

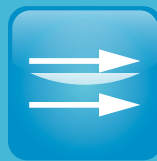
Accurate Measurement  
Stable and Reliable



Support for  
multiple caliber



Camera framing  
and positioning



Dual optical  
path system



Mobile APP

# TS8510

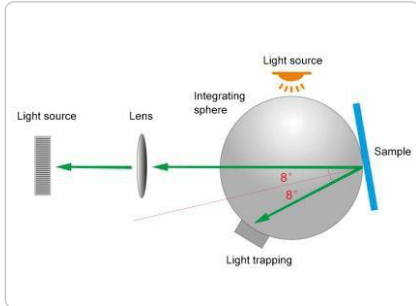
Desktop  
spectrophotometer

ISO 9001  
Certified

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The desktop spectrophotometer TS8510 adopts 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 TS8510 desktop spectrophotometer  $\Delta E^*_{ab} \leq 0.015$ , inter station difference  $\Delta E^*_{ab}$  is controlled within 0.15, and the data is stable and reliable.

## Product Features



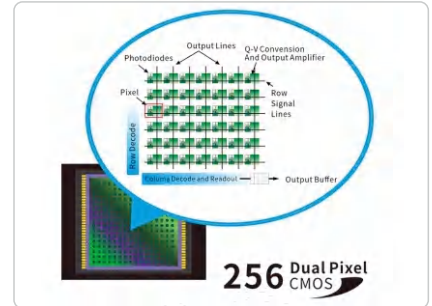
### 1. Adopting an internationally recognized D/8 structure

The TS8510 desktop spectrophotometer adopts a wide range of D/8 lighting observation conditions and SCI/SCE (including mirror reflection/excluding mirror reflection) synthesis technology internationally, supporting rapid measurement of SCI+SCE simultaneously.



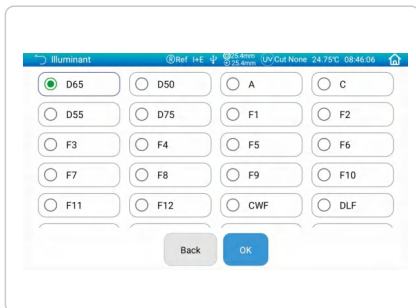
### 2. Large screen for easy operation, faster and more accurate measurement

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

TS8510 desktop spectrophotometer equipped with 3-4 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.

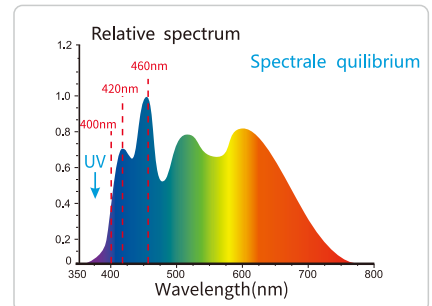


### 7. Automatic temperature and humidity compensation for more accurate measurement data.



### 8. Camera positioning for clear observation of the measured area

The TS8510 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

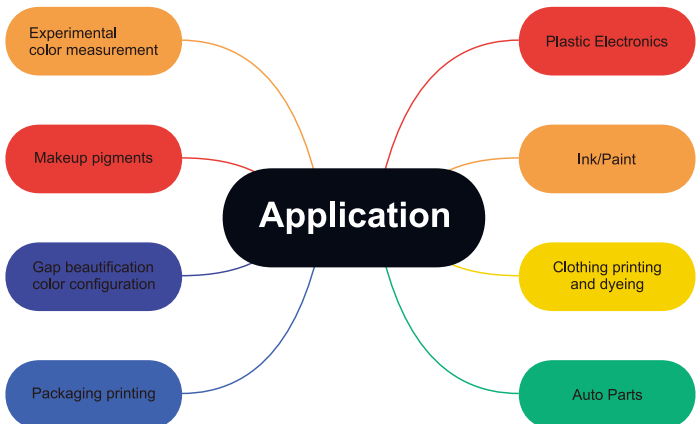
The SQCX quality management software paired with the TS8510 portable desktop spectrophotometer is suitable for quality monitoring and color data management in various industries. Digitize user color management, compare color differences, generate test reports, provide multiple color space measurement data, and customize customer color management work.

