Automatic Polarimeter - Digital Optical Rotation Meter - ±45° Range - 589 nm LED Source

Model **MSPOL-2PSWISS, MSPOL-1PSWISS, MSPOL-3SWISS, MSPOL-2SSWISS, MSPOL-2BSWISS** | Brand **Master Science**







The Master Science Automatic Polarimeter measures the optical rotation of optically active substances without manual end-point matching. From that reading it derives concentration, content, purity, sugar content and specific rotation.

KEY HIGHLIGHTS

- No visual matching
- More reliable averages
- Dark samples measured
- Lamp lasts for years
- Temperature held at the cell

AT A GLANCE

±45° (optical rotation); ±120 °Z (sugar scale)
MEASURING RANGE

±0.01° within ±15°; ±0.02° beyond
ACCURACY, 2P AND 1P

±(0.01 + reading × 0.05%)°
ACCURACY, 3, 2S, 2B

Peltier-controlled cell on the top model.
TEMPERATURE-SENSITIVE SAMPLES

Request a Quotation
Contact us for pricing, configuration options and delivery details.

support@themsci.com
www.themsci.com

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Overview

The series has five models. All read ±45° at 589 nm from an LED source through an interference filter. They differ in measuring modes, display, accuracy and temperature control, so a laboratory can pick the level it needs for sugar, pharmaceutical, food or chemical work.

Key Benefits

No visual matching
the Master Science Automatic Polarimeter finds the rotation angle itself.

More reliable averages
up to six automatic repeat readings.

Dark samples measured
RMS calculation on the 2P and 1P.

Lamp lasts for years
LED in place of a sodium lamp.

Temperature held at the cell
Peltier control on the 2P.

For faster, wider-range work, see the Master Science high-speed automatic polarimeter.

Technical Specifications

GENERAL

Brand	Master Science
Model Number	MSPOL-2PSWISS, MSPOL-1PSWISS, MSPOL-3SWISS, MSPOL-2SSWISS, MSPOL-2BSWISS
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SKU	MSPOL-2PSWISS, MSPOL-1PSWISS, MSPOL-3SWISS, MSPOL-2SSWISS, MSPOL-2BSWISS
Measuring Scales	2P, 1P, 3: optical rotation, specific rotation, concentration, sugar scale; 2S: optical rotation and sugar scale; 2B: optical rotation
Measuring Range	**±45° (optical rotation); ±120 °Z (sugar scale)**
Accuracy, 2P and 1P	**±0.01° within ±15°; ±0.02° beyond**
Accuracy, 3, 2S, 2B	**±(0.01 + reading × 0.05%)°**
Repeatability	≤0.002° (2P, 1P, 2S); ≤0.003° (3); ≤0.01° (2B)
Resolution	0.001° (0.002° on 2B)
Minimum Transmission	1% (2P, 1P, 2S); 10% (3, 2B)
Temperature Control	Peltier, 15 to 30 °C, ±0.5 °C (2P only)
Sample Cells	100 mm and 200 mm standard; 100 mm temperature-controlled with 2P
Power Supply	220 V ±22 V, 50 Hz ±1 Hz; 200 W (2P, 1P) or 150 W

OPTICAL PERFORMANCE

Wavelength	**589 nm**
Light Source	LED with interference filter; 100,000 h on 2P and 1P
Sodium lamps burning out	100,000-hour LED.

DISPLAY & DATA

Display	7-inch colour touch screen (2P, 1P); colour touch screen (3); 5-inch LCD (2S, 2B)
Interfaces	RS232 and USB (2P, 1P, 3); RS232 (2S, 2B)

DIMENSIONS & WEIGHT

Dimensions (L×W×H)	710 × 400 × 240 mm (2P, 1P); 605 × 370 × 260 mm (3, 2S, 2B)
Net Weight	28 kg (2P, 1P); 21 kg (3, 2S, 2B)
Gross Weight	43 kg (2P, 1P); 33 kg (3); 34 kg (2S, 2B)

COMMON PROBLEMS AND HOW THIS POLARIMETER HELPS

Common Problems and How This Polarimeter Helps	How the Master Science Automatic Polarimeter simplifies optical rotation testing:
Operator-dependent visual readings	automatic digital measurement.
Single readings with scatter	automatic averaging of up to six tests.
Temperature-sensitive samples	Peltier-controlled cell on the top model.

The Master Science Automatic Polarimeter is used in

- **Sugar refining**
- **Pharmaceuticals**
- **Food and quality inspection**
- **Chemical, petroleum and light industry**
- **Agriculture**
- **Universities and research institutions**

Measurement

- Four test modes on 2P, 1P and 3
- Automatic repeat measurement with average
- Root mean square calculation on 2P and 1P

Light Source

- Long-life LED
- Interference filter at 589 nm

Data

- Connection to a PC (except 2S)
- Result printing with optional printer

Standard Accessories Included

- 100 mm sample cell
- 200 mm sample cell
- 100 mm temperature-controlled cell (2P)

Optional Accessories

- 50 mm sample cell
- 200 mm temperature-controlled cell (2P)
- Thermal printer (2P, 1P, 2S)
- Stylus printer (2P, 1P, 3)