Say goodbye to human eye errors- see color deviations clearly and instantly.

Spectrocolorimeter KS-220

The KS-220 is specifically engineered for measuring fluorescent and multi-form samples. Building upon a foundational configuration, it incorporates an added UV light source to enable precise color measurement of fluorescent materials. Eight measurement apertures (3mm/5mm/10mm/11mm flat and conical types) cover scenarios involving diverse sample geometries. With repeatability of ΔE*ab ⩽ 0.028 and inter-instrument agreement of ΔE*ab ⩽ 0.35, the instrument ensures data stability through Grade 1 metrology certification and a dual-optical path system. It supports multi-platform collaboration and cloud-based data sharing, and is widely applicable in industries such as plastics & electronics and paints & inks that involve fluorescent materials.



≤0.028
repeatability ΔEab

≤0.35
Inter-instrument ΔEab

15,000
records storage capacity

8
Measuring Apertures



ISO9001 CE RoHS

Own the core tech: Top performance, budget price.

I. PRECISION MEASUREMENT – ALL-IN-ONE CAPABILITY FOR FLUORESCENT & CONVENTIONAL SAMPLES

1. Dedicated Fluorescence Measurement

UV light source + full–spectrum LED illumination with zero spectral gaps, accurately capturing color data from fluorescent samples.

2. High–Accuracy Performance

Repeatability ΔE*ab ⩽ 0.028, inter–instrument agreement ΔE*ab ⩽ 0.35. The dual–optical path system monitors light source fluctuations to minimize interference and ensure batch–to–batch consistency.

3. Internationally Standardized D/8° SCI/SCE Technology

Utilizes D/8° SCI/SCE integration technology compliant with CIE, ISO, ASTM, and other international standards, meeting color management needs across multiple industries.

4. Authoritative Metrology Certification

Guaranteed Grade 1 metrology certification. Each instrument is factory–verified with measurement data traceable to national metrology institutes, ensuring authoritative and reliable test results.





II. BROAD MEASUREMENT SCOPE

1. Full Coverage with Multiple Apertures

8 aperture types (3/5/10/11mm flat and conical) adapt to flat, curved, and textured surfaces of various sample forms.

2. Multiple Color Spaces & Observation Light Sources

Provides CIE LAB, XYZ, Yxy, LCh, CIE LUV, sRGB, HunterLab, βxy, and DIN Lab99 color spaces, along with multiple observation light sources including D65, A, 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, and ID65, meeting specialized measurement needs under diverse conditions.

3. Industry Adaptability

Switchable measurement modes support color quality control in industries including plastics & electronics, paints & inks, textile & apparel dyeing, printing, and ceramics. UV inclusion enables fluorescence measurement.



III. USER-FRIENDLY OPERATION

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.

Data Management | Data Printing | Mass Storage | Data Transfer





Ergonomically Designed for Easy Measurement

Featuring an ergonomic exterior, a large touchscreen, and an optimized grip design, the user-friendly interface requires minimal training for operation.

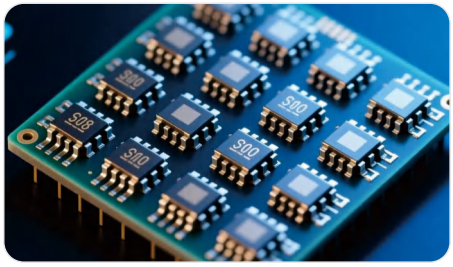
Auto-Calibration & Precise Positioning

Non-contact automatic white calibration (standard whiteboard reflectance ⩾95%), combined with real-time camera viewfinding and a stabilization plate, reduces measurement errors and ensures quick, easy operation.

IV. POWERFUL HARDWARE

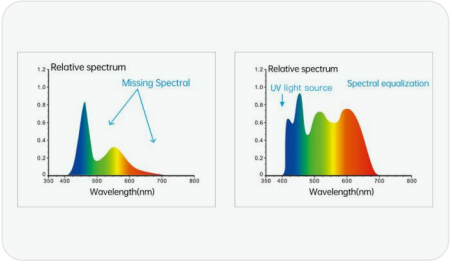
Core Optical Components

Dual-row 18-set silicon photodiode array (400–700nm spectral response) with nano-integrated spectral device prevents saturation in strong light while maintaining high sensitivity in low light, ensuring accuracy across all bands.



