MS3012 multi-angle spectrophotometer adopts industrial-grade MCU and supports 12 measurement angles. It can provide accurate and consistent color measurement for metallic, pearlescent and other complex color products with special effects. The smooth operating system and superior performance optical measurement system allow the MS3012 multi-angle spectrophotometer to provide repeatable and reproducible flicker, color flicker, and particle size measurements.

Multi-angle Spectrophotometer

PROFESSIONAL CAR SURFACE INSPECTION

- Sparkle Grade(SG)
- Diffuse coarseness(DC)
- Color Variation(CV)

ISO 9001 Certified

CE SCM TÜV RoHS FC

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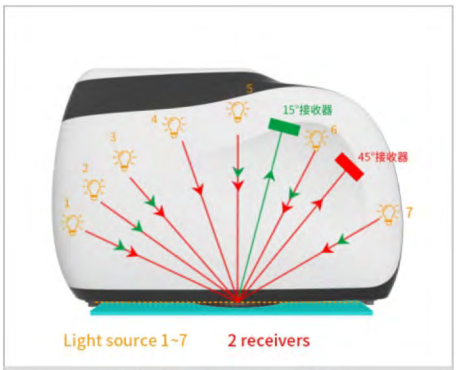
PRODUCT FEATURES

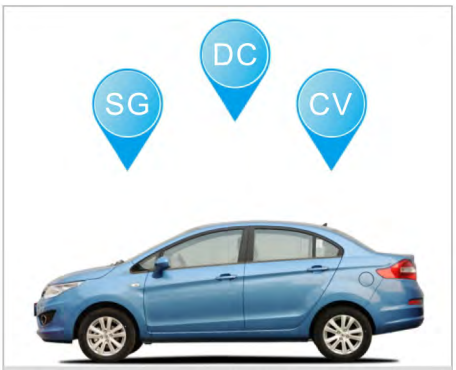


1、Multi-angle measurement

Adopt 7 illumination sources, 2 receivers to measure 12 measurement angles at the same time

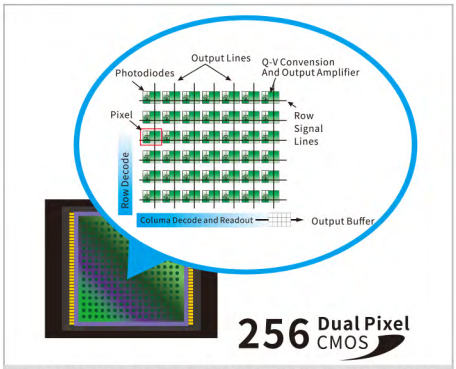
2、More intuitive display

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



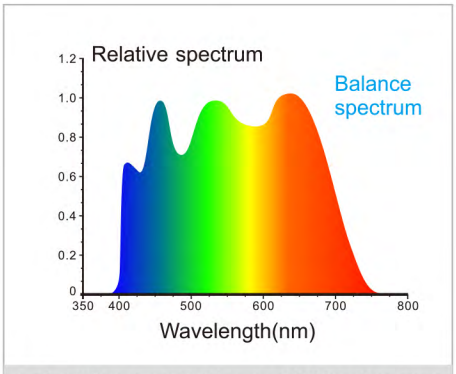
3、Effect measurement discrimination function

Quickly distinguish the sample Sparkle Grade(SG), Diffuse coarseness(DC) and Color Variation(CV), simple and effective quality inspection.



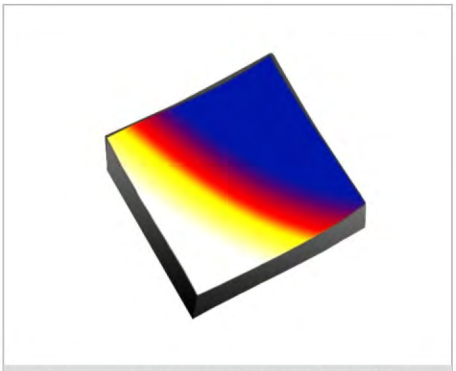
4、256 Image Element Double Array CMOS Image Sensor

The higher optical resolution ensures the measuring speed, accuracy, stability and consistency of the instrument. The core technology makes it as the same platform with international standards and complete compatibility.



