The DS-173 utilizes the internationally standard D/8 SCI measurement geometry. It is suitable for regular color measurement and color difference quality control across materials such as plastics, coatings, inks, printing, textiles, leather, ceramics, stone, and paper.

The instrument is equipped with a full-band balanced LED light source along with a UV light source that can be independently turned on or off. For regular samples, it can measure metrics such as color, color difference, whiteness, yellowness, blackness, color density, and opacity. For samples containing fluorescent whitening agents or fluorescent pigments, users can further analyze the impact of fluorescent components on color by comparing data gathered when the UV light source is turned on versus off.

Combined with a Φ11mm aperture, various standard illuminants, 2°/10° standard observers, standalone color matching capabilities, and dedicated software, the device seamlessly handles everything from rapid on-site quality inspection to professional color data management.

Six Core Selling Points

1.Professional Spectral Measurement

D/8 SCI geometry outputs spectral reflectance and multidimensional color data, allowing for rapid color measurement, color comparison, and color difference determination.

2.Switchable UV Source (On/Off)

Measures both regular and fluorescent materials, enabling comparative analysis of fluorescence impacts on color, whiteness, and yellowness.

3.Φ11mm Large Aperture

Captures color information over a larger surface area in a single scan, reducing interference caused by grain, texture, and localized color irregularities.

4.Multi-Illuminant + Dual Field of View

Supports D50, D65, A, and F series illuminants, multiple LED light sources, as well as 2°/10° standard observers.

5.Comprehensive Professional Metrics

Supports Lab, LCh, XYZ, and various color difference formulas, alongside indexes like whiteness, yellowness, blackness, color density, and opacity.

6.Standalone Color Matching & Software Management

Features standalone color matching, custom color card libraries, and a storage capacity of up to 10,000 records. Connects smoothly to Windows software.

≤0.03	1 second	10,000 times	10,000 records
Measurement Repeatability	Single Measurement Speed	Battery Life	Device Storage

Applications

Widely utilized for color quality control across multiple industries

Plastics

Coatings

Paper

Textiles

Leather

Ceramics

Food

Printing

Technical Specifications

Model	DS-173
Geometry	D/8,SCI
Repeatability*	dE*ab≤0.03
Display Accuracy	0.01
Aperture	Φ11mm
Measurement Indices	Spectral Reflectance, CIE-Lab, CIE-LCh, HunterLab, CIE-Luv, XYZ, Yxy, RGBColor Difference (ΔE*ab,ΔE*cmc,ΔE*94,ΔE*00)Whiteness (ASTM E313-00, ASTM E313-73, CIE, ISO2470/R457, AATCC, Hunter, Taube Berger Stensby)Yellowness (ASTM D1925, ASTM E313-00, ASTM E313-73)Blackness (My, dM), Staining Fastness, Color Change Fastness, Tint (ASTM E313-00)Color Density CMYK (A, T, E, M), Metamerism Index Milm, Munsell, Opacity, Color Strength (Dye Strength, Tinting 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
Light Source	Full-band balanced LED light source + UV light source
Software Support	Windows
Standard Observer	2°，10°
Integrating Sphere Diameter	40mm
Standards Complied	CIE N0.15,GB/T 3978,GB 2893,GB/T 18833,ISO7724-1,ASTM E1164,DIN5033 Teil7
Spectral Method	Nano-integrated spectral components
Sensor	Silicon photodiode array (Dual 16 groups)
Wavelength Interval	10nm
Wavelength Range	400-700nm
Reflectance Range	0-200%
Reflectance Resolution	0.01%
Measurement Mode	Single measurement, Average measurement (2–99 times)
Measurement Time	Approx. 1 second
Interface	USB
Screen	Full-color, 3.5-inch touchscreen
Battery Capacity	3.7V / 2600mAh (allows up to 10,000 continuous measurements on a single full charge)
Light Source Lifespan	10 years / 3 million measurements
Languages	Simplified Chinese, English
Storage	Device: 10,000 data records
Special Features	Standalone color matching, supports user-defined color card libraries

*Note: Standard deviation based on 30 measurements of a standard white calibration plate at 5-second intervals after white balance calibration.