



## **Analytical Technologies Automatic Digital Polarimeter P3002**



### **System Description**

The P3002 is designed as a customizable polarimeter with various options for an array of applications and budgetary requirements. The system can also be field upgraded as application requirements change. Options for wavelength filters and source lamps provide a wide range of analytical wavelengths from UV-Vis to NIR.

### **System Features**

#### **Advanced instrument control**

Two graphical user interfaces are available including a newly redesigned intelligent remote module (iRM) with a color LCD touch screen and Spectra Manager™ II software, the latest version of innovative cross-platform spectroscopy software. Both of these control and analysis interfaces allow full system control and advanced data processing. 21 CFR part 11 compliant versions for both interfaces can be ordered as an option.

## High speed, precision and accuracy

The P3002 offers a response speed as fast as six degrees per second to provide reproducible data for each measurement with a resolution of 0.0001°. A wide dynamic range of up to ±90° enables the system to measure chiral compounds over a broad range of concentrations. The sample chamber is equipped with an integrated temperature, the current temperature constantly updated on the instrument control screen.

## Full line of accessories

In support of diverse applications, a full line of accessories including a variety of cylindrical cells: a demountable stainless steel cell, Peltier thermostatted cell holder, and monochromator options, all offered for functional expansions of the P3002. Quick-connect fittings with flow control valves in the sample compartment provide simple and secure exchange of waterthermostatted cells for temperature control with water baths. A newly developed Peltier cell holder offers accurate temperature control with ±0.1° accuracy.

## Reliability and instrument verification

An automated validation program is available for GLP/cGMP laboratories or those regulated by the FDA. The program can be used for automated periodic validation of light source energy, zero repeatability, and rotational accuracy/repeatability. Inspected filters, sample cells with certified optical path length, and NIST-traceable rotation plates are also available.

## Ultimate flexibility

With its single optical platform, the P3002 can be customized to provide the optimum performance for every application. By selecting the most suitable combination of optical elements, the instrument can be used in the ultra-violet, visible and/or NIR regions.

## Technical Specifications :

Principle	Automatic digital polarimeter with symmetric angular oscillation using the optical-null balance method
Light Source	Tungsten-Halogen lamp (WI), Sodium lamp (Na), Mercury lamp (Hg) (Up to two light sources can be installed.)
Modulator	Faraday cell
Wavelength	880, 633, 589, 578, 546, 436, 405, 365, 334, 325, 313, 302, 296, 280, 254 nm
Aperture	1.8, 3 and 8 mm diameters
Angular Range	±90°
Response Speed	6°/sec

Measurement Accuracy	$\pm 0.002^\circ$ (up to $1^\circ$ )
Repeatability	$\pm 0.2\%$ (larger than $1^\circ$ ) $0.002^\circ$
Resolution	$0.0001^\circ$
Integration Time	1 - 100 sec
Detector	Photomultiplier tube (1P28-01) (R928 - option)
Readout Modes	Optical rotation, optical specific rotation, concentration, sugar scale Z, Brix purity, optical purity
Temperature Measurement Range	$0\sim 40^\circ\text{C}$ (minimum display temperature: $0.1^\circ\text{C}$ )
Dimensions	653 (W) x 249 (D) x 364 (H) mm
Weight	Approx. 30 kg
Power Requirement	AC100~240V $\pm 10\%$ , 50 or 60 Hz, 80 - 300 W

**A new generation of polarimeters offering simplicity, reliability and complete validation protocols**

A validation program is included as standard for GLP/cGMP laboratories or those regulated by the FDA. The program can be used for periodic validation of light source energy, zero repeatability, and rotational accuracy/repeatability. Inspected filters, sample cells with a certified optical path length, and NIST-traceable quartz rotation plates are also available as options.

**Full line of accessories**

The P3002 Digital Polarimeter provides a wide range of choices for the control system, light source, cell, cell holder and wavelengths ranging from the UV-Vis to the NIR. A system optimized for any requirement can be configured for the laboratory, including only those items required for the desired application(s).

**Examples of versatile system configurations**

**A single wavelength system**

- 546 nm with Hg or WI lamp
- 589 nm with Na or WI lamp

**A dual wavelength system**

- 589/546 nm with Na/Hg or WI lamp

### **5 wavelength system**

- 589/578/546/436/365 nm with Na/Hg lamps

### **6 wavelength system**

- 633/589/546/436/405/365 nm with WI lamp

### **7 wavelength system**

- 633/589/578/546/436/405/365 nm with WI lamp

### **System expansion to UV range**

- 334/313/302/296/280/254 nm with Hg lamp with the wavelength expansion option for the UV range
- 334/325 nm with WI lamp with the wavelength expansion option for the UV range

### **Multiple wavelength system for UV/Vis range**

- 633/589/578/546/436/405/365/334/325 nm with WI lamp with the wavelength expansion option for the UV range

### **System expansion to NIR range**

- 880 nm with WI lamp with the wavelength expansion option for the NIR range

### **Multiple wavelength system for NIR and Visible range**

- 880/589 nm with WI lamp with the wavelength expansion option for the NIR range
- 880/589/546 nm with WI lamp with the wavelength expansion option for the NIR range

### **Single model strategy with ultimate flexibility**

Rather than plural models, with no way to update functions, Analytical Technologies offers a single model to be configured in order to optimally meet your application requirements, yet easy to upgrade in the field, with a wide choice of available accessories.

### **A wide range of applications**

- Foods
- Pharmaceuticals
- Sugars and Sweeteners
- Essential oils
- Flavors and Fragrances
- Chemicals

## ▶▶ About Analytical Technologies

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 globe. Analytical Technologies Limited is an ISO : 9001 Certified Company engaged in Designing, Manufacturing, 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 And Technologies



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system



Preparative Process  
HPLC



Production HPLC



Amino Acid Analyzer



Ion Chromatograph



Gas Chromatograph



Flash Chromatography



FTIR Spectrometer



Atomic Absorption  
Spectrophotometer



Optical Emission  
Spectrometer



DSC / TGA



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Hematology Analyzer



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Gradient PCR/RT PCR



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Auto  
Chemistry Analyzer



URINOVA 2800  
Urine Analyzer



Fully Automated  
CLIA



Electrolyte Analyzer



Water Purification  
System



Elisa / Microplate  
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