## Efficient

- Very suitable for laboratory and factory use
- Multiple measurement apertures, supporting planar and curved measurement, Measurement of different situations such as small items
- Supports USB wired and Bluetooth wireless transmission, data Instant testing and transmission, convenient and fast.
- Fast and accurate measurement, while measuring SCI and SCE in just 1 second

## Accurate reading

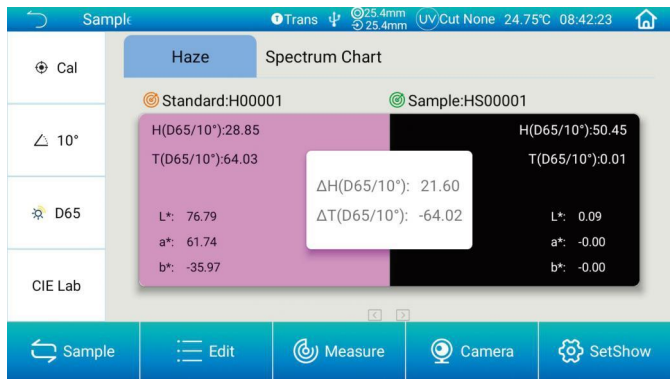
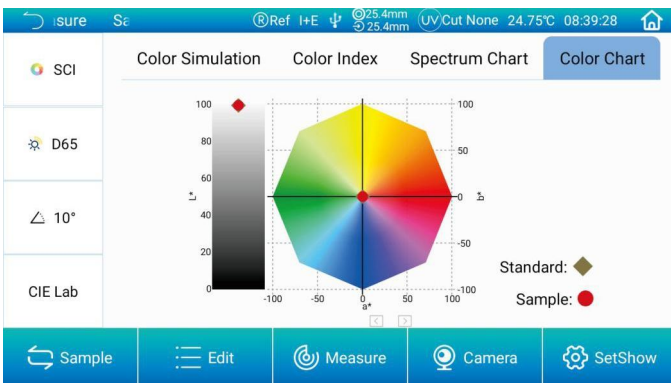
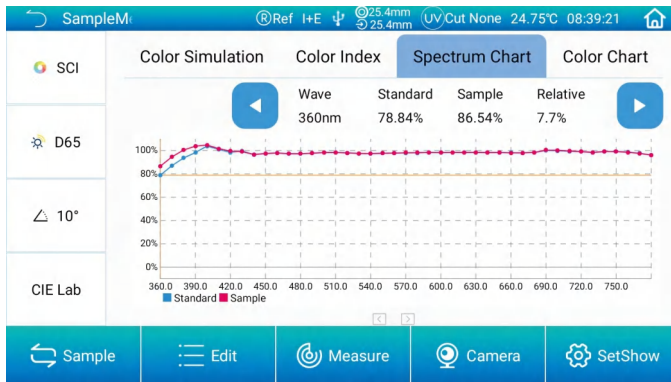
- Measurement accuracy 0.015
- The repeatability standard deviation is within  $\Delta E^*ab \leq 0.15$  or less
- Supports multiple national and international standards.
- Multiple algorithms with different apertures



## 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
- Supports WI (ASTM E313, CIE/ISO, AATCC, Hunter, Taube, Berger Stensby), YI (ASTM D1925, ASTM 313), ISO brightness, R457, metamerism index Mt, color fastness to staining, Color fastness, strength, coverage, APHA/Hazen/Pt Co (Platinum Cobalt Index), Gardner (Gardner Index), 8-degree glossiness, 555 tone classification, haze transmittance (ASTM D1003), Saybolt index, ASTM D1500 color code, 555 tone classification, blackness (My, dM), Color density CMYK (A, T, E, M), Tint, Color density (some functional functions are achieved through the upper computer)

## 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

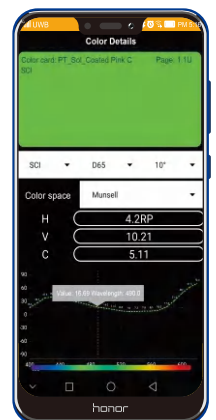
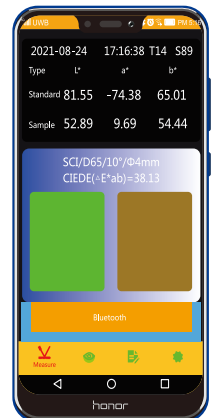
You can name data records to facilitate data modification while recording.

