CR10 Plus

Spectrophotometer

The spectrophotometer CR10 Plus is equipped with a medium 8mm and medium 4mm dual caliber, which is a very excellent product with wide adaptability, simple measurement and display.

PRODUCT INTRODUCTION

CR10 Plus uses a large area silicon photodiode array inductor and an industrial grade MCU. Its powerful data processing capability ensures the stability and accuracy of the measured data. CR10 Plus is simple in measurement and display. The repeatability ΔE*ab is controlled within 0.05, and the platform difference ΔE * ab is controlled within 0.4. It can be used for rapid color measurement in various occasions. It is more convenient to view the measurement results with a large size touch screen. The instrument measurement data is consistent with other competitors in Japan, the United States, Europe, and so on.

DUAL CALIBER SWITCHING

CR10 Plus supports 8mm and 4mm caliber measurement, and the optimized algorithm makes the measurement more accurate.

MEETS MULTIPLE STANDARDS

CIE NO.15,GB/T 3978,GB 2893, GB/T 18833,ISO7724-1,ASTM E1164,DIN5033 Teil7

HIGH MEASUREMENT ACCURACY

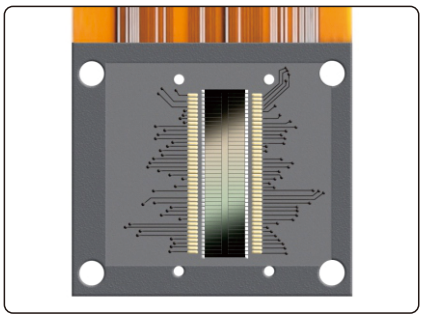
The measurement accuracy reaches 0.01, which can meet most color measurements.

SOFTWARE SUPPORT

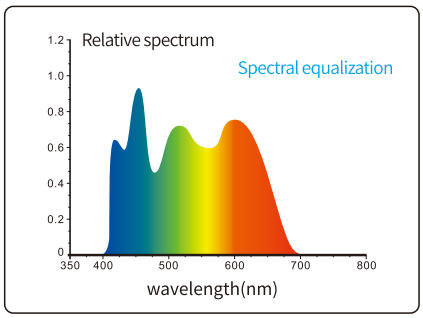
Support computer software function expansion, color quality management and printing through SQCX software.

ISO 9001 Certified CE TÜV RoHS FC

CR10 Plus Series
Spectrophotometer
Main features of the product



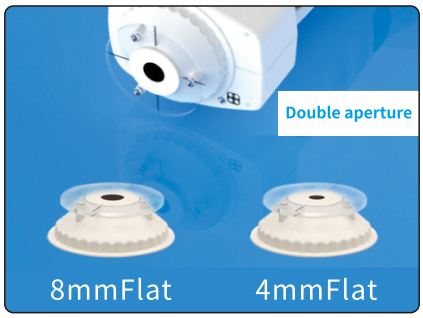
1.Large area silicon photodiode array ensures accurate and stable measurement of the instrument.



2.Full band balanced LED light source and 400-700nm full spectrum light source are used to ensure the spectrum is not missing and the accuracy of measurement results.

3.CR10 Plus is equipped with an intelligent calibration base for non-contact automatic whiteboard verification.

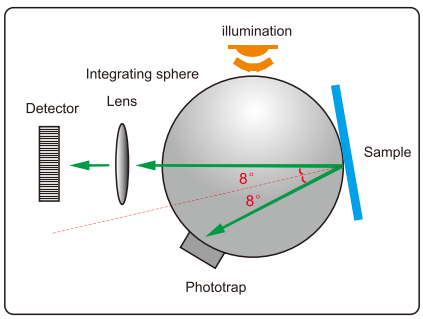
4.The position of the hand grip and the position of the measuring button are carefully designed to meet different holding habits. The smooth and fine surface originates from the professional appearance processing art.



5.Double caliber switching, large and small samples can be measured.

6.Repeatability ΔE * ab ⩽ 0.05, platform difference ΔE * ab ⩽ 0.4, stable and reliable data, ensure the consistency of measurement data of multiple equipment, and can be used for color matching and accurate color transmission.

