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DATASHEET

ARCoptix FT-IR *Rocket*

Mid-IR Fourier-transform spectrometer



If you are looking for high performance & compact Mid-IR spectrometer, that can operate both free-space or with IR optical fibers, the ARCoptix FT-IR Rocket is the instrument that you need. Thanks to its permanently aligned interferometer and solid-state reference laser, the FT-MIR Rocket offers excellent stability in both intensity and wavelength scales. Three spectral ranges are available, depending on the priority given to high sensitivity or broad spectral range.

- ## Benefits
  - Three spectral range choices: 2-6, 1.5-8.5 or 2-12µm
  - Best available sensitivities (2-stage & 4-stage cooled MCT detectors)
  - High resolution of 4cm^{-1}
  - Excellent stability in intensity and wavelength
  - Removable fiber coupler for operation with fibers or free-space IR beams

- ## Applications
  - Mid-IR Optical Spectrum Analyzer (OSA) for MIR Lasers & LEDs
  - Liquid, thin-film or gas measurement
  - Material identification and quantification in various fields such as geology, food and beverage industry, …

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Specifications

Models	FTMIR-L1-060-2TE	FTMIR-L1-085-4TE	FTMIR-L1-120-4TE
Beam-splitter material	CaF_2		ZnSe
Spectral Range [cm^{-1}]	5'000 – 1'660	6600-1'200	5'000 - 830
Spectral Range [µm]	2-6	1.5-8.5	2-12
Detector Type	MCT (2-TE cooled)	MCT (4-TE cooled)	MCT (4-TE cooled)
Detector Peak D*[cm $Hz^{1/2}W^{-1}$]	>1x10^{11}	>8x10^{9}	>2.5x10^{9}
SNR	> 1:5'000[i]	> 1:5'000[ii]	> 1:3'000[ii]
Removable fiber-optic coupler	Lensed (CaF2 fiber coupler)		Reflective fiber coupler (90° off-axis parabolic mirror)
Recommended fiber	CIR (chalcogenide) fibers (1-6µm)	CIR (1-6µm) or PIR (3-18µm)	PIR (polycrystalline) fibers (3-18µm)
Fibered interface	Fiber core up to Ø 1mm, NA=0.25, SMA 905 connector		
Free-space interface	Ø 12.7mm collimated (max ~30mrad half angle)		
Interferometer type	Permanently aligned, double retro-reflector design		
Resolution (unapodized) [cm^{-1}]	4		
Wavenumber repeatability	<10PPM		
Scan frequency	1 spectrum / second		
Control laser	Temperature-stabilized solid-state laser @850nm		
A/D Converter	24 bit		
Amplifier	4 gain levels low noise trans-impedance amplifier		
Operating temperature	10°C-40°C		
Power requirement	12V / 10W max		
Communication Interface	USB 2.0		
Software Interface	Windows 7/10 API for controlling the instrument via our DLL		
Dimensions	180mm x 160mm x 80mm		
Weight	1800 g		

[i] Measured with a silicon carbide (SiC) source (~1400K) through a 500 µm core diameter CIR fiber, 5s measurement, around peak sensitivity wavelength, Norton-Beer weak apodization.
[ii] Measured with a silicon carbide (SiC) source (~1400K) with f=18mm reflector directly shining into the free-space input port, 5s measurement, around peak sensitivity wavelength, Norton-Beer weak apodization.

SPECIFICATIONS ARE SUBJECT TO CHANGES WITHOUT NOTICE.

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Please contact info@arcoptix.com for more information.

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