



**Anton Paar**

:: Superior Optical Instruments



## Propol Automatic Process Polarimeter

Online and inline concentration measurements of optically active substances for process applications.

## Process polarimeter for concentration measurements

The Propol process polarimeter is ideal for online concentration measurements of optically active substances. Its high accuracy is achieved by an optical setup which makes use of the Faraday effect. The Propol process polarimeter combines reliability of results with process stability: no moving parts make the instrument free of wear. Its sturdy design is ideal for harsh process environments: the control unit can be placed away from the measuring unit in the control area.

## Example applications

The Propol is used in the extraction or synthesis of biochemicals such as carbohydrates, amino acids, vitamins, steroids, antibiotics, enzymes, flavors, fragrances, herbicides and pesticides. Further applications are liquid sugar production, molasses separation, and waste water control in sugar refineries.

## Dark solutions? No problem

Automatic gain control combined with averaging of multiple measurements allows you to analyze dark-colored solutions up to OD3 (0.1% light transmittance), or optionally up to OD4 (0.01% light transmittance).

## Specifications

### Measuring ranges (°Optical Rotation)

Range  $\pm 6^\circ$  (see also the specifications for the interconnecting cable), resolution 0.001°. Optical rotation data is displayed with all concentration scales.

### Individual scales

Three scales, CONC1, CONC2 and CONC3, each scalable by

- ▶ standard solution of known concentration or by quartz standard
- ▶ linear factor input
- ▶ polynomial coefficients input for non-linear scaling

### Preconfigured concentration scales

- ▶ % Sucrose, range depending on optical cell length, e.g. 0 - 65% for 10 mm.
- ▶ % Glucose, range depending on optical cell length, e.g. 0 - 65% for 10 mm.

Each concentration scale has menu-selectable resolutions of 0.1%, 0.01% or 0.001%.

## Interfaces

- ▶ RS-232C serial interface for 2-way communication with a computer or terminal
- ▶ Analog output configurable for 0 - 20 mA, 4 - 20 mA or  $12 \pm 8$  mA
- ▶ Comparator functions with two programmable setpoints and solid-state relay outputs
- ▶ Safeguard monitor output to warn in case of instrument malfunction, e.g. lamp failure

## Measuring unit

Dimensions: 550 mm x 130 mm x 190 mm (W x H x D), 16 kg. Protection class: IP 65, dustproof and water-proof.

The light source is an LED with an average life of 100,000 hours. Wavelength either 589 nm (Na yellow) or 546 nm (Hg green) by optical interference filter.

## Control unit

In a 19" wall cabinet with the dimensions 600 mm x 390 mm x 215 mm (W x H x D), 23 kg. Protection class: IP 55, dustproof and splash-proof

## ATEX conformity

Measuring unit and display unit can be optionally modified with a pressurized enclosure system for the operation in explosive environment.

## Interconnecting cable

Length according to customer requirements, min. 2.5 m, max. 100 m. The °OR measuring range is  $\pm 6^\circ$  up to 30 m cable length and reduces to  $\pm 4.5^\circ$  at 100 m.

## Flow cells

Materials: stainless steel, glass windows, standard seals of NBR, other seal material on request.

## Online types for bypass installation

Cylindrical cell of 30 mm OD, inlet/outlet tube 6 mm OD.

Optical length of 5, 10, 20, 50 or 70 mm.

## Inline types

Flanged tube of 25, 32, 40 or 50 mm ID, with side windows and bracket for installation at the measuring unit.

Optical length of max. 70 mm, depending on ID size.

## Mains supply

Self-adapting to any voltage from 100 VAC - 240 VAC +10% / -15%, 47 - 63 Hz, 120 W.

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