

# PICARRO G2203

## Methane / Acetylene Analyzer

- Superb sensitivity, precision & accuracy with virtually no drift
- Fast, continuous, real time measurements
- Installed and operational in minutes
- Rugged and insensitive to changes in ambient temperature



**Advantage Note:** The Picarro G2203 Methane / Acetylene (CH<sub>4</sub> / C<sub>2</sub>H<sub>2</sub>) is the analyzer of choice for measuring fugitive emissions of CH<sub>4</sub> from landfills or other extended methane sources, using an acetylene tracer measurement for quantifiable emission rates. The system can be installed in minutes as a stationary monitor. Or when used in conjunction with a mobile weather station, a GPS system, an inverter, and the appropriate connections, the instrument can also be configured for operation in a vehicle. For mobile download of mapping data, a customer provided mobile broadband connection is required. The analyzer can be rack-mounted for stability in vehicles. The system is controlled using intuitive software tools included on the CPU of all Picarro analyzers.

Using Picarro's unique time-based Cavity Ring-Down Spectroscopy (CRDS) and with an effective path length of up to 20 km, the sensitivity and precision of this instrument is unmatched by traditional absorption and other cavity-enhanced systems. Further, our patented wavelength monitor makes certain that only Picarro can operate unimpeded by interfering species.

Picarro analyzers use a small 35 cc volume cavity, ensuring better temperature stability, faster gas exchange, lower noise and higher sensitivity. And, precise cavity temperature and pressure control designed into the system ensures accurate measurements over long periods of time. As a result, Picarro systems maintain high linearity, precision, and accuracy with minimal calibration, which means significant ease-of-use and cost of ownership benefits.

Parameter	CH <sub>4</sub> Specification	C <sub>2</sub> H <sub>2</sub> Specification
<b>Precision ( 2 sec, 1σ )</b>	3 ppb	< 600 ppt
<b>Max Drift (8 hrs, peak-to-peak, 50-min average)</b>	< 4 ppb	1.5 ppb

Further, Picarro's diagnostic software suite continuously measures and records over parameters and, if you are on the internet, our service organization can access all of them remotely, practically anytime. If you have a problem we'll get you up and running, fast.

The analyzer can be configured to automatically send out measurement data at regular intervals via the Ethernet or optional modem and can output real-time data in digital format and via optional analog outputs. Users can connect remotely and control the analyzer through a standard Remote Desktop connection or with similar remote login software. This instrument is for research purposes, and does not provide plume mapping software or data reduction tools.

System Specifications	
<b>Measurement Technique</b>	Cavity Ring-Down Spectroscopy (CRDS)
<b>Measurement Cell Temperature Control</b>	+/- 0.005 °C
<b>Measurement Cell Pressure Control</b>	+/- 0.0002 atm
<b>Measurement Range</b> (precision at high conc. will be approx. 1% of reading)	Specifications guaranteed for CH <sub>4</sub> : 1 - 3 ppm, C <sub>2</sub> H <sub>2</sub> : 0 - 200 ppb. Operating range CH <sub>4</sub> : 0 - 20 ppm, C <sub>2</sub> H <sub>2</sub> : 0 - 500 ppb
<b>Measurement Interval</b>	CH <sub>4</sub> : < 2.0 secs, C <sub>2</sub> H <sub>2</sub> : < 2.0 secs
<b>Response Time</b>	10 - 90 % rise time, < 3 secs, 90 - 10 % fall time, < 3 secs.
<b>Sample Temperature</b>	-10 to 45 °C
<b>Sample Flow Rate</b>	0.2 to 0.5 L / min
<b>Sample Pressure</b>	300 – 1000 Torr
<b>Max. Rate of Change in Ambient Temperature</b>	5 °C / hr
<b>Sample Humidity</b>	< 99% R.H. non-condensing @ 40°C, no drying required
<b>System Operating Temperature</b>	10 to 35 °C (operating) -10 to 50 °C (storage)
<b>Humidity (ambient)</b>	< 99% R.H. non-condensing
<b>Outputs</b>	RS-232, Ethernet, USB, analog (optional) 0 -10 V
<b>Fittings</b>	¼" Swagelok ®
<b>Dimensions</b>	Analyzer: 17" w x 7" h x 17.55" d (43.18 x 17.78 x 44.57 cm) not incl. 0.5" feet External Pump: 5.6" w x 6.4" h x 11.9" d (14.3 x 16.3 x 30.3 cm)
<b>Installation</b>	Benchtop or 19" rack mount chassis
<b>Weight</b>	60.4 lbs (27.4 kg) including pump
<b>Power Requirements</b>	100 - 240 VAC, 47 - 63 Hz (auto-sensing), < 260 W start-up (total); 110 W (analyzer), 80 W (pump) at steady state
<b>Warm-Up Time</b>	< 30 min @ + 15 °C

*This product is not optimized for vehicular deployment where there is a requirement for pin-pointing precise methane source locations while driving. As a result, we do not support this product's use for natural gas leak detection or other real-time methane emissions applications while driving. The Picarro Surveyor™ system is the optimal product for such studies.*