

KS1310 Color Haze Meter



Product Introduction

The KS1310 Color Haze Meter is a precision optical instrument integrating haze, transmittance, and color difference/colorimetry measurement. It features a $\Phi 154$ mm integrating sphere, a 400–700 nm combined LED light source, and a nano-integrated spectral device, complying with standards such as GB/T 2410, ASTM D1003/D1044, ISO 13468/14782, and CIE 15.2. Its core performance has been comprehensively upgraded, with significant improvements in data stability, continuous operation capability, and data storage capacity. It is mainly used for optical and appearance quality control of transparent/semi-transparent materials such as glass, plastics, films, displays, packaging, and liquid pharmaceuticals.

The KS1310 supports both vertical and horizontal testing modes to adapt to various measurement scenarios. It easily performs total transmittance and haze tests under the ASTM D1003 non-compensation method and the ISO 13468 compensation method, accurately captures the transmittance curve of transmission samples, and outputs a wide range of colorimetric data.

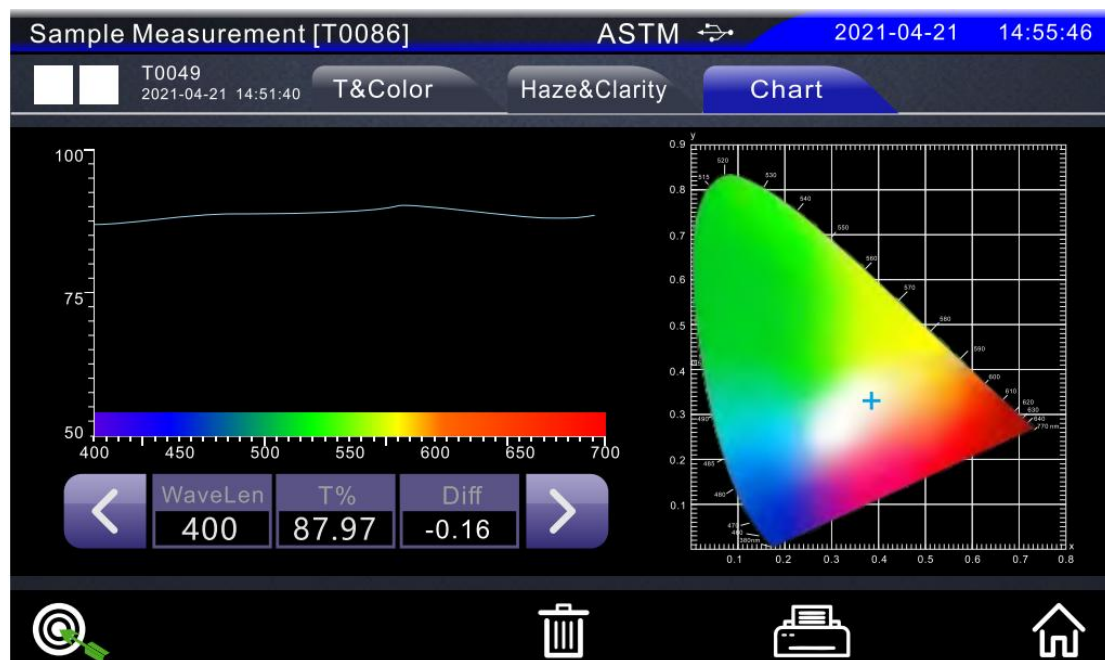
Key Features

1. Supports both compensation and non-compensation haze test methods – compliant with international standards

Dual-mode compatibility – ASTM D1003 (non-compensation) and ISO 13468 (compensation) for haze and total transmittance measurement, meeting requirements of different industries.



