LGR's CO Analyzer (carbon monoxide) reports accurate CO measurements at ambient levels with a precision better than 0.1 ppb in 1 second. In addition, the CO Analyzer measures water vapor (H₂O) in ambient air to allow for reporting of CO on a dry mole basis without the need for sample drying or post correction or compensation procedure. The Analyzer is simple to use, may be set up in minutes and does not require cryogens or water cooling. LGR's CO Analyzer is designed for many demanding applications including trace gas monitoring, eddy-correlation flux measurements, chamber flux measurements, and combustion diagnostics. The Analyzer is particularly well suited for measurements in the field and has been successfully deployed on-board NASA DC-8 aircraft for measurements in the upper troposphere and lower stratosphere. The CO Analyzer is essentially unaffected by other atmospheric gases or changes in atmospheric pressure.

LGR's new “Enhanced Performance” series incorporates proprietary internal thermal control for ultra-stable measurements with unsurpassed precision, accuracy and drift. Moreover, only LGR's analyzers provide reliable guaranteed measurements at mole fractions more than 20 times ambient levels.

The CO Analyzer uses LGR's patented Off-axis ICOS technology, a fourth-generation cavity enhanced absorption technique. Off-axis ICOS has many advantages over conventional Cavity Ringdown Spectroscopy (CRDS) techniques such as being alignment insensitive, having a much shorter measurement time, and not requiring expensive and power consuming auxiliary components.

LGR Analyzers have an internal computer (Linux OS) that can store data practically indefinitely on an internal 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. Also, several optional features are available which improve the flow time response, allow multiple inlet sources, or provide for remote access and control of the analyzer via the Internet.
CO Analyzer (CO, H₂O)

Performance Specifications

Precision (1σ, 1 second / 100 seconds):
- CO: 0.05 ppb / 0.01 ppb
- H₂O: 50 ppm / 10 ppm

Measurement Rates:
- All parameters measured simultaneously
- at user-selectable rates up to 10 Hz
- (external pump required for flow rates >1Hz)

Maximum Drift (Enhanced Performance model)
- (15 min average, at STP, over 24 hrs):
  - CO: 0.1 ppb
  - H₂O: 50 ppm or 1% reading, whichever greater

Measurement Range (meets all specs):
- CO: 1 – 4000 ppb
- H₂O: 4000 ppm to 100% RH (non condensing)

Operational Range:
- CO: 0 – 10 ppm
- H₂O: 0 to 100% RH (non condensing)

Temperature/Humidity:
- Sample Temperature: 0 – 50 °C
- Operating Temperature:
  - 10 – 35 °C (Standard Model)
  - 0 – 45 °C (Enhanced Performance Model)
- Ambient Humidity: non-condensing (0-100% RH)

Fittings:
- Inlet: 3/8”
- Outlet (internal pump): ¼”
- Outlet (optional external vacuum pump): ½”

Outputs:
- digital (RS-232), analog, Ethernet, USB

Power Requirements:
- 115/230 VAC, 50/60 Hz
- 180 watts (Standard model; steady state)
- 300 watts (Enhanced Performance model; steady state)

Dimensions:
- 19”(W)×31.5”(D)×8.75”(H) (Standard Model)
- 19”(W)×31.5”(D)×19.25”(H) (Enhanced Performance)

Weight:
- 36 kg (Standard Model)
- 68 kg (Enhanced Performance Model)

Ordering Information
- COQC-916 (Standard Model)
- COQC-913 (Enhanced Performance)

Accessories
- MIU-16: Multiport Inlet Unit – Automated control of up to 16 inlet ports
- MIU-8: Multiport Inlet Unit – Automated control of up to 8 inlet ports
- ACC-20: N920 Pump – Provides flow-through response (1/e) time of 1.2 seconds
- ACC-40: N940 Pump – Provides flow-through response (1/e) time of 0.5 seconds
- EDDS: Dynamic Dilution System – Extends upper measurement range by 100x
- OPT-DATALOG: Data Logging System – multi-channel data logging system records and synchronizes serial (RS-232) outputs from multiple LGR analyzers and other devices (GPS, anemometers)

Option
- Fast flow capability (>1 Hz flow response)