combine analog inputs, control outputs, digital communication to other subsystems into a web-enabled, ethernet connected single device. New technology developments allow this powerful combination for little more than you're now paying for a replacement chart recorder.

Conductivity

Presented by Steve Rupert, Yokogawa

The combination of intelligent conductivity analyzers and a complete selection of industrial sensors provide accurate, repeatable conductivity measurement of everything from ultra-pure water to high concentration solutions. Conductivity analyzers should be based on simple operation, microprocessor performance, built-in sensor diagnostics, and maximum flexibility. Inductive conductivity analyzers and sensors can provide fast response and even more flexibility in the harshest industrial process applications, from mining to metal plating. The right probe with the proper coating allows accurate measurement from 0-2,000,000 microS without adjusting cell constants or using multiple probes.