



Technologies for safeguarding our Planet.



MULTI GAS INSITU ANALYZER

Infra G MULTI GAS INSITU ANALYZER

APPLICATIONS:

- Coal & Fossil Fuel Power Plant
- Cement & Lime Kilns
- Biomass Fueled Power Plants
- Steel Mills & Metal Foundry
- Cogeneration Facilities
- Paper & Pulp Industries
- Gas Fired Turbines & Boilers
- Chemical & Pharmaceutical
- Refuse & Waste Incinerators
- Refineries & Oil Processing Plants

FEATURES:

- Multichannel measurement for up to five components – additional gas channels available
- Direct insitu measurement, no sampling system
- Inbuilt filter allows no ingress of dust to optics
- Heated probe optics prevents condensation
- Auto-purge eliminates risk of contamination of optics
- Long life infrared source
- Single moving part in Optical Head Unit for maximum reliability

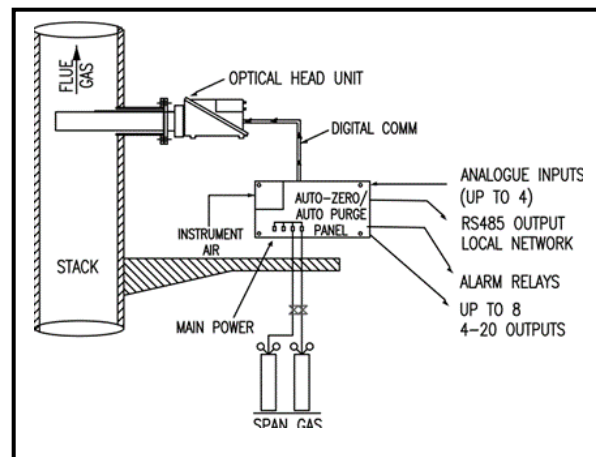


PRODUCT DESCRIPTION:

The Infra G Insitu Series of instruments is designed for on-line analysis of up to five gas phase process components. The system comprises three units: the Optical Head Unit (OHU), and the Auto-Zero/Auto-Purge Panel (AZAP). This instrument operates on the dual wavelength infra-red principle, wherein a beam of specific wavelength infra-red radiation is sent through the sample cell of the Optical Head Unit. The beam is then partially absorbed by the gaseous components to be measured.

The Optical Head Unit (OHU) requires no independent power supply; all necessary power is supplied via the AZAP Panel interconnection cables. The AZAP Unit displays gas concentration (s) on the integrated monitor along with information on sample conditions, diagnostic data and component trends.

In addition to its auto-zero function, the AZAP Panel has a safety function. In the event of power loss to the Optical Head Unit, or too low or too-high sample temperatures, the AZAP Panel will purge the sample cell with air. This is done in order to prevent any condensation forming in the sample cell, condensates which could be highly corrosive.



Infra G ADVANTAGES:

The Infra G features high grade mechanical, optical and electronic components that allows for high performance and reliability. The analyzer is suitable for applications where elevated pressure, temperature, and dust are present.

The housing is comprised of a rugged industrial design that conforms to IP65. Network, MODBUS (4) 4-20mA analog inputs, (8) 4-20mA outputs, and configurable relay outputs are available.

No sampling system is required, and the low maintenance requirements reduce ownership costs to a minimum.

MEASURED PROPERTIES:

- Ammonia
- Butane
- Carbon Dioxide
- Carbon Monoxide
- Chlorine
- Chlorine Dioxide
- Ethane
- Ethylene
- Fluorine
- Hydrogen
- Water Vapor
- Hydrogen Chloride
- Hydrogen Fluoride
- Hydrogen Sulphide
- Propane
- Methane
- Nitric Oxide
- Nitrous Oxide
- Nitrogen Dioxide
- Sulphur Dioxide
- Oxygen
- Formaldehyde

**MULTI GAS INSITU ANALYZER****TECHNICAL SPECIFICATIONS**

Optical Head Unit (OHU)	
Principle of Operation	Non-dispersive infrared (NDIR) absorption
Spectral Range	Specific application dependent wavelengths selected between 2µm and 12µm
Gases Measured	Up to five heteratomic molecular gases. Consult factory for details on additional gases
Infrared Source	Unenclosed filament operating at 825°C
Infrared Detector	Solid State pyro-electric
Wavelength Selection Method	Interference filters mounted on rotating filter
Infrared Path Length	1500 mm (max insertion assumed), dependent on probe length
Minimum Sensitivity	Application dependent, usually between 100 ppm and 1000 ppm. Contact factory for higher or lower range.
Cross Sensitivity to Other Components	Negligible due to unique algorithm software and wavelength selection
Accuracy	Application dependent, usually ±2%
Overall System Response Time	Application dependent, usually better than 1 min to 90% FSD.
Optical Protection	Sintered stainless steel filter shroud of nominal pore size 5 microns.
Sample Temperature Requirements	0-300°C maximum for insitu mounting in stack or duct, STD, Max 1300°C in semi extractive method. Contact factory for higher temperature or lower temperature near dew point.
Sample Pressure Requirements	-1 to +10 bar (-15 to 140 psi)
Vibrational Sensitivity	Minimal due to anti vibration gasket supplied as standard
Ambient Temperature	-10 to +65°C
Calibration Requirements	Auto zero adjustment, Manual calibration span check every 6/12 months. Dependent on application.
Duct Width Requirements	Minimum 450 mm, contact factory for additional options
Materials in Contact with Sample	Calcium Fluoride, Sapphire, glass, 316 stainless steel, high temperature silicon, aluminum. No silicon in O2 model.
Services Required	All Services supplied by cables from Auto-Zero/Auto-Purge Panel.
External Protection	Aluminum alloy IP65 casting with anodized black finish
Weight & Dimensions	20kg, 780 L x 166 H x 244 W (mm)

Auto-Zero/Auto-Purge Panel (AZAP)	
Function	Control and filtration of zero and purge air for IS2500 MGA optical head unit. Processing of raw data from optical unit, control of auto-zero/auto-purge function, data display, data logging and data transmission, SOC (system on chip) based design.
Display Parameters	Real time display of gas concentration, real time clock and calendar, raw data figures, sample temperature, analyzer temperature, filter wheel speed, auto-purge status, alarm set points.
Display Controls	Touch Screen Color Display
Auto-zero frequency	Application dependent
Auxiliary Inputs	4 analogue inputs 4-20mA
Data Transmission	8 current outputs 4-20 mA isolated into 500 ohms. RS 422 output, relay outputs for alarm conditions, RS485, MODBUS, TCP/IP
Data Storage	Logging capability for up to 30 days, can be expanded as required
Ambient Temperature	10 to +65°C
Auto-purge frequency	Typically 4 hours
Components in System	Flow regulator, solenoid valve, flow meter, power supply, terminal block, air pump optional.
Services Required	Clean, dry instrument air at 20 CFM (non-continuous usage), 110/240 VAC 50/60 Hz
Weight & Dimensions	10Kg., 440 L x 180 H x 380 W (mm)

Separation Between System Components	
Optical Head to Auto-Zero/Auto Purge Panel	Max recommended 2000ft cable length RS422 with low voltage 24 VDC supply to OHU