

IR-8400DC Gas Analyzer

IR-8400DC Digital Compensated Gas Analyzer Features:

- High reliability
- Low maintenance
- Explosion-proof enclosure
- NEMA 7 certified
- LCD display non-contact operation
- Measures up to 5 gases simultaneously



RELIABLE AND RUGGED CONTINUOUS EMISSIONS MONITORING

The Infrared Industries IR-8400DC (Digital Compensated) total hydrocarbon (THC) gas analyzer, which is specially designed to measure CH₄ (methane) in addition to the full range of hydrocarbons. This allows the analyzer to distinguish a discrete CH₄ value to either be read separately from the THC reading or subtracted from it.

The benefit here is the CH₄ being a naturally occurring hydrocarbon is not required to be reported as a constituent of the THC reading. The problem has been that methane is very difficult to separate from other hydrocarbons and therefore becomes a component of the measured THC reading.

The ability to distinguish and separate the CH₄ component allows the CH₄ constituent to be removed from the THC reading, allowing the analyzer to report only the THC actually generated by the process requiring monitoring and reporting.

The IR-8400DC is capable of simultaneously monitoring up to five target gases in a sample stream for extended periods of time. The IR-8400DC is designed specifically for the measurement of Hydrocarbons (HC), Carbon Dioxide (CO₂), Carbon Monoxide (CO) and Oxygen (O₂). The ranges for the IR-8400DC are specified by end-user requirements.

Tailored for the petroleum industry, this instrument is designed specifically for enhanced oil recovery applications as well as for refineries and petroleum transfer stations. For example, it can be configured to monitor the level of CO₂ present in the separated gas from production wells using CO₂ injection for enhanced oil recovery. The IR-8400DC is designed to continuously monitor total hydrocarbons such as CH₄, C₃H₈, or C₄H₁₀ in process gas streams or for ambient air.

The IR-8400DC analyzer is temperature and pressure compensated to achieve excellent long-term stability and negates the need for frequent calibrations. Built to withstand hostile temperature and weather environments, these analyzers come standard with a LCD display, RS232 output, analog output, and isolated linear 4-20 mA current output.

Electronics

The IR-8400DC is made with state-of-the-art electronics, which are housed in an explosion-proof enclosure. The analyzer is ruggedly built for long life and a high tolerance to shock and vibration.

Material

Compatibility is assured by using corrosion-resistant materials such as stainless steel sample cells and sapphire windows and by selecting specialized materials for seal and tubing components.

Temperature

The IR-8400DC is temperature controlled and compensated for long-term stability and accuracy. Maximized performance and a high resistance to harsh environments are maintained with the use of a temperature-stabilized optical bench and electronics.

Company Overview

Infrared Industries has been a leading developer and producer of state-of-the-art gas analyzers instrumentation since 1969. The company is widely recognized for servicing the petroleum, medical, utility, automotive, and industrial industries with rugged, reliable, and accurate yet affordable analyzers. With over 50 years of experience, Infrared Industries has proven the ability to produce the finest measuring, monitoring, and compliance equipment available today.

CUSTOMIZED APPLICATIONS

Have a unique application that consists of a different range of gas not currently detected in the IR-8400DC? Call us today and we can build a tailor-made gas analyzer that detects the gas of your choice.

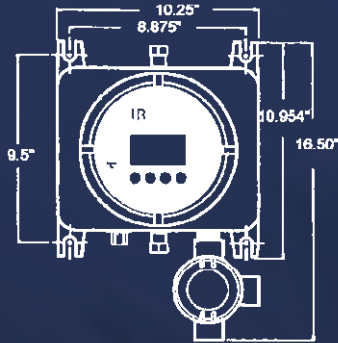
APPLICATIONS

- Continuous emissions monitoring
- Process monitoring
- Combustion monitoring for boilers and furnaces
- Monitoring atmospheres in heat-treated and annealing furnaces and process stream control

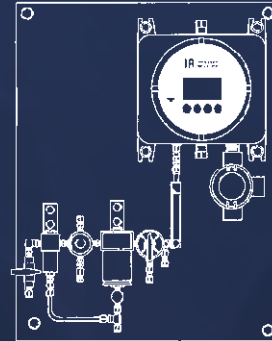
IR-8400DC

DIGITAL COMPENSATED GAS ANALYZER

IR-8400DC DIMENSIONS AND SIDE VIEW



IR-8400DC Gas ANALYZER WITH IR-1150 SAMPLE CONDITIONER SYSTEM



SPECIFICATIONS

Performance

Measurement range:

0-100% as specified by customer

Accuracy:

± 1% of reading or a ± 4% full scale

Repeatability:

± 1% of reading or ± 5% full scale

Stability - 24-hour period:

± 0.5% full scale zero drift (maximum)
± 1% full scale span drift (maximum)

Stability - 90-day period:

± 1% full scale zero drift (typical)
± 2% full scale span drift (typical)

Output noise (RMS):

Less than 0.5% full scale

Response time:

Less than 10 seconds (electronic)

Warm-up time:

Less than 1 hour

Temperature range:

-40° to 122° F (-40° to 50° C)

Gas Sample Requirements

Flow rate:

1 scfh (2 LPM) - recommended
2 scfh (4 LPM) - maximum

Moisture:

0 to 99% non-condensing

Output

Analog:

0 to 100mV standard
0 to 1V, 0 to 5V or 0 to 10VDC (optional)
4 to 20mA (isolated)
RS232 bi-directional digital communication

Alarms:

Zero signal fault indication

Gas Flow Systems

Connections:

Sample inlet - 1/4" compression fitting
Sample outlet - 3/8" or 1/4" compression fitting

Materials:

316 SS, sapphire, Teflon, viton,
polypropylene (typical)

Standard Gases

- CO₂
- HC
- CO
- O₂
- NO_x
- Butane
- Propane
- Methane

Power

90-260 VAC maximum, 117 Vrms ± 10%, 50-60 Hz
12, 24, or 36 volts DC (optional)

Enclosure (w x l x d)

10.25" x 10.25" x 9" (26 cm x 26 cm x 22.86 cm) enclosure with display window and attached 3.5" x 2.5" junction box; NEMA 7 (C:, Grp D, E Div 1, 2)

Weight

25 lbs. (11.35 kg)

Warranty

Infrared Industries, Inc. warrants each gas analyzer it manufactures to be free of defects in material and workmanship for a period of one (1) year from the date of delivery. Abuse, misuse or unauthorized changes excluded. Extended warranty is available.