The Analect PCM Series FTIR/FT-NIR Process Control Monitor measures physical, chemical, and compositional properties of liquids, solids, and gases.

- On-line, in-situ, and at-line monitoring of batch and continuous processes
- 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
- Optical multiplexing capabilities provide analysis of up to 16 process streams using fiber optic or extractive stream switching
- PC80 software engineered exclusively for on-line monitoring, allowing use by engineers, maintenance personnel, and chemists
- All Analect lab and on-line systems share core optical technology, allowing instrument-to-instrument calibration transfers

- Discrete analog and digital I/O communications with optional Modbus®

- The PCM’s versatility is demonstrated by its range of applications in these industries:
  - Chemicals
  - Petrochemicals
  - Polymers
  - General Manufacturing
  - Pharmaceuticals
  - Gas Analysis

**SAMPLING FLEXIBILITY**

<table>
<thead>
<tr>
<th>Sampling Type</th>
<th>Mid IR</th>
<th>Near IR</th>
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<tbody>
<tr>
<td>Liquids</td>
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<tr>
<td>Transmission Probes</td>
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<td>ATR Probes</td>
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<td>Cross-line Probes</td>
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<tr>
<td>Slip-stream Probes</td>
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<tr>
<td>Gases</td>
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<tr>
<td>Gas Cells</td>
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<tr>
<td>Solids</td>
<td></td>
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<tr>
<td>Diffuse Reflectance</td>
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</tbody>
</table>
Automate many aspects of your process
• Control I/O to switch valves and monitor a variety of sample system conditions
• Collect spectra using exact parameters appropriate for each analysis
• Transmit product properties, instrument QC data, and alarms via discrete or Modbus® I/O

Implement calibration tools and programming flexibility
• Apply a wide variety of quantitative analysis routines including: CPSA—Constrained Principal Component Spectral Analysis, Matlab® and Pirouette®
• Utilize ASL—Analect Script Language—to achieve total programming flexibility
• Operate the system remotely by using pcANYWHERE™ or Timbuktu software
• Enable security passwords for access to different levels of control

Validate and diagnose your system with PC80
• Implement on-line validation methods, such as ASTM D-6122
• Automatically monitor and trend the system’s “health” with RemoteRx software for preventative maintenance scheduling
• Access the on-line help system for quick reference
AIT is the leading supplier of process FTIR and FT-NIR analyzers. Our staff of applications experts provide you with feasibility and calibration services that set the worldwide standard. We also provide the systems integration and post installation support to ensure your success. Some of our satisfied customers include:

Dow Chemical
DuPont
ExxonMobil
General Electric
IBM
Kodak
Millennium
Mitsubishi
Monsanto
Solvay
**Optical Head**

Interferometer: Transept® IV hermetically-sealed module with refractively scanned design. Precision cross roller bearings and high accuracy Corner-Cube mirrors.

Spectral Ranges:
- Near-IR 12,000 to 2,500 cm\(^{-1}\)
- Near-IR 12,000 to 4,500 cm\(^{-1}\)
- FO
- Mid-IR 7,000 to 450 cm\(^{-1}\)

Wave Number Repeatability: Better than ±0.04 cm\(^{-1}\)

Detector:
- Standard: DTGS pyroelectric.
- Optional: full line of external Optibus detectors, including DTGS, liquid nitrogen cooled MCT, thermo-electrically controlled DTGS, MCT, InAs, and InGaAs. Optical bench can accommodate two software-selectable detectors at one time. Optional signal multiplexers allow additional detectors.

**Environmental**

Cenelec Zone 1 & 2, NFPA Class I, Division 1 & 2 and General Purpose
0 to 35°C Standard Ambient Temperature
-20 to 50°C with Optional Heating and Air Conditioning System

**Measurements**

Displays up to 15 properties at once
Measures up to 30 properties/streams
Measures up to 16 process streams

**Accessories**

AIT also provides a wide range of sampling accessories and turnkey sample conditioning systems.

**Dimensions & Power Requirements**

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<tr>
<th></th>
<th>Height</th>
<th>Width</th>
<th>Depth</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height</td>
<td>36 in.</td>
<td>30 in.</td>
<td>18 in.</td>
<td>400 lb.</td>
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<tr>
<td>92 cm</td>
<td>76 cm</td>
<td>46 cm</td>
<td>180 kg</td>
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Input Voltage:
- 120 Vac single phase, 4A grounded supply
- 220 Vac single phase, 2A grounded supply

*Dimensions are approximate, and may vary due to custom system configurations.

**FT-IR Analyzers**

- Mid-IR ATR Diamond Probe
- FT-NIR Immersion Probe
- FT-NIR Cross-Line Probe
- Gas Phase Sample Cell
- Process ReflectIR™ Diffuse Reflectance Accessory for solids monitoring, including pellets, powders, flakes, bales and films