

# NIRStudio



The NIRStudio is delivered in a compact, ergonomically designed case. Inside, there is a complete set of standard accessories, including a protected white reference target with sapphire window, rugged carrying case, and a USB cable for charging.

## Technical Specifications

### OPTICAL

|                                  |                                                                                  |
|----------------------------------|----------------------------------------------------------------------------------|
| <b>Illumination Source</b>       | Two integrated vacuum tungsten lamps                                             |
| <b>Lamp Life</b>                 | >40,000 hr                                                                       |
| <b>Sample Working Distance</b>   | 3 mm from window optimal, 0–15 mm                                                |
| <b>Dispersing Element</b>        | VIAVI linear variable filter (LVF)                                               |
| <b>Detector</b>                  | 128 pixel InGaAs photodiode array                                                |
| <b>Wavelength Range</b>          | 950–1650 nm (10,526–6060 <sup>-1</sup> cm <sup>-1</sup> )                        |
| <b>Pixel-to-pixel Interval</b>   | 6.2 nm for 950–1650 nm                                                           |
| <b>Spectral Bandwidth (FWHM)</b> | <1.25% of center wavelength, 1% typical (e.g., @1000 nm, resolution is <12.5 nm) |

### PERFORMANCE

|                                     |                             |
|-------------------------------------|-----------------------------|
| <b>Analog-to-digital Converter</b>  | 16 bit                      |
| <b>Dynamic Range (Max)</b>          | 1000:1                      |
| <b>Measurement Time (Typical)</b>   | 0.25–0.5 sec                |
| <b>Signal-to-noise Ratio (Typ.)</b> | 25,000                      |
| <b>Integration Time</b>             | 10 ms typical, minimum 10 s |

### PHYSICAL

|                                  |                                |
|----------------------------------|--------------------------------|
| <b>Weight</b>                    | <250 g (<9 oz)                 |
| <b>Size (Length x Diameter)</b>  | 194 mm (7.64") x 47 mm (1.85") |
| <b>Dust and Water Resistance</b> | IP65 and IP67                  |
| <b>Shock and Vibration</b>       | MIL-PRF-28800F Class 2         |

### ENVIRONMENTAL

|                              |                             |
|------------------------------|-----------------------------|
| <b>Operating Temperature</b> | -20 ~ 40 °C (noncondensing) |
| <b>Storage Temperature</b>   | -20 ~ 50 °C (noncondensing) |

### POWER AND CONNECTIVITY

|                                |                                       |
|--------------------------------|---------------------------------------|
| <b>Connectivity</b>            | Bluetooth 4.1 (BLE) and USB 2.0       |
| <b>Battery</b>                 | Rechargeable Li-ion, not removable    |
| <b>Battery Run Time/Charge</b> | >10 hours with lamps on continuously  |
| <b>Battery Cycle Life</b>      | >75% capacity after 300 charge cycles |
| <b>Battery Charge Time</b>     | 3.5 hours at 1A                       |

#### Warranty

The system comes with a one-year warranty covering manufacturing defects and hardware-related issues.