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MULTI ANGLE SPECTROPHOTOMETER



MS3000

The MS3000 multi angle spectrophotometer adopts an industrial grade MCU and is equipped with three measuring angles. With the help of an optical measuring system with superior performance, the MS3000 multi angle spectrophotometer has excellent performance in the measurement of multi angle color difference. Even on curved surfaces, it also has high measurement accuracy and stability

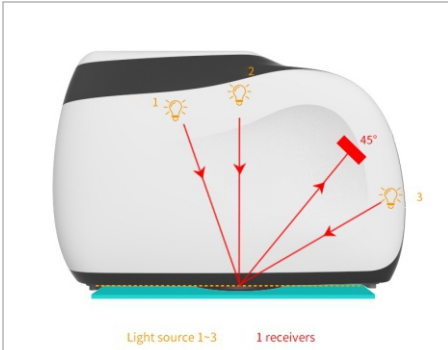
Easy to use and convenient colorimeter

ISO 9001
Certified

CE  TÜV  FC

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Product features



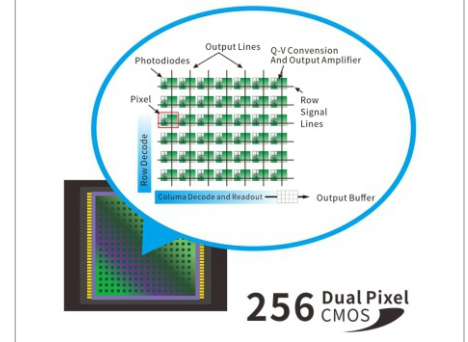
1. Multi angle measurement

Three light sources and one receiver are used to measure three angles simultaneously



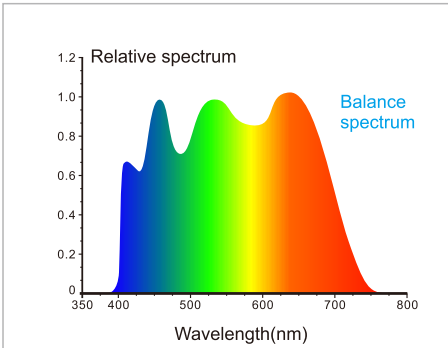
2. More intuitive display

Touch screen can display all Angle measurement results, more intuitive view of the comprehensive data.



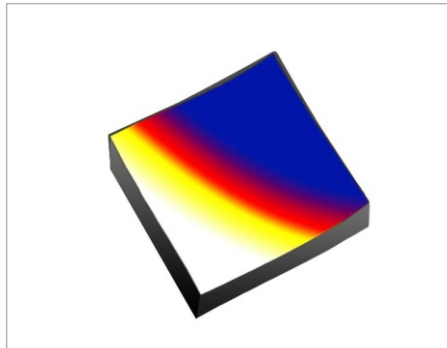
3. 256 Image Element Double Array CMOS Image Sensor

The higher optical resolution ensures the measuring speed, accuracy, stability and consistency of the instrument.



4. Balance spectrum

The blue light enhanced full spectrum LED light source ensures sufficient spectral distribution in the visible light range, and avoids the spectral loss of LED in specific bands.



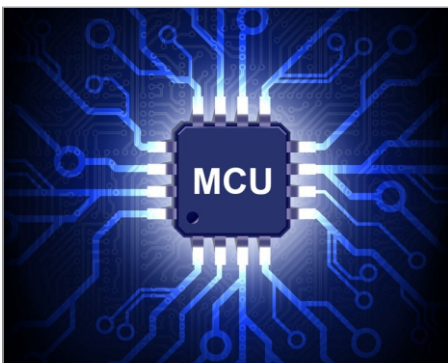
5. Concave grating spectrophotometric technology

Using concave grating spectrophotometric technology, with higher resolution, makes color measurement more accurate.



6. Professional-grade white board

Professional-grade white board, high hardness in the surface, stable optical performance



7. Higher quality

Industrial grade real-time processing MCU, Bluetooth 5.0 transferring more stable and reliable.



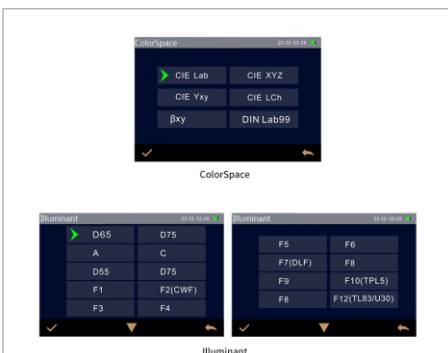
8. Ergonomic appearance

The instrument appearance design is easy to operate, and the hand holding position and the measurement button are well-designed.



