

PRODUCT DATASHEET

# 508 UV-VIS™

UV-VIS Process Analyzer Spectrometer



## Real-time

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## Configurable

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## High sensitivity

- Low-level APHA color
- Polymers: phosgene, inhibitor concentration
- Films: thickness %T, %R
- Chlorine gas concentration
- Rare earth metals in mining tailing/metal motherload
- Solvent concentration
- Process research and development

## UV-VIS Process Analyzer

The 508 UV-VIS™ process analyzer offers remote multi-channel UV-VIS spectroscopic analysis. It provides excellent signal-to-noise ratio, wavelength stability, NIST traceable wavelength calibration, and built-in diagnostics. Process engineers, operators, and researchers will appreciate the 508 UV-VIS analyzer's built-in capacity to add more sampling points (up to 4 total channels) within the same process or cross processes. This can be done in any combination, providing flexibility to invest in only the capacity required now, while minimizing future expansion costs. The 508 UV-VIS analyzer is compatible with all Process Insights probes and flowcells which also can be used in any combination required for your analytical needs.

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## Complete Analyzer System

The 508 UV-VIS is the core of a comprehensive process analyzer system that includes the spectrometer, one or more probes, fiber optic cables, and OmniView™ scanning and analysis software. Like our previous spectrometers, the 508 UV-VIS uses light to collect spectral data from liquids, gases, glass, and polymer-based films. The spectral data are interpreted by the OmniView software to determine the composition or physical characteristics of the material.

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## Real-Time Measurements

Using intrinsically safe fiber optic cables to transmit light from the spectrometer to your process and back, allows real time measurements at any time, providing you with up-to-date process information. The 508 UV-VIS analyzer is designed to be used with Process Insights 400 µm core jacketed fiber optic cables. These unique cables contain a high purity fused silica core fiber, surrounded by specialized jacketing to protect both the signal transmitted and the fiber itself, allowing the analyzer to be located up to 35 meters away.

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## Simultaneous Measurements

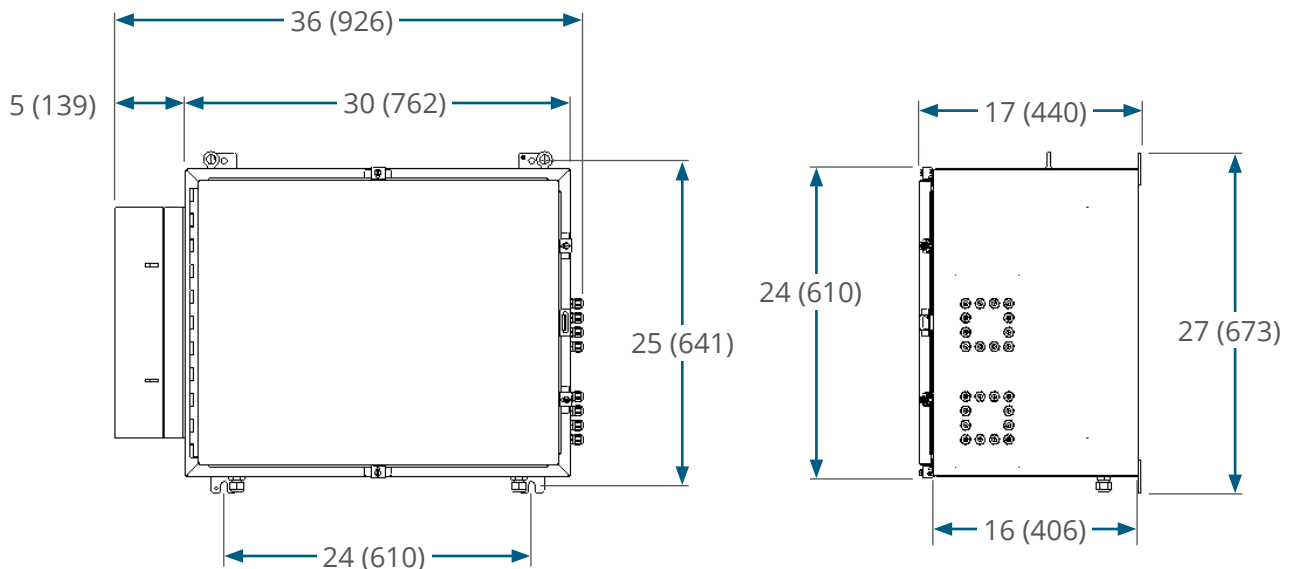
The 508 UV-VIS analyzer can be configured for up to 4 channels (i.e., independent sample points). This allows you to incorporate the number of sampling points you need now, while being able to easily and more economically add sampling points as your process or facility needs change. The 508 UV-VIS analyzer can measure multiple parameters at up to 4 independent sampling locations in rapid succession.

