

Luminar 4030

Free Space AOTF-NIR Spectrometer

Data Sheet

In-line & At-Line AOTF-NIR Spectrometer – Luminar 4030

The Brimrose Luminar 4030 AOTF-NIR Spectrometer is designed and built for in-line or at-line measurement in a production facility.

The 4030 has stainless-steel housing and is used in free space mode.

The free space configuration is mounted to a blender, pipe, or over a conveyor at a fixed distance from the product so that the transmitted light reflects from the sample for optimal analysis.



Free space AOTF-NIR Spectrometer with Vortex Cooler

Mounting Options

- Tri-clamp Mount
- Standard or Custom-Built Mounting Plates
- Lab Stand with Rotating Sample Cup

Key Features

- **Robust** – Built for In-Line and At-Line Monitoring; Extremely Fast (up to 10 measurements / second Typical)
- **Reliable** – Solid State; Immune to Vibration and Ambient Light; Install Anywhere
- **Accurate** – Real-Time Dual Beam Referencing; Real 1 or 2 nm Steps
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What is measured?

- Measure Ash, Moisture, and Protein Content in Food
- Blending Uniformity
- Fluidized Bed Drying Process
- Tobacco Measurement

AOTF-NIR Advantages

- **Solid State** – No Moving Parts
- **Faster** – Up to 10 measurements / second and can get up to 30 scans per second across the whole wavelength range (1100-2300 nm)
- **Sensitive** – higher resolution with excellent signal-to-noise ratio
- **Customized for Purpose** (ATEX / UL / IPxx)
- **Immune to Ambient Light & Vibration** – no need to block ambient light from the sample
- **Real-Time Dual-Beam Reference** – No Drifting, Excellent Wavelength Repeatability, No Need to Recalibrate The Device



Technical Specification

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| Spectral Range Options | 850-1700 nm, 900-1800 nm, 1100-2300 nm (standard) |
| Wavelength Repeatability | ± 0.01 nm |
| Spectral Resolution | 2-10 nm |
| Wavelength Accuracy | ± 0.5 nm |
| Sampling Speed | 16,000 wavelength/sec |
| Ambient Light Rejection | > 10 ⁶ |
| Installation Requirement | |
| Power Requirements | 12VDC, (24VDC special order), 90Watts, 110VAC 60Hz, 220VAC 50Hz |
| Cooling Options | Fan-cooled, Vortex-cooled |
| Communication | Wireless, OPC UA, Modbus (Serial or TCP), I/O with 4-20mA, TCP/IP Ethernet |
| Accessories / Options | |
| <ul style="list-style-type: none">• Battery Operation• Mounting Plates• Gravity Switch / Proximity Sensor | |

Tri-clamp Mount

