

## APPLICATION NOTE



# TraceS-1000: Trace Sulfur in Butane and other Gas/LNG Applications Analyzer

Driven by an increasing need for Total Sulfur trace analysis in gas and LNG products, ATOM Instrument developed the TraceS-1000.

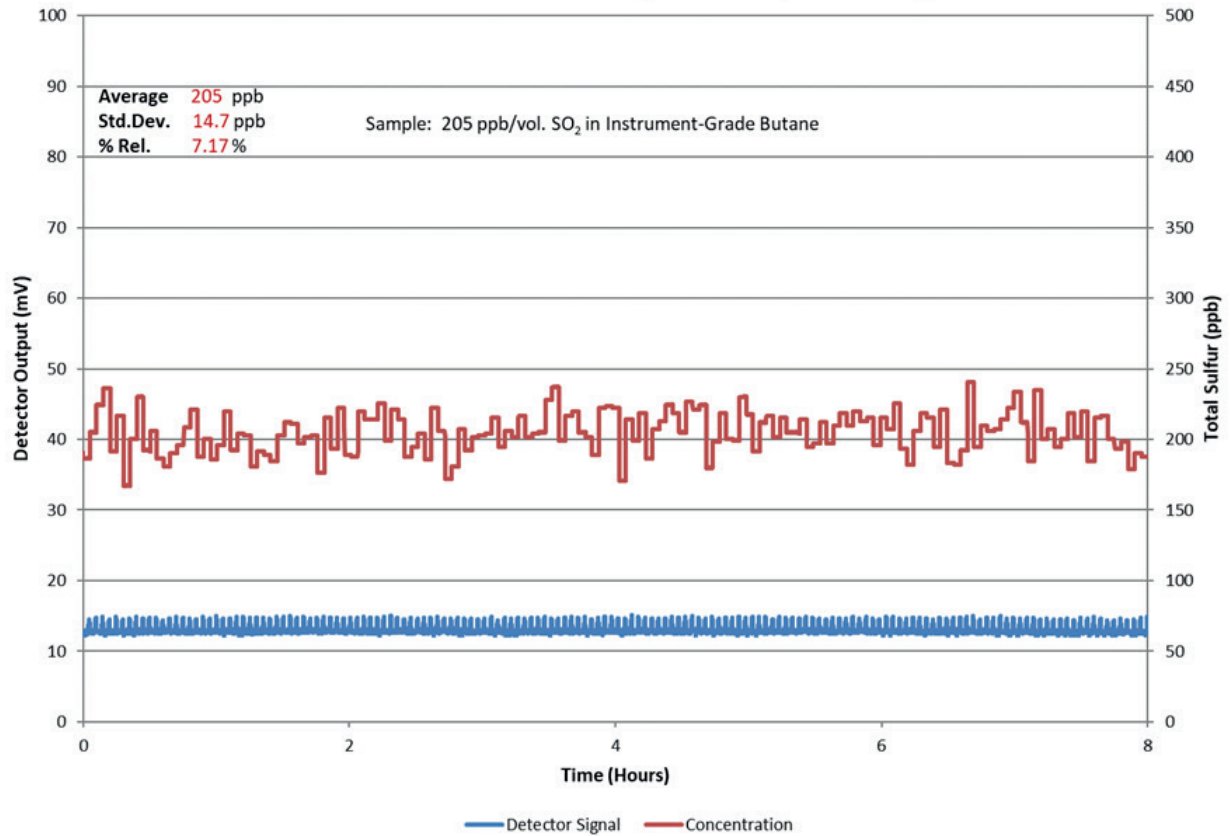
This remarkable online process analyzer incorporates patented **Excimer UV Fluorescence (EUVF)** technology and is specifically designed for measurement of **Trace Total Sulfur** content in applications that require the ultimate in low-level sensitivity, such as polymer-related applications.

One application where the **TraceS-1000** has demonstrated exceptional analytical performance is the measurement of total sulfur in butane at the **Ultra Low Range of 0-1000 ppb/vol.** Acquired test results reflect excellent linearity, precision and long-term stability for this extremely low range. Analytical results represented were obtained utilizing an oxygen/argon blend for combustion.

