

# SPECTROCOLORIMETER FOR ACCURATE MEASUREMENT

## TS7036

Using spectroscopic technology to ensure the accuracy of the measured values L, A, B, and can pass international standards



Flat Grating



Simultaneously  
test SCI, SCEE



Dual channel



3.5 in Color  
touch screen

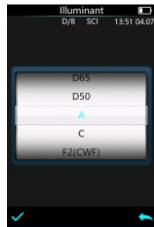
# SPECTROCOLORIMETER

## CORE TECHNOLOGY

1. Adopt international common use d/8 SCI/SCE Synthesis technology;
2. Adopt full waveband balanced LED light source;
3. Silicon photodiode array sensor (32 groups with double rows);
4. A variety of color space, a variety of observation light sources;
5. Ergonomic design and easy measuring device;
6. Pass the Calibration Certificate;
7. ETC real-time calibration technology;
8. Camera locating can clearly observe the measured area;
9. Color management software.



1. Large Touch Screen



2. Different illuminant



3. More settings for accurate measurement



4. SQCX PC software

## APPLICATION



Leather



Plastic



Cloth



Paint

## PRODUCT FEATURES

Support WI (ASTM E313, CIE/ISO, AATCC, HUNTER), YI (ASTM D1925, ASTM 313), METAMERISM INDEX MT, COLOR FASTNESS, COLOR FASTNESS, STRENGTH, OPACITY, COLOR CARD RETRIEVAL

**Repeatability:** within  $\Delta E^*_{ab}$  0.05;

**Containing light method:** Support simultaneous measurement of SCI/SCE;

**Sensor:** Use silicon photodiode array (32 pairs of dual-column) sensors;

**Powerful functions:** PC software has powerful function extensions.

**SPECIFICATION PARAMETER**

Model	TS7036	TS7030
Optical Geometry	D/8° (Diffuse illumination, 8° direction reception)	D/8°
Standards compliant	CIE No.15,GB/T 3978,GB 2893,GB/T 18833,ISO7724-1,ASTM E1164,DIN5033 Teil7	
Integrating Sphere Size	Φ40mm	
Light Source Device	Combined LED Lamp, UV Lamp	Combined LED Lamp
Spectroscopic Method	Flat grating	
Sensor	Silicon photodiode array (dualrow 32 groups)	
Light wave range	400~700nm	
Wavelength Pitch	10nm	
Semiband Width	10nm	
Measured Reflectance Range	L:0~120; reflectivity:0~200%	
Measuring Aperture	Dual Apertures MAV:Φ8mm/Φ10mm; SAV:Φ4mm/Φ5mm	Single Apertures Φ8mm/Φ10mm
Specular Component	SCI/SCE	
Color Space	CIE LAB,XYZ,γxy,LCh,CIE LUV,s-RGB,βxy, DIN Lab9,DIN Lab99 Munsell(C/2)	CIE LAB,XYZ,γxy,LCh,s-RGB,βxy,Munsell(C/2)
Color Difference Formula	ΔE*ab,ΔE*uv,ΔE*94,ΔE*cmc(2:1),ΔE*cmc(1:1),ΔE*00, DINΔE99	ΔE*ab,ΔE*94,ΔE*cmc(2:1),ΔE*cmc(1:1),ΔE*00, DINΔE99
Other Colorimetric Index	WI(ASTM E313,CIE/ISO,AATCC,Hunter),YI(ASTM D1925,ASTM 313),Metamerism Index MI, Staining Fastness, Color Fastness, Color Strength, Opacity,Color Card Search	
Observer Angle	2°/10°	
Illuminant	D65,A,C,D50,D55,D75,F1,F2(CWF),F3,F4,F5,F6,F7(DLF), F8,F9,F10(TPL5),F11(TL84),F12(TL83/U30)	D65,A,C,D50,F2(CWF),F7(DLF),F10(TPL5), F11(TL84),F12(TL83/U30)
Displayed Data	Spectrogram/Values, Samples Chromaticity Values, Color Difference Values/Graph, PASS/FAIL Result, Color Simulation, Color Offset	
Displayed Accuracy	0.01	
Measuring Time	About 1.5s (Measure SCI & SCE about 3.2s)	
Repeatability	Chromaticity value: MAV/SCI, within ΔE*ab 0.05 ( When a white calibration plate is measured 30 times at 5 second intervals after white calibration)	Chromaticity value: MAV/SCI, within ΔE*ab 0.06 ( When a white calibration plate is measured 30 times at 5 second intervals after white calibration)
Inter-instrument Error	MAV/SCI, Within ΔE*ab 0.3 (Average for 12 BCRA Series II color tiles)	
Measurement Mode	Single Measurement, Average Measurement(2-99times)	
Locating Method	Camera Locating,stabilizer cross position	
Dimension	L*W*H=81X71X214mm	
Weight	About 460g	
Battery	Li-ion battery, 6000 measurements within 8 hours	
Illuminant Life Span	5 years, more than 3 million times measurements	
Display	3.5-inch TFT color LCD, Capacitive Touch Screen	
Data Port	USB,Bluetooth	USB
Data Storage	Standard 1000 Pcs, Sample 30000 Pcs (One data is able to include SCI/SCE)	Standard 1000 Pcs, Sample 20000 Pcs (One data is able to include SCI/SCE)
Language	Simplified Chinese, English, Traditional Chinese	
Operating Environment	0~40°C,0~85%RH (no condensing), Altitude < 2000m	
Storage Environment	-20~50°C, 0~85%RH (no condensing)	
Standard Accessory	Power Adapter, USB Cable, User Guide, PC Software(Download from office website), White and Black Calibration Cavity, Protective Cover, Wrist strap, 8mm flat aperture, 8mm tip aperture, 4mm flat aperture, 4mm tip aperture	
Optional Accessory	USB Micro Printer, Powder Test Box,Bluetooth Micro Printer	

