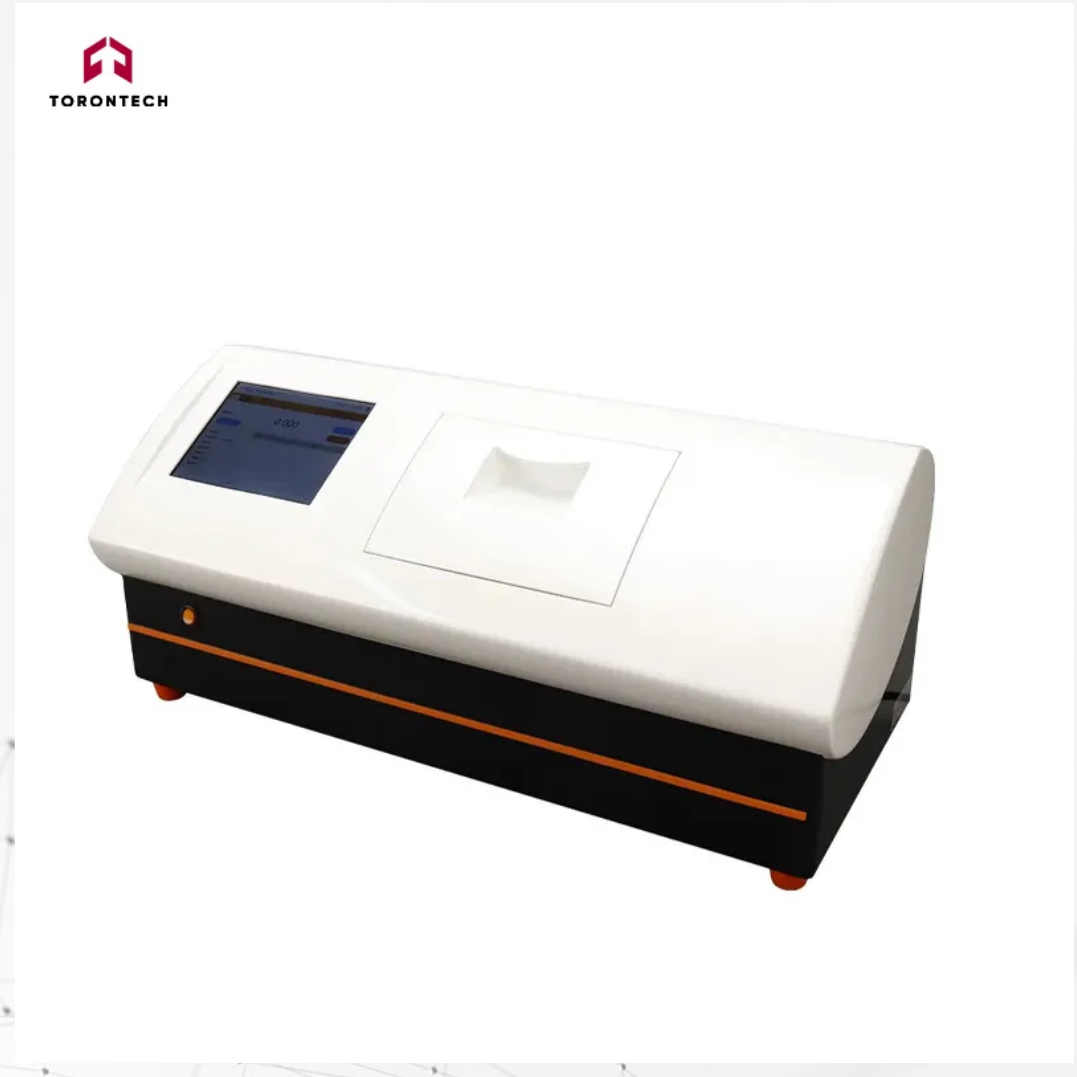
TORONTECH



POLARIMETER - TORONAP10™ AUTO

Polarimeter - ToronAP10™ Auto Polarimeter incorporates state-of-the-art photoelectric inspection technology, delivering precise and reliable measurements with user-friendly operation. By analyzing optical rotation, it determines the density, content, and purity of substances. This versatile instrument finds extensive application across industries such as pharmaceuticals, petroleum, food, chemicals, flavors, spices, sugar production, as well as in universities and research institutes.