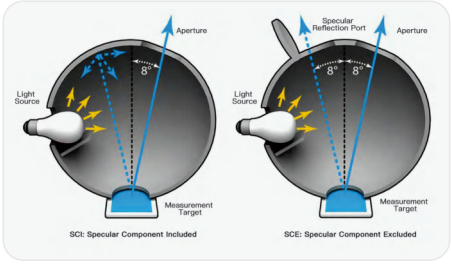
Full-band balanced LED + UV illumination

Full-band balanced LED + UV illumination (400–700nm) supports both conventional and fluorescent sample measurements, eliminating spectral gaps.



Advanced architecture design

<10 nm optical resolution enables simultaneous SCI/SCE measurement, balancing speed, accuracy, and stability.

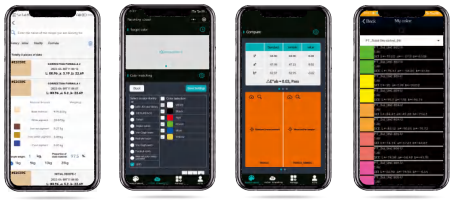


V. POWERFUL EXPANSION & COLLABORATIVE MANAGEMENT

1. Cloud Storage and Collaborative Management

Multi-system compatibility, covering Android, iOS, Windows, HarmonyOS, and WeChat Mini Programs.





2. Professional Color Management Software

The included quality management software supports Android, iOS, Windows, WeChat Mini Programs, HarmonyOS, and color matching cloud platforms. It generates test reports, compares color difference data, and customizes color management workflows to meet industrial-grade quality control requirements.

SQCX

Computer-Side Quality Management Software

SQCX Quality Management Software possesses powerful data processing and analytical capabilities. It can control the instrument for measurement, modify instrument configurations, and operate on instrument data. Simultaneously, it significantly expands instrument functionalities, enabling complex data management, color detection, report generation, and more, making it an efficient tool for color quality management.

Color Matching Cloud – Grout Color Matching Software

Color Matching Cloud – Grout Color Matching Software is a task-oriented color formulation software designed for quick one-click color matching with multiple formula options. It features intelligent formula correction, automatic calculation of correction formulas, and seamless integration with third-party systems and equipment. Highly efficient, it significantly saves labor, material, and time costs.

MOBCC

MOBCC— Color Measurement App Software

Color Matching Cloud – MOBCC Color Matching Software synchronizes with massive storage via the app, enabling rapid color measurement, color data review and retrieval, analysis, and comparison. The app allows users to build a private color database in the cloud and find the closest color matches across multiple electronic color Chard sets.

Software Download Address:

http://www.3nh.com/en/client_en_14.html

Download Color Measurement App for iOS	Download Color Measurement App for Android	Download Color Matching Cloud for iOS	Download Color Matching Cloud for Android

VI. 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.

VII. PRODUCT SPECIFICATIONS

Product Model	KS-220 spectrocolorimeter
Optical Geometry	D/8(diffused illumination, 8-degree viewing angle), SCI/SCE (specular component included/specular component excluded) Mode
Meet The Criteria	CIE No.15, GB/T 3978, GB 2893, GB/T 18833, ISO 7724-1, ASTM E1164, DIN 5033 Teil 7
Integrating Sphere Size	Φ40mm
Light Source	Combined full spectrum LED light source,UV 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	Eight Apertures:3mm Flat + 3mm Conical; 5mm Flat + 5mm Conical; 10mm Flat + 10mm Conical; 11mm Flat + 11mm Conical
Locating Method	Stabilizer position+camera locating
Calibration	Non-contact automatic calibration
Specular Component	SCI/SCE
Color Space	CIE LAB,XYZ,Yxy,LCh,CIE LUV,s-RGB,HunterLab,βxy,DIN Lab99,Munsell(C/2)
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, WI (ASTM E313, CIE/ISO, AATCC, Hunter, Taube, Berger, Stensby), YI (ASTM D1925, ASTM 313), Metamerism Index MI,Staining Fastness, Color Change Fastness, Strength, Hiding Power, 555 Hue Classification, Munsell (C/2), Blackness (My, dM), Color Density CMYK, Tint (Some functions require PC software implementation)
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 (Partial functions require PC software implementation)
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 ≤ ΔE*ab 0.028 (after warm-up and calibration, based on the average of 30 white tile measurements at 5-second intervals) Spectral Reflectance: MAV/SCI, standard deviation ≤ 0.1% (≤ 0.2% within 400—700 nm)
Inter-instrument Error	Inter-instrument Agreement: MAV/SCI, ΔE*ab ≤ 0.35 (average of measurements from 12 BCRA Series II color 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 500Pcs, 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,Russian
Operating Environment	0~40℃, 0~85%RH (no condensing),Altitude < 2000m
Storage Environment	-20~50℃, 0~85%RH (no condensing)
Accuracy Assurance	Guaranteed to meet Class 1 measurement standards.
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