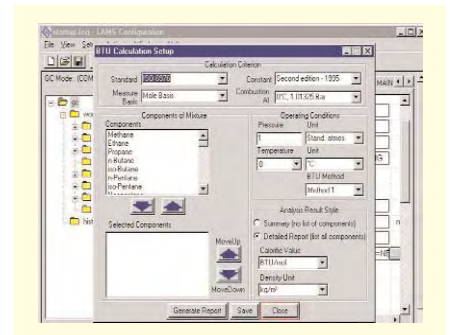


FXi Series5

FXi™ Series5

Developed from a heritage of highly reliable and field proven systems, AIT introduces the next generation process gas chromatograph, the **FXi Series5**. The FXi Series5 continuously analyzes and reports component concentrations and physical properties of process gas streams in a wide variety of applications in the natural gas, refining, petrochemical, chemical and pharmaceutical industries.

- Seamless connectivity with the Invensys-Foxboro® I/A Series® system data highway as well as DCS and LAN systems through Modbus®, OPC®, Ethernet and analog protocols.
- LAMS Windows® based FXi software operated by a touchscreen color graphical user interface.
- Large, easy to read display of real-time chromatograms with zoom and overlay features eliminates the need for strip chart recorders.



FXi Series5 BTU Screen



FXi Series5 with Color Graphical User Interface

- Versatile detector and column options can be integrated with the FXi to provide application flexibility. Detector options include Thermal Conductivity (TCD), Flame Ionization (FID), and Flame Photometric (FPD). Column options include capillary, micro-packed, and packed columns.
- Highly stable, field proven and easily maintained analyzer oven provides outstanding chromatographic performance with a high level of uptime.
- New revolutionary Carrier Gas Regulator System improves analytical performance.
- Upgrade kits are available to bring any existing installed Foxboro 931C and 931D front panels up to the new FXi interface.



AIT Applied Instrument Technologies • FXi Series5

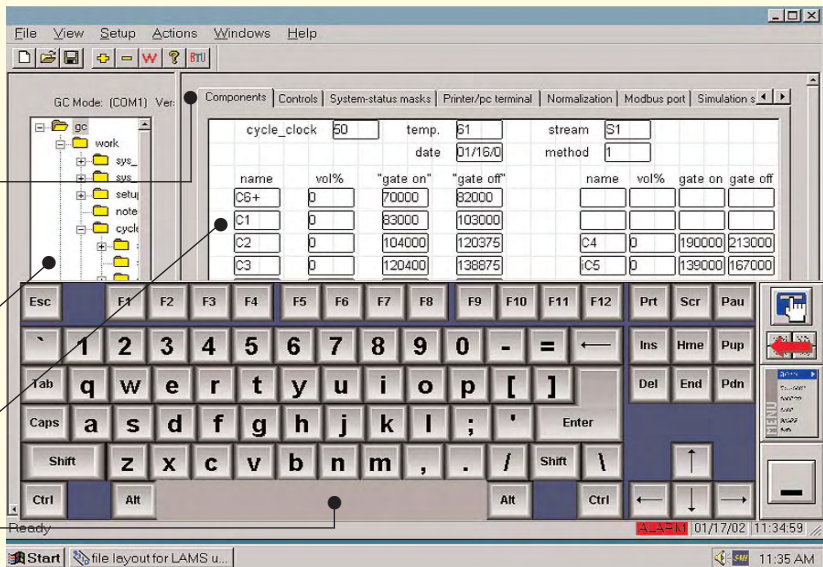
LAMS – Local Analyzer Management System Software

One button “fast program” shortcuts for diagnostics and configuration

Tree structure display with all PGC functions allowing custom programming

Status display indicating current PGC activity

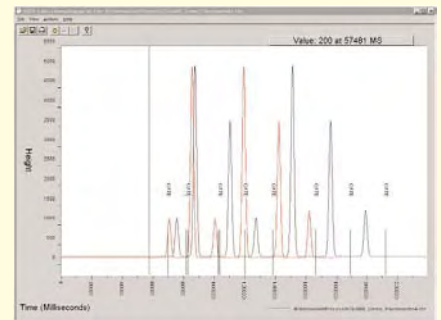
Built-in touchscreen keyboard available on demand



The FXi Series5 is equipped with a front panel graphical user interface.

It is presented in a Windows-based touchscreen format that allows all control, status and maintenance functions to be easily accessed and changed.

