

TS8503



Benchtop Spectrophotometer

The Benchtop spectrophotometer TS8503 uses a dual array CMOS image sensor with high sensitivity and wide spectral response range for more accurate testing. It is equipped with a 7-inch independent rotatable tablet computer for easy and fast operation. TS8503 desktop spectrophotometer reflection chromaticity value repeatability $\Delta E^*ab \leq 0.018$ Difference $\Delta E^*ab \leq 0.24$, the data is stable and reliable.



Multi-aperture support



Camera positioning



Dual optical path system



SCI+SCE Synchronous measurement



Advantage

The international D/8 (diffuse lighting, 8° direction reception) structure is adopted. Support reflection, transmission, fog measurement.

The automatic temperature and humidity compensation function makes the measurement data more accurate.

The large screen is easy to operate and the measurement is faster and more accurate. 32G storage space, data can be stored in large quantities.

The measurement is fast and accurate, and can be measured at the same time by SCI/SCE.

Open transmission chamber for testing 54mm thick transmission samples.

Meets multiple standards: CIE No.15, GB/T 3978, GB 2893, etc., supports multiple national and international standard measurements.

Advantage



ISO9001



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Benchtop Spectrophotometer

Independent research and development, accurate and reliable, core technology; Color difference, haze, transmittance measurement in one machine!



02 Characteristic

01

International common d/8

TS8503 spectrophotometer adopts D/8(diffused illumination, 8-degree viewing angle) which is widely applicable in the world, and SCI/SCE (specular component included/specular component excluded) Synthesis technology, supporting SCI+SCE simultaneous rapid measurement.

02

Double Array CMOS Image Sensor

It has high sensitivity and wide spectral response range, which can achieve high -precision and repeatability measurement.

03

Adopt combination full spectrum LED light source and UV light source

Wavelength range 360nm-780nm, combined LED Light. Including UV, 400nm cut-off light source, 420nm Cut-off light source, 360-780nm Xenon Lamp.

04

Convenient measurement, widely application

Side measurement, upward measurement, and downward measurement (using accessories) and other gestures are placed and measured, open -type transmitted warehouses, adapting to more samples.

05

Automatic measuring aperture distinguish

Equipped with $\Phi 25.4$ measuring aperture, you can configure the aperture and lens position according to your needs, taking into account special measuring needs.

06

The camera located, clearly confirm the measured area

Built -in camera to set the location positioning. Through the real -time scene of the camera, it can accurately determine whether the measured part of the object is the target center, which improves the measurement efficiency and accuracy.



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Fully functional worry-free color measurement

Benchtop spectrophotometer TS8503 can measure samples such as fog, reflection and transmission in addition to color difference. It has comprehensive chromaticity measurement indicators, complete light sources and rich color space modes.

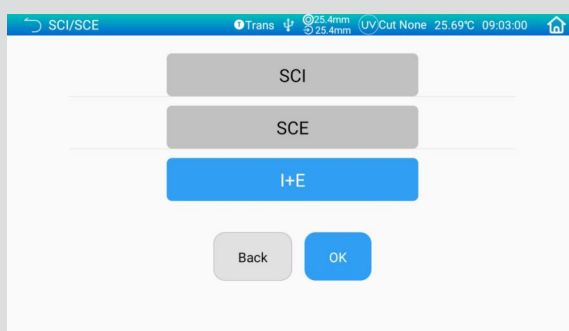


Color difference is known by one-touch measurement

Provide Lab value color bias, just one-click measurement, white or black, green or red can be at a glance. The influence of human factors on color judgment can be excluded. The measurement results can be displayed: spectral data, spectral map, chromaticity data, color difference data, color difference map, simulation color pass/fail judgment, color evaluation, color bias, color evaluation, liquid chromaticity.

Measurement of haze Transmission

Both color and haze transmission can be measured simultaneously; Greatly increase the efficiency of the inspection process and achieve superior color management and color matching calculations with high accuracy.