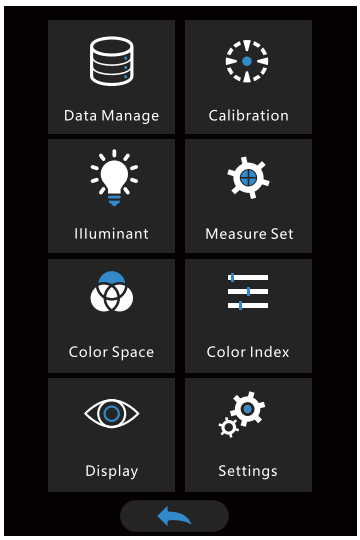
7.It provides 7+kinds of observation light sources and 20+measurement indicators, which can meet the special measurement requirements under different measurement conditions.



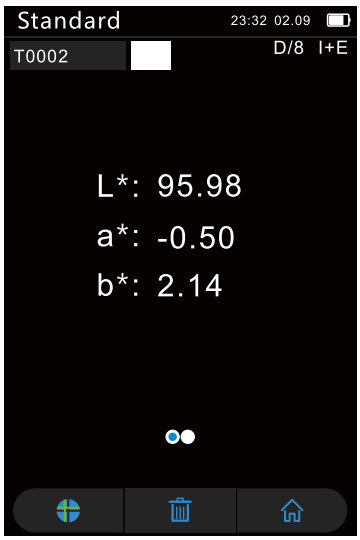
8. The internationally used D/8 measurement technology is adopted to more objectively reflect the color itself.

9.CR10 Plus can be connected to computer SQCX software through USB data cable, and can be used for setting, measurement control and output report. It is applicable to quality monitoring and color data management in various industries.

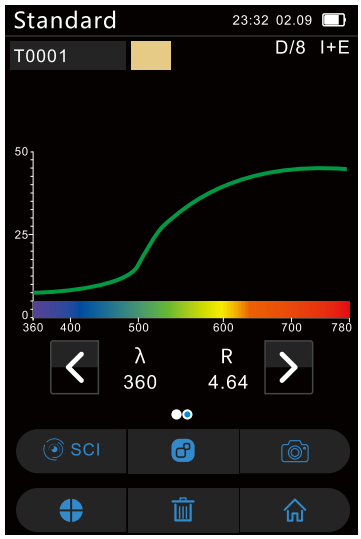
CR10 Plus Series
Spectrophotometer
Function display



