ARCOPTIX FT-NIR ROCKET

The ARCoptix FT-NIR Rocket is a highly peformant, compact and reliable spectrometer that is ideal for various applications in the near-infrared spectrum. Its fibered port makes it directly compatible with fibered accessories such as reflection probes or cuvette holders to analyze e.g. liquids in transmission.

Thanks to its permanently aligned interferometer and solid-state reference laser, the FT-NIR Rocket offers excellent stability in both intensity and wavelength scales. With four available spectral ranges and adjustable spectral resolution down to 2cm^{-1}, the FT-NIR Rocket is a highly flexible instrument that can be tailored to your application. Designed for convenience and ease-of-use, our FT-NIR spectrometer is readily operational with our ARCspectroRocket software using a standard USB 2.0 connection.

Applications

- *Transmission, diffuse reflectance*
- *Light source measurement (NIR Lasers, LED, Solar,…)*
- *Material identification and quantification in various fields such as geology, food and beverage industry, drug & medical diagnostics, etc.*

Features

- **High D* 2-TE cooled InGaAs photodetector**
- **Extended range available with dual detector**
- **Dynamically adjustable resolution:**
  - **8cm^{-1}**
  - **4cm^{-1}**
  - **2cm^{-1}**
- **Compact design: 18cm X 16cm X 8 cm**
- **Wear free moving parts for extended lifetime**
- **No purging of the interferometer required**
- **Low power consumption**
- **Compatible with various fibered accessories**
- **Temperature controlled reference laser**
- **USB 2.0 connection**

Specifications

Product code	FTNIR-L1-025-2TE	FTNIR-L1-060-EXT
Spectral Range [cm^{-1}]	11'000–4'000	11'000-1'660
Spectral Range [µm]	0.9–2.5	0.9-6.0
Detector type	Extended type InGaAs 2TEC	Extended type InGaAs 2TEC & MCT 4TEC
Detector Peak D* [cm $Hz^{1/2}W^{-1}$]	>$2x10^{11}$	>$2x10^{11}$ (0.9-2.5µm) >$1x10^{11}$ (2.5-6.0µm)
Signal-to-noise ratio (SNR)	>100'000:1[i]	>100'000:1[i] (0.9-2.5µm) >80'000:1[i] (2.5-6.0µm)
Removable fiber-optic coupler	Lensed (CaF2 fiber coupler)	
Recommended fiber	Low-OH silica Multi-mode fiber with 200µm or 600µm core	Bundle (Low-OH silica & IFG)
Fibered interface	Fiber core up to Ø 0.6mm, NA=0.25, SMA 905 connector	
Free-space interface	Ø 12.7mm collimated (max ~30mrad half angle)	
Interferometer type	Permanently aligned with dual retro-reflector	
Resolution (unapodized) [cm^{-1}]	2, 4, 8 (user selectable)	
Wave-number repeatability	<20 PPM	
Scan frequency	>4 Hz @ $4cm^{-1}$	
Internal reference laser	Temperature controlled solid-state @795nm	
A/D Converter	24 bit	
Amplifier	4 gain levels low noise trans-impedance amplifier	
Operating temperature/ humidity	5°C - 40°C / non condensing	
Power requirements	12V / 10W max	12V / 20W max
Communication interface	USB 2.0	
Software Interface	Windows 10/11 API for controlling the instrument via our DLL	
Dimensions	180mm x 160mm x 80mm	
Weight	1800 g	

[i]Measured with a 20W halogen lamp in transmission mode, 60s measurement, around peak sensitivity wavelength, Norton-Beer weak apodization, linearly corrected baseline, resolution setting 4 cm^{-1}

SPECIFICATIONS ARE SUBJECT TO CHANGES WITHOUT NOTICE.