

Colour & Appearance Testing



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Reflectance Spectrophotometer IRS-1000 Series using a 2° or 10° viewing angle, 2° is used for viewing angles of 1 to 4; whereas 10° is used for viewing angles of more than 4. Reflectance spectrophotometer used d/8° geometry of sphere measurement diffused illumination integrating systems illuminate an object equally from all directions or angles and detects the reflected light at 8°. The applications including plastic, electronic, painting, coating, ink, textile, garment, printing and dyeing, food, medical, cosmetic, industries, research and development, and laboratories. Also, measure the reflectance spectrum and another color index precisely and control product quality management correctly. ISO and CIE recommended and equipped with a combined LED light sources with flat grating spectrophotometric mode. The IRS-1000 is used to measure specular component excluded (SCE) or specular component included (SCI) mode.

- Adopt d/ 8° geometric optical structure recommended by CIE
- Build-in combined LED light source with high life and low power consumption
- Provide customized 1 aperture of 8mm or 4mm aperture including flat/ tip measuring aperture can be switched easily, which is suitable for more tested sample)
- The double optical path system, the optical resolution in the visible range is less than 10nm, which can measure the SCI and SCE spectrum of the sample at the same time;
- Provide precise and exact spectrum data for color matching and accurate color transmission
- Build-in high hardware configuration including 3.5-inch TFT touch display, 1000 line blazed grating, silicon photocell array detector with the large photosensitive area, etc;
- Support USB for data transfer and storage space, which can store more than 30000 pcs of sample data
- Super dirt-resistant and stable standard white calibration board
- Accomplished 2 or 10° standard observer's angle with many light source modes, and many surface color systems to meet many standards of chromaticity indicators, and the needs of various customers for color measurement;
- Build-in camera locating position and stabilizer cross measurement position;
- Offer PC software as standard accessories

Accessories

- Power Adapter,
- Li-ion Battery,
- Operating Instruction
- CD-ROM (containing management software)
- Data Line
- White and Black Calibration Cavity
- Protective Cover and Wrist Strap
- Aperture (8mm or 4mm), 8mm flat aperture, 8mm tip aperture, 4mm flat aperture, 4mm tip aperture

Optional Accessories

- Micro Printer
- Powder Test Box

Model	IRS-1301	IRS-1302	IRS-1303
Wavelength	400 to 700 nm		
Geometry	d/8 (diffused illumination, 8°viewing angle)	Reflect: di:8°, de:8°(diffused illumination, 8°viewing angle);SCI /SCE	Reflect: di:8°, de:8°(diffused illumination, 8°viewing angle)SCI/SCE
Illuminant	D657A, 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)	D65,A,C,D50,D55,D75,F1,F2(CWF),F3,F4,F5,F6,F7(DLF),F8,F9,F10(TPL5),F11(TL84),F12(TL83/U30)
Spectrophotometric Mode	-	Flat Grating	
Display	3.5-inch TFT color LCD, Capacitive Touch Screen		
Detector	Silicon photodiode array (double row 40 groups)		
Repeatability	Spectral Reflectance: standard deviation within 0.1 %(400~700nm: within 0.2%) Colorimetric Value: Standard deviation within 7E*ab 0.04 (Measurement conditions: white calibration plate measured 30 times at 5 seconds intervals after white calibration)	Spectral reflectance: MAV/SCI, Standard deviation within 0.1% (400 nm to 700 nm: within 0.2%) Chromaticity value: MAV/SCI, within 7E*ab 0.04 (When a white calibration plate is measured 30 times at 5 second intervals after white calibration)	Spectral reflectance: MAV/SCI, Standard deviation within 0.08% (400 nm to 700 nm: within 0.18%) Chromaticity value: MAV/SCI, within 7E*ab 0.02 (When a white calibration plate is measured 30 times at 5 second intervals after white calibration)
Wavelength Interval	10nm		
Display Data	Spectrogram/Values, Samples Chromaticity Values, Color Difference Values/Graph, PASS/FAIL Result, Color Offset		Spectral Value/Graph, Colorimetric Value, Color Difference Value/Graph, PASS/FAIL Result, Color Offset, Color Simulation, color index setting(7E*94, 7E*cmc, 7E2000), tolerance prompt, reverse prompt, time setting, language setting, restore factory setting
Operating Temperature		0 to 40?	
Storage Temperature	-20 to 50?		
Source	Combined LED sources	LED light source	
Index	WI(ASTM E313?CIE/ISO,AATCC), YI(ASTM, D1925?ASTM 313),TI(ASTM E313?CIE/ISO), Metamerism Index (Mt), Strength, Color Stain, Color Fastness	WI(ASTM E313?CIE/ISO,AATCC, YI(ASTM D1925?ASTM 313), Staining Fastness, Color Fastness, Color Strength, Opacity, 8° Glossiness,	WI(ASTM E313?CIE/ISO,AATCC), YI(ASTM, D1925?ASTM 313), Metamerism Index MI, Staining Fastness, Color Fastness, Color Strength, Opacity, 8° Glossiness
Color Difference	7E*ab,7E*uv,7E*94,7E*cmc(2:1),7E*cmc(1:1),7E*cmc(l:c),CIE2000?E*00?7E(h)	7E*ab,7E*uv,7E*94,7E*cmc(2:1),7E*cmc(1:1),7E*00	7E*ab,7E*uv,7E*94,7E*cmc(2:1),7E*cmc(1:1),7E*00, DIN?E99,7E(Hunter)
Color Space	CIE LAB,XYZ,Yxy,LCh,CIE LUV,s-RGB,7xy,Munsell(C/2)		
Reflectance Range	0-200%		
Observer	2°/10°		
Battery	Li-ion battery. 2800 times within 8 hours.	3.7V,5000mAh Li-ion battery, 6000 measurements within 8 hours	3.7V,5000mAh Li-ion battery, 6000 measurements within 8 hours
Humidity	0 to 85%RH		
Interface	USB/RS-232	USB	USB, Bluetooth 4.2
Storage	1000 Standards, 15000 Samples	Standard 1000 Pcs, Sample 20000 Pcs	Standard 1000 Pcs, Sample 30000 Pcs
Dimensions	90x77x230mm	129X76X217mm	
Weight	Approx 600g		
Catalogue No.	5800505-04	5800510-04	5800515-04

