

MicroNIR™ OnSite

A ruggedized, handheld spectrometer for rapid material analysis in the field

The MicroNIR OnSite is the latest addition to the Viavi Solutions® innovative, ultra-compact spectrometer product line. It is the next-generation NIR solution for rapid material analysis. Compact, ruggedized, and ergonomic, it is ideal for applications in the field or on the manufacturing floor. And, its intuitive user interface requires minimum training to operate from a tablet or laptop.

The MicroNIR OnSite is the smallest fully-integrated NIR spectrometer on the market and is enabled by proven Viavi linear variable filter (LVF) technology. It addresses a wide range of material characterization applications in food, agriculture, pharmaceutical, and security markets.

Standard Accessories

- Two applicators with sapphire windows, AR-coated on one side for maximum light throughput
 - Large applicator for soft material measurement such as fiber, clothes, and vegetation
 - Small applicator for flexible operation and easiness of reaching samples in confined space
- Protected white reference with sapphire window
 - Matching grooves on the reference and applicators for easy alignment in the field
 - Protected window and aluminum enclosure for use in the field and easy cleaning
- Rugged carrying case for storage and transportation
- USB cable with locking mechanism for solid instrument connections



Key Benefits

- Non-destructive, real-time near-infrared analysis
- Compact and ergonomic for handheld applications
- Ruggedized for severe environments
- Powered and operated by a Windows-based tablet or laptop
- Intuitive, easy-to-use interface

Applications

- Pharmaceutical
- Food, feed, and agriculture
- Industrial processing

Software

The MicroNIR OnSite includes the professional version of Viavi data acquisition, method development, user management, and real-time prediction software. Within the model development software, a developer can perform spectral data pre-treatments with a full suite of industry-standard tools such as smoothing, derivatives, and baseline corrections. This portion of the software is suitable for PCs and laptops.

Instrument performance qualification per USP 1119 test criteria and tools enabling 21 CFR part 11 compliance are available and embedded calibration development software powered by CAMO Software's The Unscrambler® X provides regression and classification algorithms and a complete set of chemometric tools for calibration model development and data investigation.

The MicroNIR OnSite Lite version does not include the embedded calibration development software, but it is compatible with CAMO Software's Unscrambler X (version 10 or higher).



Specifications

| Parameter | Specification |
|---------------------------------|--|
| Illumination source | Two integrated vacuum tungsten lamps |
| Bulb life | >40,000 hr |
| Sample working distance | 0 – 15 mm from window, 3 mm optimal |
| Dispersing element | Linear variable filter |
| Detector | 128 pixel InGaAs photodiode array |
| Pixel size/pitch | 30 µm x 250 µm/50 µm |
| Wavelength range | 950 – 1650 nm (10,526 – 6060 cm ⁻¹) |
| Pixel-to-pixel interval | 6.2 nm for 950 – 1650 nm |
| Spectral bandwidth (FWHM) | <1.25% of center wavelength (1% typical) (for example, @1000 nm, resolution is <12.5 nm) |
| Analog-to-digital convertor | 16 bit |
| Dynamic range (Max) | 1000:1 |
| Measurement time (typical) | 0.25 – 0.5 sec |
| Signal-to-noise ratio (typical) | 25,000 |
| Integration time | 10 ms typical, minimum 10 µsec |
| Connectivity | USB 2.0 |
| Weight | <200 g (<7 oz) |
| Size (Length/Diameter) | 14.6 cm (5.75 in)/4.45 cm (1.75 in) |
| Power | USB powered (<500 mA @5 V) |
| Data format | Unsb, CSV, and SPC output |
| Operating system | Windows 8.1, 8, and 7 |
| Software included | MicroNIR OnSite, Unscrambler X Lite, MicroNIR Pro |
| Tablet PC | Getac T800, Panasonic FZ-M1, Microsoft Surface 3 |
| Operating temperature | -20 – 50°C (noncondensing) |
| Storage temperature | -40 – 70°C (noncondensing) |
| Dust and water resistance | IP 65 |
| Shock and vibration | MIL-PRF-28800F Class 2 |

Ordering Information

For more information, please contact your local Viavi account manager or Viavi directly at 1-800-254-3684 worldwide or via e-mail at micronir@viavisolutions.com.

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