

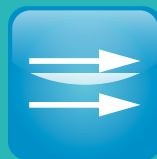
Accurate Measurement
Stable and Reliable



Support for
multiple caliber



Camera framing
and positioning



Dual optical
path system



Mobile APP

TS8520

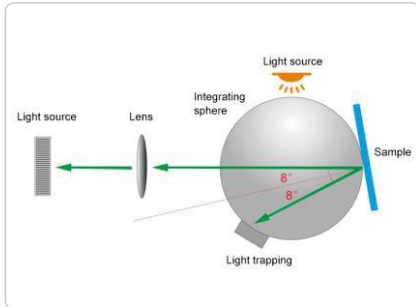
Desktop
spectrophotometer



© 2023 All rights reserved.

The desktop spectrophotometer TS8520 uses a dual array CMOS image sensor with high sensitivity and a wide spectral response range, making testing more accurate. It is equipped with a 7 inch independent rotatable touchscreen, making operation convenient and fast. Repeatability of reflection chromaticity values of TS8520 desktop spectrophotometer $\Delta E^*_{ab} \leq 0.014$, inter station difference ΔE^*_{ab} is controlled within 0.14, and the data is stable and reliable.

Product Features



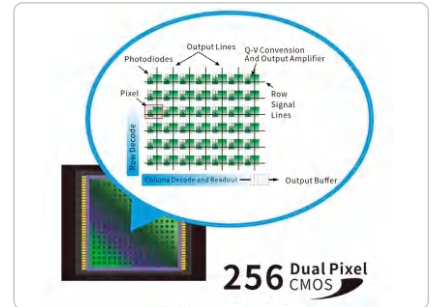
1. Adopting an internationally recognized D/8 structure

The TS8520 desktop spectrophotometer adopts the internationally widely applicable D/8 illumination and viewing geometry, along with SCI/SCE (including specular reflection/excluding specular reflection) combined technology, supporting simultaneous and rapid measurement in both SCI and SCE modes.



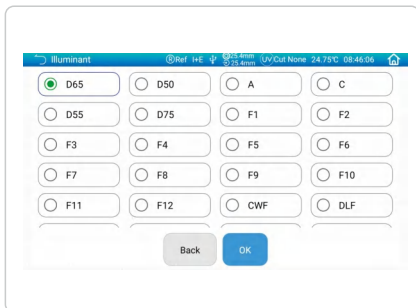
2. Large screen for easy operation, faster and more accurate measurement

Equipped with a 7 inch independent rotatable touchscreen, fast response speed, comfortable and convenient operation.



3. Dual array CMOS image sensor

It has high sensitivity and a wide spectral response range, enabling high-precision and repeatable measurements.



4. Rich measurement indicators and multiple observation light sources

Provide more than 40 measurement indicators, as well as a variety of customizable light sources (a total of 41 light sources, some implemented through the upper computer) for observation, which can meet special measurement needs under different measurement conditions.



5. Automatic caliber recognition

TS8520 desktop spectrophotometer equipped with 3-4pcs measurement apertures of 25.4/15/8/4mm, and the aperture and lens position can be configured according to needs, taking into account special measurement needs.



6. Convenient measurement and wide sample adaptation

Multiple positions such as side measurement, upward measurement, and downward measurement (using accessories) can be used for measurement. The open transmission chamber is suitable for more tested samples.

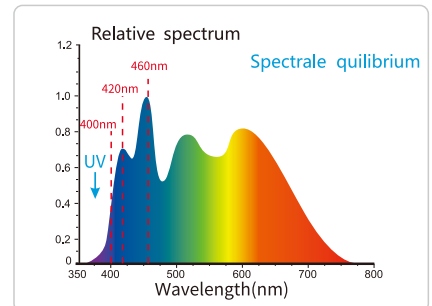


7. Automatic temperature and humidity compensation for more accurate measurement data.



8. Camera positioning for clear observation of the measured area

The TS8520 desktop spectrophotometer has a built-in camera for framing and positioning. Through real-time framing, the camera can accurately determine whether the measured part of the object is the center of the target, improving measurement efficiency and accuracy.



