Data Sheet

VIAVI MicroNIR™ 1700 ES

An ultra-compact, near infrared spectrometer

The MicroNIR 1700 ES is a lightweight and cost-effective near infrared (NIR) spectrometer that combines Viavi's high-precision optical coating technology with innovation in optical system design and miniaturization.

Integrating Viavi linear variable filter (LVF) technology as the dispersing element, the MicroNIR spectrometer contains the light source, collection optics, electronics and detector in a package less than 2" in diameter (50 mm) that weighs 2 ounces (58 g). The spectrometer is USB-powered and can be used in diffuse reflection, transmission, or transflection modes.

The MicroNIR 1700 ES includes a number of accessories that enable measuring with different configurations for specific applications.

MicroNIR 1700 ES Instrument

MicroNIR 1700 ES shown with Tablet

Benefits

- NIR wavelength range combines coverage of significant overtone/combination bands with excellent penetration depth

- Compact and robust with no moving parts and outstanding stability

- Real-time prediction and method management

- Powerful calibration model development tool

Applications

- Pharmaceutical

- Food, feed, and agriculture

- Industrial processing

Standard Accessories

The MicroNIR 1700 ES includes the following standard accessories:

- Vial holder with 100 5 ml glass vials
- Standard collar for normal operation
- Windowed collar for powder and soft material measurement and easy cleaning
- 99% spectralon references for vial measurement and point-and-shoot operation
- Bracket with ¼-20 thread for ease of mounting on standard optical post or mount
- Softshell case for shipping and transportation

MicroNIR 1700 ES Kit

Software

The MicroNIR 1700 ES includes the VIAVI MicroNIR Pro software suite with features for data acquisition, calibration and method development, user management, and real-time prediction. Using MicroNIR Pro software, a developer can process data and build complete

MicroNIR Pro Software

chemometric models using regression and classification algorithms including PCA, PLS, Spectral Match Value and Moving Block analyses. Batch mode predictions on stored data are also supported.

MicroNIR 1700 ES software also includes instrument performance qualification per EP 2.2.40 and USP 1119 test criteria and tools enabling Title 21 CFR Part 11 compliance. An enhanced OPC interface is optionally available for integration with process control systems.

Specifications

Parameter	Specification
Illumination source	Two integrated vacuum tungsten lamps rated for >40,000 hr lifetime @ < 1 W
Working distance	Range 0-15 mm; optimal results when samples are in contact with measurement collar window
Dispersing element	VIAVI linear variable filter (LVF)
Detector	128 pixel InGaAs photodiode array
Wavelength range	908-1676 nm (11,012-5966 cm-1)
Pixel-to-pixel interval	6.2 nm
Spectral resolution (FWHM)	<1.25% of center wavelength (e.g., resolution <12.5 nm @ 1000 nm)
Analog-to-digital converter	16 bit
Integration time	10 ms typical
Computer Interface	USB 2.0
Weight	58 g (2 oz)
Size	46 mm diameter x 50 mm length
Power	USB powered (<500 mA @5 V)
Operating system	Microsoft Windows 7, 8 and 10
Software included	MicroNIR Pro
Operating temperature	−20 to + 50°C (noncondensing)
Storage temperature	−40 to + 70°C (noncondensing)
Package drop test	ISTA 2A

For more information, please contact your local account manager.

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