

PLRM-4, Full-Circle Manual Polarimeters

PLRM-4 manual polarimeters is ideal for determining concentration levels of samples for applications in the medical, educational, pharmaceutical, and cosmetic industries etc.



PLRM-4

Specifications:

- Measurement Range: -180° to $+180^{\circ}$
- Scale Value: 1°
- Vernier: $\pm 0.05^{\circ}$
- Magnifier: 3X
- Light Source: Sodium Lamp
- Wavelength: 589.44nm
- Tube Length: up to 200mm
- Stable Time: 10 minutes
- Power Requirements: 220V/50Hz
- Dimensions: L500x W135x H330mm
- Weight: 5kg.

Rotate the vernier knob till the visual field to equal brightness. (Zero point).

Easy Measurement: The polarimeters with 589.44nm monochromatic sodium lamp. After powered on, the polarized light beam is immediately project on filter, polarizer etc. You can view the visual fields of brightness or shade through eyepiece. Put the sample tube in measuring field chamber. Rotate the vernier knob again, you can view equal brightness. Read the scale from magnifier that is measured value.

Specific Optical Rotation Measurement:

Specific optical rotation is constant of substance, you can measure it by 100mm glass tube when temperature of solution at 20°C .

Purity Measurement: The polarimeters is ideal for determining purity of sample. If you want to know its purity, you need only measure its the angle of rotation and calculate it.

Concentration Measurement: For some substance of known specific optical rotation, you can measure its the angle of rotation and calculate concentration according to formula.

International Sugar Scale: According to international sugar scale, put the 26 grams pure sugar in solution, The angle of rotation of solution is 34.626° . By the rules, you can calculate the purity of sugar.



PLRS-5, Semiautomatic Polarimeters

Introduction: **PLRS-5** semiautomatic polarimeters used to measure angle of rotation, specific optical rotation of optically active substance. You can calculate its purity, concentration and percentage by measured value.



PLRS-5

Features: Microprocessor-Based • The angle of rotation is digitally displayed • Simple push-button adjustment of visual fields • Zero indicator light confirms accurate calibration.

Specification: Measuring Range: -180° to $+180^{\circ}$ • Accuracy: $\pm 0.02^{\circ}$ • Light Source: Sodium lamp • Optical Wavelengths: 589.44nm • Stable Time: 5 minutes • Tube Length: up to 200mm • Power Requirements: 220VAC/50Hz • Dimensions: 590(L)x255(W)x400(H)mm • Weight: 7kg.



PLRA-2B, Automatic Polarimeter



Measuring range: $\pm 45^\circ$
 Accuracy: $\pm(0.01^\circ + \text{measuring value} \times 0.05\%)$
 Repeatability: $\leq 0.01^\circ$
 Display: 5 LCD
 Minimum indicating value: 0.002°
 Monochromatic light source: sodium lamp (589.44nm)
 Sample tube: 200mm, 100mm
 Power supply: 220V \pm 22V, 50Hz \pm 1Hz
 Outer size: 600mm \times 320mm \times 220mm
 Weight (net): 28kg
 RS232 interface: band rate 9600, 1 bit stop, 8 bits data

Introduction: The polarimeters is a kind of instrument for measuring the optical rotation of a substance. Through measuring the optical rotation, the polarimeters can be used to analyze the concentration, content, and purity of a substance. The PLRA-2B automatic polarimeters utilizes the photoelectric detection automatic balance principle and the results are displayed by LCD. PLRA-2B automatic polarimeters is characterized by its small size, high sensitivity, human error-free, easy reading, and so on. Furthermore, this instrument is also suitable to the sample of low optical rotation which is difficult to be analyzed by visual polarimeters. Therefore, it can widely be used in various fields of the organic chemical industry.

Agriculture: use in contents analyses of agricultural antibiotic, hormone, microbial agro-pharmaceuticals and agricultural products.

Medication: use in analyses of antibiotic, vitamin and glucose and in pharmacological research.

Food: use in analyses of sugar, monosodium glutamate and soy sauce, in inspection of their final products and determination of sugar content in food.

Petroleum: use in analyses of mineral oil and in control of oil ferment process.

Essence: use in analyses of essential oil.

Health: use in analyses of diabetics' urine.

AP-81/85, Automatic Polarimeters

AP-81/85 Automatic Polarimeters includes built-in Peltier precise temperature control system, automatic photoelectric inspection technology and WINDOWS HMI system, boasts accurate and reliable measurement, convenient operation and so on. By detecting the specific rotation, the density, content and purity, etc. of substances can be analyzed and determined. It's widely used in medicine, petroleum, food, chemicals, flavors, spices, sugar making, other industries and universities & research institute.



Characteristics:

- Automatic photoelectric inspection technique & built-in Peltier precise temp. Control system ensure measurement accuracy and stability.
- Large color touch screen display and innovative WINDOWS software interface give extremely convenient device operation & data acquisition.
- High brightness LED lights with service life exceeding 5000 hours.
- A variety of measurement modes are optional, without using complicated manual calculation.
- Extremely large storage capacity can store up to 1000 groups of data information automatically.

Model	AP-81/AP-81A	AP-85/AP-85A
Measuring range	$\pm 89.99^\circ$ (specific rotation)	
Accuracy	0.01° (full scale)	
Min. reading	0.001° (specific rotation)	
Repeatability (standard deviations)	0.002° (specific rotation)	
Measurable sample min. transmittance	1%	
Working wavelength	589.3nm (Sodium D spectrum)	
Temperature control mode	-	built-in semiconductor
Temperature control range	-	15°C~30°C
Temperature control accuracy	-	$\pm 0.3^\circ\text{C}$
Resolution	-	0.1°C
Interface	USB and RS232	
Data storage capacity	1,000 pieces	
Display modes	5.6 inches, TFT, touch screen	
Power supply	220VAC \pm 10%, 50Hz	
Power	250W	
Net weight	24Kg	26Kg
Calibration mode	Automatic Calibration for 81A/85A version	
Dimensions	708mm \times 330mm \times 287mm	