### 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



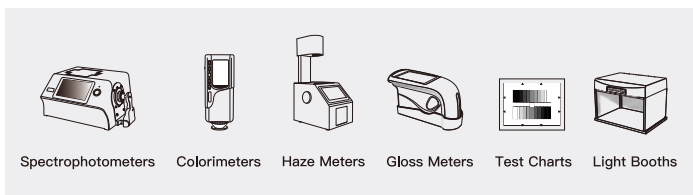
Windows

Color matching cloud

## Technical Parameter

|                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Model</b>                      | TS8510                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Optical Geometry</b>           | Reflection: D/8 (diffuse illumination, receiving in 8 ° direction); SCI/SCE measurement; Including UV/exclusion UV measurement;<br>Transmission: D/0 (diffuse illumination, receiving in 0 ° direction) ,SCI/SCE measurement; Including UV/exclusion UV measurement;<br>Haze (ASTM D1003);                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Standard</b>                   | Conforming to standard CIE No.15, GB/T 3978, GB 2893, GB/T 18833, ISO7724/1, ASTM E1164, DIN5033 Teil7, JIS Z8722 condition C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Characteristic</b>             | 1. Widely used in industries such as plastic electronics, paint and ink, textile and clothing printing and dyeing, printing, etc.<br>2. 7 inch independent rotatable touchscreen with 32GB storage space and real-time camera viewing.<br>3. The instrument can be placed in multiple positions for measurement, such as side measurement, upward measurement, and downward measurement (using accessories).<br>4. Open transmission chamber, capable of testing transmission samples with a thickness of 54mm.<br>5. Automatic temperature and humidity compensation function.<br>6. Built in full spectrum and high lifespan LED light sources and xenon light sources, testing fluorescence samples for better recognition. |
| <b>Integrating Sphere Size</b>    | Φ154mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Light Source</b>               | 360~780nm combined LED light source, including UV, 400nm/420nm/460nm cut-off light source                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Spectrophotometric Mode</b>    | Concave grating                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Senso</b>                      | 256 pixel dual array CMOS image sensor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Wavelength Range</b>           | 360~780nm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Wavelength Interval</b>        | 10nm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Semiband Width</b>             | 5nm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Measured Reflectance Range</b> | 0~200%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Reflectivity resolution</b>    | 0.01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Measuring Aperture</b>         | Reflection:<br>XLAV Φ 25.4mm/ Φ 30mm LAV Φ 15mm/ Φ 18mm MAV Φ 8mm/ Φ 10mm SAV Φ 4mm/ Φ 6mm<br>Transmission:<br>Φ 25.4mm (sample height and thickness are not limited, thickness ≤ 54mm)<br>remarks: 1. Switch caliber automatic recognition 2. Customers can configure the aperture and lens position according to their needs                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Specular Component</b>         | Reflection SCI/SCE, Transmission SCI/SCE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Color Space</b>                | CIE LAB,XYZ,Yxy,LCh,CIE LUV,Musell,s-RGB,HunterLab,βxy,DIN Lab99                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Color Difference Formula</b>   | $\Delta E^*ab$ , $\Delta E^*uv$ , $\Delta E^*94$ , $\Delta E^*cmc(2:1)$ , $\Delta E^*cmc(1:1)$ , $\Delta E^*00$ , DIN $\Delta E99$ , $\Delta E(Hunter)$ , $\Delta E^*CH$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Other Colorimetric Index</b>   | 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.)                                                                                                                                             |
| <b>Observer Angle</b>             | 2°/10°                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Illuminant</b>                 | 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, customizable light sources (a total of 41 types of light sources, some implemented through the upper computer)                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Displayed Data</b>             | Spectral map/data, sample chromaticity value, chromaticity difference value/map, chromaticity map, color simulation, qualified/unqualified results, color deviation, color evaluation, haze, liquid chromaticity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Measuring Time</b>             | About 2.0s (while testing SCI/SCE for about 4s)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Repeatability</b>              | Reflection chromaticity value: Φ 25.4mm/SCI, $\Delta E^*ab$ within 0.015 (LED, after preheating and calibration of the instrument, measure the average standard deviation of the whiteboard 30 times at an interval of 5 seconds)<br>Spectral reflectance/transmittance: ≤ 0.1%                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Inter-instrument Error</b>     | Φ 25.4mm/SCI, $\Delta E^*ab$ within 0.15 (BCRA series II 12 color plates measured average)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Dimension</b>                  | Length X width X height=440X248X283mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Weight</b>                     | Approximately 13.5kg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Battery</b>                    | DC 24V, 3A power adapter power supply                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Illuminant Life Span</b>       | Over 3 million measurements over 5 years                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Display</b>                    | 7 inch independent rotatable touchscreen                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Data Port</b>                  | USB, Bluetooth ®                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Data Storage</b>               | 32G storage space, over 100000 pieces (SCI/SCE counts as one piece of data)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Audit trail function</b>       | Support                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Network calibration</b>        | Supports Netmetric                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Language</b>                   | Simplified Chinese, Traditional Chinese, English(customizable for German, French, Spanish, Russian, Japanese, Thai, Korean, Polish, Portuguese)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Operating Environment</b>      | 0~40℃ (32~104°F)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Storage Environment</b>        | -20~50℃ (-4~122°F)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Standard Accessory</b>         | Power adapter, manual, quality management software (USB flash drive), 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                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Optional Accessory</b>         | Inverted stand, culture dish, microporous (4mm) transmission testing fixture assembly, film fixture                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Notes</b>                      | Subject to change without prior notice                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

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