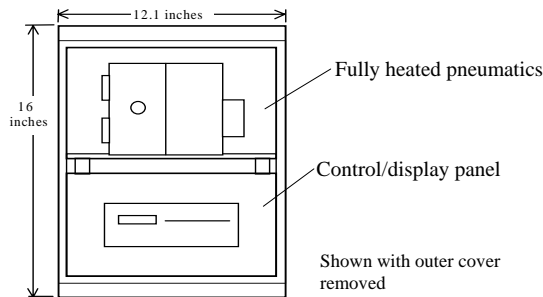




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## AcuPro® Infrared Process Analyzer



### Specifications

Part #	SNR610
Calibration:	0 to 100% Lower Flammable Limit (LFL)
Operating Temperature	Sensor heated to 60°C (140°F)
Accuracy (single solvent)	± 3% of full scale reading or 10% of applied gas whichever is greater
Repeatability	Within 1% of measurement range
Zero Stability	± 1% in 30 days
Span Stability	± 5% per year
Response Time	Less than 4 seconds
Temperature Limits	
Operating	-20°C (-4°F) to 60°C (140°F)
Power Requirement	120 VAC +10% -15% 50/60 Hertz 400 Watts maximum, 230 VAC optional
Oxygen	0-21% O <sub>2</sub> in sample
Compressed Air	20 PSIG, regulated, clean, dry
Air Consumption	42 SCFH, 21 liters/minute
Humidity Range	0% to 100% Relative Humidity
Relays	Three (3) SPDT 60 Watt contacts Three (3) SPST 60 Watt contacts
Relay functions	Six relays for: Warning; Danger; Fault; Horn; Calibration-in-Progress and Service needed
Alarm Function	Adjustable alarm ranges
Analog Output	4-20mA, 275 Ω max. includes line length
Digital Output	RS-485 Serial, Modbus protocol
Sensor Cell Material	Hard-coat aluminum
Sample Train Material	Hard-coat aluminum & brass (ss optional)
Sensor Cell Rating	Explosion proof, Class I, Division 1
Hazardous Area Rating	Class I, Div 2, Groups A, B, C, D Purged to Class I Division 1 (optional)
Enclosure Rating	NEMA 12, indoor NEMA 4x (optional)
Assembly Dimensions	16" H x 12.1" W x 8.5" D
Solvents Measured:	Ethyl Acetate, Isopropyl Acetate, Ethanol, n-Propanol, Isopropyl Alcohol, n-Propyl Acetate, Acetone, Toluene, Xylene, MEK, Hexane, and Heptane.
Approvals	FM (standard) FMc, CE, ATEX (optional)

### Assembly Design

The AcuPro® is an industrial strength analyzer with a complete sampling system, heated optical cell, and integrated controller for continuous measurement of flammable, and some combustible vapors, from 0% to 100% of the Lower Flammable Limit (%LFL, or LEL). It is suitable for monitoring a single solvent in a wide variety of processes. And it may be used for mixtures of solvents with a reduced level of accuracy in processes where the normal solvent concentrations are below 25%LFL.

### Sensor Design

The analyzer's non-dispersive infrared detector (NDIR) has a unique heated, multiple-wavelength, mirrorless design. Heating to 60°C prevents errors from process temperature changes, prevents condensation of water vapor, and maintains accuracy for solvents with Flash Points up to 60°C. A multiple wavelength detector reduces variation in reading for different solvent types. And the mirrorless design simplifies maintenance by reducing the effects of contamination on the optical cell.

### Sampling System

An integrated sampling system extracts a sample from the process using a built-in aspirator that develops suction from compressed air. Infrared energy is passed through the sample, and the amount of infrared energy that is absorbed determines the concentration of solvent vapors. Multiple infrared detectors at select wavelengths help convert concentration data into %LFL flammability readings with greater accuracy for a wider range of solvent types.

The analyzer employs compressed air to drive its integrated air-aspirated sampling system. This method is simple, has no moving parts and requires very little maintenance. Autocalibration solenoids, which allow remote activation of calibration tests, are standard.

### Failsafe Operation

A fault relay de-energizes whenever any of the following occur: controller electrical failure; loss of system power; loss of IR source and loss of flow.

### Outputs

The system includes six relays: single-pole, double-throw relays for Warning, Danger, Fault; and single-pole, single-throw relays for Horn, Calibration-in-Progress and Service Needed. Other standard outputs include a 4-20mA analog output and an RS-485 serial port with Modbus protocol. Digital remote access and control is available.

### Performance

The response time is less than 4 seconds. The analyzer exhibits a very stable zero: less than one percent drift in thirty days. Calibration accuracy has less than five percent error per year. AcuPro® is immune to poisoning and does not require oxygen for operation.