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# TS7708

## Spectrophotometer

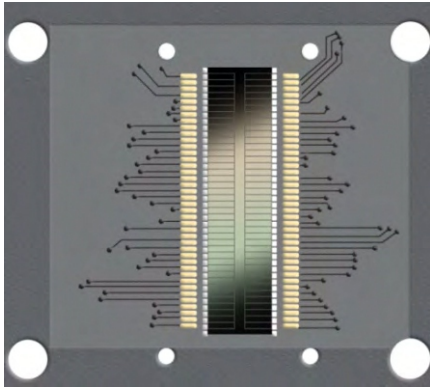
1. Adopt a high-life, low-power, full-spectrum LED light source, including UV/excluding UV;
2. Measure the spectrum of the sample, and the Lab data is accurate, which can be used for color matching and accurate color transmission;
3. USB/Bluetooth dual communication mode, wider adaptability;
4. Super dirt-resistant and stable standard whiteboard;
5. Large-capacity storage space, can store more than 30,000 test data
6. Camera viewfinder positioning, stable film platform measurement positioning;
7. PC-side software has powerful function expansion;



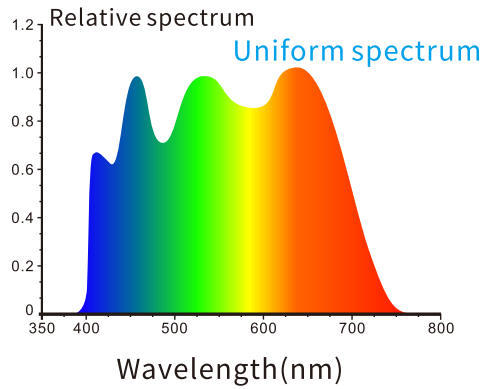
ISO 9001  
Certified



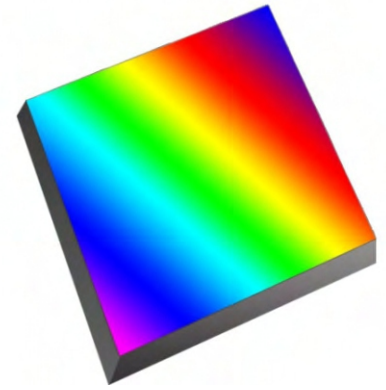
# Features



1. Larger area dual 40-array silicon photodiode sensor



2. Using full-band balanced LED light source



3. Grating spectroscopy technology



4. Place the base safely to ensure that the whiteboard is not dirty



5. Professional whiteboard, the promise of never changing color for life



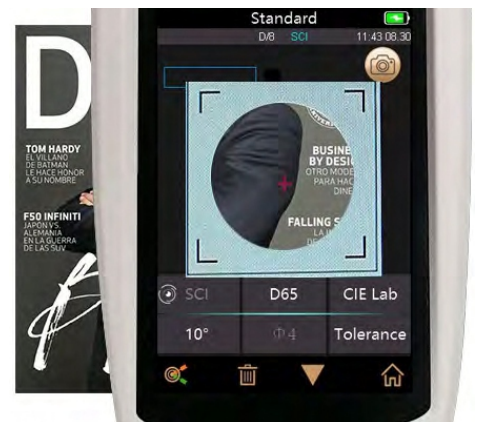
6. Fast charging



7. Novel and fashionable appearance design based on ergonomics



8. Multiple measurement apertures meet most measurement needs



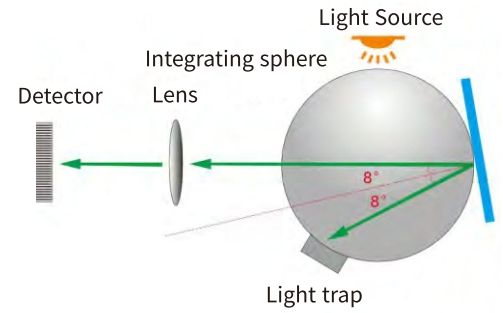
9. Camera framing and positioning can clearly observe the measured area



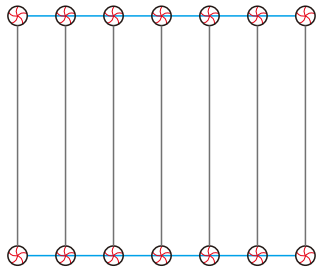
10. The measured values of multiple devices are consistent



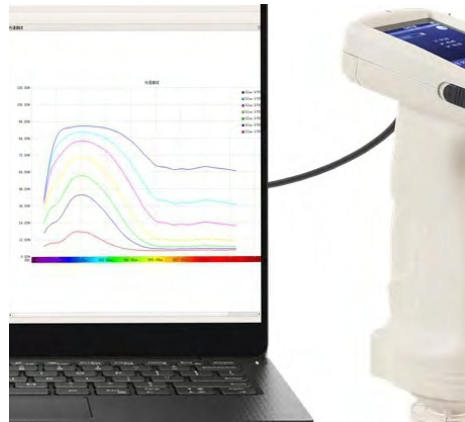
11. Support multiple color spaces and measurement light sources



12. Adopt the international D/8, SCI/SCE synthesis technology



13. Dual optical path system can measure SCI and SCE at the same time



14. Provide professional PC software

## Introduce

Under the D8 geometric optical lighting conditions recommended by CIE, the TS7708 spectrophotometer can accurately measure the SCI and SCE reflectance data of samples/fluorescent samples. It can perform various color difference formulas and color indexes in a variety of color spaces. Accurate measurement and presentation. With TS7708 spectrophotometer, it can easily realize the accurate transmission of colors, and it can also be used as a detection equipment for accurate color matching systems. Color difference quality control also has a wide range of applications. TS7708 is equipped with high-end color management software, which can be connected to a computer to achieve more functional expansion.

