

# IntegraSpec® XL Spectrometers for Process Control Applications

## Leading Edge Performance

The Axsun IntegraSpec® NIR Spectrometer Engine delivers unmatched measurement speed, high spectral resolution and accuracy, all in the most compact MEMs based spectrometer footprint available.

## Proven Technology

The Axsun IntegraSpec Spectrometer Engine leverages our proven technology, intellectual property, and volume manufacturing infrastructure to provide a reliable, compact and cost-effective NIR Spectrometer Engine with the highest level of performance, enabling true in-line process measurements in a compact and reliable package. The IntegraSpec is designed for seamless integration into your spectroscopy system.

## A Unique Design

Based on the Axsun micro-optic integration platform and MEMS tunable filter, the IntegraSpec XL platform is a pre-dispersive NIR spectrometer with fully integrated tunable laser-based light sources, wavelength and amplitude references, and photodetector.

This flexible platform accommodates both fiber-to-detector and direct-to detector sampling configurations and can be configured with either single or multiplexed detectors.

## Reliability & Support

Axsun has shipped tens of thousands of tunable lasers since 2009. Our products meet rigorous Telcordia qualification standards and are supported by a team with decades of expertise in laser and photonic systems technology.

Axsun IntegraSpec® NIR Spectrometer Engine



| Parameter                          | Units                  | Minimum | Maximum  |
|------------------------------------|------------------------|---------|----------|
| Wavelength Range (XL-420)          | nm                     | 1355    | 1795     |
| Spectral Resolution                | cm <sup>-1</sup><br>nm |         | 3.5<br>1 |
| Absolute Wavelength Accuracy       | nm                     | -0.100  | 0.100    |
| Wavelength Reproducibility         | nm                     | -0.01   | 0.01     |
| Photometric Noise                  | mAU                    |         | 0.2      |
| Signal-to-Noise Ratio (250ms Scan) |                        |         | 5500:1   |
| Baseline Stability                 | %                      | -0.5    | 0.5      |

# IntegraSpec® XL Spectrometers for Process Control Applications

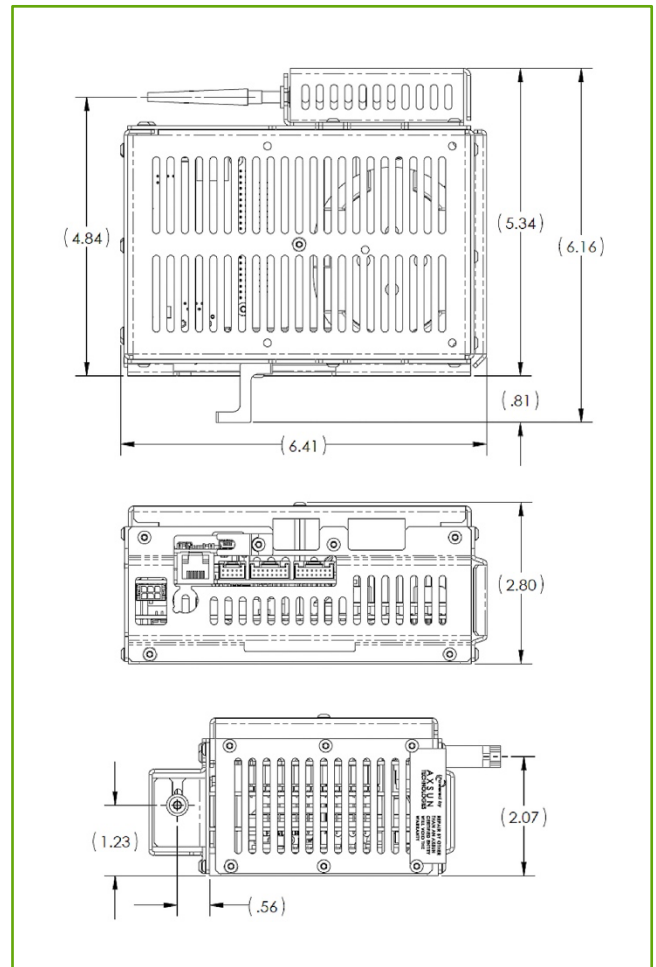
## Features & Benefits

|   |
|---|
| Rugged, compact and versatile Spectrometer Engine, ideal for in-line process applications                                       |
| Field proven semiconductor device technology enables maintenance free operation   |
| Spectral Sensitivity and High SNR at longer wavelength addresses a wide range of applications and samples with high performance |
| Low power consumption for long life battery operation   |
| Proprietary integrated wavelength and amplitude reference module enables calibration transfer                                   |
| High speed data acquisition electronics enables real time in-line measurements  |

## Interface Specifications

|   |  |
|---|--|
| Optical Connectivity  | Light Source: FC/APC Polarization Maintaining (Panda) Fiber                                      |
|   | Detector: SMA905 Connector or Direct to Detector Armored cable standard                          |
| Detector Options  | 1mm or 3mm Active Area InGaAs OEM  |
|   | Fiber Optic Adaptor  |
| Environmental Requirements                                  | Storage Temp. Range: -20 to 70 Deg. C<br>Operating Temp. Range: 0 to 55 Deg. C                   |
|   | Relative Humidity Storage: 95% non-condensing<br>Relative Humidity Operating: 90% non-condensing |
| USB 2.0 Control & Diagnostics (Optional Ethernet Interface) | OEM: mini-B receptacle   |
|   | Windows DLL and SDK  |
| Power Consumption   | 25 W typical at 25°C, 12 V <sub>DC</sub> nominal supply  |
| Dimensions  | OEM: 5.34"x6.41"x2.8" mm (135.6 x 162.8 x 71.1mm)  |
|   | Detector: 1.73" x 0.55" x 2.53"  |
| Hazardous Location Qualification                            | Spectrometer engine: Class I, Division 2 (non-incendive)   |

## Mechanical Dimensions IntegraSpec® XL420



## About Excelitas Technologies

Excelitas Technologies® Corp. is a leading industrial technology manufacturer focused on delivering innovative, market-driven photonic solutions to meet the lighting, optical, optronic, and detection needs of our OEM customers. Serving a vast array of applications across biomedical, scientific, safety, security, consumer products, semiconductor, industrial manufacturing, defense and aerospace sectors, Excelitas stands committed to enabling our customers' success in their end-markets.

For a complete listing of our global offices, visit [www.excelitas.com/locations](http://www.excelitas.com/locations)

©2021 Excelitas Technologies Corp. All rights reserved. The Excelitas logo and design are registered trademarks of Excelitas Technologies Corp. All other trademarks not owned by Excelitas Technologies or its subsidiaries that are depicted herein are the property of their respective owners. Excelitas reserves the right to change this document at any time without notice and disclaims liability for editorial, pictorial or typographical errors.

L-AX\_DS-Axsun IntegraSpec® XL Spectrometers \_2021.08