Beyond human vision limits, capturing subtle color differences.







Spectrocolorimeter KS-210

The KS-210 is designed to meet the needs of multi-form sample measurement and convenient calibration. Equipped with a dual-path silicon photodiode array, it delivers repeatability of ΔE*ab ⩽ 0.028 and inter-instrument agreement of ΔE*ab ⩽ 0.35, with Grade 1 metrology certification ensuring data authority.

It features six measurement apertures (3mm/5mm/10mm flat and conical types) and adds a non-contact automatic white calibration function. Combined with camera viewfinder positioning, it accurately adapts to complex samples such as flat, curved, and textured surfaces, making it widely suitable for refined color measurement scenarios across multiple industries.

Multi-aperture precision adaptation

3mm/5mm/10mm flat and conical types

Smart and convenient calibration

Non-contact automatic white calibration

User-friendly measurement experience

Ergonomic design with intuitive interface

Measurement completed in just 1 second, significantly enhancing color inspection efficiency.

With repeatability ΔE*ab ⩽ 0.025 and inter–instrument agreement ΔE*ab ⩽ 0.3, it delivers precise measurements and stable performance, making it suitable for industrial–grade color quality control in batch production.



I. PRECISION MEASUREMENT

1. High–Precision Measurement Capabilities

Repeatability ΔE*ab ⩽ 0.028 and inter–instrument agreement ΔE*ab ⩽ 0.35 ensure color consistency in batch production. The dual–optical path system monitors light source energy fluctuations, effectively reducing measurement interference and further enhancing stability and repeatability.



2. Internationally Standardized D/8° SCI/SCE Integration Technology

Compliant with D/8° illumination/viewing geometry and SCI/SCE integration technology, it meets color management requirements across coatings, textiles, plastics, and other industries, adhering to international standards including CIE, ISO, and ASTM.

II. BROAD MEASUREMENT CAPABILITIES

1. Multi–Form Sample Adaptability

Equipped with 6 measurement apertures (3mm flat + 3mm conical, 5mm flat + 5mm conical, 10mm flat + 10mm conical), supporting measurements on flat, curved, and textured surfaces of various sample types.

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 requirements under diverse conditions.

3. Industry Applications

Features switchable measurement modes to flexibly address needs across industries such as plastics & electronics, paints & inks, textile & apparel dyeing, printing, and ceramics.



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.



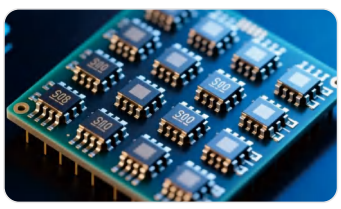
Auto-Calibration & Precise Positioning

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

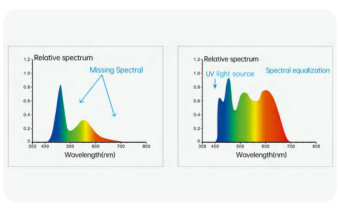
Core Optical Components

Dual-row 18-set silicon photodiode array (400-700nm spectral response) with nano-integrated spectral device ensures no saturation under strong light and high sensitivity in low-light conditions, delivering accurate data across all bands.



Full-Band Balanced LED Light Source

The instrument's full-band balanced LED illumination covers the 400-700nm spectrum, providing uniform spectral distribution in the visible range and avoiding the spectral deficiencies of white LEDs, guaranteeing measurement accuracy.



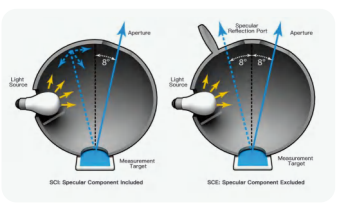
Advanced Architecture Design

Equipped with nanometer-level light-splitting capability, it precisely separates light of different wavelengths, ensuring data accuracy across all spectral bands.



Nano-Integrated Spectral Device

With an optical resolution <10 nm in the visible range, it supports simultaneous measurement of SCI (Specular Component Included) and SCE (Specular Component Excluded) spectra, balancing speed, accuracy, and stability.



V. POWERFUL EXPANSION & COLLABORATIVE MANAGEMENT

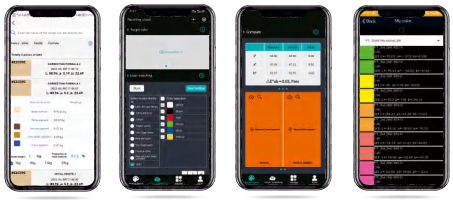
1. Cloud Storage and Collaborative Management

Supports synchronized storage of extensive color data via mobile apps and mini-programs (up to 500 reference samples), enabling users to build a private cloud database. Eliminates the need to carry physical color cards and allows real-time data sharing with partners anytime, anywhere.



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-210 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
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	Six apertures:3mm flat + 3mm conical, 5mm flat + 5mm conical, 10mm flat + 10mm 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