Sentry Sample Sequencer™ IV and Sample Manifold

Time share two analyzers among multiple process streams with the Sentry Sample Sequencer IV. Using less instrumentation can reduce reagent and analyzer costs. Eliminate ongoing maintenance costs and possible errors.

Use the Sentry Sample Manifold Valve to assure representative samples will be supplied to the analyzer.

Features and Benefits

Versatility

The Sentry Sample Sequencer IV is a microprocessor-based modular programmer that can electronically switch between a maximum of eight sample streams to two analyzers when used with the electrically controlled Sample Manifold. The Sample Sequencer is designed for use with Hach's Series 5000 line of analyzers. It connects the analog output signal to a recorder or a data acquisition system. Use the sequencer's RS485 output to connect a PC to the Sample Sequencer for remote monitoring, control, and data acquisition. Alarm contacts for low/high analog alarm and an analyzer system alarm alert for connection to an annunciator are also available.

Convenience and Ease of Use

The Sample Sequencer IV can be programmed from the keypad on the front display or from a computer. Individual programmable sample timers and custom sequence lets the sequencer conform to unique sampling requirements. The most recent 255 values can be viewed with a built-in data logger. Remaining sample points not used can be used to time-share a second analyzer. Programmable functions include a high alarm and low alarm for each point and an analyzer system alarm. An easy to read display shows user configurable sample names and analyzer descriptions, analyzer readings displayed in engineering units, and the status of each analyzer.

Share Analyzers for Less Errors

Experience has shown that analyzing multiple process streams eliminate possible errors between analyzers and provide a precise comparison of relative values between two or more streams. For example, a single silica analyzer, alternating between condensate polisher inlet and outlet, can resolve the onset of exhaustion with fractional ppb precision. The normal range of variation with independent analyzers may otherwise mask the onset.

Rugged Construction

The Sample Sequencer IV is designed for panel mounting. It is housed in a NEMA 4X (IP66) enclosure.

Method of Operation

The sequencer operates independently from the analyzer, waiting to receive the instrument's end-of-cycle signal before it switches sample input and signal output lines. Since the Series 5000 is also operating independently, it can analyze a different sample stream each cycle.

Optional Sample Manifold

The Sentry Manifold Sample Valve Assembly (Sample Manifold) has a patent-pending design that provides flow in both directions from the open valve. All lines flow continuously to ensure a fresh sample. Dead legs are eliminated. Available with four or eight valves, the Sample Manifold features a block-and-bleed design that prevents cross contamination and minimizes purge time. The space-saving Sample Manifold has a high-velocity sample flow, and uses long-lasting solenoid valves with stainless steel tubing.

Specifications*

Maximum Number of Samples
8

Maximum Number of Analyzers
2

Power
Input Voltage: 85 to 265 Vac
Frequency Range: 47 to 440 Hz
Input Current: 1 A / 115 V; 0.7 A / 230 V

Inputs from Analyzer
Two analog inputs: 0-20 mA
or 4-20 mA (59 Ohm load)

Two digital inputs for end-of-analysis indication.

Two digital inputs for calibration indication.

Two digital inputs for analyzer system alarm indication.

Nominal Accuracy
Analog Inputs: ± 0.0015 % full scale
Analog Outputs: ± 0.2 % full scale

Resolution
Analog Inputs:
0.038 µA/Least Significant Bit
Analog Outputs:
0.331 µA/Least Significant Bit

Outputs
Valve outputs (12 Vdc) to control a maximum of eight solenoid valves for sample stream switching.

10 DPDT relays for point number indication and replicated Analyzer Alarms. Contact ratings:

- Maximum operating voltage: 250 Vac, 220 Vdc
- Maximum switching capacity: 30 W, 62.5 VA inductive; 60 W, 125 VA resistive.

Current Outputs: 8 isolated 0 to 20 or 4 to 20 mA outputs

- Isolation: 550 Vac
- Maximum Load: 600 Ohm

Data Logging
255 records

Keypad
Seven tactile feedback membrane switches

Display
Four line by 20 character Vacuum Fluorescent Display (VFD).

Ambient Conditions
0 to 50°C
95 % relative humidity non-condensing at 40°C maximum

Enclosure
NEMA 4X (indoor), IP 66

Mounting
Panel, surface, or pipe mount

Dimensions
226.8 x 244.6 x 171.7 mm
(8.93 x 9.63 x 6.76 in.) with mounting bracket

Shipping Weight
2.72 kg (6 lbs.)

