Portable Spectrophotometer DS-700C Series Introduction

Part 1. Product Advantage

1). 45° ring illumination, 0° viewing angle. The innovative annular lighting system eliminates directional dependence and impact is minimized. Great advantage for measurements on matte, textured and structured surface.

2) Excellent repeatability and inter-instrument agreement

repeatability : dE*ab≤ 0.02 and inter-instrument agreement : ≤0.2

Test result is accurate and reliable to ensure the consistency of the measurement data of multiple devices, which can be used for color matching and accurate color communication.
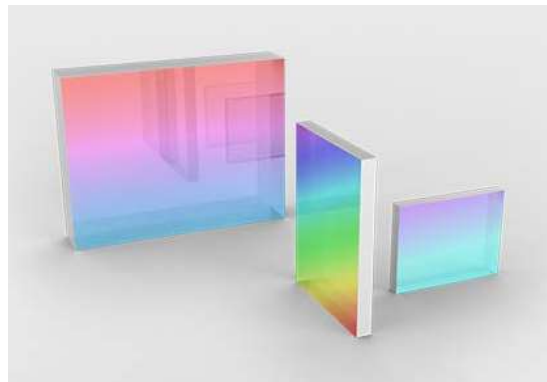
3). It can pass metrology of level I.

4). Intelligent auto calibration, white tile is made by ZrO2 with reflectance more than 90%, no need for frequent white calibration.

The instrument is placed on the intelligent calibration base, and the instrument can be automatically calibrated without manual intervention through the white tile on the base. It has changed the current situation that traditional instruments must be manually calibrated with white tile. The white tile is made by ZrO2 with reflectance more than 90%, which ensures excellent mechanical strength and weather resistance, and will not be scratched or discolored after long-term use.

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5). 10nm Resolution Grating Spectroscopy Technology

The grating combined with the array sensor made by the innovative MEMS process makes color measurement more accurate based on the 10nm spectral resolution.

7). Three aperture as standard accessories, no tools are needed and apertures can be replaced at any time to meet different sample measurement requirements

Model	Aperture Qty.	Aperture Size
DS-700C-1	2	11mm (with plate) 10mm (without plate)
DS-700C-2	8	11mm, 6mm, 3mm, 1x3mm (with plate) 11mm, 6mm, 3mm, 1x3mm (without plate)
DS-700C-3	12	11mm,10mm, 6mm,5mm, 3mm, 1x3mm (with plate) 11mm,10mm, 6mm,5mm, 3mm, 1x3mm (without plate)

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8). More than 30 kinds of color indices and 37 kinds of illuminants

DS-700C provides a variety of color indices and evaluation illuminants that comply with international standards. A variety of light sources and color indices can be flexibly chosen through the mobile phone app or PC software.

9). It supports Android, IOS and Windows program.

Part 2. Difference between DS-700C-1, DS-700C-2 and DS-700C-3

Model	DS-700C-1	DS-700C-2	DS-700C-3
Sensor	high accuracy dual CMOS array sensor	high accuracy dual CMOS array sensor	high accuracy dual CMOS array sensor
Repeatability	0.025	0.02	0.02
Inter-instrument Agreement	0.25	0.25	0.2
Apertures Qty.	2	8	12
UV Included	No	No	Yes
APP	Yes	Yes	Yes
PC Software	Yes	Yes	Yes

Part 3. 45/0 Spectrophotometer Technical Parameter

Model	DS-700C-1	DS-700C-2	DS-700C-3
Geometry	45 ring-shaped illumination, 0 degree viewing		
Sensor	dual CMOS array sensor		
Spectroscopic Method	Concave Grating Spectroscopy		
Wavelength Range	400-700nm		
Wavelength Interval	10nm		
Wavelength Range	0-200%		
Reflectance Resolution	0.01%		
Light Source	LED(Full wavelength balanced LED)		
Measurement Time	About 2s	About 1s	
Test Aperture Size	11mm (with plate) 10mm (without plate)	11mm, 6mm, 3mm, 1x3mm (with plate) 11mm, 6mm, 3mm, 1x3mm (without plate)	11mm,10mm, 6mm,5mm, 3mm, 1x3mm (with plate) 11mm,10mm, 6mm,5mm, 3mm, 1x3mm (without plate)
Repeatability	Chromaticity value: Standard deviation within $\Delta E^*ab \leq 0.025$ (measure white tile 30 times at 5s interval after calibration)	Chromaticity value: Standard deviation within $\Delta E^*ab \leq 0.02$ (measure white tile 30 times at 5s interval after calibration)	
Inter-instrument agreement	$\Delta E^*ab < 0.25$ (BCRA Series Ⅱ, average measurement of 12 tiles)		$\Delta E^*ab < 0.2$ (BCRA Series Ⅱ, average measurement of 12 tiles)
Display Resolution	0.01		
Observer Angles	2°,10°		
Color Spaces and Indices	Reflectance, CIE-Lab, CIE-LCh, HunterLab, CIE Luv, XYZ, Yxy, RGB, Color difference(ΔE^*ab, ΔE^*cmc, ΔE^*94,ΔE^*00),WI(ASTM E313-00,ASTM E313-73,CIE/ISO, AATCC, Hunter, Taube Berger Stensby), YI(ASTM D1925,ASTM E313-00,ASTM E313-73), Blackness(My,dM),Color Fastness, Tint,(ASTM E313-00),Color Density CMYK(A,T,E,M), Milm, Munsell, Opacity, Color strength		
Illuminants	A,B,C,D50,D55,D65,D75,F1,F2,F3,F4,F5,F6,F7,F8,F9,F10,F11,F12,CWF,U30,U35,DLF, NBF,TL83,TL84,ID50,ID65,LED-B1,LED-B2 LED-B3,LED-B4,LED-B5,LED-BH1,LED-RGB1,LED-V1,LED-V2		
Calibration	Intelligent auto calibration		
Interface	USB, Bluetooth		

Software	Android, IOS, Windows
Metrology Level	Level I
Standards	Conform to CIE No.15, GB/T 3978, GB 2893, GB/T 18833, ISO7724-1, ASTM E1164, DIN5033 Teil7
Screen	IPS Full Color Screen,3.5 inches
Battery	Rechargeable lithium battery, 8,000 tests for single charge, 7.2V 3000mAh
Lamp Lifetime	10 years, 1 million tests
Language	Chinese and English
Instrument Size	95 x 129 x 231mm (L x W x H)
Instrument Weight	about 750g
Storage Memory	APP Mass Storage 100 pcs of target and 10,000 pcs of sample from instrument

Part 4. Application

Part 5. Packing List

Qty.	Name	Qty.	Name
1	Main Instrument	1	USB Cable

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1	European /American Plug	1	U-disk (PC software)
2/8/12	Apertures	1	Operating Manual
1	Verification Certification	1	Black Carrying Case
1	Charge and Calibration Base	1	White Packing Box

Part 6. Optional Accessories for DS-700C-2 Spectrophotometer

1). Liquid fixture : for liquid and sheet sample measurement

2). Powder holder: for powder and particle sample measurement

Part 7. Warranty

1. One year warranty.

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