



# Quantus LP100 Gas Analyzer

RELIABLE GAS ANALYSIS FOR CORROSIVE AND  
NON-CORROSIVE PROCESS ENVIRONMENTS

## REAL-TIME GAS ANALYSIS AND ENDPOINT WITH LOW COST OF OWNERSHIP IN AGGRESSIVE ENVIRONMENTS

The INFICON Quantus LP100 Gas Analyzer provides real-time contamination and endpoint detection for your critical process environments. Many processes are sensitive to trace amounts of contamination and as technological advances push processes to their limits, controlling contamination has become even more critical. The Quantus LP100 is a gas analyzer that is designed to instantly react to small changes in sensitive process environments so that scrap is minimized and yields are improved.

### HIGH PRESSURE GAS ANALYSIS WITHOUT PUMPS

The primary advantage of a plasma assisted gas analyzer is that it does not require expensive pumping systems to provide gas analysis at higher operating pressures. With its operating range of 10 mTorr to 1 Torr, the Quantus LP100 is

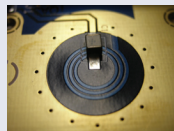
#### FEATURES AT A GLANCE

- Convenient field-replaceable plasma cell
- Easy installation using a standard KF25 connection
- Low maintenance
- Excellent detection limits down to low PPM levels
- Wide operating range of 10 mTorr to 1 Torr
- Longterm reliability: no pumps required
- Low Cost of Ownership
- Fast sampling (24 Hz maximum)
- Small Footprint: 3.4" H x 5.9" W x 9.5" L (87 mm x 151 mm x 241 mm)
- Support by experienced field-trained INFICON Engineers

#### TECHNOLOGY HIGHLIGHT

##### PLANAR PLASMA CELL

- Patented planar antenna
- Corrosive Resistant
- Antenna is not exposed to the process
- Vacuum surfaces are sapphire and 304 stainless steel
- Planar antenna is built using PCB techniques that provide tight tolerances and high performance



compatible with most processes when installed on either the process chamber or the chamber pump line. The gas analysis techniques used by Quantus LP100 provide high sensitivity contamination, leak and endpoint detection (down to the low PPM range) for critical processes. With its patented planar plasma cell design, which includes the convenience of easy field-replacement, the Quantus LP100 provides stable, long-term performance in most corrosive environments.

**REAL-TIME ENDPOINT CONTROL**

With its unique sensor design, engineered to withstand corrosive etch environments, Quantus LP100 provides real-time endpoint capabilities for most etch processes. Quantus can analyze process gas chemistries and utilize unique univariate and multivariate algorithms to precisely determine endpoint conditions. At endpoint, the system can then create local alarms, send a signal to a higher level control system or even communicate directly with the process tool. Quantus, unlike traditional endpoint systems, provides real-time contamination detection in parallel to its endpoint duties (Fig. 1). Additionally, Quantus LP100 generates its own plasma which allows it to operate in processes that are not plasma assisted.

**REAL-TIME CONTAMINATION CONTROL**

The Quantus LP100's abilities are not limited to endpoint control. Quantus can provide real-time contamination control and leak detection for critical process environments. The planar plasma cell design provides high reliability and detection limits down to low PPM levels for these analyses, while requiring minimal maintenance and a low cost of ownership.

**EASY INSTALLATION**

Quantus LP100 easily connects to the system using a standard KF25 port. Depending upon pressure characteristics, the sensor can be installed on either a process chamber or in a pumping line. With its small footprint of only 3.4" H x 5.9" W x 9.5" L (87 mm x 151 mm x 241 mm), Quantus LP100 will not interfere with day-to-day operations that occur in and around a process tool.

**OUR EXPERTISE GIVES YOU A COMPETITIVE ADVANTAGE**

INFICON offers worldwide expert applications development teams and resources for installation, evaluation and support. Our experienced field-trained applications engineers are committed to providing you with the information you need for faster uptime and reliability for your critical process environments.

**APPLICATIONS**

- Real-time etch endpoint control for downstream chamber clean
- Process contamination control
- Leak checking

