AIT Applied Instrument Technologies®

ANALECT®PCM™

FTIR/FT-NIR Analyzer

PCM FT-NIR

PCM FT-Mid IR

*The **ANALECT®PCM™** Series FTIR/FT-NIR process analyzers measure physical, chemical and compositional properties of liquids, solids and gases.*

- *On-line, in-situ, and at-line monitoring of batch and continuous processes.*
- *Displays up to 15 properties at once and measures up to 30 properties per stream.*
- *Optical multiplexing capabilities provide analysis of up to 16 process streams using fiber optic or extractive stream switching.*
- *Utilizes process-proven ANALECT Diamond 20 Transept™ optical head:*
  - *Vibration tolerant optical system allows placement of analyzer in hostile industrial environments.*
  - *Absolute optical alignment of components provides for repeatable spectra, allowing calibrations to remain stable indefinitely.*
- *SpectraRTS™ software engineered exclusively for on-line monitoring, allowing use by engineers, maintenance personnel, and chemists.*

SpectraQuant

- *Full chemometric modeling capability including SpectraQuant,™ MATLAB® Unscrambler,® & Pirouette®*
- *Communication options including OPC,® Modbus® as well as analog protocols.*
- *The PCM monitors versatility allows for a wide range of applications including:*
  - *Chemicals*
  - *Petrochemicals*
  - *Polymers*
  - *General manufacturing*
  - *Pharmaceuticals*
  - *Gas analysis*

SAMPLING FLEXIBILITY

	Mid IR	NearIR
Liquids		
Transmission Probes	■	■
ATR Probes	■	
Cross-line Probes	■	■
Slip-stream Probes	■	■
Gases		
Gas Cells	■	
Solids		
Diffuse Reflectance		■

ANALECT® PCM™

Specifications

Spectrometer

Interferometer:

- Transept IV™ hermetically sealed module with refractively scanned design
- Optical range: 7000–450 cm^{-1} Mid-IR; 12000–1200 cm^{-1} NIR
- Detector options: DTGS Pyroelectric; InAs; InGaAs; MCT

Analysis Time

- 30–60 sec. for multiple property predictions

Ambient Environment Conditions

- 0–38°C standard ambient temperature
  -20–50°C with optional heating and A/C system

Area Classification

- ATEX/CENELEC Zone 1 & 2
- NFPA Class I, Division 1 & 2

Process Control Interface

- Modbus, OPC and analog protocols
- Fiber optic Ethernet and serial communications options

Utility Requirements–Analyzer and Cell Enclosure

- Main power 115/230 VAC 50/60Hz single phase 1500 watts

Instrument Dimensions: Optical Head and Sample Box

- 220cm H x 97cm W x 46cm D (87 H x 38 W x 18 D)
- Weight: 270kg (600lb)

SpectraRTS™ Software Drives Your Process

Automate many aspects of your process

- *Control I/O to switch valves and monitor a variety of sample system conditions.*
- *Collect spectra and apply quantitative analysis routines.*
- *Transmit product properties, instrument QC data, and alarms via versatile communications protocols.*

Implement calibration tools and programming flexibility

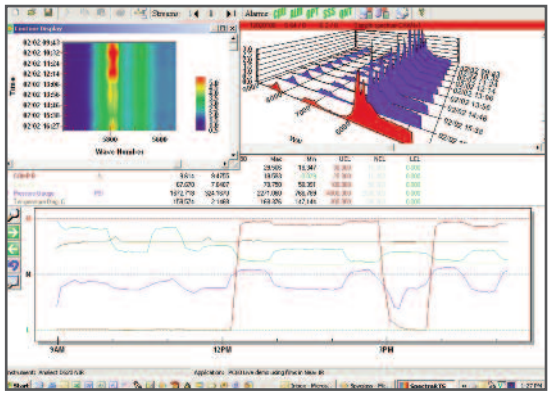
- *Apply a wide variety of quantitative analysis routines including: SpectraQuant,™ MATLAB® and Pirouette®*
- *Utilizes Visual Basic for Applications (VBA) compatible scripting language to achieve total programming flexibility*
- *Operate the system remotely by using pcANYWHERE™ or Timbuktu® software.*
- *Multi-level password access.*

Validate and diagnose your system

- *Implement on-line validation methods, such as ASTM D6122.*
- *Automatically monitor and trend the system's "health" with Remote R_X software for preventative maintenance scheduling.*
- *Access the on-line help system for quick reference.*

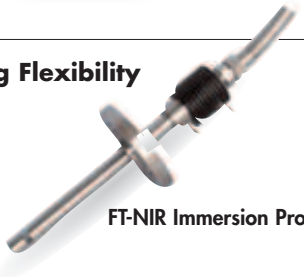
The ANALECT® Diamond 20™

The ANALECT Diamond 20 analyzer supports on-line systems with process development utilizing the same optical bench as the ANALECT PCM for instrument to instrument calibration transfer. ***SpectraStudio™*** *is a Windows® based data collection and analysis program designed to provide a high degree of flexibility to users operating in a lab environment.*

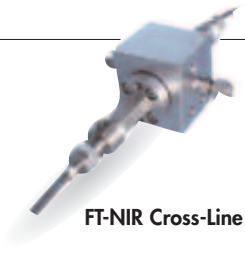


3D Spectral Display contour plots with property trendlines

PCM Sampling Flexibility



FT-NIR Immersion Probe



FT-NIR Cross-Line Probe

Mid-IR ATR Diamond Probe

Applied Instrument Technologies®

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