- Powerful 10.4"(26 mm) color graphic display offers a user interface using windows pull-down buttons and tool bar.
- Real-time, last, or saved chromatograms displayed at the push of a button.
- Chromatogram display in large, easy to use screen that eliminates the need for strip chart recorders during maintenance and troubleshooting.
- Overlay up to 6 chromatograms in different colors simultaneously.
- Zoom windows for details of chromatogram, baseline and peak separation for true PGC diagnostics.
- Capable of storing months of chromatograms with cycle times and event markers for fast data analysis.
- Customize control of the PGC utilizing the built-in menu tree structure.
- Programable screen objects allow fast review and total control of status and functions.
- Virtual keyboard functions available on demand via the tool bar.



FXi Series5 Real-Time Chromatograms Screen

Foxboro 931C and 931D Upgrade Kits

931D Upgrade Kit– Field installation of a new door in less than 4 hours provides the latest benefits of the FXi Series5.

931C Upgrade Kit– Field installation of our Kit in less than 24 hours provides the latest benefits of the FXi Series5. The Upgrade Kit includes a new door, power supply, GC controller and cabling.

Open System Design

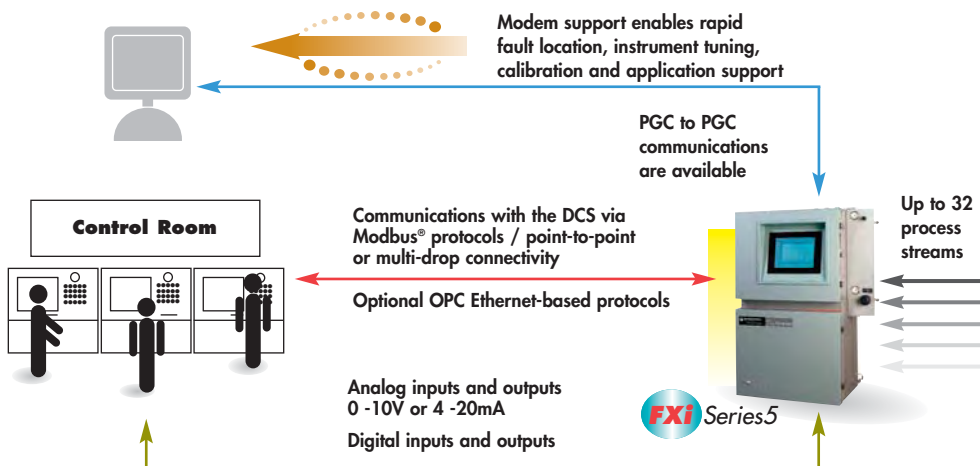
- The FXi Series5 can function in a variety of system architectures from a standalone unit to large scale analyzer networks and Distributed Control Systems.

Networking and Communications Capabilities

- The FXi Series5 has full open communications that can be connected to industry standard networking serial communications (RS232, RS485) and MODBUS® (both Modicon and Daniel).
- Open Ethernet TCP/IP communications using OPC or remote control software.
- The FXi Series5 is an intelligent analyzer capable of seamless direct connection to the Foxboro-Invensys I/A Series® Fieldbus that includes an I/O Workstation Analyzer Management System.
- Modem capability allows for secure remote access for maintenance.
- The FXi Series5 offers PGC to PGC communications for configuration flexibility.

Workstation Options

- Remote PC for interfacing to single or multiple PGC's as an Analyzer Management Workstation for functions such as real-time chromatograms, analysis data reports, printer ports and programming control.
- Remote Ethernet and modem also available for system flexibility.



Applications

Chemicals

Ammonia Plants
Chlorine Plants
Air Separation Plants

Natural Gas Processing

BTU Analysis
H₂S and Total Sulphur
Natural Gas Sweetening

Petrochemicals

Ethylene Plants
Polymerization Processes
Convert Control
Reactor Control
Distillation Control
Purification Efficiency
Product Purity
Ambient Air Monitoring
Process Safety Monitoring
Sterilization Analysis
Aromatics Products
Additive Product Analysis

Petroleum Refining

Alkylation
Catalytic Reformer
Crude Distillation
Catalytic Cracker
Light Ends Recovery
Hydrogen Reforming
Vapor Recovery
Isomerization

