Colorimeter



DS-200/210/220

Product Features

- Double optical path design improves repeatability accuracy dE * ab ≤ 0.03
- 30+measuring indicators such as color difference, whiteness and yellowness.
- Provide nearly 40 evaluation light sources.
- Including UV, can be used for fluorescent color measurement.
- It is equipped with three measuring calibers without tools and can be replaced at any time.
- Built-in high-definition camera to clearly observe the tested area.
- Automatic calibration base ensures long-term stability of the instrument.
- Support WeChat applet, Android, Apple, and Hongmeng mobile app.
- Use the powerful PC-side color management system ColorExpert.

Technical Data

Geometry ® AE'abs 0.03 Repeatability ®® AE'abs 0.03 Display Resolution 0.01 Measuring aperture One: Offerm Two: One: Offerm, Offerm, Offerm Three: Offerm,	Name	DS-200	DS-210	DS-220
Display Resolution	Geometry *	D/8, SCI		
Measuring aperture One:	Repeatability ***	ΔE*ab≤ 0.03		
Measurement Index Φ6mm Φ11mm, Φ6mm, Φ3mm Φ11mm, Φ6mm, Φ3mm Measurement Index Reflectance,CIE-Lab, CIE-LCh, Hunter, ab, CIE-Lux, XYZ, Yyy, RGB, Color difference,CIE+3a, AE*cmo, AE*94, AE*00), WI(ASTM E313-00, ASTM E313-73, CIE,ISO-2470/R457, AATCC, Hunter, TaubeBergerSteinsby), YI(ASTM D1925, ASTM E313-00, Oxlor Deathses, Tint, (ASTM E313-00), Oxlor Deathses, Cip, Opacity, Color Estength Illuminants AB, CD, D50, D55, D65, D75, F1 F2, F3, F4, F5, F6, F7, F8, F9, F10, F11, F12, CWF, U30, U35, DLE, NBF, TL83, TL84, D50, D65, LED-81, LED-82, LED-83, LED-84, LED-85, LED-8H, LED-R6H, LED-V1, LED-V2 Light Source Full-band balancedLED light source Full-band balancedLED light source Calibration Manual calibration Intelligent automatic calibration Software support Andriod, JOS, Windows, WeChat applet Accuracy Qualified measurement Metrology Level I Observer Angles 2°, 10° Sphere Size 40mm Standards CIE No. 15, GB/T 3978, GB 2893, GB/T 18833, ISO7724-1, ASTM E1164, DINS033 Teil7 Spectroscopic method Nanometer integrated spectral device Sensor Silicon photodiode array double 16 groups Wavelength Interval 0.00% Reflectance Range 0.200% Reflectity resolution 0.01% <	Display Resolution		0.01	
Measurement index Color difference(AE*ab AE*cmo.AE*94 AE*C0),WI(ASTM E313-00. ASTM E313-70, DELSION-27/ORAE\$7, ANTCO. Hunter, TaubeBegreig-Stensby), YI(ASTM D1925, ASTM E313-00),Color Density CMYK(A,TE,M),Milm, Munsell, Opacity, Color Stength Illuminants AB.C.D50,D55,D65,D75,F1;P2;P3,F4,F5,F6,F7;P8,P9,F10,F11,F12,CWP,U30,U35,DLF,NBF,TLB3, TL84,ID50,ID65,LED-B1,LED-B2,LED-B3,LED-B4,LED-B5,LED-BH1,LED-RGB1,LED-V1,LED-V2 Light Source Full-band balancedLED light source Full-band balancedLED light source+UV Measurement and observation mode Visual Camera Calibration Manual calibration Intelligent automatic calibration Software support Andriod,IOS,Windows,WeChat applet Accuracy Qualified measurement Metrology Level I Observer Angles 2°, 10° Sphere Size 40mm Standards CIE No.15,GB/T 3978,GB 2893,GB/T 18833,ISO7724-1,ASTM E1164,DIN5033 Teil7 Spectroscopic method Nanometer integrated spectral device Sensor Silicon photodiode array double 16 groups Wavelength Range 400-700nm Reflectivity resolution 0.01% Measurement method Single measurement, average measurement (2~99 times) Measurement time About 1 s	Measuring aperture			
