

Lab 508*plus* UV-Vis Analyzer

Guided Wave's Lab 508*plus* is a single-channel version of our popular M508*plus* process analyzer. The Lab 508*plus* is a fiber optic, UV-Vis spectrometer system packaged for use in either laboratory or pilot plant environments. The small size allows for use in many locations.

In monitoring mode, up to 16 parameters may be measured, making it suitable for many applications in chemical and polymer plants, refining and petrochemicals, pharmaceuticals and other specialty chemicals, paints and varnishes, adhesives, wastewater management, biotech, etc. The software runs on an external computer connected to the analyzer via USB.

The Smart Choice for Online Multiple Parameter Process Monitoring

- Low cost per point - up to 16 parameters
- Less maintenance - light source lasts up to two years
- Long life - durable system
- Safe - no hazardous chemicals inside the analyzer
- Model services available
- Lab-quality validation results (to ASTM standards)

Features

- Rapid data collection with enhanced diode array miniaturized optical bench
- Analyzer control program developed in LabVIEW™ featuring customizable settings and trending capability
- Modbus communications with built-in event setup. Optional Opto 22 panel and communications for analog and discrete interfacing
- Compatible with Guided Wave's proven probe and flow cell products
- Full spectrum scanning, 200 nm to 850 nm
- Unscrambler® Calibration Model Ready (with optional Unscrambler® Predictor)
- Simple B-Vector and formulaic models
- Built-in Color Analysis
- File formats - GW ASCII/BINARY and Galactic SPC

Options

- Unscrambler® Predictor for expanded modeling capabilities



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

Reliable, Rugged, and Flexible

By partnering with Guided Wave you gain the advantage of 30+ years of experience in online process monitoring and stream sample analysis. Our entire product line is designed and developed to meet the challenges of the most demanding production environments. The Pulsed Xenon source lamp used in the Lab 508*plus* has a lifetime lasting over two years.

Optimized for Guided Wave Sample Interfaces

The probe or flow cell is a crucial component of a complete analyzer system. For optimal performance, the sample interface must be "optically matched" with the analyzer and the optical fibers that transmit light. All of Guided Wave's sample interfaces are matched to the Lab 508*plus* and fibers to achieve the highest possible performance.

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Software Operating System

The GW508OS Version 3 software package accompanies Guided Wave's Lab 508*plus* Analyzer. Written in National Instrument's LabVIEW® 2015, it is designed to operate the Lab 508*plus* and to provide calculated results. The program has a graphical user interface layered over a scheduler that scans the analyzer and provides visualization tools and some automation. This software connects to the instrument controller via the USB port.

Software Features

- Full Scan Control
- Integration time
- Number of pulses/scan
- Dark correction
- Auto spectrum save
- Boxcar integration
- Scan limits and step size
- Spectral units (AU, %T, %R, log(1/R), Emission, Intensity, Kubelka-Munk)

Spectral Preprocessing Options

- 1 and 2 point baseline correction
- Savitzky-Golay smoothing
- Savitzky-Golay differentiation

Property Predictions using Multiple Methods

- Unscrambler® Prediction Engine Version 10.X (OLUPx)
- User Entered Algebraic Formula
- B-vector (dot product)
- Built-in Color Analysis ($L^*a^*b^*$, X,Y,Z , etc.)
- ΔE_{cmc}
- User defined dll (up to 3)

Communications

- ModBus Ethernet TCP or Serial

Software Features Continued

File Formats Supported

- Guided Wave ASCII
- Guided Wave Binary
- Galactic SPC
- Property prediction database (ASCII, csv file)
- Error/Event Log (ASCII)

Manual Scan Mode w/file Save and Read

- Sample Comment and Sample ID Entry
- Noise Calculation
- File overlay option with common mathematical routines
 - Property Value Entry
 - Scalar Math and Vector Math
 - Dot Product, Match Index, and Magnitude
 - Baseline Correction and Normalization
 - Savitzky-Golay Smoothing and Differentiation
 - Peak Find
 - Wavelength Shift
 - Integration
 - Property Correlation Coefficients
 - Simple Regression Analysis
 - Multi-file csv output file format