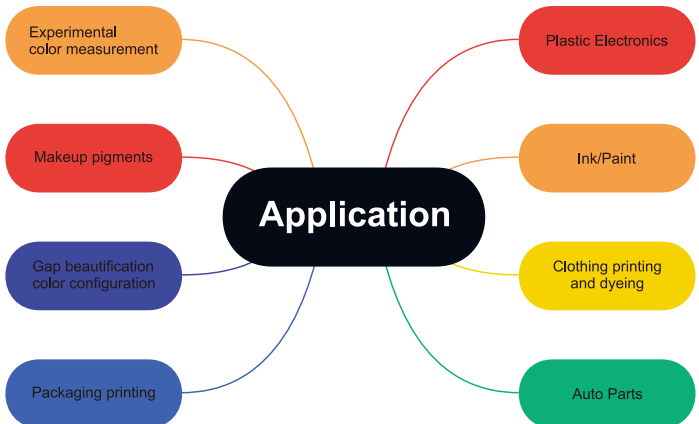
9. Adopting a combination of full spectrum LED light sources and UV light sources

360-780nm combined LED light source, including UV, 400nm/420nm/460nm cut-off light source



10、Color management software

The SQCX quality management software paired with the TS8520 portable desktop spectrophotometer is suitable for quality monitoring and color data management in various industries. Digitize user color management, compare color differences, generate test reports, provide multiple color space measurement data, and customize customer color management work.



Efficient

- Suitable for use in laboratories and factories.
- Multiple measurement apertures are available, supporting measurements of flat surfaces, curved surfaces, and small items for various applications.
- Supports both USB wired and Bluetooth wireless data transmission; data is transmitted immediately upon measurement, ensuring convenience and speed.
- Fast and accurate measurement, capable of measuring SCI and SCE simultaneously in just 1 second.

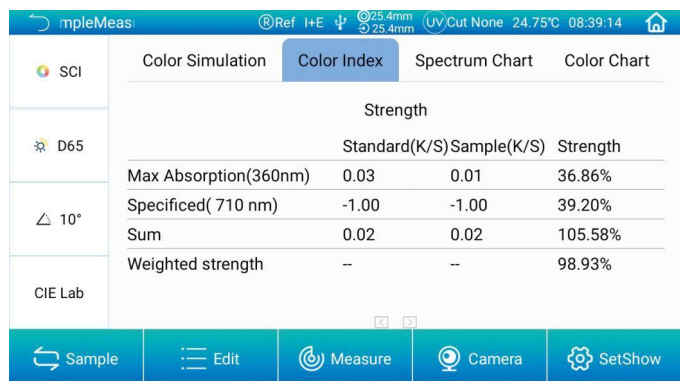
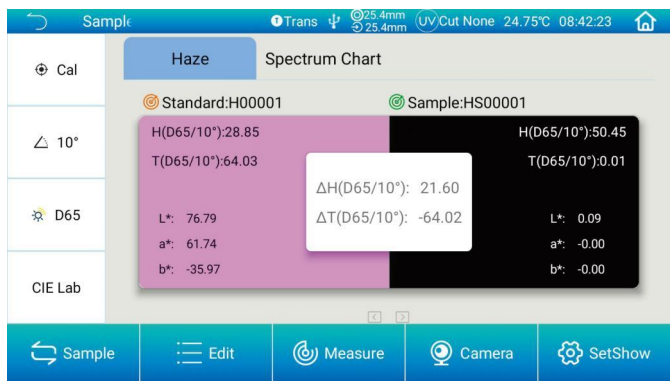
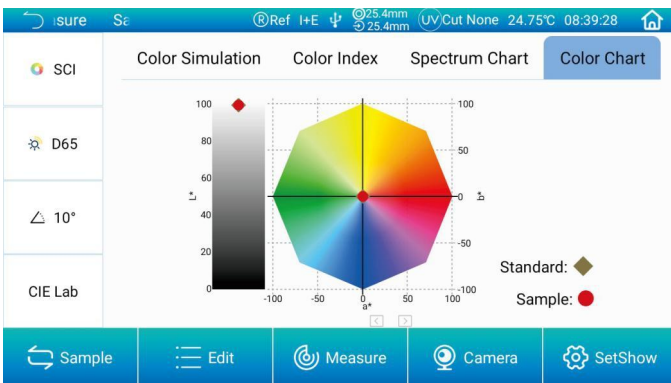
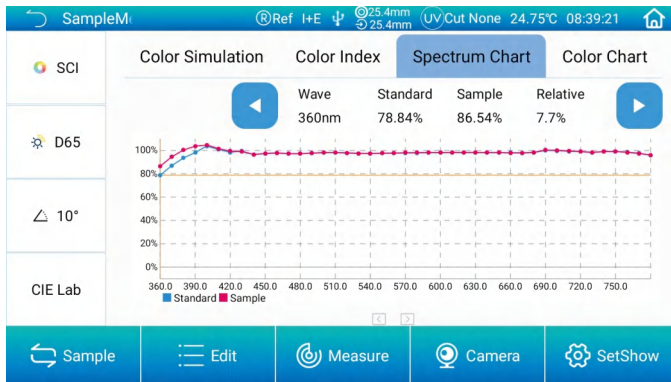
Accurate reading