## Research-Grade Signal-to-Noise Ratio

The 508 UV-VIS analyzer provides excellent signal-to-noise ratio, which means better sensitivity in your measurements. The 508 UV-VIS analyzer also provides excellent wavelength accuracy (NIST traceable) and superb wavelength repeatability.

### Options:

- Touch screen computer for local process visualization and control (only on general purpose and Z-purge package)
- Z-Purge package: Class 1 Zone 2 Groups IIB+ H2 (pending certification)
- X-Purge package: Class 1 Zone 1 Groups IIB+ H2 (pending certification)
- Solo\_Predictor, Pirouette®, prediction engine
- Remote desktop computer
- External 4-20mA analog I/O box, custom configured for your needs
- Chemometric modeling support available
- FAT/SAT support available
- Chemometric and/or instrument maintenance training
- General Purpose (GP) enclosure shown. Dimensions will vary depending upon purge packages



Dimensions shown in inches [mm]

## OmniView Process Analysis Software

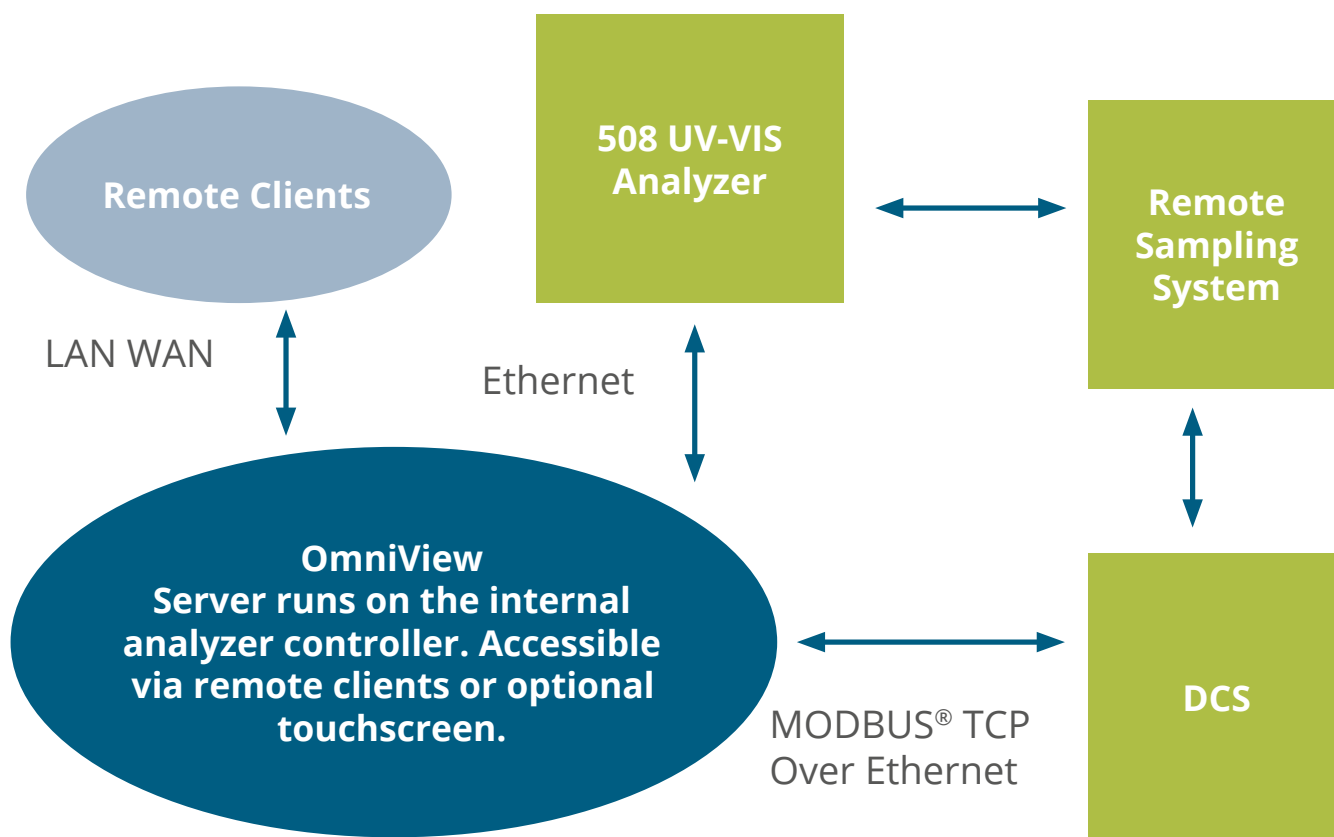
OmniView is a standalone software package controlling all aspects of the 508 UV-VIS analyzer. It provides full control of analyzer operations; diagnostics, data manipulation, event logging, trend graphs and alarms, calibration model security, and control of inputs and outputs. Communications via MODBUS® TCP are included as standard. 4-20 mA analog signals are also supported with optional hardware. OmniView can be customized with "add-on scripts" to meet the needs of any process installation.