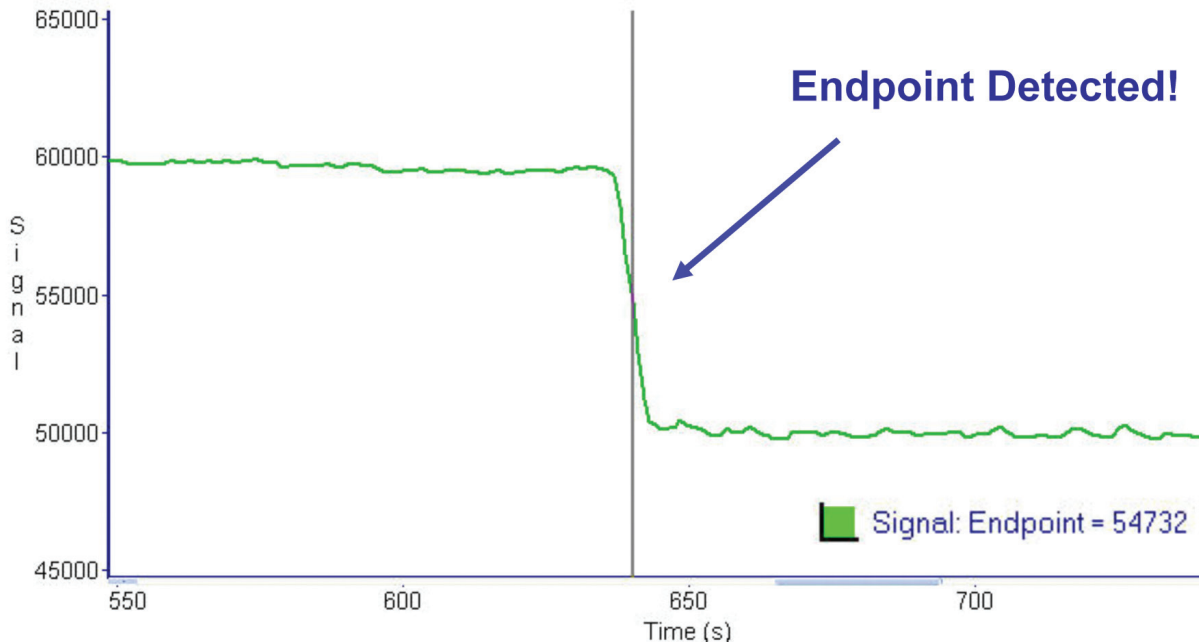


Figure 1: An example of an etch endpoint signal generated by the Quantus LP100.

**SPECIFICATIONS**

**Performance**

Technology	Optical Emission Spectroscopy using proprietary and integrated ICP microplasma, spectrometer, and RF power supply
Spectrometer Performance	200 to 850 nanometer wavelengths (UV-VIS) 16-bit full-scale resolution, 2048 pixels
Exposure Time	Minimum of 1 ms
Sampling Frequency	Maximum of 24 Hz
Detection Limit	To low PPM levels (Application dependent)

**Gas Sampling Interface**

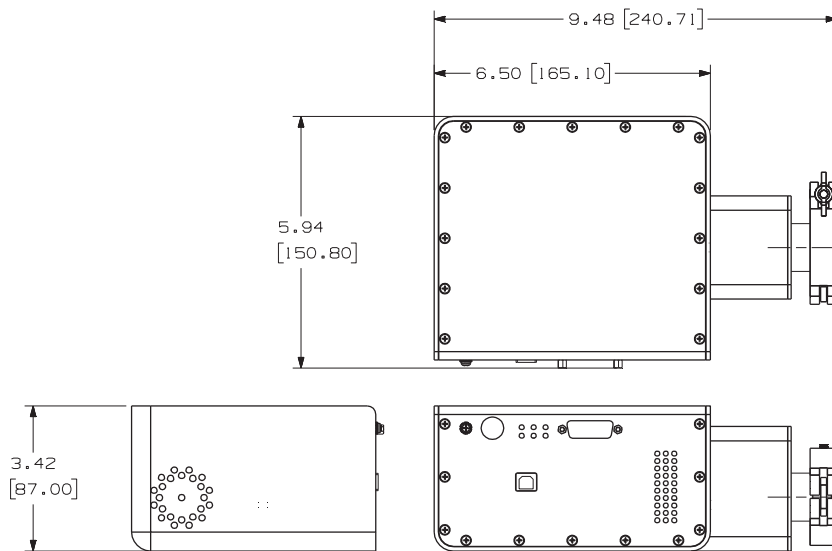
Process Environment	0.01 to 1 Torr (Application dependent)
Vacuum Fitting	KF25
Maximum Flange Temp	80°C
Serviceability	Sensor cell is field replaceable

**Facilities**

Operating Temp Range	0-50°C (Non-condensing, Sensor cell 80°C )
Power Requirements	24 V (dc) @ 2.5A (AC / DC converter available)
Power Consumption	< 25 watts (typical, steady-state operation)
Carrier Gases	None required
Mounting Options	Direct mount via KF25 flange
Isolation Valve	Optional

**Approximate Dimensions and Weights**

Dimensions	3.4" H x 5.9" W x 9.5" L (87 mm x 151 mm x 241 mm)
Weight	5.9 pounds (2.7 kg)



[www.inficon.com](http://www.inficon.com) [reachus@inficon.com](mailto:reachus@inficon.com)

Due to our continuing program of product improvements, specifications are subject to change without notice.

aibe52a1-c ©2011 INFICON