

Model 300 Single Gas Non-Dispersive Infrared NDIR Analyzer

The VIG Industries, Inc. Model 300 is designed to measure a single gas (or two with oxygen option). The Model 300 optical bench consists of the IR source, sample cell, and patent pending detector. The source control circuit provides a controlled current square wave to the infrared source. No mechanical chopper is used so there are no moving parts in the Model 300 optical bench which require adjustment or can wear out. Infrared energy from the source passes through the sample where energy at specific wavelengths is absorbed by the sample. The closed sample path eliminates interfering absorption from ambient air. The energy not absorbed in the sample cell reaches the detector which is sensitive to the wavelengths attenuated by the gas of interest. The patent pending Model 300 detector consists of two chambers in optical series with a very sensitive transducer to measure the relative energy absorbed by each chamber. The primary difference between the Model 300 detector and other NDIR detectors is that these two signals from the primary and secondary chamber are balanced. The balancing process greatly improves the sensitivity and selectivity for the gas of interest.



The top line of the vacuum fluorescent display continually monitors the concentration of the gas of interest in the selected units, as well as the zero and span values during calibration. The bottom line displays chart recorder range, linear or non-linear mode, and response time. Any error or alarm condition will alternate with this information until acknowledged by the operator. Operating parameters are established by way of the four buttons on the Model 300 keyboard. The setup button is used to define settings such as calibration gas concentration, sample cell flush time, automatic calibration intervals, chart recorder ranges (1-4), and high and low level alarms. The mode button is used to select active chart recorder range, response time, linear and non-linear units, activate the audible alarm, adjust display brightness, and initiate manual zero and span calibrations. The arrow are used to make changes in values or selection of desired parameters in the setup and mode functions. In the event of a power failure, battery backup retains all settings.



Applications

- Process control
- Stack gas monitoring
- Continuous emission monitoring
- Combustion efficiency
- Environmental gas analysis
- Heat treating
- Natural gas plants
- Utility plants
- Flue gas analysis
- Coke oven analysis
- Carburization Processes
- Monitoring of: boilers, incinerators, furnaces
- Vehicle Emissions