### A Comprehensive Package

Support for model formats from Solo (Eigenvector) and Pirouette (Infometrix) is available. Pre-and post-processing of spectral data is done by way of the Python™ scripting language. OmniView supports the multiple probes available on the 508 UV-VIS analyzer, each with multiple analyses. Models, probes, or the analyzer can be taken on and offline with the click of a button.

### Remote Access without Interrupting Continuous Analyzer Operations

OmniView allows remote access over LAN/WAN. With proper security settings you can fully operate and configure the OmniView software and your 508 UV-VIS analyzer from the plant or from any remote location. Simultaneous users can view the operations, function and "health" of your 508 UV-VIS analyzer. This is extremely useful as the process engineer, laboratory technician, maintenance technician, and process supervisor can all access the analyzer remotely to accomplish their tasks. Furthermore, at your option Service Engineers and/or Applications Specialists can review and support your system, on demand, from our service centers.



Optional Analog 4-20mA

## Smart Choice

The 508 UV-VIS analyzer is compatible with all our probes and flow cells which can be used in any combination required for your analytical needs. The 508 UV-VIS's ability to monitor multiple reactions or samples with high accuracy and reliability in multiple environments makes it a cost-effective smart choice.

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## Applications

- L\*a\*b\* and other color coordinates
  - Solvent recovery purity
  - Maleic acid in tetrahydrofuran (THF)
  - Trace (ppm level) impurities in wash water; Clean-In-Place
  - Polynuclear aromatics (PNA's) in middle distillates
  - Phenol in cyclohexane
  - Sodium hypochlorite in bleach solutions
  - Aromatics in monomers
  - Sorbic acid in water
  - Ferrous chloride in acid
  - Acetonitrile purity
  - Hypochlorous acid
  - Antioxidants in polymers and plastics
  - Color and clarity of varnishes
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## Features

- User configurable windows to allow customized views
    - Multi-tasking
    - Pre-Configured for Easy Set-up
    - Real-time Trend Charts
    - Current Value Display
    - Powerful Python Script Language
    - Multiple Access Levels (Security)
  - Built-in Reporting of Analyzer Diagnostics  
Network Accessibility, Local and Global Remote, Real-time Access
  - Component and System Level Event Logging
  - I/O – MODBUS TCP or MODBUS RS232/485 is standard. (4-20mA/discreet signals are optional and require additional hardware)
  - Solo\_Predictor or Pirouette Model Predictions (optional)
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## Remote Clients