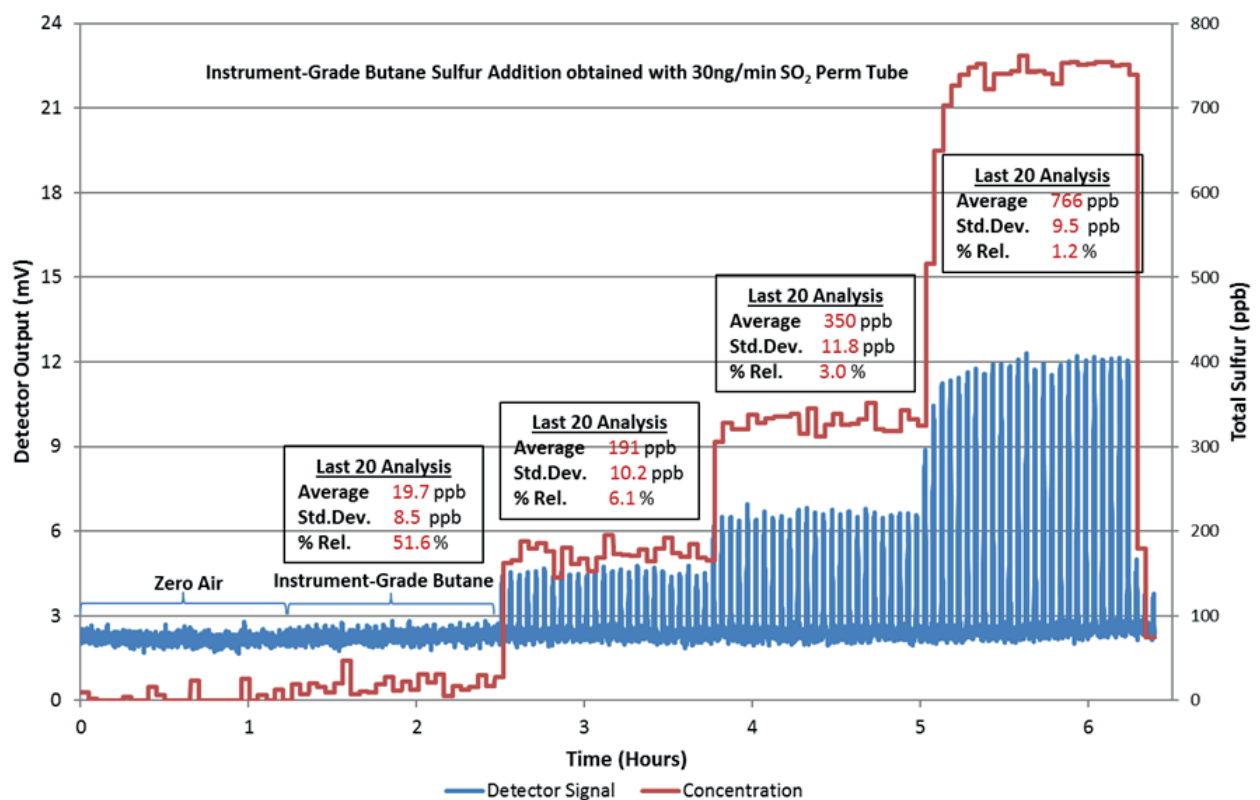
The TraceS-1000 provides **unparalleled sensitivity** and rapid response to concentration changes with a typical analysis **time of only 180 seconds.** Instrument operation is simplified with intuitive and user-friendly software, with an added feature that allows data averaging for enhanced analytical precision.

Eight-hour repeatability using a sulfur dioxide (SO<sub>2</sub>) permeation tube for sulfur addition to instrument-grade butane demonstrated a **SD of 14.7 ppb at 205 ppb/vol.** concentration or 7.17% RSD. Using the moving average feature, a 3-run analysis (9-min. response time) further improved repeatability, yielding a **SD of 8.5 ppb** or 4.16%. Various concentrations run for linearity characterization reflect rapid response, outstanding repeatability and excellent linearity with a **0.9965 correlation.**

