

SAMPLE SEQUENCER®

Time Share One Analyzer Among Multiple Process Streams

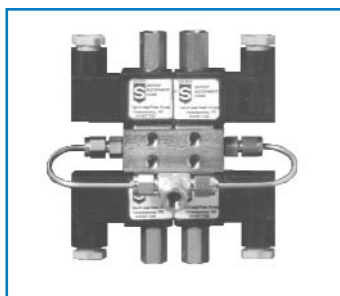
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- **Lower Reagent Costs**
- **Eliminate Errors Between Analyzers**
- **Broad Sampling Applications Include:**
 - **Power Plant Cycle Chemistry**
 - **Water and Wastewater**
 - **Industrial Processes**

The Sample Sequencer™ is a modular system capable of electronically switching up to eight sample streams dedicated to one analyzer. Time sharing of analyzers lowers both acquisition and ongoing maintenance and reagent costs while providing performance advantages.

Experienced chemists recommend time sharing samples to eliminate possible errors between analyzers and provide a precise comparison of relative values between two or more streams. For example, a single sodium analyzer, alternating between condensate polisher inlet and outlet, can resolve the onset of exhaustion with fractional ppb precision. The onset may otherwise be masked by the normal range of variation with independent analyzers. Colorimetric analyzers are subject to upscale zero drift due to cell fouling. Time sharing samples permits visual inspection by identifying relative zero and exposing zero shift when both values migrate upscale by equivalent amounts. Relative zero can be re-established without servicing the analyzer.

The sequencer is capable of operating in a cycle or batch mode. The single analyzer output is connected to the Sample Sequencer™ where various individual stream signal outputs are available including single analog output with digital stream indication, individual stream analog output signals with track and hold, or digital transmission of stream outputs via an RS-485 serial port. Using the RS-485 capability, one can connect a PC via twisted pair cable to one or more Sentry Sequencers™ for remote monitoring, control and data acquisition. Commutated alarm contacts for low/high analog alarm and analyzer system alarm indicator are also available.



Assure a representative sample with a Manifold Sample Valve (4 or 8 stream). See Bulletin 5.5.20

Savings

Typical savings on reagents and analyzer maintenance can easily exceed several thousand dollars annually for a typical 4 stream sequenced analyzer. One utility reported annual maintenance and reagent savings of \$5,800 when they replaced four older sodium analyzers with one new analyzer and a Sample Sequencer™. In a new installation, this configuration would have saved approximately \$20,000 in initial equipment and installation costs.

SPECIFICATIONS

Power: 108-132/216-264 VAC, 47-63 Hz

Number of channels: 8 standard

Inputs from Analyzer: One analog input: 0-20 mA, or 4-20 mA.
One digital input (dry contact closure) for indications of end-of-batch analysis signal for batch mode operation.
One digital input (dry contact closure) for analyzer system alarm indication. This signal shuts off the Sample Sequencer™ and valves.

Outputs: Standard Outputs:
RS-485 serial communication port (for networking any RS-485 units to a PC).
Valve Output Relay Board to control maximum eight (8) solenoid valves (DC or maximum 250 VAC solenoids).
Signal Switching Output Board with eight (8) DPDT relays for analog signal switching or contact closure point number indication.
One discrete digital 5V logic level signal to indicate when to start analyzer.
Option Output Boards:
Four (4) point Analog Output Board for individual analog signals (track & hold).
0-1 VDC Output Board to indicate channel number.

Software: SEQUENCER™
An optional computer program is available to monitor, control and provide data acquisition for the Sample Sequencer™.

Accuracy of Sequencer: ± 0.1% full scale on standard unit, ± 0.2% F.S. with plug-in track & hold.

User Interfaces: Integral membrane switch keypad and IBM compatible PC with serial RS-485 connections.

Display: Alphanumeric LED read-out display of channel number, time, alarms, analog signal and station #. Eight LEDs for channel indication and alarm annunciation. Removable sample name tag.

Case: Material - Noryl. NEMA-4X on face-plate with NEMA 12 rear cover.
Option - NEMA 4X backplate for surface mounting.

Mounting: Panel or surface mount, 5.35" x 5.35" x 6.26" (136mm x 136mm x 156mm) deep.

Ambient Temperature: 0-60°C; RH 90% max, non-condensing at 40°C max.

Designed to meet: UL, CSA, IEC, CE

Manifold Valve Assembly: See Bulletin 5.5.20



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