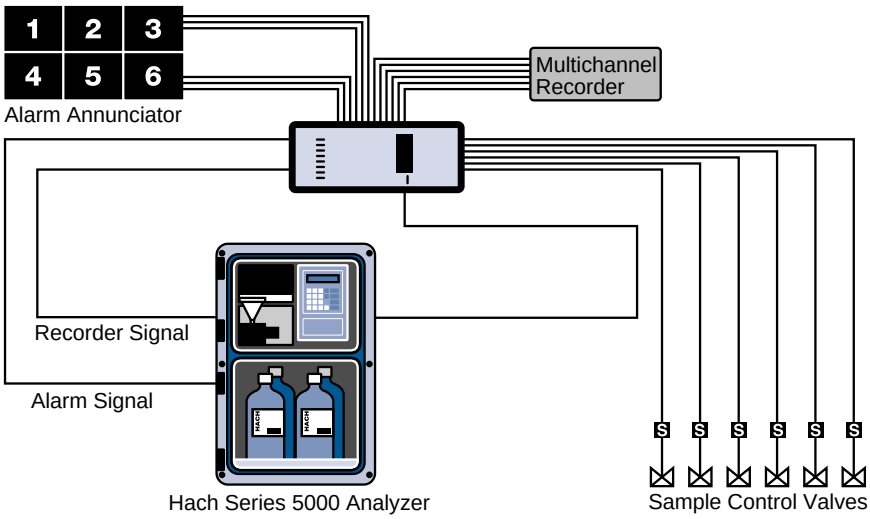
Agency Approvals
CE, CSA, c-CSA-us

**Specifications subject to change without notice.*

Engineering Specifications

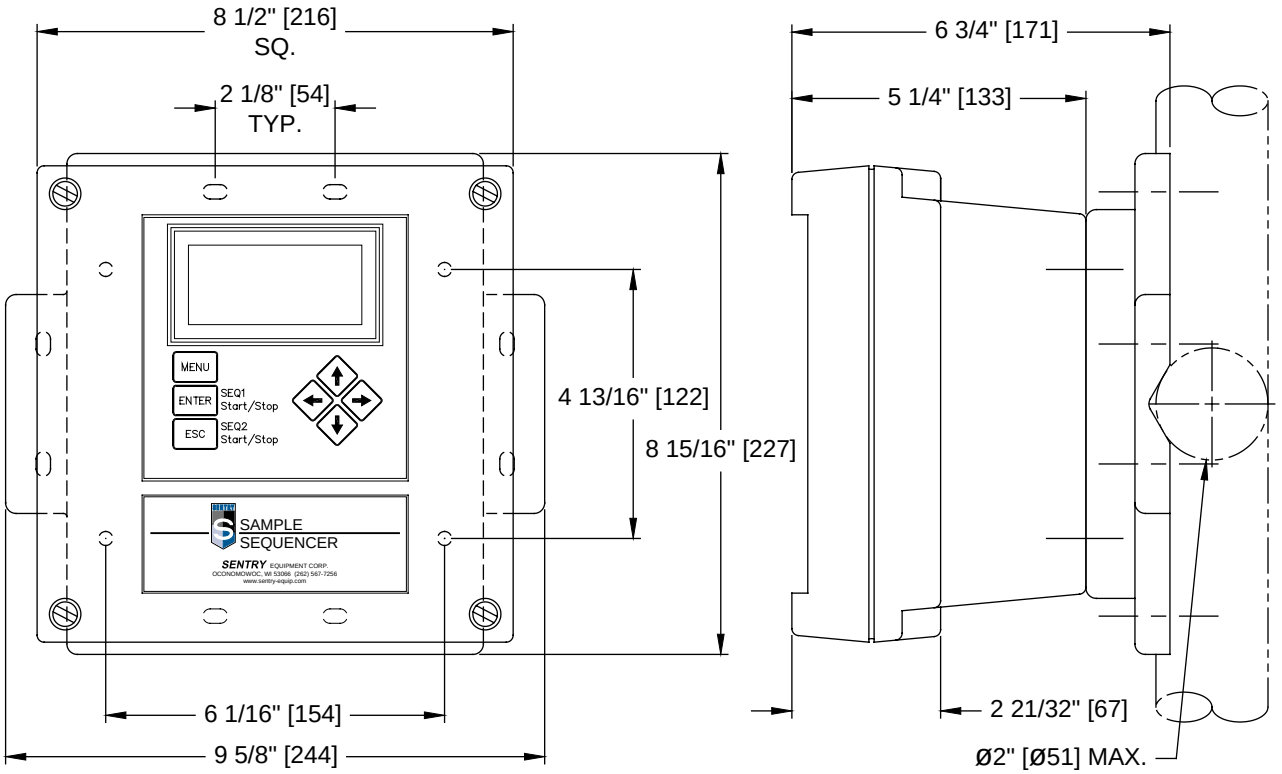
1. The sequencer shall be a microprocessor-based system capable of electronically switching a maximum of eight sample streams between two analyzers.
2. The sequencer shall use input voltage of 85 to 265 Vac, 47-440 Hz.
3. The sequencer shall accept two 0-20 mA or 4-20 mA analog inputs. Two digital inputs shall be provided for end-of-analysis indication. Two digital inputs shall be provided for calibration indication. Two digital inputs shall be provided for analyzer system alarm indication.
4. The sequencer shall be equipped with 12 Vdc valve outputs to control a maximum of eight solenoid valves for sample stream switching.
5. The sequencer shall be equipped with ten DPDT relays for point number indication and replicated Analyzer Alarms.
6. The sequencer shall be equipped with eight isolated 0 to 20 or 4 to 20 mA outputs.
7. The sequencer shall be capable of data logging 255 records.
8. The display of the sequencer shall be Vacuum Fluorescent Display (VFD) and four lines by 20 characters.
9. The enclosure of the sequencer shall be NEMA 4X (indoor), IP 66 rated.
10. The sequencer shall be capable of panel, surface, or pipe mounting.
11. The sequencer shall have CE and CSA agency approvals.
12. The sequencer shall be the Sentry Sample Sequencer IV sold by Hach Company