SCI/SCE, SCI+SCE Synchronous measurement

TS8503 benchtop spectrophotometer supports reflection and transmission measurement, the repeatability of reflection chroma value ΔE^*AB ≤ 0.018 , the difference between stations ΔE^*AB controlled within 0.24, the data is stable and reliable!

Comprehensive chroma measurement indicators

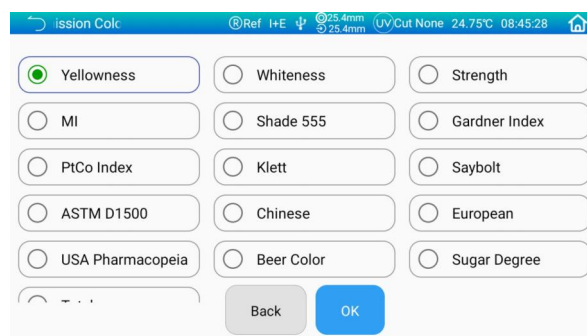
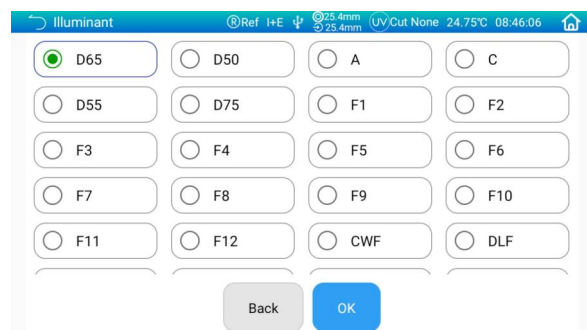
WI(ASTM E313,CIE/ISO,AATCC,Hunter,Taube,Berger Stensby),YI(ASTM D1925,ASTM E313),ISO brightness,R457,MI (Metamerism Index),Staining Fastness, Color Fastness, Color Strength, Opacity,APHA/Hazen/Pt-Co Index,Gardner Index,Haze, Transmission(ASTM D1003), Saybolt index, ASTM D1500 Color code, 8° Gloss, 555 Index, carbon(My,dM),Color density CMYK(A,T,E,M), Tint, Color density,Pharmacopoeia (China, Europe, USA) , EBC (beer Color) , ICUMSA Color (sugar Color)(part function achieved via software in PC)

Full range of measurement light sources

D65, A, C, D50, D55, D75, F1, F2, F3, F4 and F5, F6 and F7, F8, F9, F10, F11, F12, CWF, DLF, TL83, TL84, TPL5, U30 and B, U35, diagindex.nbf etc. A total of 41 kinds of light sources. (Some functions are realized by the host computer).

Rich color space

CIE LAB,XYZ,Yxy,LCh,CIE LUV,Musell,s-rgb,HunterLab,βxy,DIN Lab99.



04

Function extension

TS8503 portable benchtop spectrophotometer with SQCX quality management software can achieve more functions; Quality control and color data management for all industries. Digitize the user's color management, compare color differences, generate test reports, provide a variety of color space measurement data, and customize the customer's color management work.



SQCX

Connect devices for powerful functionality expansion

SQCX can be connected to the spectrophotometer via USB cable, Bluetooth (only Bluetooth-enabled instruments), control the instrument for measurement, change the instrument configuration, and operate the instrument data. At the same time, it also greatly expanded the function of the instrument, supporting a variety of colors, light sources, more complex data management, color detection, report generation, etc., is a helpful assistant for color quality management.



Analysis and management

By connecting SQCX software on PC, the instrument can analyze, copy, delete, modify, name and save the measured data.



Share and pass

The generated test report can be shared and transmitted through a connected computer. Fast exchange of color information to speed up production time.



Data printing

Compare color differences, generate test reports, and print out the data by connecting to a Bluetooth printer.



Mass storage

The measured data report can be uploaded to the cloud storage. Achieve mass data storage.



