The Go-to Choice for Color QC

Spectrocolorimeter PS500

The PS500 is an economical and portable spectrophotometer designed for precise color measurement in basic application scenarios. Equipped with three interchangeable apertures, a dual-optical path design, and proprietary algorithms, it delivers stable and accurate color data. Compatible with multi-system software and mobile APP extensions, it serves as a practical solution for color quality control in industries including plastics & electronics, paints & coatings, textile printing & dyeing, and ceramics.

Repeatability: ΔE*ab ≤ 0.03.

Versatile & Precise: Handles curved surfaces, flat planes, and small items with one device.

Dual-Optical Path with proprietary algorithm.

Instrument Inter-Instrument Agreement: ΔE*ab ≤ 0.3.

Built-in E-Color Cards & one-tap color matching via Mobile App.

30 Light Sources & 40 Color Indices.



ISO9001 CE RoHS

Own the core tech: Top performance, budget price.

STABLE MEASUREMENT PERFORMANCE

Stable Color, Efficient Control — The PS500 Defines Quality.





Superior Accuracy & Stability: Boasts a repeatability of ΔEab ⩽ 0.03 and an inter-instrument agreement of ΔEab ⩽ 0.3, ensuring stable and consistent results across multiple measurements. It also supports the synchronized use of multiple units to meet high-volume inspection demands.

Contacted White Tile Calibration: The device features an integrated calibration white tile at its base. This contacted calibration method is simple and swift, guaranteeing the instrument is always in its optimal measuring state.

High-Precision Positioning: Equipped with a high-precision stabilizer positioning technology to accurately lock onto the measurement area, enhancing efficiency in complex measurement scenarios.

Versatile Aperture Options: Comes with three interchangeable apertures—a 1*3mm pointed tip, a 5mm flat platform, and a 10mm flat platform—to accommodate small parts, curved surfaces, irregular-shaped products, as well as standard flat samples.



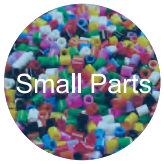
1x3mm Pointed Nozzle



5mm Platform



10mm Platform







PRECISION MEASUREMENT TECHNOLOGY

D/8 — Internationally Standard D/8° & SCI Configuration	Precisely simulates the human eye's viewing angle to capture the true surface color of objects.
Combined Full-Spectrum LED Light Source	Uniform spectral distribution across the 400~700nm wavelength range eliminates measurement errors caused by spectral omissions.
Dual-Array Silicon Photodiode Sensor	Delivers more efficient and accurate color data processing.
Dual-optical path system coupled with proprietary algorithm	Superior anti-interference capability compared to single-path systems, further enhancing measurement accuracy and stability.
Nano-integrated Optical Spectroscopic Component	Nanometer-Level Spectral Resolution for More Accurate Color Signal Acquisition

USER-FRIENDLY EXPERIENCE

CROSS-PLATFORM COMPATIBILITY & DATA INTERACTION

Supports Android, iOS, Windows, HarmonyOS, and other systems. Users can operate the device directly via mobile apps, WeChat Mini Programs, or computers, enabling seamless cross-device data synchronization.



Software Download Address: http://www.3nh.com/en/client_en_14.html



Built-in E-Color Cards

The system supports quick color search and matching via a mobile app and comes fully equipped with all essential functions.

Intuitive Interaction

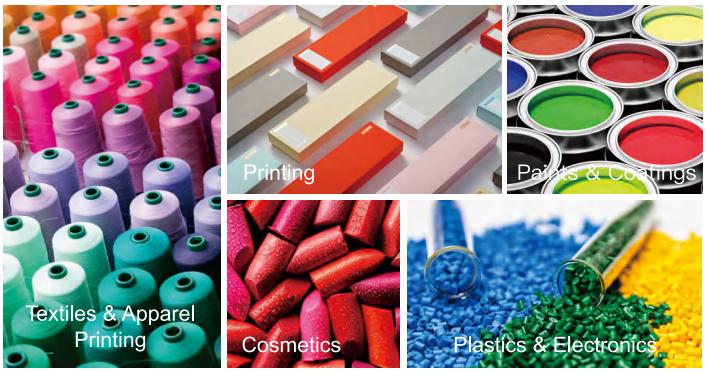
Features a 3.5-inch true-color capacitive touchscreen with an ergonomic tilt design, ensuring comfortable operation even during prolonged use.

CROSS-INDUSTRY VERSATILITY

Comprehensive Parameters: Provides over 40 measurement indices — including internationally standardized hiding power, whiteness, and yellowness — along with 30 illuminant conditions.

Intuitive Color Data Visualization: Displays spectral graphs/data, sample chromaticity values, color difference values/graphs, pass/fail judgments, color simulation, and color deviation results to meet diverse industrial color measurement scenarios.