Pharmaceuticals

Sterilization
Solvent Analysis
Purity

AIT Applied Instrument Technologies • FXi Series5

Gas Chromatograph Standard Specifications

Analytical Performance – System Repeatability by Range and Column Type*

Range	FID packed	FID capillary	TCD packed
0 - 100%; 0 -1.0%	±1.0%	±1.0%	±1.0%
0 - 0.5%	±1.0%	±1.5%	±1.5%
0 - 0.1%	±1.0%	±2.0%	±2.0%
0 - 500 ppm	±1.5%	±2.0%	±3.0%
0 - 100 ppm	±2.0%	±2.0%	±4.0%
0 - 50 ppm	±2.0%	±3.0%	–
0 - 10 ppm	±2.0%	±4.0	–
0 - 5 ppm; 0 -1 ppm	±3.0%; 4.0%	–	–

Environmental and Oven Specifications

- Oven Temperature Range: 40° to 150°C (104° to 302°F)
- Temperature Control: ±0.02°C (± 0.05°F)
- Ambient Temperature Limits: - 15° and +50°C (5° and 122°F)
- Relative Humidity Limits: 0 - 95%, noncondensing
- Inside Oven Wall Material: AISI Type 316 stainless steel (316 ss)
- Inside Dimensions of Oven (W x H x D): 457 x 356 x 254 mm (18 x 14 x 10 in)
- Overall Dimensions (W x H x D): 584 x 1067 x 385 mm (23 x 42 x 15.3 in)
- Approximate Mass: 118 kg (260 lb)
- Power Requirements: 120 V ac, ±10%, 50/60 Hz, or 220 V ac, ±10%, 50/60 Hz, or 240 V ac, ±10%, 50/60 Hz
- Power Consumption: 1100 VA
- Electrical Safety Specifications: Suitable for use in European Zone 2, Group IIB+H2 with local approval. Suitable for use in general purpose and non-hazardous areas
- Certified CENELEC as EExp for IIB + H2 with air or nitrogen purge and purge control for Zone 1 or Zone 2

Stream Switching / Analog & Digital

- Up to 32 stream switching relays – solid state 240 VAC, 3A
- Digital Inputs – 16 digital inputs for monitoring the PGC and sample conditioning system are provided as standard
- Digital Outputs – Up to 32 solid state rated at 3 A @ 240 VAC or voltage free contacts rated at 0.5 A at 50 VAC or DC
- Analog Inputs – Two analog input channels or two 0 - 10 V DC signals can be integrated into data reports and analysis system
- Analog Outputs – Up to 24 isolated 4 - 20 mA signals proportional to measured range are optionally available for trending

Expansion Capabilities

- RS-232 serial port, parallel printer port, USB port, floppy disk drive port, 10/100 BaseT Ethernet interface
- Internal memory for archiving data: 30GB

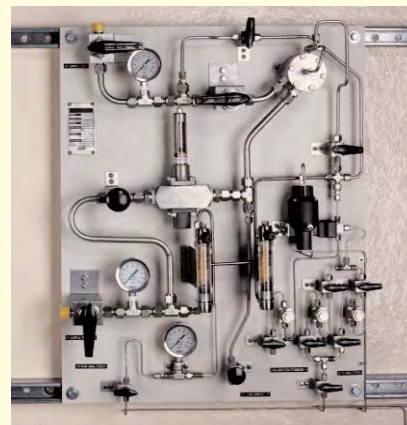
Gas Requirements

- Operating Air: dry and oil-free air at 345 kPa (50 psi) minimum and 3.4 to 5.1 m³/h (2 to 3 ft³/min) at standard conditions. Maximum supply pressure is 690 kPa (100 psi)
- Carrier Gas: per application (e.g., He, N₂, H₂). Chromatographic grade (CG) required. Max. supply pressure is 414 kPa (60psi)
- Zero Air: CG hydrocarbon-free, dry air at 400 cm³/min (0.85 ft³/h) required for FID. Max. supply pressure is 414 kPa (60psi)
- Zero Hydrogen: CG hydrocarbon-free, dry hydrogen at 40 cm³/min (2.4 in³/min) required for FID. Max. supply pressure is 414 kPa (60 psi)

Detectors

- Thermal Conductivity, Flame Ionization, Flame Photometric, application dependent.
- Automatic safety shut-off protection for each detector

*Note: stated here are typical and must be confirmed based on specific application.



Sample Conditioning Systems

We can design and build single or multi-stream sample conditioning systems to optimize the performance of your FXi Series5 analyzer.

Experience

Our staff of applications experts can provide you feasibility and design services that set the worldwide standard. We also provide start-up and commissioning support to ensure your success.