TORONTECH

AUTOMATIC DIGITAL POLARIMETER

Automatic Digital Polarimeter

An Automatic Digital Polarimeter measures optical rotation to support identity checks, concentration calculations, sugar analysis, and batch-to-batch consistency work. It helps reduce subjectivity by using digital detection and standardized measurement modes.

A temperature-controlled optical path improves repeatability for samples that drift with small temperature changes. Many labs also use automated reporting and data export to keep documentation consistent across teams.

An Automatic Digital Polarimeter sends polarized light through a sample tube and measures the rotation angle, then calculates specific rotation or other reporting values based on the selected mode.

ToronADP systems use an LED cold light source with an interference filter at 589.3 nm, supporting stable wavelength operation with lower maintenance than legacy lamp designs. Many workflows rely on built-in temperature control to reduce drift during measurements and improve comparability across shifts.

Applications

- Pharmaceutical QC and R&D:Optical rotation and specific rotation support identity checks for chiral materials and batch consistency tracking. Multi-level permissions, audit trail, and electronic signature help support controlled documentation when required.
- Essential oils, flavors, and fragrance ingredients: Many natural extracts are optically active, making rotation trends useful for incoming inspection and lot comparisons. Temperature control helps stabilize readings when viscosity and composition vary between samples.
- Sugar analysis and sucrose-related testing: Sugar mode reports results in °Z and supports routine monitoring in sugar workflows. A stable wavelength and controlled temperature range help keep production checks consistent.
- Chemical manufacturing and academic labs: Concentration mode and custom formulas support method development and routine checks for optically active intermediates. Single, multiple, and continuous measurement options help match different lab workflows.

Table Comparison of ToronADP™ Series

Model	Temperature control range	Accuracy	Min. reading	Display	Data integrity & reporting
ToronADP™ 100	10 °C to 50 °C (Peltier)	±0.004°	0.001°	8-inch touch screen	Audit trail + e-signature; PDF/Excel export; Wi-Fi printing
ToronADP™ 200	10 °C to 60 °C (Peltier)	±0.002°	0.001° (0.0001° optional)	10.4-inch touch screen	Audit trail + e-signature; PDF/Excel export; Wi-Fi printing; MD5 verification

Why choose ToronADP™ for your Automatic Digital Polarimeter?

ToronADP™ instruments combine a stable 589.3 nm LED optical system with built-in Peltier temperature control, helping labs produce repeatable results across operators. Both models support multiple measurement modes, including optical rotation, specific rotation, concentration, sugar, and custom formulas. Data integrity options such as audit trail, electronic signature, and permission management support traceable reporting, while PDF/Excel export and printing options help standardize documentation.

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