- Measurement accuracy 0.015
- The repeatability standard deviation is within $\Delta E^*ab \leq 0.15$ or less
- Supports multiple national and international standards.
- Multiple algorithms with different apertures

Powerful

- Suitable for color difference quality control in industries such as plastic electronics, paint and ink, textile and clothing printing and dyeing, printing, ceramics, etc
- WI (ASTM E313, CIE/ISO, AATCC, Hunter, Taube, Berger Stensby), YI (ASTM D1925, ASTM E313), ISO Brightness, R457 Brightness, Metamerism Index (Mt), Colorfastness to Crocking, Colorfastness to Light, Tinting Strength, Opacity, APHA/Hazen/Pt-Co (Platinum-Cobalt Index), Gardner Color Index, 8° Gloss, 555 Hue Classification, Haze and Transmission (ASTM D1003), Saybolt Color Index, ASTM D1500 Color Scale, Blackness (My, dM), Color Density (CMYK: A, T, E, M), Tinting Strength, Color Density, Pharmacopoeia (Chinese, European, US), EBC (Beer Color), ICUMSA Color (Sugar Color)

Instrument interface



Optional Accessory Meet more needs of customers

The instrument is equipped with various accessories; Such as inverted stand, petri dish, microporous (4mm) transmission test fixture assembly, film fixture; Meet the needs of more measurement samples.



Petri dish

It can be used to test liquid reagents and sauces(such as ketchup, paint), powder(e.g. coffee), masterbatch, etc.



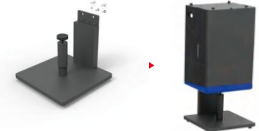
Microhole (4mm) transmission test fixture assembly

Make sure the petri dish is fixed for measurement.



Film fixture

Easy film sample measurement.



Handstand

Meet more sample measurement needs; Measurement is more convenient and flexible.

SQCX

Connect devices for powerful functionality expansion

SQCX can be connected to a spectrophotometer through USB cable or Bluetooth (only instruments that support Bluetooth), control the instrument for measurement, change instrument configuration, and operate instrument data. At the same time, it has also greatly expanded the functions of the instrument, supporting multiple color schemes, light sources, and more complex data management, color detection, report generation, etc. It is a powerful assistant for color quality management.