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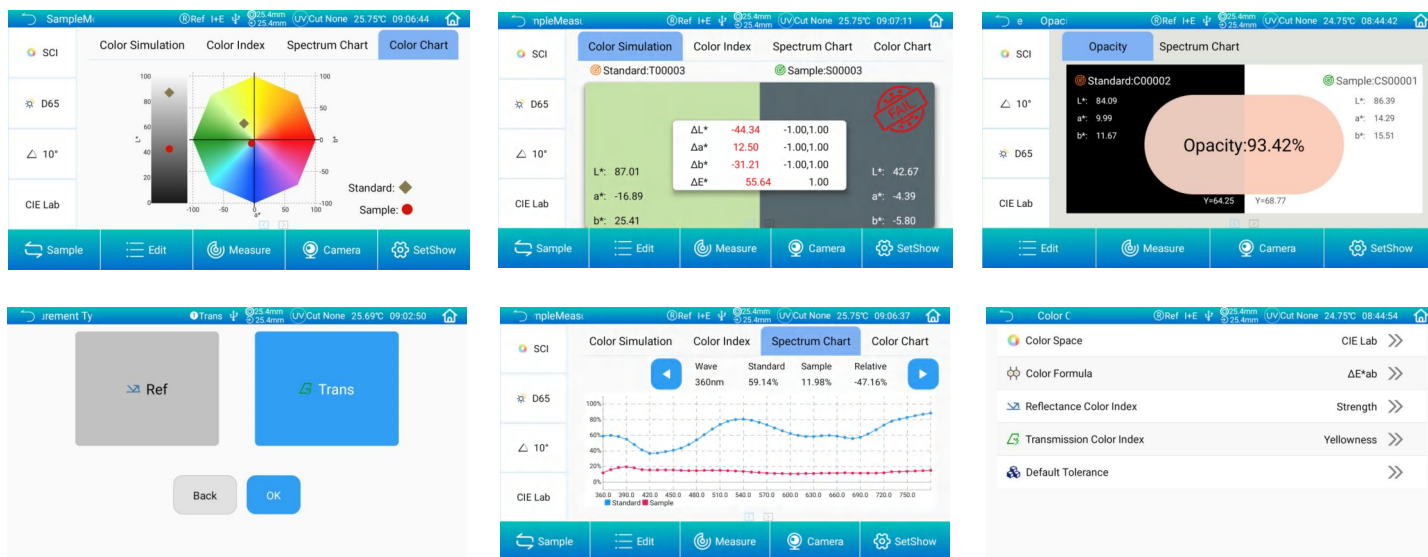
05 Application field

The TS8503 portable benchtop spectrophotometer is suitable for quality monitoring and color data management in various industries. It is widely used in plastic electronics, paint ink, textile and clothing printing and dyeing, printing and other industries.



06 Functional interface

TS8503 portable benchtop spectrophotometer using 7-inch independently rotatable touchscreen, screen display HD; The operation interface is clear, smooth and convenient.



Optional accessories

TS8503 comes with a wide range of accessories; Such as inverted stand, petri dish, microporous (4mm) transmission test fixture assembly, film fixture; Meet the needs of more measurement samples.



Petri dish

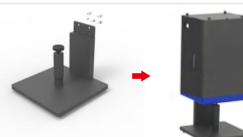
It can be used to test liquid reagents and sauces(such as ketchup, paint), powder(e.g. coffee), masterbatch, etc.



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.