Sequencer Flow Diagram

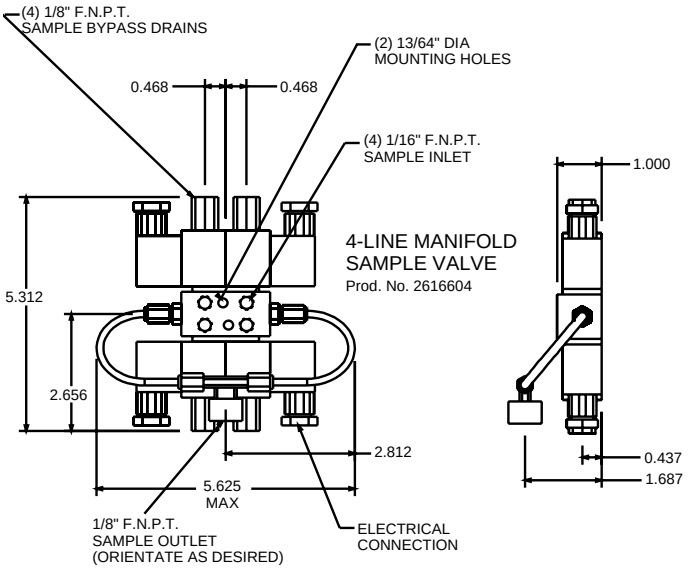


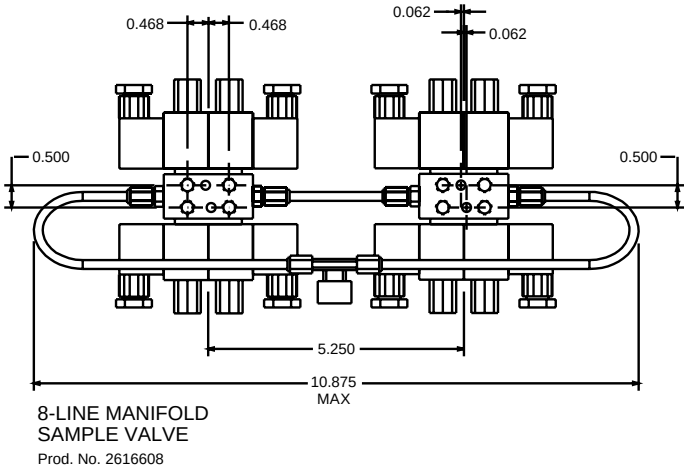
Dimensions

Sentry Sample Sequencer IV



Sentry Sample Manifold Valve





Ordering Information

Sequencer and Manifold

2873100 Sample Sequencer IV, up to 8 points between two analyzers, 85 to 265 Vac, 47 to 440 Hz, 8-point track and hold, 12 Vdc valve outputs

2616604 Manifold Sample Valve Assembly, four sample, CE approved

2616608 Manifold Sample Valve Assembly, eight sample, CE approved

2628000 Power supply, 12 Vdc, 120 Vac, 60 Hz (for manifold)

2628002 Power supply, 12 Vdc , 220 Vac, 50 Hz, European-style plug, CE approved

2626000 Manual, Sample Manifold

Accessories

2634800 Connector, 1/16-inch NPT to 1/8-inch OD tubing

4599600 Connector, 1/8-inch NPT to 1/4-inch OD, stainless steel compression fitting

2654300 Fuse, 1 amp, 5 mm x 15 mm, 2 ag

2617300 Kit, Solenoid Valve Repair

2629100 Transmittal Drawing

Lit. No. 1444 Rev 1
D8 Printed in U.S.A.

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