Light Source Full-band balanced LED light source Wise Rasurement and observation mode Visual Camera Calibration Manual calibration Intelligent automatic calibration Software support Andriod, IOS, Windows, WeChat applet Accuracy Qualified measurement Metrology Level I Observer Angles 2°, 10° Sphere Size 40mm Standards CIE No.15, GB/T 3978, GB 2893, GB/T 18833, ISO7724-1, ASTM E1164, DIN5033 Teil7 Spectroscopic method Nanometer integrated spectral device Sensor Silicon photodiode array double 16 groups Wavelength Interval 10nm Wavelength Range 400-700nm Reflectione Range 0-200% Reflectivity resolution 0.01% Measurement method Single measurement, average measurement (2–99 times) Measurement time About 1 second Interface USB, Bluetooth Screen Full-color display, 2.4 inches Battery capacity Rechargeable, 8000 times continuous tests, 3.7V/3000mAh Light Source Lifetime 10 years, 1 million tests Linguage Chinese and English		Color difference(ΔE*ab,ΔE*cmc,ΔE*94,ΔE*00),WI(ASTM E313-00, ASTM E313-73,CIE,ISO2470/R457,AATCC,Hunter,TaubeBergerStensby),YI(ASTM D1925, ASTM E313-00,ASTM E313-73),Blackness(My,dM),Color Fastness, Tint,		
Measurement and observation mode Visual Camera Calibration Manual calibration Intelligent automatic calibration Software support Andriod,IOS,Windows,WeChat applet Accuracy Qualified measurement Metrology Level I Observer Angles 2°, 10° Sphere Size 40mm Standards CIE No.15,GB/T 3978,GB 2893,GB/T 18833,ISO7724-1,ASTM E1164,DIN5033 Teil7 Spectroscopic method Nanometer integrated spectral device Sensor Silicon photodiode array double 16 groups Wavelength Interval 10nm Wavelength Range 400-700nm Reflectance Range 0-200% Reflectivity resolution 0.01% Measurement method Single measurement, average measurement (2~99 times) Measurement time About 1 second Interface USB, Bluetooth Screen Full-color display, 2.4 inches Battery capacity Rechargeable, 8000 times continuous tests, 3.7V/3000mAh Light Source Lifetime 10 years, 1 million tests Language Chinese and English	Illuminants			
Calibration Manual calibration Intelligent automatic calibration Software support Andriod,iOS,Windows,WeChat applet Accuracy Qualified measurement Metrology Level I Observer Angles 2°, 10° Sphere Size 40mm Standards CIE No.15,GB/T 3978,GB 2893,GB/T 18833,ISO7724-1,ASTM E1164,DIN5033 Tell7 Spectroscopic method Nanometer integrated spectral device Sensor Silicon photodiode array double 16 groups Wavelength Interval 10nm Wavelength Range 400-700nm Reflectance Range 0-200% Reflectivity resolution 0.01% Measurement method Single measurement, average measurement (2~99 times) Measurement time About 1 second Interface USB, Bluetooth Screen Full-color display, 2.4 inches Battery capacity Rechargeable, 8000 times continuous tests, 3.7V/3000mAh Light Source Lifetime 10 years, 1 million tests Light Source Lifetime Chinese and English	Light Source	Full-band balance	edLED light source	Full-band balancedLED light source+UV
Software support Andriod,iOS,Windows,WeChat applet Accuracy Qualified measurement Metrology Level I Observer Angles 2°, 10° Sphere Size 40mm Standards CIE No.15,GB/T 3978,GB 2893,GB/T 18833,ISO7724-1,ASTM E1164,DIN5033 Teil7 Spectroscopic method Nanometer integrated spectral device Sensor Silicon photodiode array double 16 groups Wavelength Interval 10nm Wavelength Range 400-700nm Reflectance Range 0-200% Reflectivity resolution 0.01% Measurement method Single measurement, average measurement (2-99 times) Measurement time About 1 second Interface USB, Bluetooth Screen Full-color display, 2.4 inches Battery capacity Rechargeable, 8000 times continuous tests, 3.7V/3000mAh Light Source Lifetime 10 years, 1 million tests Language Chinese and English		Visual	Visual Camera	