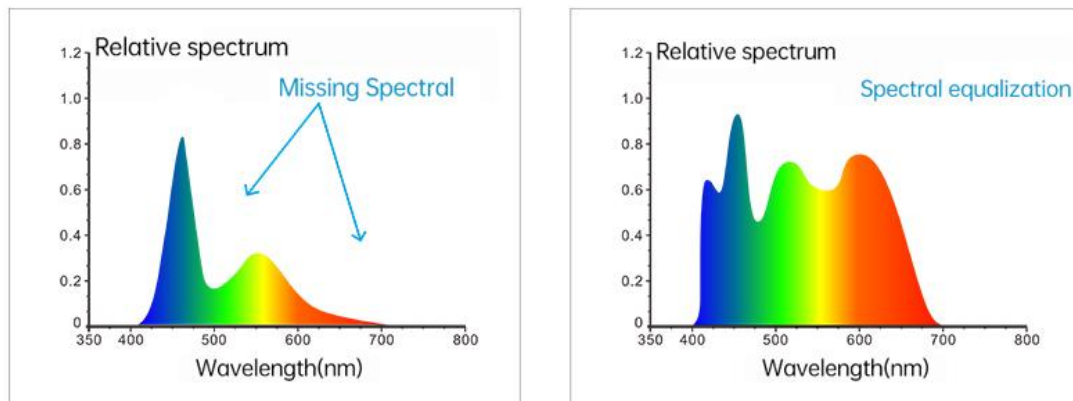
High-precision output – Accurately captures transmittance curves and outputs various colorimetric data, suitable for glass, film, packaging, etc.



International standard compliance – Conforms to 12 domestic and international standards including ASTM D1003/1044, ISO 13468/14782, GB/T 2410, ensuring globally recognized results.

2. Highly stable LED light source – 5-year or 3 million measurements lifetime

Long durability – 400–700 nm combined LED source with a lifespan of 5 years or 3 million measurements, ideal for 24/7 factory operation.



Full spectral coverage – Covers the entire visible spectrum without missing bands, ensuring accuracy of color and haze measurements.

Low maintenance cost – No frequent lamp replacement, low annual maintenance cost, suitable for high-frequency, long-term use.

3. Nano-integrated spectral device + high-resolution sensor – high measurement accuracy

Core hardware – Nano-integrated spectral device combined with $\Phi 154$ mm integrating sphere improves spectral acquisition precision and repeatability.

High repeatability – Haze and transmittance repeatability <0.028 ($\Phi 20$ mm aperture, 30 measurements); color difference repeatability also <0.028 .



Fast response – Single measurement takes only 1.5 seconds. Three optional apertures ($\Phi 20/15/8$ mm) adapt to different sample sizes.



4. Full-dimensional data visualization – intuitive and easy operation

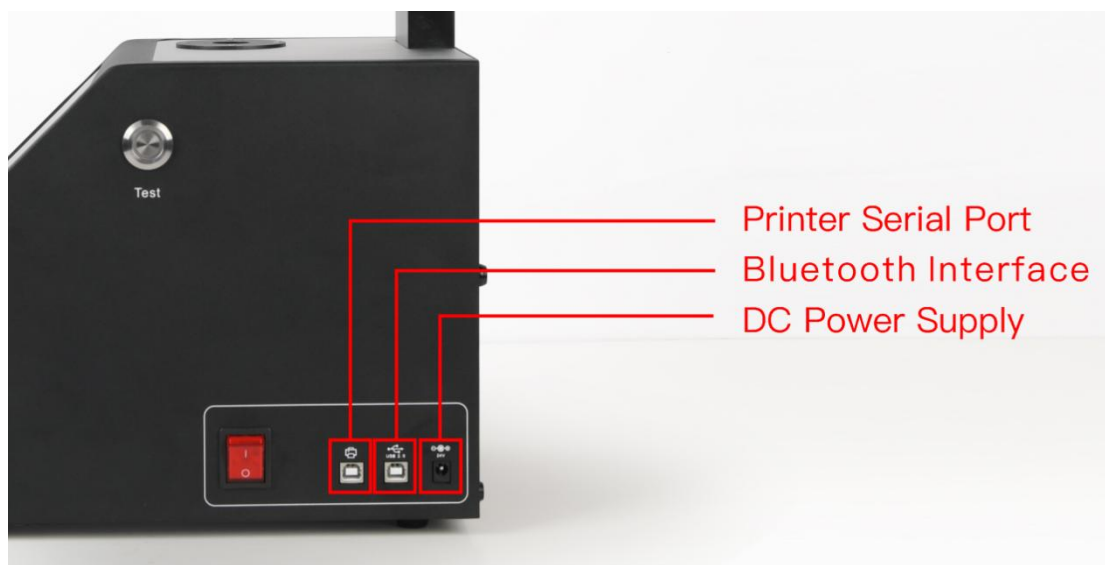
Intuitive display – 7-inch TFT true color capacitive touchscreen shows real-time spectral graphs, colorimetric values, color difference charts, chromaticity diagrams, color simulation, and pass/fail results.