SQCA

Connect

Via Bluetooth ® Connect the instrument to the mobile phone to see the real-time readings directly, and save them to the historical record.

Review

Visually view historical measurement records for easy comparison.

Management and printing

You can copy, delete and upload data to the cloud, or print the data by connecting to a Bluetooth printer.

Rename and change

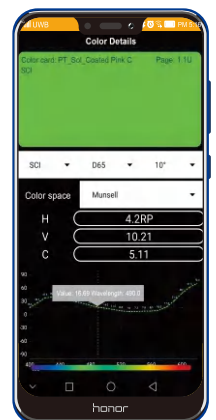
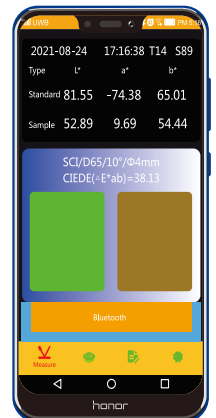
You can name data records to facilitate data modification while recording.

Color check and color formula

The APP is built with massive color data. Through the analysis of measured colors, the software automatically finds similar color cards and obtains color formulas.

Transmission

Transfer detection data from mobile devices to computers for further analysis, create reports or upload to the cloud.



Android



iOS Mobile/PC

HarmonyOS



WeChat applet



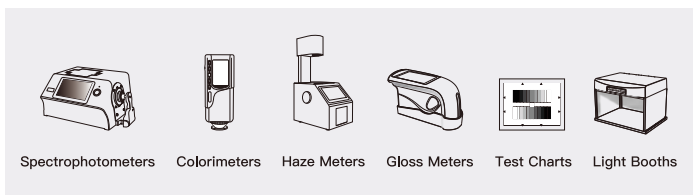
Windows

Color matching cloud

Technical Parameter

Model	TS8520
Optical Geometry	Reflection: D/8 (diffuse illumination, receiving in 8 ° direction); SCI/SCE measurement; Including UV/exclusion UV measurement; Transmission: D/0 (diffuse illumination, receiving in 0 ° direction),SCI/SCE measurement; Including UV/exclusion UV measurement; Haze (ASTM D1003);
Standard	Conforming to standard CIE No.15, GB/T 3978, GB 2893, GB/T 18833, ISO7724/1, ASTM E1164, DIN5033 Teil7, JIS Z8722 condition C
Characteristic	1. Widely used in industries such as plastic electronics, paint and ink, textile and clothing printing and dyeing, printing, etc. 2. 7 inch independent rotatable touchscreen with 32GB storage space and real-time camera viewing. 3. The instrument can be placed in multiple positions for measurement, such as side measurement, upward measurement, and downward measurement (using accessories). 4. Open transmission chamber, capable of testing transmission samples with a thickness of 54mm. 5. Automatic temperature and humidity compensation function. 6. Built in full spectrum and high lifespan LED light sources and xenon light sources, testing uorescence samples for better recognition.
Integrating Sphere Size	Φ154mm
Light Source	360~780nm combined LED light source, including UV, 400nm/420nm/460nm cut-off light source
Spectrophotometric Mode	Concave grating
Senso	256 pixel dual array CMOS image sensor
Wavelength Range	360~780nm
Wavelength Interval	10nm
Semiband Width	5nm
Measured Reflectance Range	0~200%
Reflectivity resolution	0.01
Measuring Aperture	Reflection: XLAV Φ 25.4mm/ Φ 30mm LAV Φ 15mm/ Φ 18mm MAV Φ 8mm/ Φ 10mm SAV Φ 4mm/ Φ 6mm Transmission: Φ 25.4mm (Sample height and thickness:No restrictions on height,thickness≤54 mm) remarks: 1. Switch caliber automatic recognition 2. Customers can configure the aperture and lens position according to their needs
Specular Component	reflectance SCI/SCE, Transmission SCI/SCE
Color Space	CIE LAB,XYZ,Yxy,LCh,CIE LUV,Musell,s-RGB,HunterLab,βxy,DIN Lab99