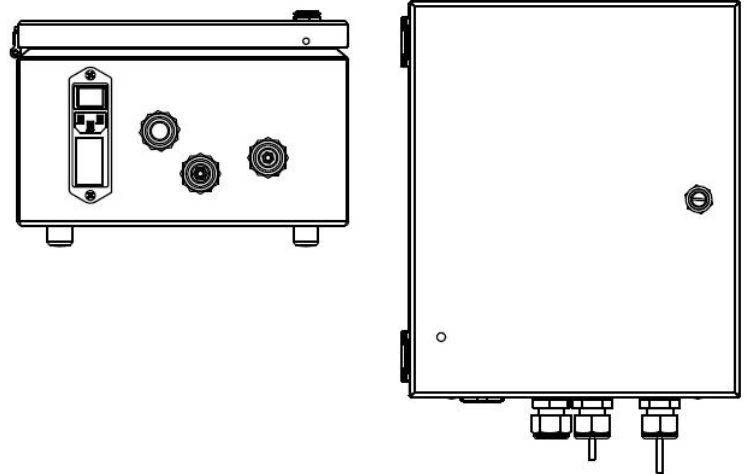
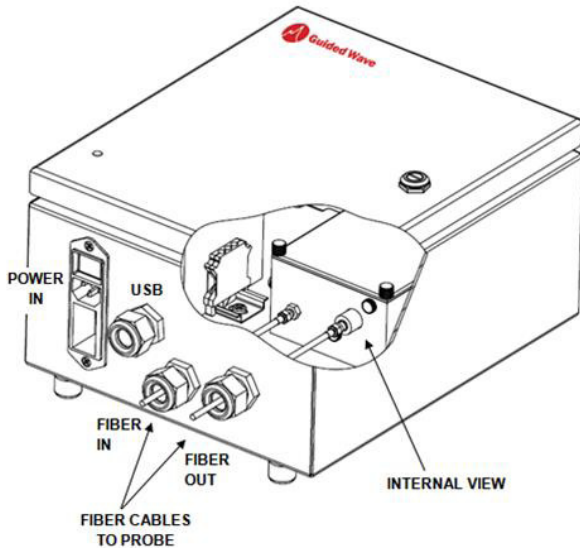
Utilities

- Schedule Archive
- Manual Backup
- Event/Error Logging
- Utilization Calculator
- Lamp Pulse Counter
- Multiple Status Screens
- Multi-level Password Protection
- Trend Charting

Lab 508plus UV-Vis Analyzer

Compact Size for More Space on Your Lab Bench

Dimensions (w x d x h)
 12 in x 10 in x 6.18 in; 30.48 cm x 25.4 cm x 15.7 cm
 Below: front and top analyzer view



Specifications

Spectrometer Type	Transmission Grating, High Sensitivity Diode Array
Wavelength Range	200 nm – 850 nm
Wavelength Accuracy	±0.1 nm
Photometric Noise	0.8 mAU @ 0 AU, 550 nm, 1 sec
Stray Light	< 0.1 % @ 220 nm
Number of Pixels	2048
Bandwidth	< 3 nm
Dynamic Range	2000:1 for a single scan
Light Source / Life	2 W Pulsed Xenon Lamp / >2 years
Minimum Scan Time	5 millisec
Fiber Optic Connections	SMA 905
Fiber Type	High OH Deep-UV Solarization Resistant
Fiber Diameter	Between 200 µm and 600 µm; 400 µm standard
Communications	Modbus Ethernet TCP or Serial
Software	GW5080Sv3 UV-Vis
Operating System	Windows® 7 or later
Temperature Range	0 °C to 40 °C
Humidity	10% to 90% RH, non-condensing
Power	110/220 Vac 50/60 Hz, 60W
Dimensions (w x d x h)	12 in x 10 in x 6.18 in; 30.48 cm x 25.4 cm x 15.7 cm
Weight	<15 pounds; <6.8 kg
Warranty	2 year limited warranty
RoHS Compliant	Yes



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