Smart assistance – Supports multiple color spaces and color difference formulas; built-in multi-language system (Chinese, English, Traditional Chinese) lowers the operation threshold.



Flexible connectivity – USB, serial print port, and Bluetooth interfaces; can connect to quality management software for data storage and export (5000 standard samples, 30,000 test samples).

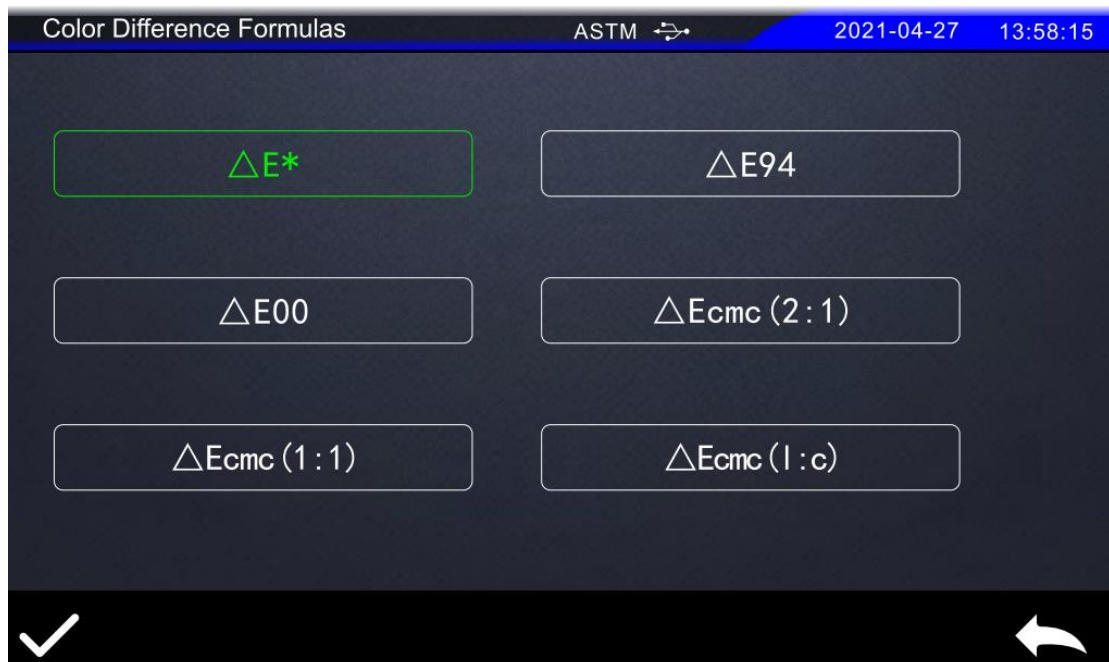


5. Comprehensive color system compatibility – meets custom needs across industries

Multiple color spaces – Supports 8 color spaces including CIE LAB, XYZ, Yxy, LCh, Hunter Lab, etc., suitable for plastics, glass, liquids, and other industry standards.



Multiple color difference formulas – Includes ΔE_{ab} , ΔE_{94} , ΔE_{cmc} , ΔE_{00} , ΔE^*_{uv} , and other mainstream formulas, meeting diverse customer requirements for color evaluation.



Multiple observation conditions – Supports over 30 light sources (D65, A, C, D50, F-series, etc.) and $2^\circ/10^\circ$ observer angles, adapting to global testing standards.



6. Wide range of applications – optical quality control across industries

Glass/plastic processing – Haze and transmittance testing of transparent sheets, films, and lenses.

Display/packaging industry – Evaluation of transmittance uniformity and color consistency of backlight modules and packaging materials.

Liquid pharmaceutical analysis – Supports measurement of platinum-cobalt color, turbidity, absorbance, and other parameters for chemical and pharmaceutical industries.



Optional Accessories

Product Name	Material Code	Image	Function
Test Fixtures (Cuvette, Thick Plate, and Film Fixtures)	2.006.01.0221	 (Cuvette Fixture)	Conveniently fixes samples onto the instrument for measurement.

Micro Printer	1.609.01.0020		Portable design allows printing of various measurement parameters without connecting to a computer.
Standard Haze Plates	/		Facilitates haze value transfer and self-calibration for haze meter measurements.
Foot Switch	2.002.53.0006		Enables hands-free operation, improving efficiency and safety.