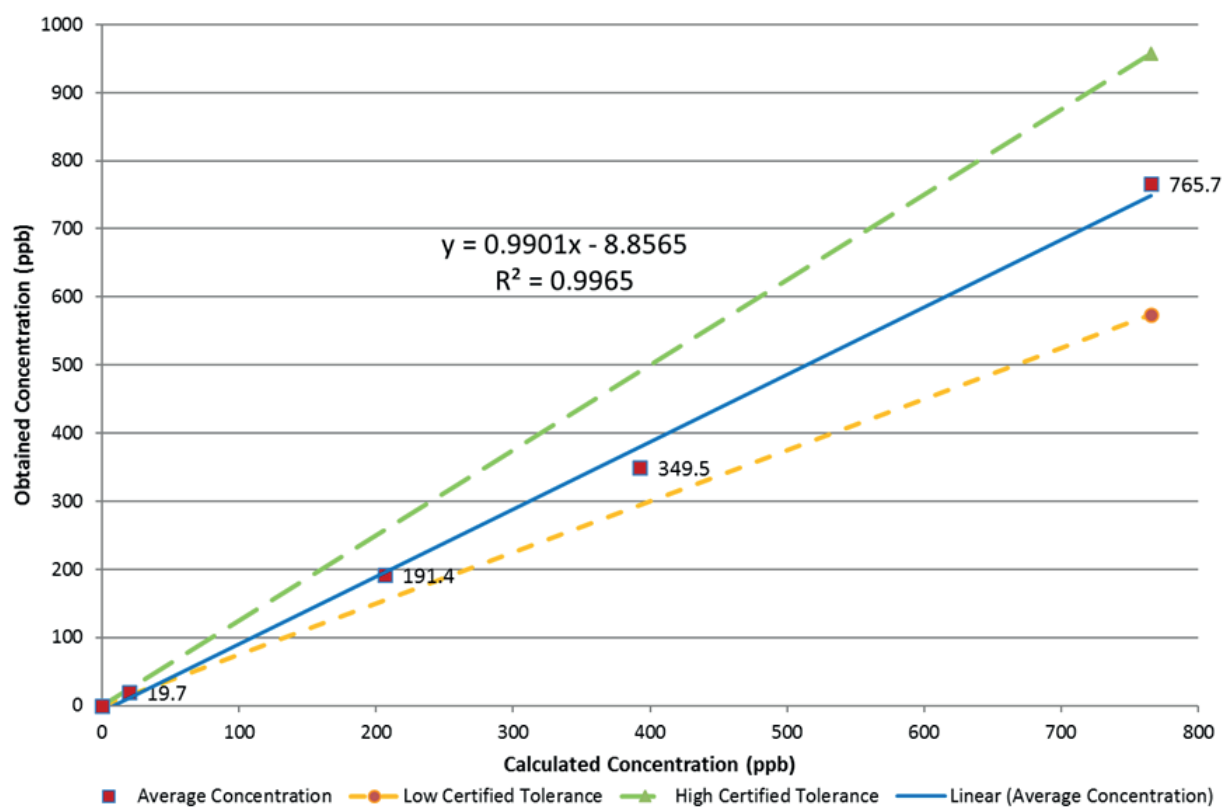
### TraceS-1000 8-Hour Repeatability at 0-500ppb



### TraceS-1000 Response for Concentrations less than 1ppm/vol. in Butane



### TraceS-1000 Linearity for Concentrations less than 1ppm/vol. in Butane



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#### COSA Xentaur

4140 World Houston Parkway  
Suite 180  
Houston, TX 77032  
USA  
+1 713 947 9591  
[www.atominstrument.com](http://www.atominstrument.com)  
[service@cosaxentaur.com](mailto:service@cosaxentaur.com)

#### Process Insights – The Americas

4140 World Houston Parkway  
Suite 180  
Houston, TX 77032  
USA  
+1 713 947 9591  
[info@process-insights.com](mailto:info@process-insights.com)

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#### Process Insights – EMEA

ATRICOM  
Lyoner Strasse 15  
60528 Frankfurt  
Germany  
+49 69 20436910  
[info@process-insights.com](mailto:info@process-insights.com)

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#### Process Insights – APAC

Wujiang Economic and Technology  
Development Zone  
No. 258 Yi He Road, 215200 Suzhou  
Jiangsu Province China  
+86 400 086 0106  
[info@process-insights.com](mailto:info@process-insights.com)

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