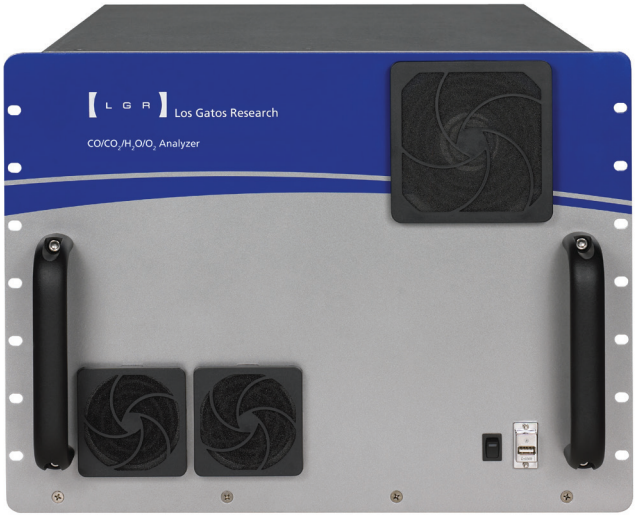
Multi-species continuous emissions monitor



Industrial process monitoring made easy

Industrial Emissions Analyzer (CO, CO_2, H_2O, O_2)

Features and Benefits

- Developed for applications requiring highest accuracy
- All gases measured simultaneously
- Gases reported on dry mole basis directly
- High resolution absorption spectra always viewable
- Ideal for process and compliance monitoring
- Wide measurement range
- *Unsurpassed* sensitivity and accuracy
- Simple maintenence

LGR's new Industrial Emissions Analyzer (CO, CO_2, H_2O, O_2), or OXCC, is the first laser-based instrument capable of simultaneous measurements of carbon monoxide, carbon dioxide, water vapor and oxygen. The OXCC is simple to use, sensitive, and rugged which makes it ideal for continuous emissions monitoring, industrial process control and compliance monitoring applications.

In addition, the OXCC is now available in LGR's "ultraportable" package which is compact, crushproof and travels anywhere. Small enough to be carried on-board aircraft (TSA approved), the OXCC offers opportunities to measure target gases anywhere. The OXCC ultrafast response provides users with real-time data and the opportunity for closed-loop feedback control for continuous online optimization of processes such as furnaces (steel, glass manufacturing), incinerators, chemical production plants, petrochemical refineries and other high temperature processes.

Like all LGR analyzers, OXCC measurements are based on high-resolution absorption spectra which allows the instrument to accurately correct for water vapor dilution and absorption line broa

effects and thus to accurately report CO, CO_2 and O_2 on a wet and dry mole fraction basis directly without drying or post processing. Furthermore, unlike conventional technologies (including photoacoustic, FTIR and NDIR techniques), LGR's high resolution laser-based method provides accurate "species specific" measurements without cross sensitivity.

LGR's patented technology, a fourth-generation cavity enhanced laser absorption technique, has many advantages (simpler, easier to build, rugged, sensitive) over older, conventional cavity ringdown spectroscopy and other absorption techniques. As a result, LGR Analyzers provide highest performance at low cost.

LGR Analyzers have an internal computer (Linux OS) that can store data practically indefinitely on a hard disk drive and send real time data to a data logger via the digital (RS232), analog or Ethernet outputs. In addition, LGR analyzers may be controlled remotely via the Internet. This capability allows the user to operate the analyzer using a web browser anywhere.

Industrial Emissions Analyzer (CO, CO_2, H_2O, O_2)

Performance Specifications

Precision (1σ, 1 sec / 100 sec):
- CO: 3 ppm / 0.8 ppm
- CO_2: 20 ppm / 5 ppm
- O_2: 300 ppm / 75 ppm
- H_2O: 0.4% / 0.1%

Maximum Drift (Enhanced Performance model) (1σ, 15 min average over 24 hrs):
- CO: 3 ppm
- CO_2: 20 ppm
- O_2: 300 ppm
- H_2O: 0.4%

Measurement Rates:
- 0.01 – 1 Hz
- (external pump required for < 6 second flow response)

Accuracy (over all rated conditions):
- uncertainty < 1% w/o calibration (Standard)
- uncertainty < 0.03% (Enhanced Performance model)

Measurement Range (100 seconds):
- CO: 5 ppm – 10%
- CO_2: 1000 ppm – 100%
- O_2: 300 ppm – 100%
- H_2O: 1000 – 70000 ppm (< 100% RH)

Operational Range (calibration may be required):
- CO: 0 – 100%
- CO_2: 0 – 100%
- O_2: 0 – 100%
- H_2O: 0 – 100% relative humidity

Sampling Conditions (all models):
- Operating Temperature (standard model): 5 – 45 °C
- Operating Temperature (EP model): 0 – 45 °C
- Ambient Humidity: 0 - 100% RH non-condensing

Outputs (all models):
- Digital (RS232), analog, Ethernet, USB

Power Requirements:
- 115/230 VAC, 50/60 Hz
- 100 watts (Standard rackmount)
- 150 watts (Enhanced Performance model, steady state)

Dimensions:
- Standard model (rackmount): 8.75″ × 19″ × 24″
- Enhanced Performance model (rackmount): 15.75″ × 19″ × 24″
- Standard model (Ultraportable): 18.5″ × 14″ × 7″

Weight:
- 29 kg (rackmount, Standard model)
- 40 kg (rackmount, Enhanced Performance model)

Ordering Information

Standard model (rackmount): **OXCC-927**

Enhanced Performance model (rackmount): **OXCC-911**

Ultraportable model : U-OXCC-911

Accessories

MIU-16: Multiport Inlet Unit – 16 port multiplexer

MIU-8: Multiport Inlet Unit – 8 port multiplexer

ACC-DP20: External N920 Pump – provides flow-through (1/e) time = 1.2 secs

ACC-DP40: External N940 Pump – provides flow-through (1/e) time = 0.7 secs

ACC-DS35: External Dry Scroll Pump provides flow-through (1/e) time = 0.1 secs

OPT-DATALOG: Data Logging System – multi-channel data logging sys-tem records and synchronizes serial (RS-232) outputs from multiple LGR analyzers and other devices (GPS, anemometers)

Instrument complies with 21 CFR 1040.10 and 1040.11

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