Accuracy Qualified measurement Metrology Level I Observer Angles 2°, 10° Sphere Size 40mm Standards CIE No.15,GB/T 3978,GB 2893,GB/T 18833,ISO7724-1,ASTM E1164,DIN5033 Teil7 Spectroscopic method Nanometer integrated spectral device Sensor Silicon photodiode array double 16 groups Wavelength Interval 10nm Wavelength Range 400-700nm Reflectance Range 0-200% Reflectivity resolution 0.01% Measurement method Single measurement, average measurement (2~99 times) Measurement time About 1 second Interface USB, Bluetooth Screen Full-color display, 2.4 inches Battery capacity Rechargeable, 8000 times continuous tests, 3.7V/3000mAh Light Source Lifetime 10 years, 1 million tests Language Chinese and English	Calibration	Manual calibration	Manual calibration Intelligent automatic calibration	
Observer Angles Sphere Size 40mm Standards CIE No.15,GB/T 3978,GB 2893,GB/T 18833,ISO7724-1,ASTM E1164,DIN5033 Teil7 Spectroscopic method Nanometer integrated spectral device Sensor Silicon photodiode array double 16 groups Wavelength Interval 10nm Wavelength Range 400-700nm Reflectance Range 0-200% Reflectivity resolution 0.01% Measurement method Single measurement, average measurement (2~99 times) Measurement time About 1 second Interface USB, Bluetooth Screen Full-color display, 2.4 inches Battery capacity Rechargeable, 8000 times continuous tests, 3.7V/3000mAh Light Source Lifetime 10 years, 1 million tests Language Chinese and English	Software support	Andriod,iOS,Windows,WeChat applet		
Sphere Size 40mm Standards CIE No.15,GB/T 3978,GB 2893,GB/T 18833,ISO7724-1,ASTM E1164,DIN5033 Teil7 Spectroscopic method Nanometer integrated spectral device Sensor Sillicon photodiode array double 16 groups Wavelength Interval 10nm Wavelength Range 400-700nm Reflectance Range 0-200% Reflectivity resolution 0.01% Measurement method Single measurement, average measurement (2-99 times) Measurement time About 1 second Interface USB, Bluetooth Screen Full-color display, 2.4 inches Battery capacity Rechargeable, 8000 times continuous tests, 3.7V/3000mAh Light Source Lifetime 10 years, 1 million tests Language Chinese and English	Accuracy	Qualified measurement Metrology Level I		
Standards CIE No.15,GB/T 3978,GB 2893,GB/T 18833,ISO7724-1,ASTM E1164,DIN5033 Teil7 Spectroscopic method Nanometer integrated spectral device Sensor Silicon photodiode array double 16 groups Wavelength Interval 10nm Wavelength Range 400-700nm Reflectance Range 0-200% Reflectivity resolution 0.01% Measurement method Single measurement, average measurement (2~99 times) Measurement time About 1 second Interface USB, Bluetooth Screen Full-color display, 2.4 inches Battery capacity Rechargeable, 8000 times continuous tests, 3.7V/3000mAh Light Source Lifetime 10 years, 1 million tests Language Chinese and English	Observer Angles	2°, 10°		
Spectroscopic method Nanometer integrated spectral device Sensor Silicon photodiode array double 16 groups Wavelength Interval 10nm Wavelength Range 400-700nm Reflectance Range 0-200% Reflectivity resolution 0.01% Measurement method Single measurement, average measurement (2~99 times) Measurement time About 1 second Interface USB, Bluetooth Screen Full-color display, 2.4 inches Battery capacity Rechargeable, 8000 times continuous tests, 3.7V/3000mAh Light Source Lifetime 10 years, 1 million tests Language Chinese and English	Sphere Size	40mm		
Sensor Silicon photodiode array double 16 groups Wavelength Interval 10nm Wavelength Range 400-700nm Reflectance Range 0-200% Reflectivity resolution 0.01% Measurement method Single measurement, average measurement (2~99 times) Measurement time About 1 second Interface USB, Bluetooth Screen Full-color display, 2.4 inches Battery capacity Rechargeable, 8000 times continuous tests, 3.7V/3000mAh Light Source Lifetime 10 years, 1 million tests Language Chinese and English	Standards	CIE No.15,GB/T 3978,GB 2893,GB/T 18833,ISO7724-1,ASTM E1164,DIN5033 Teil7		