### Minimum Computer Requirements

- Intel® Dual Core processor
- 4 GB RAM minimum, or as required for OS
- Recommended 19 inch (minimum) monitor with 1080x1024 screen resolution
- 100 MB Ethernet for network access
- Microsoft Windows® OS – Win 10

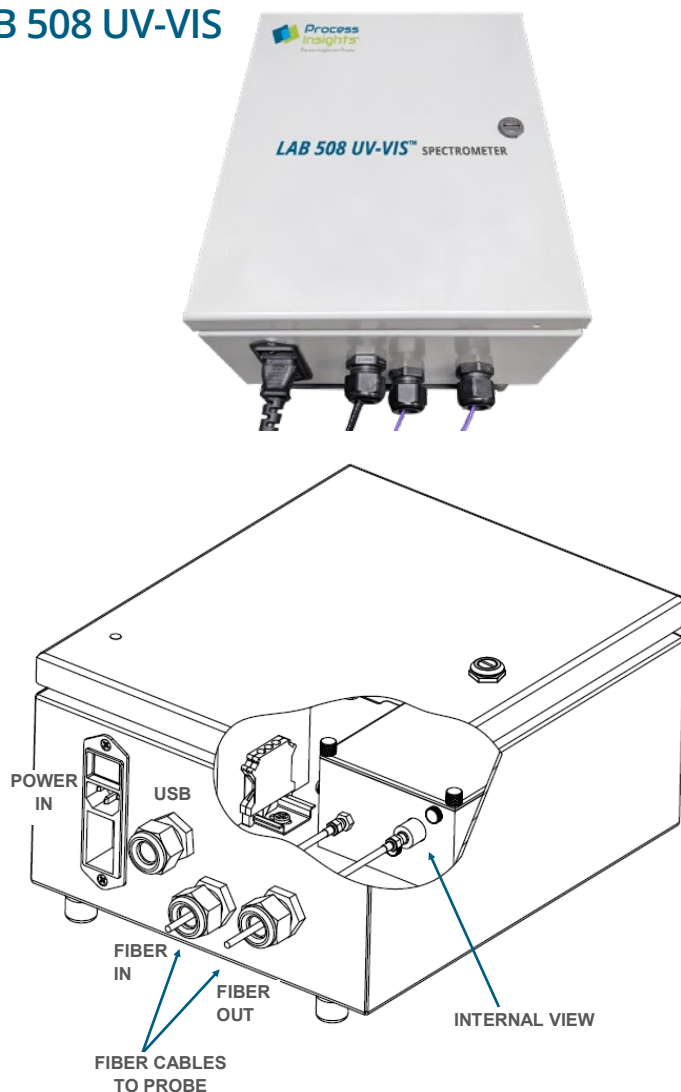
## Both Process and Lab Analyzer Options

In addition to the process 508 UV-VIS analyzer, we also offer a bench top analyzer for offline lab measurements. The LAB 508 UV-VIS™ was engineered to enable calibrations developed in the lab to be moved directly to a 508 UV-VIS process analyzer in the field. This allows seamless and precise data transfer with high accuracy and reliability. This reliable bench top analyzer is a single channel UV-VIS (200-800 nm) spectrometer.

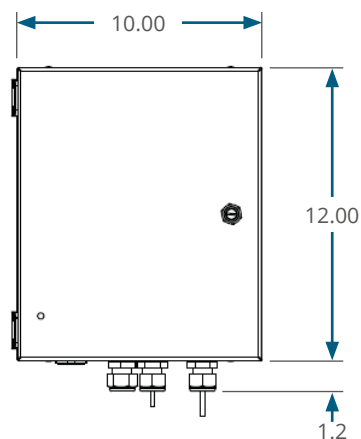
## Calibration Transfer Allows Flexible Uses

