# MIR ATR Spectrometer DTR9000

## Features

- Spectral range: 2.5-5 pm（4000-2000 cm-1) Or 5.5-1lpm（1818-909 cm-l）
  MTR( Attenuated Total Reflection, ATR) spectrometer
  Detector: Linear pyroelectric array sensors
  ATR window material: ZnSe
  Detector pixel: 256 pixels
  Ultra-low noise CCD signal processing circuitBuilt-in MEMS electrical infrared source
  Detection time:30s（typical）
  16 bit, 500 KHz ADC
  Data output: USB 2.0
  Power supply：5V DC， <2A

## Application

- Food safety
  Dye analysis
  Material Identification
  Authentication anti-counterfeiting
  Oil analysis
  Drugs, Chemicals, Combustible & Explosives Analysis

| Model No. | Detector | Spectral range |
|---|---|---|
| ATR9000-5 | 256 pixels | 2.5-5 pm |
| ATR9000-11 | 256 pixels | 5.5-11pm |

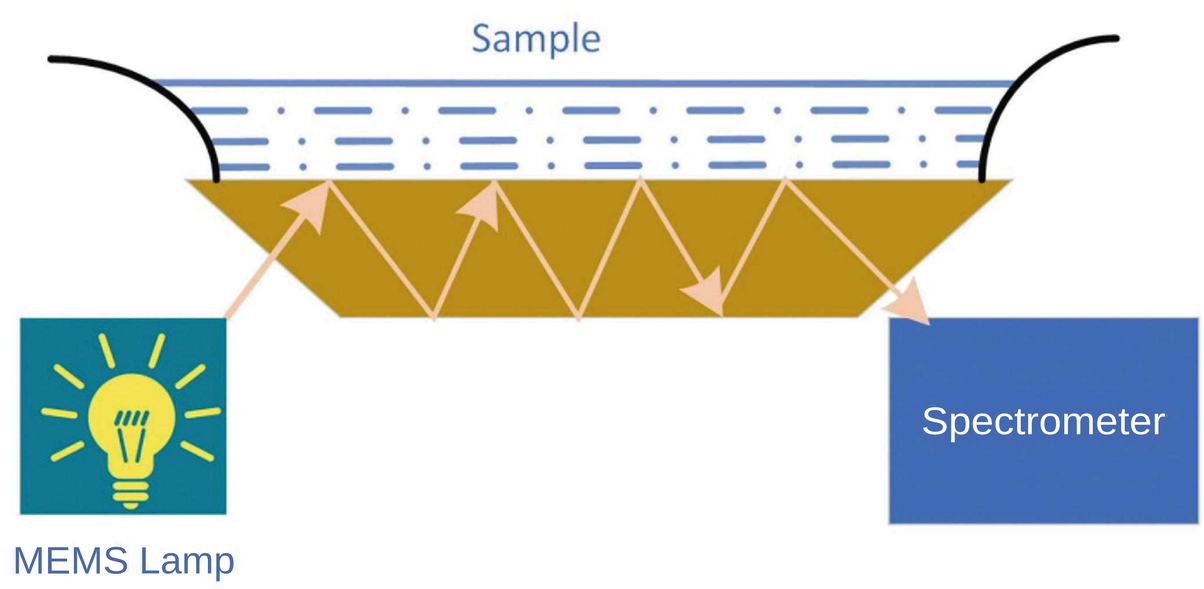
## Description

ATR9000（Old Model: ATP8200）is developed by Optosky（Attenuated Total Reflection, ATR）, built-in MEMS Infrared Source, it employs Pyroelectric linear array sensor, in the ZnSe high performance material window measure ATR spectrum. Optosky exclusively designs Ultra-low noise CCD signal processing circuit, results in reducing sensor noise, improving improving SNR( 2 times higher SNR than competitors). Higher measuring reliability ensures results can not change with ambient temperature.

ATR9000 fit to measure samples in powder, fluid,easy-to-operate, it takes just few steps to complete measurement.

# Parameters

| Detector | |
|---|---|
| Type | Pyroelectric linear array sensor (ZnSe) |
| Spectral range | 0.1 -100 pm |
| Effective pixels | 256 pixels |
| Pixel size | 50 pm x 417.5 pm or 60 pm x 500 pin |
| Dynamic range | 75 dB |
| Scan rate | 10-1000 Hz |
| **Optical Parameters** | |
| Spectral Range | 2.5-5 pm (4000-2000cm-l) or 5.5-llpm (1818-909 cm-1) |
| ATR Window Materials | ZnSe |
| Optical Resolution | 20nm or 35nm |
| SNR | >300:1 |
| Dynamic Range | 75 dB |
| Working Temp. | -10 - 45 oC |
| Working Humidity | < 90%RH No condensing |
| **Optical Parameters** | |
| Optical Design | Linear Variable Filter, LVF |
| Source Type | Built-in MEMS Electric adjustable Infrared Source |
| Source Life Span | >5000hrs |
| **Electrical Parameters** | |
| Measure Time | 30 s (Typical) |
| Data Output | USB 2.0 |
| ADC bit depth | 16 bit |
| Power Supply | 5 VDC |
| Working Current | <2 A |
| Storage Temp. | -20°C to +70°C |
| Operating Temp. | -10 - 45 °C |
| **Physical Parameters** | |
| Size | 106x85x30 mm3 |
| Weight | 500 g |




Figurel. DTR9000 function schematic diagram, totally 7 times attenuation total reflections occur