APPLICATIONS

The Torontech ToronAP10™ Auto is a high-precision instrument for the automated analysis of optically active substances. By precisely measuring optical rotation, it provides a fundamental and quantitative determination of a substance's concentration, identity, and purity. Its integrated Peltier temperature control ensures all measurements are performed under stable, standardized conditions, which is essential for achieving the accuracy required for stringent quality control.

This critical analysis is a foundational tool for quality and process control in:

- **Pharmaceuticals:** For the quality control of Active Pharmaceutical Ingredients (APIs) and raw materials, where specific rotation is a critical test for chemical identity and chiral purity in compliance with global pharmacopoeias.
- **Food & Sugar Industry:** To determine the concentration and purity of sugars, syrups, and honey based on the International Sugar Scale (ISS), serving as a primary tool for quality control and commercial grading.
- **Flavor & Fragrance:** To verify the authenticity and quality of essential oils and flavor compounds, distinguishing natural, optically active sources from synthetic adulterants based on their unique specific rotation.
- **Academia & Chemical R&D:** As a fundamental research and teaching tool for monitoring reaction kinetics, characterizing optically active compounds, and for the in-process quality control of chiral chemicals.

FEATURES

- **Peltier Temperature Control**
  Automatically maintains sample temperatures within a range of 10 °C to 50 °C, ensuring stable and accurate results.
- **User Calibration System**
  Includes additional standard polarization tubes and calibration software, enabling on-site user calibration for consistent precision.
- **Large Color Touchscreen**
  - Features a responsive 5.6-inch TFT display for the ToronAP10 Auto, offering intuitive operation and streamlined data management.
  - Models like ToronAP10 AutoPlus and ToronAP50 AutoPlus are equipped with an upgraded 8-inch TFT display for enhanced visibility.
- **LED Light Source**
  Equipped with long-lasting, high-brightness LEDs with a lifespan exceeding 100,000 hours, reducing maintenance by eliminating frequent light source replacements.

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New Characteristics in ToronAP10 AutoPlus / ToronAP50 AutoPlus

1. **Enhanced Display and OS**
   Features a 5.6-inch TFT touchscreen paired with an advanced Android operating system for a seamless and efficient user experience.

2. **Dynamic Measurement Visualization**
   Includes a timing measurement function and atlas display to monitor dynamic changes in optical rotation over time.
3. **USB Connectivity**
   Comes with a USB port for U-disk integration, making data transfer and storage more convenient.

With its robust functionality and user-oriented design, the ToronAP series sets a new benchmark for precision and efficiency in polarimetric analysis.

TECHNICAL SPECIFICATIONS

ToronAP10 Auto	ToronAP50™ Auto	ToronAP10™ AutoPlus	ToronAP50™ AutoPlus
Measuring range	±89.99°Arc; ±259°Z		
Measuring Model	Optical Rotation; Specific Rotation; Concentration; Sugar Degree		
Min.reading	0.001°(optical rotation)		
Accuracy	±0.01º(-45º. optical rotation ≤+45º; ±0.02º (optical rotation□□ 45º or optical rotation□□ 45º)		
Repeatability (standard deviation)	0.002°(optical rotation)		
Min. Transmittance	1%		
Light Source	LED		
Wavelength	589.3nm LED		
Temperature Control	No	Peltier	No	Peltier

Temperature Control Range		10℃～ 50℃		10℃～ 50℃
Temperature Control Accuracy		0.2℃		0.2℃
Communication Port	USB; RS232	USB×3,RS232～ Wi-Fi	USB×3,RS232～ Wi-Fi	USB×3,RS232～ Wi-Fi
Data Storable	1000	8GB	8GB	8GB
21CFR Part 11	No	No	Yes	Yes
Display	5.6 inch	8 inch	8 inch	8 inch
Sample Cell	Up to 200mm	Up to 200mm	Up to 200mm	Up to 200mm
Graphic	No	No	4hours	4hours
Power	220V AC (±10%) 50Hz (110V is also available)	220V AC (±10%) 50Hz (110V is also available)	220V AC (±10%) 50Hz (110V is also available)	220V AC (±10%) 50Hz (110V is also available)
Calibration System	Option	Option	Option	Option

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