Robust . Reliable . Accurate

Miniature Free Space
AOTF-NIR Process Analyzer
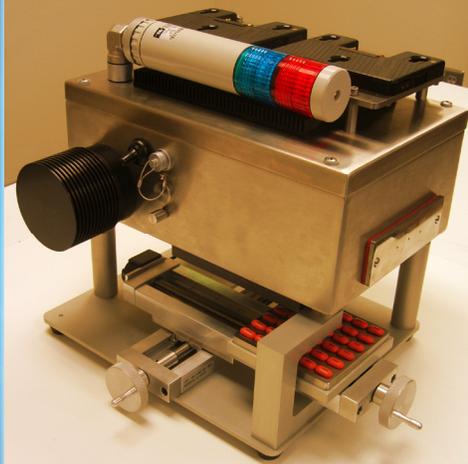
Luminar 4030 with Fiber-Optics

- Non-contact, Non-destructive Measurements Based on Diffuse Reflectance Optics Mode

- Brimrose Analytical Software - Snap32!

- More Portable and More Cost Effective Solutions for Real-Time Process Applications

brimrose

Brimrose Corporation of America
Email: office@brimrose.com
www.brimrose.com

Luminar 4030

19 Loveton Circle, Hunt Valley Loveton Center, Sparks, MD. 21152 ■ Tel: +1 410 472-7070

Miniature Free Space NIR Process Analyzer for On-line Process Applications

Brimrose's solid-state Luminar 4030 AOTF-NIR Miniature Free Space Process Analyzer is built to be placed directly into the production line.

Its rugged design and solid-state technology allows an installation right into the production environment, and its miniature size allows implementation where space is tight, such as small vacuum dryers, pipes, fluid beds, etc. This high-speed NIR Analyzer is based on diffuse reflectance optics and can be integrated in a vast variety of housings to match your process area needs. However lab use is welcome.

Brimrose offers this rugged solid-state analyzer in a variety of different configurations to meet the high demand of different industries and applications. The FreeSpace analyzer meets all requirements and standards for on-line applications in the pharmaceutical industry and is built to work reliably even in the toughest environmental conditions. The integrated AOTF-NIR technology offers outstanding S/N ratio combined with ultra high speed scanning rates and makes it possible to analyze in real time, on-line and with laboratory accuracy.

Votex Cooler with Heat Exchanger

Key Features

➢ Dual Beam, Pre-aligned Lamp Assembly, InGaAs Detectors
➢ Fast Scanning Speed - 16,000 wavelengths/sec
➢ SNAP32! Brimrose Analytical Software with Brimrose MACRO Language
➢ 6mm or 10mm Diameter Sample Area at 45mm or 55mm Sampling Distance
➢ Miniature Integrated Electronics and Optical Modules in Same Stainless Steel Enclosure

Real-time Applications

➢ **Blend Control:** Real-time homogeneity monitoring and blending control process
➢ Pharmaceutical: 100% inspection of solids, gels, liquids and powders
➢ Agricultural/Food: On-line food analysis for fat, protein, moisture, starch, etc.
➢ Polymer: In-site measurement of pellets, films, and coatings
➢ Textile: Cotton/polyester ratio directly in the web
➢ Drying Process: Direct placement on spray or fluid-bed dryers
➢ Pulp & Paper: On-line thickness and coating analysis
➢ Tobacco: Measurement of nicotine, sugars, potassium, etc.

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Technical Data Specifications

Spectrometer Name	Luminar 4030 Free Space AOTF-NIR Process Analyzer
Spectral Range Options	850-1700 nm, 900-1800 nm, 1100-2300 nm
Measurement Modes	Diffuse Reflection
Spectral Resolution	2-10 nm
Wavelength Accuracy	± 0.5 nm
Wavelength Repeatability	± 0.01 nm over more than 5 years service
Wavelength Increment	Software Selectable 1-10 nm
Ambient Light Rejection	$> 10^6$
Vibration Immunity	Blenders, production machinery, conveyor belts
S/N at 70% Range	< 30µabs in reflectance and transmission, for<5 seconds integration time
Wavelength Access Time	< 66 µsec
Photometric Range	3.5 AU
Linearity	Better than 0.15%
Signal Digitalization	16-bit A/D (1 part in 65,536)
Sampling Speed	16,000 wavelength/sec
Sampling Area	Ø6 mm (or Ø10 mm option)
Sampling Distance	40 mm (or 65 mm with Ø10 mm Sample Area)
Diagnostic	10 Built-in monitoring sensors
Power Requirements	12VDC, (24VDC special order), 90Watts, 110VAC 60Hz, 220VAC 50Hz
Enclosure	300 mm x 256 mm x 145mm Stainless Steel NEMA 4X; Explosion-proof options available
Outputs	PC Interface via Ethernet connection
Software Package	Windows-based analytical software for data acquisition

Options:

- Air-flow curtain
- Battery Operation
- Input/Output (I/O) Capability
- "Fiberless" or with Fiber-Optics
- Vortex Cooler with Heat Exchanger
- Wireless Communication
- Gravity Switch

Accessories:

698-00: 1.5" Sapphire Window Assembly
699-00: Mounting Plate for Quick Dismounting
732-30: Simple Stand
732-31A: Stand with Rotating cup and DC motor
732-31B: Stand with Rotating cup and Stepper motor
732-32: Stand xy Motorized with Tablet Carousels

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Luminar 4030

Real - Time . Results

Creating Solutions through Technology