Process chemists, engineers, and researchers will appreciate the LAB 508 UV-VIS analyzer's flexibility to move from R&D testing, Pilot Plants, to full scale QC operations. In addition, the LAB 508 UV-VIS benchtop analyzer can be used for calibration development in support of a process 508 UV-VIS analyzer. A key aspect for UV-VIS spectrometric method development involves the issue of calibration transfer between analyzers. This is important if you are developing a calibration on a laboratory unit for use on a process unit. Multivariate calibrations are often a challenge to transfer between analyzers since they can be sensitive to very small changes in spectral data. In an ideal successful calibration transfer, the two analyzers must be as close to identical as possible. Designed to optically match the performance of our full spectrum process analyzer, calibrations developed on the LAB 508 UV-VIS in the laboratory can be quickly transferred to a process 508 UV-VIS and vice-versa. The ability to effortlessly transfer calibrations between instruments reduces the cost of ownership and the cost of calibration model maintenance.

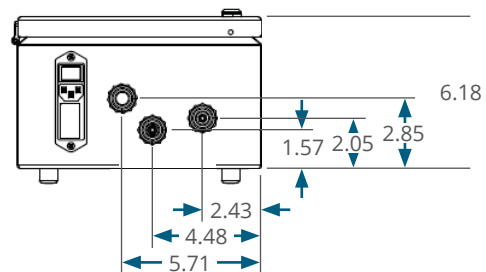
## LAB 508 UV-VIS



## LAB 508 UV-VIS Dimensions – Front View



## LAB 508 UV-VIS Dimensions – Bottom View



Dimensions shown in inches

<b>Specifications:</b>	
<b>Design:</b>	Transmission Grating, High Sensitivity Diode Array
<b>Bandwidth:</b>	< 3 nm
<b>Warranty:</b>	Two (2) year limited warranty
<b>Channels:</b>	1 - 4
<b>Light Source / Life:</b>	2W pulsed Xenon Lamp, > 2 year replace 10K hour life MTBF
<b>Fiber Optic Cables:</b>	400 µm diameter ultra-low OH
<b>Fiber Optic Cable Connectors:</b>	SMA 905
<b>Model Engine:</b>	Solo (PLS_Toolbox) or Piroutte
<b>Communications:</b>	Modbus TCP over ethernet or external OPTO 22 analog and digital I/O
<b>Software Required:</b>	OmniView Process Analysis Software
<b>Wavelength Accuracy:</b>	±0.2 nm
<b>Minimum Step Size:</b>	0.5 nm
<b>Photometric Noise:</b>	<0.8 mAU @ AU, 550 nm, 1 sec
<b>Photometric Stability (Baseline):</b>	≤0.00075 AU/day rms
<b>Scan Time:</b>	2 sec
<b>RoHS Compliant:</b>	Yes
<b>Dimensions (General Purpose):</b>	Overall: 36" (w) x 17" (d) x 27" (h) [93 cm x44 cm x 68 cm]
<b>Enclosure Options:</b>	Temperature controlled NEMA 12, NEMA 4, IP 54, IEC 60529
<b>Protection Options:</b>	General purpose, Z-Purge, X-Purge
<b>Certifications:</b>	Upon Request
<b>Environmental:</b>	0-45°C, 0-100% Non-condensing, sun shaded and rain protected
<b>Weight:</b>	Approximately 75 lbs. [34 kg]
<b>Power Requirements:</b>	110/230 VAC, 50/60 Hz (325 W instrument only) (1500 W maximum with air conditioner)

## GAIN REAL-TIME INSIGHT INTO YOUR PROCESS

Process Insights manufactures and delivers premium sensors, monitors, detectors, analyzers, instrumentation, and software that are mission-critical to keep your operations, personnel, and the environment safe – every day across the globe.

Get the most reliable, precision analytical technologies available on the market today. We will work to match your needs and budget, and provide the optimal, and most stable process analysis solution for your application.

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## CENTERS OF EXCELLENCE | PROVIDING PROVEN SOLUTIONS

Process Insights is committed to solving our customers' most complex analytical, process, and measurement challenges everyday.

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For a complete range of products, applications, systems, and service options, please contact us at: [info@process-insights.com](mailto:info@process-insights.com)

For a complete list of sales & manufacturing sites, please visit: <https://www.process-insights.com/about-us/locations/>

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REVOLUTIONIZING MEASUREMENT

**EVERYWHERE**