Color Difference Formula	ΔE^*ab , ΔE^*uv , ΔE^*94 , $\Delta E^*cmc(2:1)$, $\Delta E^*cmc(1:1)$, ΔE^*00 , DIN $\Delta E99$, ΔE (Hunter) , ΔE^*CH
Other Colorimetric Index	WI (ASTM E313, CIE/ISO, AATCC, Hunter, Taube, Berger, Stensby),YI (ASTM D1925, ASTM 313),ISO Brightness, R457,Metamerism Index Mt,Staining fastness, Color change fastness, Strength, Hiding power,APHA/Hazen/Pt-Co (Platinum-Cobalt Index),Gardner Index,8° Gloss,555 Hue Classification,Haze transmittance (ASTM D1003),Saybolt Color,ASTM D1500 Color Scale,Blackness (My, dM),Color density CMYK (A, T, E, M),Tint,Color density,Pharmacopoeia (Chinese, European, USP),EBC (European Brewery Convention) Color,CUMSA Color(Some functions are implemented via PC software.)
Observer Angle	2°/10°
Illuminant	D65,A,C,D50,D55,D75,F1,F2,F3,F4,F5, F6,F7,F8,F9, F10,F11,F12,CWF,DLF,TL83,TL84,TPL5,U30B,U35,NBF, ID50, ID65, LED-B1, LED-B2, LED-B3, LED-B4, LED-B5, LED-BH1, LED-RGB1, LED-V1, LED-V2, LED-C2, LED-C3, LED-C5, customizable light sources (a total of 41 types of light sources, some implemented through the upper computer)
Displayed Data	Spectral map/data, sample chromaticity value, chromaticity difference value/map, chromaticity map, color simulation, qualified/unqualified results, color deviation, color evaluation, haze, liquid chromaticity
Measuring Time	About 2.0s (while testing SCI/SCE for about 4s)
Repeatability	Reflection chromaticity value: Φ 25.4mm/SCI, ΔE^*ab within 0.014 (LED, after preheating and calibration of the instrument, measure the average standard deviation of the whiteboard 30 times at an interval of 5 seconds) Spectral reflectance/transmittance: ≤ 0.1%
Inter-instrument Error	Φ 25.4mm/SCI, ΔE^*ab within 0.14 (BCRA series II 12 color plates measured average)
Dimension	Length X width X height=440X248X283mm
Weight	Approximately 13.5kg
Battery	DC 24V, 3A power adapter power supply
Illuminant Life Span	Over 3 million measurements over 5 years
Display	7 inch independent rotatable touchscreen
Data Port	USB, Bluetooth ®
Audit trail function	Support
Network calibration	Supports Netmetric
Data Storage	32G storage space, over 100000 pieces (SCI/SCE counts as one piece of data)
Language	Simplified Chinese, Traditional Chinese, English(customizable for German, French, Spanish, Russian, Japanese, Thai, Korean, Polish, Portuguese)
Operating Environment	0~40℃ (32~104°F)
Storage Environment	-20~50℃ (-4~122°F)
Standard Accessory	Power adapter, manual, quality management software , data cable, standard calibration board, black calibration box, transmission black baffle, sample holder, 25.4 caliber, 15 caliber, 8 caliber, 4 caliber, transmission testing fixture component, colorimetric cell
Optional Accessory	Inverted stand, culture dish, microporous (4mm) transmission testing fixture assembly, film fixture
Notes	Subject to change without prior notice

GUANGDONG THREENH TECHNOLOGY CO., LTD.



★ CONTACT US

web:www.3nh.com

Email:3nh@3nh.com

Tel:0086-020-82880288

Add: 6-8th floors, Building B33, Low Carbon Headquarters Park, Xincheng Road No.400, Zengcheng District, Guangzhou, Guangdong Province, China