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Model 1115i Synchronized Multi-Port Sampler

Rev 102318

Tekran 2537X with 1115i Plugin

1115i Four-Port High Flow Manifold Option

1115i Valve Control Interface

The **Tekran® Model 1115i Synchronized Multi-Port Sampling System** utilizes the advanced capabilities of the Model 2537X Mercury Vapor Analyzer to conditionally control up to eight separate valve input/output ports. The 1115i can be configured to automatically sample eight separate input ports. Valves can be triggered based on a pre-set activation time, pre-set delay intervals, A/B cartridge cycle status, measured Hg concentration, ADC triggers from external devices, or from activation of monitored trigger inputs channels. The 1115i provides unique data flag assignment in the recorded data for each programmed event to aid in tracking which valve/event was active. The 1115i expands the capabilities of the 2537X to an incredibly wide range of research and monitoring applications.

Instrument Features

- Either manual or automatic selection among up to eight sample input lines
- Sample switching is synchronized to a range of internal or external triggers
- Fully programmable switching pattern. For example, pairs of readings in each position may be sampled, eliminating any A/B cartridge bias
- Either the home port (Port #0) or the Model 2537 ZERO solenoid may be designated for flushing between samples
- Event flag automatically assigned to Model 2537X data output
- Real-time display of 1115i Valve status conditions
- Manual control of instrument Zero and Perm Source, and Calibration Initiate functions
- Four, six or eight port manifolds available
- High-flow manifolds have large orifice Teflon® valves with ¼" Quikgrip® fittings
- Low-flow manifolds have miniature Teflon® valves with ¼-28 fittings
- All Teflon® sampling path

Applications

- Flux Measurement
- Multiple Stream Monitoring
- Post-Analysis Hg Recapture
- Speciation Studies
- Conditional Sampling
- Isotopic Abundance Studies

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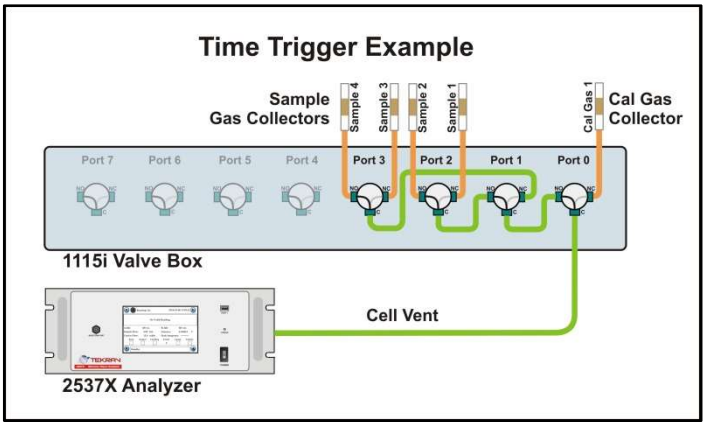
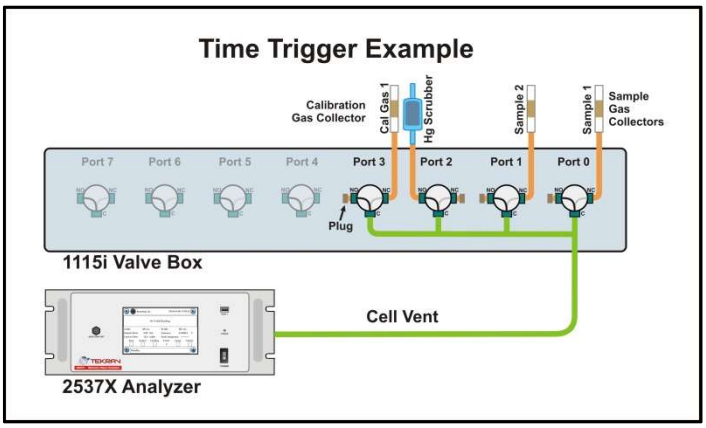
Example Valve Configurations

In this example, the 1115i is configured to collect mercury from different time periods of 2537X operation, as well as separate out the calibration gas from sample gas. For instance, the Hg from the sample gas can be conditionally split and recaptured for daytime/night time periods. Collection intervals can be set for a specific period, such as a 2 week interval. In this example, Week 1 is gathered on Collectors 1 & 2 and Week 2 is gathered on Collectors 3 & 4.



Example 1: Valve switch based on time interval

In this example, air is sampled from two different locations, and the measured Hg is recaptured in sample collectors. Outside air is collected from the normally open port of Valve 0, and inside air is collected from the normally closed port. The measured Hg is recollected at Port 1 (Outside Air), Port 2 (Inside Air), and Port 3 (Calibration Gas). This allows subsequent measurement of isotopic abundances from three chemically distinct sample sources.



Example 2: Valve switch based on 2537X A/B Cycle

Manifold Options

The Model 1115i Synchronized Multi-Port Sampler includes the following components:

- 1115i Valve Control Interface
- 1100i Control Interface Plugin
- Power Adaptor
- 1115i Valve Port Manifold
- Instrument Interface Cables
- User Manuals

The valve manifolds is configurable in the below standard configurations or any custom arrangement of up to 8 valves. High-flow manifolds contain ¼" fittings and are ideal for low-level ambient work with flow rates up to a few L/min. Low-flow manifolds have minimal dead volume and use 1/8" tubing with miniature valves having ¼-28 fittings. They are suitable for flow rates of up to 500 mL/min. Each manifold is supplied with a 10 ft. cable for connection to the controller.

- Opt. 104 Four Port high-flow rate manifold
- Opt. 106 Six Port high-flow rate manifold
- Opt. 108 Eight Port high-flow rate manifold
- Opt. 204 Four Port low-flow rate manifold
- Opt. 206 Six Port low-flow rate manifold
- Opt. 208 Eight Port low-flow rate manifold

Note: The 1115i device is NOT backward compatible with 2537A or 2537B instruments.