Product Model	KS1310 Color Haze Meter
Illumination Geometry	Transmission: 0/D (parallel light illumination, diffuse reception); Compliant with: ASTM D1003/1044, ISO 13468, ISO 14782, GB/T 2410, JJF 1303-2011, CIE 15.2, GB/T 3978, ASTM E308, JIS K7105, JIS K7361, JIS K 7136
Features	• Easily performs ASTM D1003 (non-compensation method) and ISO 13468 (compensation method) measurements, including total transmittance, haze tests. • Precisely captures the transmittance curve of transmission samples and accurately outputs various colorimetric data. • High hardware configuration with an open measurement area, supporting both vertical and horizontal testing. • Widely used in glass processing, plastic processing, film manufacturing, display processing, packaging, liquid pharmaceutical analysis, and more.
Integrating Sphere Size	Φ154mm
Illumination Source	400–700 nm combined LED light source
Spectrophotometry Method	Nano-integrated spectral device
Sensor	Silicon photodiode array (dual-row, 18 sets)
Measurement Wavelength	400~700nm

Range	
Wavelength Interval	10nm
Half Bandwidth	10nm
Transmittance Measurement Range	0~100%
Measurement Aperture	Φ20 mm / Φ15 mm / Φ8 mm (single aperture selected)
Sample Size	Thickness less than 170 mm
Color Spaces	CIE LAB,XYZ,Yxy,LCh,s-RGB,βxy,CIE LUV,Musell,HunterLab
Color Difference Formulas	$\Delta E^*_{ab}, \Delta E^*_{94}, \Delta E^*_{cmc(2:1)}, \Delta E^*_{cmc(1:1)}, \Delta E^*_{00}, \Delta E^*_{uv}, \Delta E^*_{CH}$
Other Colorimetric Indices	Haze (ASTM D1003/1044, ISO 13468), Transmittance T (ISO), Transmittance T (ASTM), WI (ASTM E313, CIE/ISO, AATCC, Hunter, Taube, Berger, Stensby), YI (ASTM D1925, ASTM 313), Absorbance, Platinum-Cobalt Index, Gardner Index, CMYK, Tint (ASTM E313-00), Metamerism Index MI, Turbidity
Observer Angle	2°/10°
Observation Light Sources	D65,A,C,D50,D55,D75,F1,F2,F3,F4, F5, F6,F7,F8,F9, F10,F11,F12,CWF,DLF,TL83,TL84,TPL5,U30,NBF
Display	Spectral graph, sample colorimetric values, color difference values/graph, chromaticity diagram, color simulation, pass/fail results
Measurement Time	Approx. 1.5 s
Haze Resolution	0.01 units
Haze Repeatability	For Φ20 mm aperture: less than 0.028 (standard deviation of 30 measurements of a standard haze plate with haze approx. 30, taken at 5 s intervals after warm-up and calibration)
Transmittance Measurement Range	0~100%
Transmittance Resolution	0.01 units
Transmittance Accuracy	Better than ±1%
Transmittance Repeatability	For Φ20 mm aperture: less than 0.028 (standard deviation of 30 measurements of a standard haze plate with haze approx. 30, taken at 5 s intervals after warm-up and calibration)

Color Difference Repeatability	For Φ20 mm aperture: less than 0.028 (standard deviation of 30 measurements of white glass taken at 5 s intervals after warm-up and calibration)
Platinum-Cobalt Resolution	0.01
Platinum-Cobalt Accuracy	$\leq \pm(5\%H + 1)$, where H is the standard value
Platinum-Cobalt Range	0-1000
Turbidity Range	0-1000NTU
Dimensions	290 X 211 X 511mm (L × W × H)
Weight	Approx. 7.6 kg
Power Supply	24 V DC, 3 A power adapter
Light Source Lifespan	5 years or >3 million measurements
Display	TFT true color, 7-inch capacitive touchscreen
Interfaces	USB, serial print port, Bluetooth
Data Storage	5,000 standard samples, 30,000 test samples
Languages	Simplified Chinese, Traditional Chinese, English
Operating Temperature Range	0~40℃ (32~104°F)
Storage Temperature Range	-20~50℃ (-4~122°F)
Standard Accessories	Power adapter, user manual, quality management software (download from official website), data cable, 0% calibration box, measurement aperture
Optional Accessories	Micro printer, test fixtures, standard haze plates, foot switch
Note	Specifications subject to change without notice.