Wavelength Interval 10nm Wavelength Range 400-700nm Reflectance Range 0-200% Reflectivity resolution 0.01% Measurement method Single measurement, average measurement (2~99 times) Measurement time About 1 second Interface USB, Bluetooth Screen Full-color display, 2.4 inches Battery capacity Rechargeable, 8000 times continuous tests, 3.7V/3000mAh Light Source Lifetime 10 years, 1 million tests Language Chinese and English	Spectroscopic method	Nanometer integrated spectral device		
Wavelength Range 400-700nm Reflectance Range 0-200% Reflectivity resolution 0.01% Measurement method Single measurement, average measurement (2~99 times) Measurement time About 1 second Interface USB, Bluetooth Screen Full-color display, 2.4 inches Battery capacity Rechargeable, 8000 times continuous tests, 3.7V/3000mAh Light Source Lifetime 10 years, 1 million tests Language Chinese and English	Sensor	Silicon photodiode array double 16 groups		
Reflectance Range 0-200% Reflectivity resolution 0.01% Measurement method Single measurement, average measurement (2~99 times) Measurement time About 1 second Interface USB, Bluetooth Screen Full-color display, 2.4 inches Battery capacity Rechargeable, 8000 times continuous tests, 3.7V/3000mAh Light Source Lifetime 10 years, 1 million tests Language Chinese and English	Wavelength Interval	10nm		
Reflectivity resolution 0.01% Measurement method Single measurement, average measurement (2~99 times) Measurement time About 1 second Interface USB, Bluetooth Screen Full-color display, 2.4 inches Battery capacity Rechargeable, 8000 times continuous tests, 3.7V/3000mAh Light Source Lifetime 10 years, 1 million tests Language Chinese and English	Wavelength Range	400-700nm		
Measurement method Single measurement, average measurement (2~99 times) Measurement time About 1 second Interface USB, Bluetooth Screen Full-color display, 2.4 inches Battery capacity Rechargeable, 8000 times continuous tests, 3.7V/3000mAh Light Source Lifetime 10 years, 1 million tests Language Chinese and English	Reflectance Range	0-200%		
Measurement time About 1 second Interface USB, Bluetooth Screen Full-color display, 2.4 inches Battery capacity Rechargeable, 8000 times continuous tests, 3.7V/3000mAh Light Source Lifetime 10 years, 1 million tests Language Chinese and English	Reflectivity resolution	0.01%		
Interface USB, Bluetooth Screen Full-color display, 2.4 inches Battery capacity Rechargeable, 8000 times continuous tests, 3.7V/3000mAh Light Source Lifetime 10 years, 1 million tests Language Chinese and English	Measurement method	Single measurement, average measurement (2~99 times)		
Screen Full-color display, 2.4 inches Battery capacity Rechargeable, 8000 times continuous tests, 3.7V/3000mAh Light Source Lifetime 10 years, 1 million tests Language Chinese and English	Measurement time	About 1 second		
Battery capacity Rechargeable, 8000 times continuous tests, 3.7V/3000mAh Light Source Lifetime 10 years, 1 million tests Language Chinese and English	Interface	USB, Bluetooth		
Light Source Lifetime 10 years, 1 million tests Language Chinese and English	Screen	Full-color display, 2.4 inches		
Language Chinese and English	Battery capacity	Rechar	geable, 8000 times continuous tests, 3.7V/30	00mAh
	Light Source Lifetime		10 years, 1 million tests	
Storage Instrument: 10000 pieces of data; APP: mass storage	Language		Chinese and English	
	Storage	Inst	trument: 10000 pieces of data; APP: mass store	age

%45 degree circular illumination/0 degree angle reception

 $\ensuremath{\mathbb{X}}\ensuremath{\mathbb{X}}$ When a white tile is measured 30 times at 5-seconds interval with MAV