**SPECIFICATION PARAMETER**

Model	TS7020	TS7010
<b>Optical Geometry</b>	D/8° (Diffuse illumination, 8° direction reception)	
<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 Device</b>	Combined LED Lamp	
<b>Spectroscopic Method</b>	Flat grating	
<b>Sensor</b>	Silicon photodiode array (dualrow 24 groups)	
<b>Light wave range</b>	400~700nm	
<b>Wavelength Pitch</b>	10nm	
<b>Measured Reflectance Range</b>	L:0~100; reflectivity:The reflectivity can be measured at 3 specific wavelengths specified by the user (default: 440nm, 550nm, 600nm)	L:0~100; reflectivity:The reflectivity can be measured at 1 specific wavelength specified by the user (default: 550nm)
<b>Measuring Aperture</b>	Φ8mm	
<b>Specular Component</b>	SCI	
<b>Color Space</b>	CIE LAB,XYZ,Yxy,LCh	
<b>Color Difference Formula</b>	$\Delta E^*ab, \Delta E^*00$	
<b>Observer Angle</b>	10°	
<b>Illuminant</b>	D65,A,F2(CWF)	
<b>Displayed Data</b>	Reflectance (user-specified reflectance at 3 specific wavelengths), sample chromaticity value, color difference value/graph, pass/fail result, color simulation, color deviation	Reflectance (user-specified reflectance at a specific wavelength), sample chromaticity value, color difference value/graph, pass/fail result, color simulation, color deviation
<b>Displayed Accuracy</b>	Display 0.1, store 0.01	0.1
<b>Measuring Time</b>	About 1.5s	
<b>Repeatability</b>	Chromaticity value: MAV/SCI, within $\Delta E^*ab$ 0.08 ( When a white calibration plate is measured 30 times at 5 second intervals after white calibration)	Chromaticity value: MAV/SCI, within $\Delta E^*ab$ 0.1 ( When a white calibration plate is measured 30 times at 5 second intervals after white calibration)
<b>Inter-instrument Error</b>	MAV/SCI, Within $\Delta E^*ab$ 0.4 (Average for 12 BCRA Series II color tiles)	
<b>Measurement Mode</b>	Single Measurement, Average Measurement(2-99times)	
<b>Locating Method</b>	Stabilizer cross position	
<b>Dimension</b>	L*W*H=81X71X214mm	
<b>Weight</b>	About 460g	
<b>Battery</b>	Li-ion battery, 6000 measurements within 8 hours	
<b>Illuminant Life Span</b>	5 years, more than 3 million times measurements	
<b>Display</b>	3.5-inch TFT color LCD, Capacitive Touch Screen	
<b>Data Port</b>	USB	USB charging, software connection is not supported
<b>Data Storage</b>	Standard 500 Pcs, Sample 10000 Pcs	
<b>Language</b>	Simplified Chinese, English, Traditional Chinese	
<b>Operating Environment</b>	0~40°C, 0~85%RH (no condensing), Altitude < 2000m	
<b>Storage Environment</b>	-20~50°C, 0~85%RH (no condensing)	
<b>Standard Accessory</b>	Power adapter, data cable, manual, SQCX quality management software (download from official website), black and white calibration box, protective cover, wrist strap, Ø8mm platform caliber	Power adapter, data cable, manual, SQCX quality management software (download from official website), black and white calibration box, protective cover, wrist strap, Ø8mm platform caliber
<b>Optional Accessory</b>	USB Micro Printer, Powder Test Box	