

Luminar 4010

Fiber-Optics AOTF-NIR Spectrometer

Data Sheet

In-line & At-Line AOTF-NIR Spectrometer – Luminar 4010

The Brimrose Luminar 4010 AOTF-NIR Spectrometer is designed and built for in-line or at-line measurement using a probe or flow cell together with fiber optics in a production facility. The 4010 has stainless-steel housing.

The fiber-optic configuration uses a fiber-optic cable to transmit the light from the spectrometer to a probe or flow cell that is mounted in position.

The light returns through the fiber from the attachments for analysis. The length of the fiber-optic cable can be up to 300 m with almost no signal degradation.



Measurement Modes

- **Transmission Flow Cells** - High Pressure and/or High Temperature Flow Cells Available
- **Probes** - Reflectance or Transflectance for Powder or Liquid Applications

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?

- Reaction Monitoring
- Extraction Monitoring
- In-line Analysis

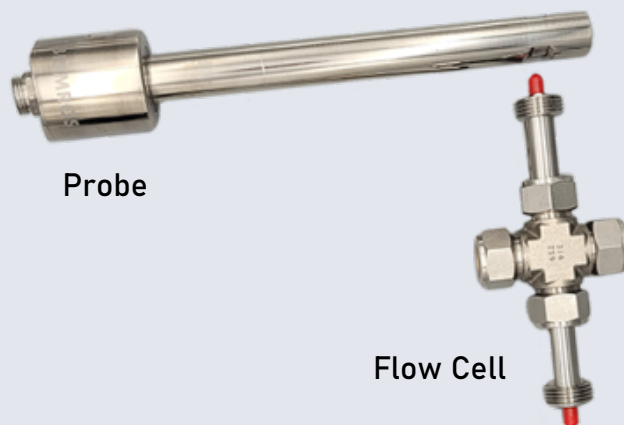
AOTF-NIR Advantages

- **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	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• Liquid Probe Attachment• Powder Probe Attachment• Transmission Flow Cell	



Probe

Flow Cell