

# Luminar 4020

## Thin-Film AOTF-NIR Spectrometer

Data Sheet

### Designed Specifically for Thin-film Analysis – Luminar 4020

The Luminar 4020 AOTF-NIR Thin-Film Spectrometer was designed to measure multiple layers of thin films individually and to eliminate the need to measure thickness of substrate for accurate coating weight. Coating weight of adhesive and residual solvent are routinely measured with this high-speed on-line analyzer, which can either be mounted on a traveler and scan across the web or measures statically.

The integrated Luminar 4020 is totally insensitive to ambient light, immune to vibration, dust, and dirt, which eases installation requirements in the production environment.



## Built For Purpose

The optics are specifically designed for thin-film analysis.

## 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

## What is measured?

- **Coating Material** – Acrylic, Epoxy, Multi-layer Films and Tapes, and more
- **Substrates** – Aluminum Foil, Metallized Polymer Films, Polymer Films and More
- **On-line Measurement of Film Thickness, Coating on Film and Residual Solvents**

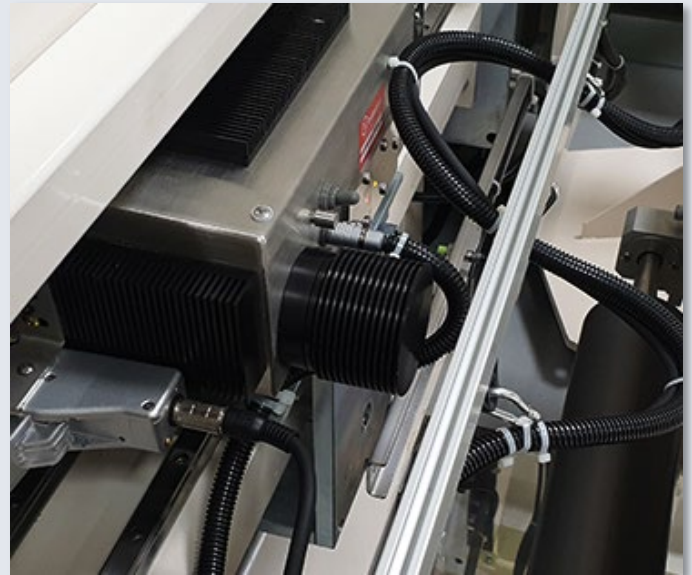
## AOTF-NIR Advantages

- **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

|                                 |  |
|---------------------------------|--|
| Spectral Range Options          | 600-1100 nm, 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 <sup>6</sup>  |
| <b>Installation Requirement</b> |  |
| Power Requirements              | 24 VDC, 80 Watts or 100-240 VAC, 50/60 Hz, 90 Watts                        |
| Cooling Options                 | Fan-cooled, Vortex-cooled  |
| Communication                   | Wireless, OPC UA, Modbus (Serial or TCP), I/O with 4-20mA, TCP/IP Ethernet |



On-Line Installation of Brimrose Luminar 4020 Thin-Film AOTF-NIR Spectrometer