Main Menu

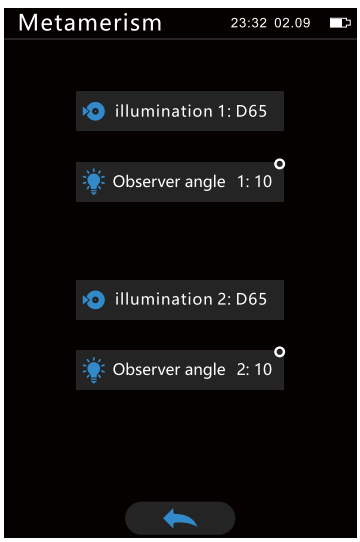


Standard sample measurement

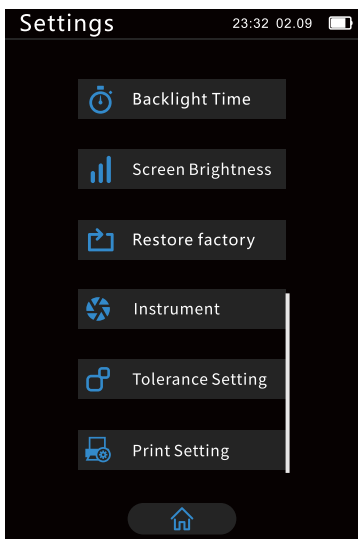


Standard sample measurement and color

illumination setting



Metamerism



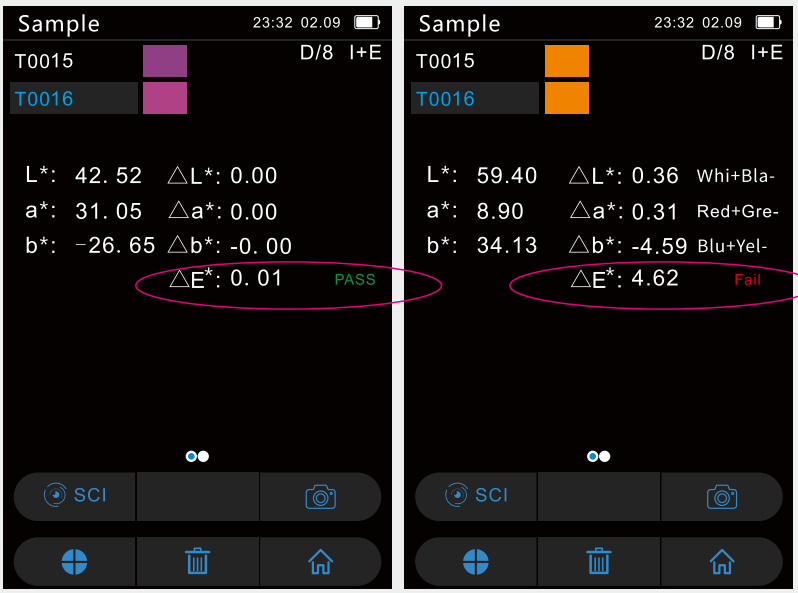
System settings

Multi functional intelligent charging base

The multi-functional intelligent charging base is a smart base that we independently developed and integrates charging and automatic calibration. It uses the self-developed 3.0 fast charging technology and is equipped with an imported standard white board. The white board automatically rises and falls (national patent) when starting automatic calibration to ensure that the white board is not easy to get dirty and is stable and accurate for a long time.

CR10 Plus Series
Spectrophotometer

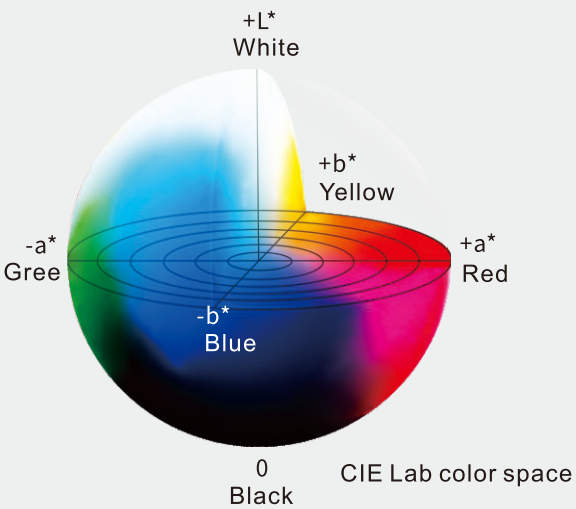
Evaluation of test results



Comply with ISO7724-1 and ASTM E1164 standards. By setting the color values of the standard sample and sample obtained under the light source, the system will automatically calculate the formula to obtain the color difference value and color deviation. Within the set tolerance range, the system will display "qualified"; when it exceeds the set range, the system will display "unqualified".

The difference of color difference is distinguished by NBS unit, which is derived based on the unit of color difference calculation formula established by Judd Hunter. When the value of NBS unit is larger, the color difference is more obvious, and vice versa.

NBS Range	Perception
0.00-0.50	trave
0.50-1.50	slight
1.5-3	noticeable
3-6	appreciable
6+	much



CIE Lab color space

CIE LAB, XYZ, Yxy, LCh, CIE LUV, s-RGB, HunterLab, βXy, DIN Lab99 and other color spaces are available, such as the common CIE Lab color space:

L * means black and white. The larger the value of L *, the higher the brightness;
A * represents red and green,+a * represents red, and - a * represents green;
B * represents yellow blue,+b * represents yellow, and - b * represents blue.

Through the color bias display, we can easily adjust the color ratio.

*The above test results have been corrected in black and white after startup, and are within the validity period of correction.

CR10 Plus Series
Spectrophotometer
SQCX

Connect devices for powerful function expansion

Create instant reports using SQCX

Color quality management software

SQCX can connect the spectrophotometer with USB cable to control the instrument for measurement and change the instrument Configure to operate the instrument data. At the same time, it has greatly expanded the functions of the instrument With a variety of color systems, light sources, more complex data management, color detection, report generation, etc., it is a powerful assistant for color quality management.

Whether you are on site or in the company, use SQCX quality management The software can realize:
1. Save the sample values measured on site directly to the storage device.
2. View the color chart in real time during the test.
3. You can view historical data and personal saved data and modify the name.
4. It can be transferred to the printer for printing and output.
5. The detection data can be managed, transmitted and color matched through the network.

Optional accessories

The instrument comes with 2 optional accessories; Such as micro printer, powder test box; Meet more measurement needs.

Microprinter

Easy to carry, without computer can be continuously printed out the measurement of various parameters, easy to save.

Powder test box

Easy to use, focused on powdered target measurement.

Product application

The spectrophotometer is widely used in plastics, electronics, paint and ink, textile and clothing printing and dyeing, printing paper, automobile, medical, cosmetics and food industries. The instrument is equipped with high-end color management software, which can be connected to the computer for use, so as to achieve more functional expansion.