Applications: Ideal for color quality control in industries such as plastics & electronics, paints & coatings, textiles & apparel dyeing, and ceramics.



OPTIONAL ACCESSORIES

Product Name	Material Code	Image	Function
Powder Test Box	2.006.01.0011		Easy to use, designed specifically for measuring powdered targets.
Mini Printer	1.609.01.0020		Portable and convenient, capable of continuous printing without connecting to a computer. All measured parameters are easy to store.

PRODUCT SPECIFICATIONS

Product Model	PS500
Optical Geometry	D/8 (Diffuse Illumination, 8° Directional Reception), SCI (Specular Component Included)
Meet The Criteria	Conforms to CIE No.15, GB/T 3978, GB 2893, GB/T 18833, ISO 7724-1, ASTM E1164, DIN 5033 Teil 7.
Features	Applications: Used for color quality control in industries such as plastics & electronics, paints & coatings, textiles & apparel printing/dyeing, and ceramics. Portable and equipped with built-in electronic color cards, it supports functional expansions via a mobile app for color card lookup and multiple operations.
Integrating Sphere Size	Φ40mm
Light Source	Combined full spectrum LED light source
Spectrophotometric Mode	Nano-integrated Spectral Device
Sensor	Large-area silicon photodiode array (double-row 18 group)
Wavelength Range	400~700nm
Wavelength Interval	10nm
Measurement range	0~200%
Measuring Aperture	Three Apertures: 1×3mm pointed tip + 5mm platform + 10mm platform
Locating Method	Stabilizer Positioning
Calibration	Contacted White Tile Calibration
Specular Component	SCI
Color Space	CIE LAB,XYZ,Yxy,LCh,CIE LUV,s-RGB,HunterLab,βxy,DIN Lab99
Color Difference Formula	ΔE*ab,ΔE*uv,ΔE*94,ΔE*cmc(2:1),ΔE*cmc(1:1),ΔE*00,DINΔE99,ΔE(Hunter)
Measurement Indicators	Spectral Reflectance Factor, WI (ASTM E313, CIE/ISO, AATCC, Hunter, Taube, Berger, Stensby), YI (ASTM D1925, ASTM 313), Metamerism Index, Staining Fastness, Color Change Fastness, Strength, Hiding Power, 555 Hue Classification, Munsell (C/2), Blackness (My, dM), Color Density CMYK, Tint
Observer Angle	2°/10°
Illuminant	D65,A,B,C,D50,D55,D75,F1,F2(CWF),F3,F4,F5,F6,F7(DLF),F8,F9,F10(TPL5),F11(TL84),F12(TL83/U30), U35,NBF,ID50,ID65,LED-B1,LED-B2,LED-B3,LED-B4,LED-B5,LED-BH1,LED-RGB1,LED-V1,LED-V2
Displayed Data	Spectral Graph/Data, Sample Chromaticity Values, Color Difference Value/Graph, Pass/Fail Results, Color Simulation, Color Deviation
Measuring Time	About 1s
Repeatability	Chromaticity Values (MAV/SCI): Standard deviation within ΔE*ab 0.03 (under conditions: after warm-up calibration, 30 consecutive measurements of a white tile at 5-second intervals). Spectral Reflectance (MAV/SCI): Standard deviation within 0.1% (within 0.2% across 400-700nm).
Inter-instrument Error	MAV/SCI: ΔE*ab within 0.3 (Average of measurements from 12 BCRA Series II tiles)
Displayed Accuracy	0.01
Measurement Mode	Single Measurement, Average Measurement(2-99times)
Reflectance Resolution	0.01%
Size	120*75*207mm
Weight	367g (calibration base excluded)
Battery	Lithium battery,3.7V,3200mAh,8000 cycles in 8 hours
Illuminant Life Span	More than 1.2 million measurements over 10 years
Display	3.5 inch TFT true color, Capacitive Touch Screen
Data Port	USB,Bluetooth
Data Storage	Standard 200Pcs, Sample 10000Pcs(One data is able to include SCI/SCE); PC mass storage
Software Support	Andriod,IOS,Windows,Wechat small program, Hongmeng
Language	Simplified Chinese, English, Traditional Chinese
Operating Environment	0~40℃, 0~85%RH (no condensing),Altitude < 2000m
Storage Environment	-20~50℃, 0~85%RH (no condensing)
Accuracy Assurance	To Ensure Metrological Compliance
Standard Accessory	Power adapter, data cable, user manual, quality management software (download from official website), calibration box, protective cover, wrist strap, measurement apertures.
Optional Accessory	Micro Printer, Powder Test Box