## Application

Used for accurate color measurement and quality control in plastic electronics, paint and ink, textile and garment printing and dyeing, printing, ceramics and other industries; it can be used for fluorescent sample measurement.



Plastic



Textile



Paint



Ceramics

## Technical parameter

<b>Model</b>	<b>TS7708</b>
<b>Optical Geometry</b>	Reflectance: D/8(Diffuse illumination, 8° acceptance) SCI&SCE; Include UV/Exclude UV
<b>Standards Compliant</b>	CIE No.15,GB/T 3978,GB 2893,GB/T 18833,ISO7724-1,ASTM E1164,DIN5033 Teil7
<b>Integrating Sphere Size</b>	Φ40mm
<b>Light Source</b>	Combined full spectrum LED light source, UV light source
<b>Spectroscopic Method</b>	Flat Grating
<b>Sensor</b>	Silicon photodiode array (double row 40 groups)
<b>Spectral Range</b>	400~700nm
<b>Wavelength Pitch</b>	10nm
<b>Semi-bandwidth</b>	10nm
<b>Photometric Range</b>	0~200%
<b>Measurement Aperture</b>	Three calibers: MAV: Φ8mm/Φ10mm; SAV: Φ4mm/Φ5mm; LAV: 1x3mm LAV1x3mm: slightly worse accuracy, can be used for color difference test
<b>Specular Component</b>	SCI&SCE
<b>Color Spaces</b>	CIE LAB,XYZ,Yxy,LCh,CIE LUV,s-RGB,HunterLab,βxy,DIN Lab99 Munsell(C/2)
<b>Color difference formulas</b>	$\Delta E^*ab, \Delta E^*uv, \Delta E^*94, \Delta E^*cmc(2:1), \Delta E^*cmc(1:1), \Delta E^*00, \text{DIN}\Delta E99, \Delta E(\text{Hunter})$
<b>Other Colorimetric Index</b>	WI(ASTM E313,CIE/ISO,AATCC,Hunter),YI(ASTM D1925,ASTM 313),MI(Metamerism Index),Staining Fastness,Color Fastness, Color Strength,Opacity,8° Glossiness,555 tone classification
<b>Observer Angle</b>	2°/10°
<b>Illuminant</b>	D65,A,C,D50,D55,D75,F1,F2(CWF),F3,F4,F5,F6,F7(DLF),F8,F9,F10(TPL5),F11(TL84),F12(TL83/U30)
<b>Displayed Data</b>	Spectrogram/Values, Samples Chromaticity Values, Color Difference Values/Graph, PASS/FAIL Result, Color Offset
<b>Measurement Time</b>	About 1.5s (Measure SCI & SCE about 3.2s)
<b>Repeatability</b>	Spectral reflectance:MAV/SCI,Standard deviation within 0.08% (400 to 700nm: within 0.18%) Chromaticity value:MAV/SCI,within $\Delta E^*ab$ 0.03 (After calibration, measure the average value of the whiteboard 30 times at 5s intervals)
<b>Inter-instrument agreement</b>	MAV/SCI ,Within $\Delta E^*ab$ 0.15(Average for 12 BCRA Series II color tiles)
<b>Measurement Mode</b>	Single measurement, Average measurement (2~99 times)
<b>Locating Method</b>	Camera Locating,stabilizer cross position
<b>Dimension</b>	129(L)X76(W)X217(H)mm
<b>Weight</b>	Approx 600g
<b>Battery</b>	Li-ion battery, 6000 measurements within 8 hours
<b>Life Lamp</b>	5 years, more than 3 million times measurements.
<b>Screen</b>	3.5-inch TFT color LCD, Capacitive Touch Screen
<b>Interface</b>	USB,Bluetooth
<b>Data storage</b>	Standard: 1,000 Pcs; Sample: 30,000 Pcs.(One PCS can include both SCI and SCE)
<b>Languages</b>	Simplified Chinese,English,Traditional Chinese
<b>Operating Environment</b>	Temperature: 0~40°C; Humidity: 0~85% (No Condensation) Altitude: less than 2000m
<b>Storage Environment</b>	Temperature: -20~50°C; Humidity: 0~85% (No Condensation)
<b>Standard Accessories</b>	Power Adapter, User Guide, PC Software(Download from office website), USB cable, White and Black Calibration Cavity, Protective Cover, Wrist strap, 8mm flat aperture, 8mm tip aperture, 4mm flat aperture, 4mm tip aperture,1x3mm tip aperture
<b>Optional Accessories</b>	Micro Printer,Powder test box

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