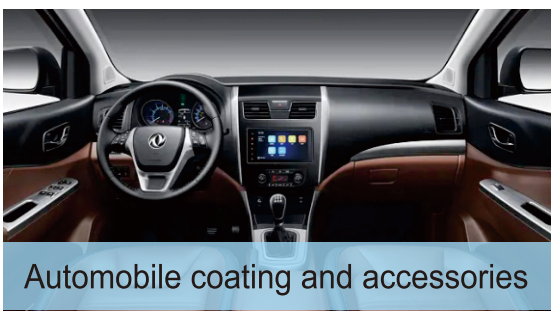
Printing and packaging industry


Textile printing and dyeing industry


Leather industry

Ink and paint industry


Plastic


Automobile coating and accessories

APPLICATION


Cosmetics industry


Scientific research

Product parameters

Model	CR-10 Plus	CR-10
Optical Geometry	D/8 (diffused illumination, 8-degree viewing angle)	
SCI/SCE	SCI includes specular reflection	SCI/SCE includes specular reflection/excluding specular reflection; Include/Exclude UV Measurements
Conform to Standards	CIE NO.15,GB/T 3978,GB 2893,GB/T 18833,ISO7724-1,ASTM E1164,DIN5033 Teil7	
Measurement repeatability*	0.04	0.05
Inter-instrument Error**	ΔE*ab≤0.3	ΔE*ab≤0.4
Display Accuracy	0.01	
Measuring Apertures***	Double aperture:Φ8mm/Φ10mm Flat+Φ4mm/Φ5mm Flat	Single aperture:Φ8mm/Φ10mm Flat
Display Accuracy	Spectrum Reflectance Rate, WI(ASTM E313-00, ASTM E313-73, CIE/ISO, AATCC, Hunter, TaubeBergerStensby), YI(ASTM D1925,ASTM E313-00,ASTM E313-73),Metamerism Index Mt, Staining Fastness, Color Fastness, Strength (dye strength, tinting strength), Opacity 8-degree Gloss, 555 Index, Blackness (My,dM) , Color Density CMYK(A,T,E,M), Tint(ASTM E313-00), Munsell (Some functions are realized through the computer)	
Illuminants	D65,A,C,D50,F2,F7,F11	
Displayed Data	Spectrogram/Values, Samples Chromaticity Values, Color Difference Values/Graph, PASS/FAIL Result, Color Simulation, Color Offset	
Light Source	Combined Full Spectrum LED Lamp, UV Lamp	Combined Full Spectrum LED Lamp
Locating Method	Camera observation, Stabilizer, Observation	Stabilizer, Observation
Whiteboard Calibration	Intelligent automatic calibration(non-contact automatic lifting)	Intelligent automatic calibration (contact type)
Accuracy Guarantee	Guarantee passing the Grade 1 metrology	Qualified measurement
Observer Angle	2°, 10°	
Integrating Sphere Size	40mm	
Sensor	Large-area silicon photodiode array (24 pairs of dual columns)	Large-area silicon photodiode array (20 pairs of dual columns)
Wavelength Range	400-700mm	
Reflectance Range	0-200	
Display Accuracy	0.01%	
Measurement Mode	Single measurement, average measurement (2~99 times)	
Measuring Time	About 1s	
Dimension	Length X Width X Height=114X70X208mm	
Weight	About 435g (Calibration Base not included)	
Battery	Lithium battery, 3.7V, 5000mAh, 8500 times measurements within 8 hours	
Illuminant Life Span	More than 1.5 million measurements in 10 years	
Display	TFT True Color 3.5inch, Capacitive Touch Screen	
Data Port	USB, Bluetooth	USB
Data Storage	500 pcs standard samples, 20,000 pcs samples	500 pcs standard samples, 10,000 pcs samples
Software Support	Windows	Andriod, IOS, Windows, Wechat APPlet, Harmony OS
Language	Simplified Chinese, Traditional Chinese, English,Russian	
Operating Environment	0~40°C, 0~85%RH (no condensing), Altitude < 2000m	
Storage Environment	-20~50°C, 0~85%RH (no condensing)	
Standard Accessory	Power adapter, USB cable, Manual, Quality Management Software (official website download), Calibration Box, Protective Cover, Wrist Strap, Measuring Apertures	
Optional Accessory	Micro-printer, Powder Test Box	

Remarks: * Measure the standard deviation of the whiteboard 30 times at 5 second intervals after whiteboard calibration
** Average value of 12 color plates of BCRA series II
*** The lighting aperture is the actual aperture of the instrument;