

THz- 3009

Terahertz & TDS System



EPCC / PRODUCTS / APPLICATION / SOFTWARE / ACCESSORIES / CONSUMABLES / SERVICES

Analytical Technologies Limited

An ISO 9001 Certified Company

www.analyticalgroup.net

Our next-generation terahertz time-domain solutions set a new benchmark in speed, power and performance. Achieving over 125 waveforms/s @ 50 ps, a bandwidth of 6.5 THz, and >100 dB dynamic range in under 5 seconds, these advancements are unmatched in the industry.

The newly upgraded spectrometer delivers unparalleled scanning speed, THz power, dynamic range and bandwidth. Featuring our high-power antenna modules, an ultra-fast optical delay unit (up to 1700 ps) and a homebuilt transimpedance amplifier, it is designed for seamless integration into industrial and academic environments.

The available multichannel setup options enable simultaneous measurements with multiple emitter/detector pairs powered by a single femtosecond fiber laser oscillator. The THz-3009 is more versatile and customizable than ever, now supporting high-power pump-probe applications with 1W of pump power at 780nm. Other enhanced features like an intuitive software interface, new Image linear stages, and intelligent TCP socket connectivity make ideal for non - destructive testing and manufacturing line automation.

FEATURE:

- Turnkey Operation
- Broadband Application
- Transmission & Reflection Geometry
- Fiber Coupled THz Antennas for Arrangement Outside the Spectrometer Housing
- Real-Time Measurements
- OEM Integration-Capable
- Modular Platform

HIGHLIGHTS:

- All-Integrated Turnkey System
- Compact 19" Rack Solution
- Industry-Proven Delay Unit
- Industry-Proven fs Fiber Laser
- figure 9 Mode Locking
- Multi-Channel Option
- All-Fiber Flexibility
- Ethernet Based Remote Control Engine
- Class 1 Laser Product

KEY SPECIFICATIONS:

- >6 THz (typ. 6.5 THz)
- 100 dB (up to 110 dB) Dynamic Range
- Up to 300 μ W Average THz Power (with HP emitters)
- Scan Range up to 1700 ps, Flexible Setting of Range and Speed
- High Spectral Resolution < 0.6 GHz

APPLICATIONS:

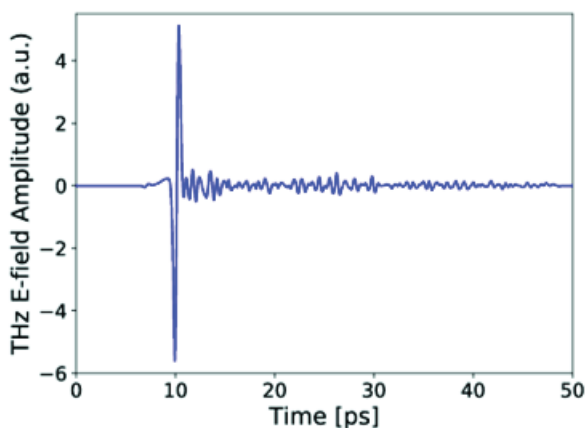
- Inline Thickness Measurements
- Time Resolved THz Spectroscopy
- Material Characterization
- Non-Destructive Testing (NDT)
- Pharmaceutical Monitoring

OPTIONS

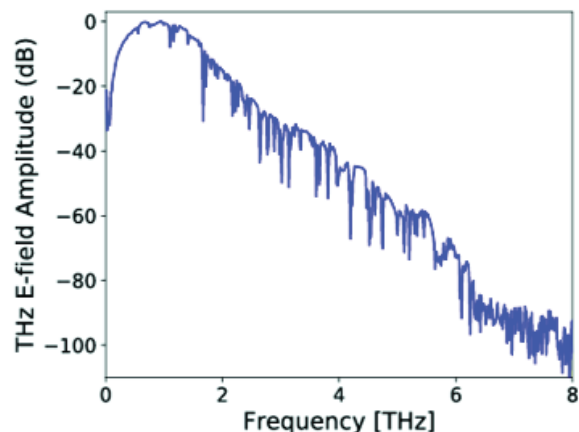
- **Dual-Detection/Multi-Channel**
- **TERA Image**- Hyperspectral Imaging & Analysis Platform
- **Reflection Head**- Compact Sensor Unit with Integrated THz optics
- **THz Purge Box**- Enables Water Line Free THz Spectroscopy
- **TeraLyzer & TeraLyzer pro**- Advanced Software for THz Data Analysis
- **Mirror or Polymer Lens Optics**
- **Custom Fiber Length**
- **THz Path Length Adaptation** - >3 m on request

PERFORMANCE DATA:

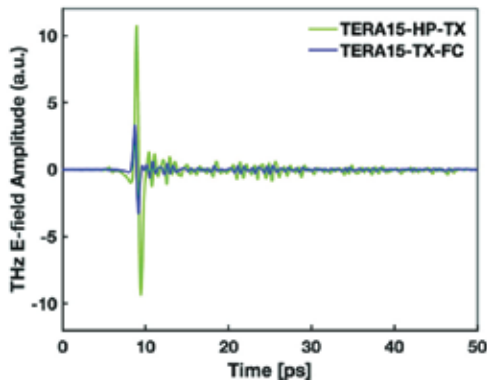
Time domain data



Frequency domain data



Frequency domain data



- THz- 3009 TX-FC measurement settings: 100 V bias with 25 mW optical powers at 24 Hz scan speed to achieve >6 THz and >95 dB in 6
- THz- 3009 -HP-TX measurement settings: 200 V bias with 50 mW optical powers at 24 Hz scan speed to achieve >6 THz* and up to 110 dB in 60 sec
- All measurements were conducted under ambient conditions without purging

THz SPECIFICATIONS:

Fast Scanning Speed	125 traces/s @ 50 ps
Spectral Range	>6 THz (up to 6.5 THz)
Dynamic Range	>100 dB (up to 110 dB)
Average Power	Up to 300 μ W (with HP emitters)
Total Scan Range	Up to 1700 ps flexible scan range and speed, customizable THz path length >3m
THz Frequency Resolution	Up to 0.6 GHz
Laser Output Ports for THz	2 fiber-coupled ports, 1560 nm, FC/APC, PM fiber, <90 fs after 2.5 m patch cord
Laser System Repetition Rate	100 MHz

DETAILED SPEED SPECIFICATIONS:

Scan length (ps)	Scan frequency (Hz)
5	>335
10	>260
25	>170
50	>125
100	>85
150	>70
200	>10

SYSTEM DIMENSIONS AND WEIGHT:

Enclosure	19" x 3U (448 x 132 x 495 mm ³), 18 kg
Optics, Monitor and Accesories	12 kg

SYSTEM COMPONENTS :

Optical Components	Integrated femtosecond laser source ELMO*	
	Integrated fiber-coupled optomechanical delay line	
	External fiber-coupled THz emitter and receiver	
	Compact THz optics with parabolic mirrors	
Control Electronics	Transimpedance amplifier	
	Integrated PC and software package for measurement and data analysis	
	22" screen, keyboard and mouse	
	TCP Socket remote control interface	
	.NET remote control interface	external analog/digital triggering

REQUIREMENTS:

Operating Voltage	100/115/230 VAC
Frequency	50 to 60 Hz
Power Consumption	<200 W
Cooling Requirements	No water-cooling is required
Operating Temperature	15-35°C
Storage Temperature	0-40°C
Humidity	80% RH noncondensing

HPLC Servicing, Validation, Trainings and Preventive Maintenance :

HPLC Servicing :HPLC Servicing : We have team of service engineers who can attend to any make of HPLC promptly @the most affordable cost.

Trainings :We also take up preventive Maintenance to reduce downtime of HPLC's Trainings.

AMC's/CMC :AMC's/CMC :We offer user training both in-House and at customer sites on HPLC principles, operations, trouble-shooting.

Validations :Validations :We have protocols for carrying out periodic Validations as per GLP/GMP/USFDA norms.

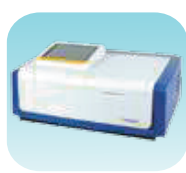
Instruments :Instruments :We offer instruments/Renting Services Modules like pumps,detector etc. on Rent.



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Analytical Technologies is synonymous for offering technologies for doing analysis and is the Fastest Growing Global Brand having presence in at least 96 countries across the global. Analytical Technologies Limited is an ISO:9001 Certified Company engaged in Designing, Manufaturing, Marketing & providing Services for the Analytical, Chromatography, Spectroscopy, Bio Technology, Bio Medical, Clinical Diagnostics, Material Science & General Laboratory Instrumentation. Analytical Technologies, India has across the Country operations with at least 4 Regional Offices, 6 Branch Offices & Service Centers. Distributors & Channel partners worldwide.

Our Products & Technologies



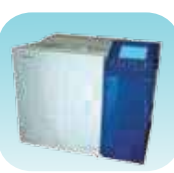
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Double Beam



Infra FTIR



Optima Gas
Chromatograph
3007



Optima Gas
Chromatograph
2979 Plus



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Chromatograph



Atomic Absorption
Spectrophotometer



Liquid Partical
Counter



Optical Emission
Spectrophotometer



DSC/TGA



Semi Auto Bio
Chemistry Analyzer



HEMA 2062
Hematology
Analyzer



Micro Plate
Reader/Washer



URINOVA 2800
Urine Analyzer



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TOC
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Ion Chromatograph



Water purification
system

Regulatory compliances



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2. Improving quality of life by offering YOGA Training courses, Work shops/Seminars etc.

3. ANALYTICAL FOUNDATION aims to DETOXYFY human minds,souls and body by means of yoga, Meditation, Ayurveda, Health Care, Awards, Media, Events, Camps etc.

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