

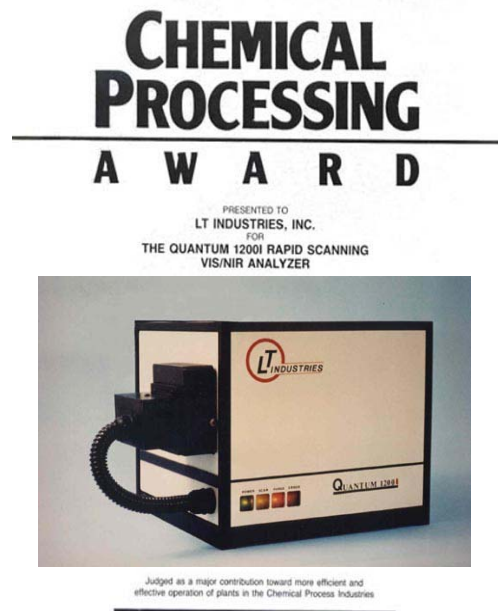


# Product Information

## Quantum 1200/SPX System

### NIR Monitors for Multi-Constituent Process and On-Line Applications

The Quantum 1200I/SPX is designed for multi-constituent process and on-line applications. Developed by LT Industries, manufacturer of the award winning Quantum 1200 Analyzer, the Quantum 1200I/SPX uses the same powerful Chemometrics packages and scans in real time a pre-configured spectral region from 400 nm to 2400 nm in wavelength. The Quantum 1200I/SPX has gained acceptance in many industries including polymer, petrochemical, food and beverage, textile, adhesives and coatings. The Quantum 1200I/SPX is versatile and accepts calibration models from any Quantum 1200 line of products used for development and interfaces directly with the entire line of Fiberline fiber optic cables, probes and multiplexer for remote multipoint analysis.



#### Features and Benefits:

- **Environmentally safe enclosure** NEMA 3R to 4X.
- **Flexibility** Capable of measurements in reflectance, transmittance and transfectance.
- **Patented Rapid Scanning Monochromator** Allows spectral scans to be collected at a rate of 6,000 wavelengths per second.
- **Fiber Optic Capability** Remote measurement of hazardous materials.
- **Automatic In-Line Wavelength Reference** to assure long term wavelength calibration.
- **Source Stabilization** for long term unattended operation.
- **Circuitry Patented** for low S/N ratio and improved performance.
- **Thermostated enclosure.** (Optional)
- **Compact Design** Ability to operate in close quarters and for use in process environments.
- **Network Interface** with control PC and other workstations.
- **Calibration Transparency** Enables transfer of model calibrations from Quantum 1200 General Purpose Analyzer.
- **User Selectable Configuration** for environmental requirements and optimum sample presentation.
- **Optical bench resistant to shock and vibration.**
- **Computer Controlled Auxiliary Port.** Controls accessories or process synchronization.
- **Extensive Diagnostics** over 150 independent self checks performed automatically to ensure proper analyzer information.

#### **LT Industries Inc.**

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## The basic system Quantum 1200I/SPX™

A Quantum 1200I **PLUS** includes a rugged NIR spectrometer, a solid sample compartment, LT Vista software, remote modem diagnostic package and manuals. LT Industries' SPX technology adds parallel data processing to the Quantum 1200I/SPX system. This sophisticated electronic package allows system expansion over long distances and expands system capability for use with VISTA Software for NIR Analysis™ -- a Microsoft Windows®-based program.

## Utility Options

- **Software**

**VISTA Software for NIR Analysis** includes an excellent GMP package for instrument test and calibration with both archiving and print report functions. The program interacts with Microsoft Windows, MODBUS and control software. The package, which also contains GRAMS/32 AI, PLSPlus IQ, and LTBUS modbus interface, includes extensive model development routines and provides elegant pictorial views of the statistical data set.

- **TRANS Software** is LT Industries' highly-regarded calibration transfer program. These days, eighty percent of all pharmaceutical NIR analyzers are multiples:  
Similar instruments in use at more than one plant. With TRANS Software, a chemometric model may be developed once and transferred easily from plant to plant.

## Applications:

- Petroleum Blend Monitoring
- Pharmaceuticals
- Chemicals and Fine Chemicals
- Food and Beverages
- Polymers, Adhesive Coatings, Pulp and Paper
- Soaps and Detergents
- Tobacco, Feed and Forages
- Fibers and Textiles
- Agricultural Feed and Forages

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## Want more information?

LT Industries publishes The NIR Desk Reference, a handbook to aid in understanding the principles and applications of NIR. Write for a copy.

### Spectrometer Specifications (Basic Unit)

Reliability:	Designed for twenty-four hour operations without shut-down.
Spectral range:	1200 - 2400 nm
Spectral Expansion:	400 – 2400 nm
Scanning speed:	5 scans per second
Spectral addition:	Scans may be added under computer control
Measurement modes:	Reflectance, Transmittance, Transflectance
Data interval:	1 nm (1200 points over the spectral range)
Bandwidth:	10 nm
Photometric range:	5 Absorbance Units
Photometric noise:	< 40 $\mu$ AU, 15 $\mu$ AU typical (0 AU absorber, 50 scans averaged)
Wavelength accuracy:	<0.015 nm
Wavelength repeatability:	0.01 nm
Stray light:	0.1% or better
Light geometry:	Optimized for minimum specular reflectance and maximal S/N
Auxiliary port:	Computer controlled for alternative sampling
Possible signal output:	Multiple 4-20 mA, multiple voltages
Power:	120V, 3.5 Amp, 60Hz or 220V, 1.8 Amp, 50 Hz
Power transients:	Filtered
Dimensions:	16" x 14" x 16" (HWD) 40.64 cm x 35.56 cm x 40.64 cm (HWD)

Specifications subject to change without prior notification

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## Industrial Accessories and Configurations



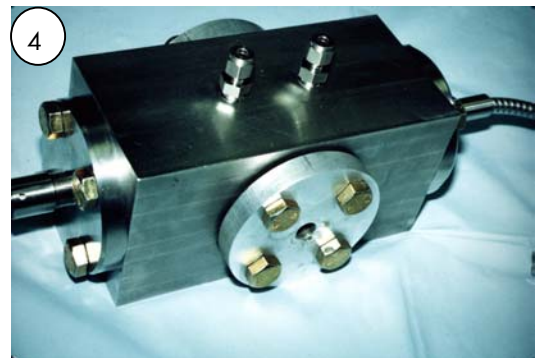
1 - Flanged pipe transmittance mode



2 - Flanged pipe transreflectance



3 - Transmittance probes



4 - Industrial flow-through cell



5 - Fiber optic cable can be used to connect the analyzer to measurement points hundreds of feet away.

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