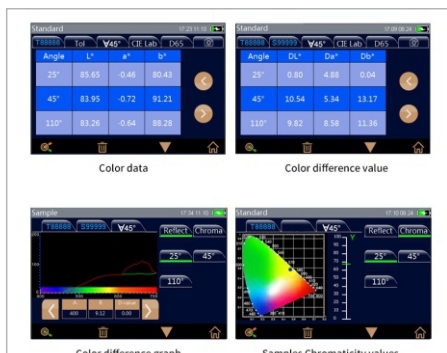
9. Camera positioning

Built-in color camera positioning, can accurately judge the object measured position, and improve the measurement efficiency and accuracy.



10. Multiple color measurement space, multiple observation light sources

A variety of color spaces and lighting sources can meet the special measurement requirements under different measurement conditions.



11. Easily analyze data

The screen can intuitively display spectrum/data, sample chromaticity value, color difference value/figure, pass/fail results, color simulation, sample effect value, effect difference value and other data.

APPLICATION INDUSTRY

Multi angle spectrophotometer is widely used in plastics, electronics, paint and ink, textile and clothing printing and dyeing, printing paper, automobile, medical, cosmetics and food industries.



MS3000 Product parameters	
Measuring geometry	3 measuring angles (3 light sources, 1 receiver)
Measuring angle	45 ° receiver: 45as15°,45as45°,45as110°
Compliance with standards	ASTM D2244,E308,E1164,E2194,E2539,DIN 5033,5036,6174,6175-1,6175-2,ISO 7724,11664-4, SAE J1545
Features	Provide accurate and consistent color measurement for metal color, pearlescent color and other complex color products with special effects
Lighting source	Blue enhanced full spectrum LED
Lamp life	3 million measurements in 5 years
Light splitting mode	Concave grating
Detector	256 pixel dual array CMOS image sensor
Measuring wavelength range	400nm-700nm
Wavelength interval	10nm
Measuring range	0~600%
Half bandwidth	10nm
Measuring caliber	lighting Φ 23mm/sampling 9X12mm (customizable: lighting Φ 10mm/sampling 6X8mm)
Color space	CIE LAB,XYZ,Yxy,LCh,βxy,DIN Lab99
Colour-difference formula	$\Delta E^*ab, \Delta E^*94, \Delta E^*cmc(2:1), \Delta E^*cmc(1:1), \Delta E^*00, \Delta E^*DIN99, \Delta E^*DIN6175$
Other chromaticity indexes	Flop Index
Observer angle	2°/10°
Observation light source	D65,A,C,D50,D55,D75,F1,F2(CWF),F3,F4,F5,F6,F7(DLF),F8,F9,F10(TPL5),F11(TL84),F12(TL83/U30)
Display	Spectrogram/data, sample chromaticity value, color difference value/graph, qualified/unqualified results, color simulation
Measuring time	Single angle measurement takes about 1s, and all angles measurement takes about 3s
Color Repeatability	Spectral reflectance: standard deviation within 0.08%, chromaticity value: $0.04 \Delta E^*ab$ (after preheating and correction of the instrument, measure the average value of the whiteboard 30 times at an interval of 5s)
Color Reproducibility	$\Delta E^* < 0.10$, average value on gray BCRA color plate, $\Delta E^* < 0.25$, average value on color BCRA color plate
Difference between instruments	$0.2 \Delta E^*00$ (Average value of 12 color plates of BCRA series II)
Trigger mode	Key trigger, software trigger
Measurement method	Single measurement, average measurement (1-99 times), continuous measurement (1-99 times)
Positioning method	Camera view
Size	L x W x H=195X83X128mm
Weight	about 1Kg
Battery level	Lithium battery, 3.7V, 5000mAh, can be tested continuously for 800 times within 8 hours of full charge
Display	TFT true color 3.5inch, capacitive touch screen
Interface	USB,Bluetooth
Store data	1000 standard samples, 4000 samples
Language	Chinese (Simplified, Traditional) English
Calibration	Built in whiteboard parameters, external whiteboard and black cylinder
Calibration interval	4 hours, 8 hours, 24 hours, startup calibration
Standard accessories	Power adapter, data cable, manual, quality management software (downloaded from the official website), correction box, black cylinder, protective cover, wrist strap
Optional Accessories	Micro printer

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