Product parameter

Model	TS8503
Lighting mode	Reflect: di:8°, de:8°(diffused illumination, 8-degree viewing angle),Include UV / excluded UV light source ; Transmission: di:0°, de:0°(diffused illumination,0-degree viewing angle),Include UV / excluded UV light source ;Haze (ASTM D1003);
Meet the standard	CIE No.15,GB/T 3978,GB 2893,GB/T 18833,ISO7724/1,ASTM E1164,DIN5033 Teil7,JIS Z8722 Condition C
Characteristic	1. Plastic electronics, paint ink, textile and clothing printing and dyeing, printing and other industries are widely used. 2. 7-inch independent rotatable tablet, 32G storage space, camera real-time view. 3. The instrument can be measured on the side, up and down (using accessories). 4. Open transmission chamber, can test 54mm thickness transmission sample. 5. Automatic temperature and humidity compensation. 6. Built-in full spectrum high life LED light source and xenon lamp light source, test fluorescent samples have better recognition.
Light Source Device	360nm—780nm Wavelength range ,combined LED Light. Including UV, 400nm cut-off light source, 420nmCut-off light source,360~780nm Xenon Lamp.
Spectrophotometric Mode	Concave Grating
Sensor	256 Image Element Double Array CMOS Image Sensor
Wavelength Range	360~780nm
Wavelength Pitch	10nm
Half Band width	5nm
Measured Reflectance Range	0~200%
Reflectivity Resolution	0.01
Integrating Sphere Size	Φ154mm
Measuring Aperture	Reflective:XLAV Φ25.4mm/Φ30mm,LAVΦ15mm/Φ18mm,MAVΦ8mm/Φ10mm,SAVΦ4mm/Φ6mm Transmissive:Φ25.4mm(No limit on sample height and width, but thickness≤54mm) Remark:1. Automatic identification of aperture switch 2. Customized Configuration caliber and lens position
Specular Component	Reflectance: SCI&SCE / Transmittance: SCI&SCE
Color Space	CIE LAB,XYZ,Yxy,LCh,CIE LUV,Musell,s-RGB,HunterLab,βxy,DIN Lab99
Color Difference Formula	$\Delta E^*ab, \Delta E^*uv, \Delta E^*94, \Delta E^*cmc(2:1), \Delta E^*cmc(1:1), \Delta E^*00, \Delta E^*99, \Delta E^*(\text{Hunter}), \Delta E^*CH$
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,U30,B,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, customized light source(41 light sources in total,part achieved via software in PC)
Displayed Data	Spectrogram/Values, Samples Chromaticity Values, Color Difference Values/Graph, PASS/FAIL Result, Color Offset, Color assessment, haze, liquid chromaticity
Measuring Time	2.0s (Measure SCI & SCE meantime about 4s)
Repeatability	Reflectance chromaticity value:Φ25.4mm/SCI, Standard deviation within ΔE^*ab 0.18(Under LED light source, when a white calibration plate is measured 30 times at 5 second intervals after white calibration); spectrum reflectance /transmission: ≤0.1%
Inter-instrument Error	Φ25.4mm/SCI, Within ΔE^*ab 0.24(Average for 12 BCRA Series II color tiles)
Dimension	L*W*H=440x248x283mm
Weight	Approx. 13.5kg
Power	AC 24V, 3A Power adapter power supply
Illuminant Life Span	5 years, more than 3 million times measurements
Display	7-inch independently rotatable touchscreen
Data Port	USB & Bluetooth
Audit trail function	Support
Network calibration	Supports Netmetric
Data Storage	32G storage, above 100000pcs
Language	Simplified Chinese, Traditional Chinese, English,(Optional Customized German,Russian, French ,Spanish ,Japanese, Thai, Korean, Polish, Portuguese)
Operating Environment	0~40°C (32~104°F)
Storage Environment	-20~50°C (-4~122°F)
Standard Accessory	Power Adapter, User Guide, U Disk(PC Software), USB cable, Standard Calibration Board, Black Calibration Cavity, Transmission black baffle, Sample holder, 25.4 caliber, 15 caliber, 8 caliber, 4 caliber,Transmissive Test Component, cuvette, 7-inch screen
Optional Accessory	Micro Aperture(4mm) transmission test clamp component, Instrument inversion components,culture dish,Film fixture
Notes	Test reports can be printed through a network printer connected to a PC or display pad;The specifications are subject to change without notice.

GUANGDONG THREENH TECHNOLOGY CO., LTD.



Spectrophotometers



Colorimeters



Haze Meters



Gloss Meters



Test Charts



Light Booths

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