

# CO<sub>2</sub> GAS ANALYZER

CarbonHound| NDIR ON-LINE PROCESS ANALYZER



- Measure CO<sub>2</sub> in Nat Gas, Biogas, Landfills
- Built for Division 2 & Zone 2 hazardous locations
- Automatic Calibration
- Low maintenance--solid state design
- NDIR sensor life measured in years
- Outdoor weather packaging
- Large color touchscreen HMI with data logger

## Applications

• Gas Processing Facilities • Natural Gas Pipeline • Chemical Plants • Gas Well Testing & Analysis • Landfills & Biogas

## Product Description

The petrochemical, gas processing, biogas, landfill and gas pipeline industries has always needed an accurate and dependable, low maintenance and cost effective CO<sub>2</sub> analyzer for quality and process control purposes. KECO has met these requirements with the proven microprocessor based analyzer. The CarbonHound provides continuous on-line analysis based on the specific non-dispersive infrared principle of operation. A precision flowmeter regulates the sample flow to approximately approx. 1.5 SCFH. Next, the sample is introduced to the specific infrared detection element that provides an output proportional to the concentration of carbon dioxide. This signal is digitized and analyzed by the advanced microprocessor HMI (Human Machine Interface) and related software resulting in a 4-20 mA output, relay alarms, and RS-485, TCP/IP Ethernet. The color touch screen LCD display provides the current reading, previous reading, any alarm conditions, historical and real-time charts, procedure prompts (i.e., calibration procedure), and failure indicators (local and remote capability). Quality materials are selected for compatibility and are utilized throughout fabrication. Special attention is given to wetted parts that come in contact with the process stream and are selected to be non-reactive.

# KECO

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# Typical Specifications

## RANGE

- 0 - 500 ppm by vol, 0 - 0.5% (0 - 5000 ppm), 0 - 5%, 0 - 10%, 0 - 100% Vol.

## RESOLUTION

- 0.01% for readings up to 10% volume
- 0.1% for readings from 10% up to 100% vol.
- 10 ppm for 0 - 500 ppm vol.

## REPEATABILITY

- $\pm 3\%$  of Full Scale

## ACCURACY

- $\pm 3\%$  of Full Scale

## PRESSURE

- $\pm 5\%$  of the calibration pressure to maintain accuracy limits

## TEMP PERFORMANCE

- $\pm 10\%$  of reading up to 50% full scale and  $\pm 15\%$  of reading from 50% to 100% full scale

## RESPONSE TIME

- T90 = less than 60 seconds

## POWER

- 110/220VAC 50/60 Hz or 24VDC

## OUTPUT

- 4-20mA DC (self-powered)
- RS-485 Modbus
- TCP/IP Ethernet Modbus
- Concentration alarms via Modbus & one relay per sensor: High (SPDT, 250 VAC @ 5 Amps)
- Diagnostic Alarms via Modbus & one relay per sensor (SPDT, 250 VAC @ 5 Amps)

## ELECTRICAL CLASS

- Class I, Div 2 (Zone 2) Groups B, C, D

## HUMIDITY

- 0-95% RH non-condensing

## RELAY RATINGS

- 3 SPDT Relays, 250 VAC at 10 amps (high alarm, diagnostic alarm, remote cal relay)

## OPERATION TEMPERATURE

- $-10^{\circ}\text{C}$  to  $50^{\circ}\text{C}$

## OPERATION PRESSURE

- Max pressure input 100 psig (optional pressure regulator/gauge available)

## DIMENSIONS

- Height: 24 inches
- Width: 16 inches
- Depth: 8 inches

## WEIGHT

- Approx. 60 Lbs ( 27 Kg)

## FEATURES

- Automatic Calibration (AutoCal) including remote activation of calibration (SPDT relay, 24VDC)
- Data Logger (SD card separate)
- NEMA 4X Enclosure for outdoor environments (UL listed, CSA rated, IP66)

## OPTIONS

- Sample pressure alarm (in case of sample loss)
- Additional relay alarms (concentration)
- Isolation of 4-20 mA and Ethernet.
- Solar System (panels, mounting pole, batteries, controller)
- H2S Scrubber for vent
- Fugitive Emission Control Unit for vent
- Sampling System (Simple): Pressure regulator/gauge
- Sample System for Gasses Entrained with Light Liquids: Pressure regulator/gauge, Liquid Block, by-pass with needle valve
- Sampling System for LPG, LNG (heated)
- Sample Probe to be installed at tap point
- Self standing rack (includes sun/rain shield, drip pan, fork lift holes, foundation mount holes). Can mount analyzers on front and back)

KECO provides design and application engineering assistance for the user's analyzer requirements. For a quotation, please complete Analyzer Quote Request Form at [www.LiquidGasAnalyzers.com/quote](http://www.LiquidGasAnalyzers.com/quote)