5、Adopt Full spectrum LED light source with blue enhancement

The blue-enhanced full-spectrum LED light source ensures sufficient spectral distribution in the visible light range and avoids the lack of spectrum of LEDs in specific wavelength bands.

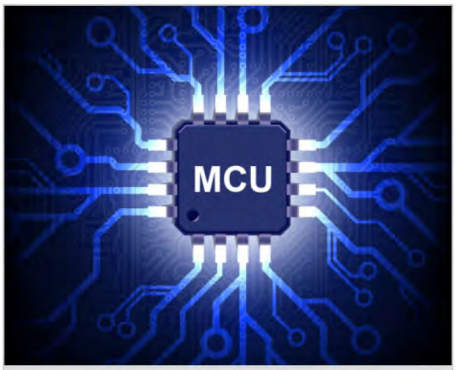


6、Concave grating spectrophotometric technology

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

7、Professional-grade white board

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

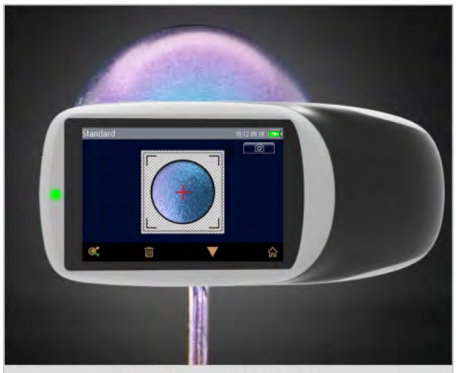


8、Higher quality

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

9、Ergonomics Novel and fashionable appearance design

The appearance of the instrument is stylish, the hand feels comfortable, and the measurement is convenient



10、Color camera preview

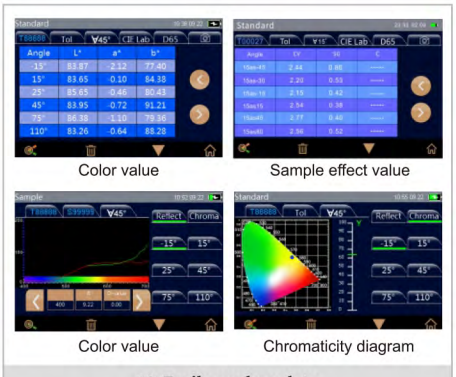
Built-in color camera positioning, can accurately judge the object measured position, and improve the measurement efficiency and accuracy.

ColorSpace

Illuminant

11、Multiple color measurement space, multiple observation light sources

Provides 6 color spaces and multiple observation light sources to meet special measurement requirements under different measurement conditions.



12、Easily analyze data

The screen can intuitively display the spectrum chart/data, sample chromaticity value, color difference value/graph, pass/fail result, color simulation, color deviation, sample effect value.

APPLICATION INDUSTRY

Plastic

Ink & Coating

Print

Car

Cloth

Food & Medicine

Other

MS3012 Product parameter

Measurement Geometry	12 measuring angles (7 light sources, 2 receivers)
Measuring angle	45°Receiver：45as-15°,45as15°,45as25°,45as45°,45as75°,45as110° 15°Receiver：15as-45°,15as-15°,15as15°,15as-30°,15as45°,15as80°
Standards compliant	ASTM D2244,E308,E1164,E2194, E2539,DIN 5033,5036,6174,6175-1,6175-2;ISO 7724, 11664-4, SAE J1545
Characteristic	Provide accurate and consistent color measurement for metallic, pearlescent and other complex color products with special effects
Lighting source	Blue enhanced full spectrum LED
Lamp Life	5 years, 3 million times measurements
Spectrophotometric Mode	Concave grating
sensor	256 pixel dual array CMOS image sensor
wavelength range	400nm-700nm
Wavelength interval	10nm
Measurement Range	0~600%
Semiband Width	10nm
Measuring Aperture	Φ12mm
Color Space	CIE LAB,XYZ,Yxy,LCh,βxy,DIN Lab99
Color Difference Formula	ΔE*ab,ΔE*94,ΔE*cmc(2:1),ΔE*cmc(1:1),ΔE*00, DINΔE99,ΔE DIN6175
Other Colorimetric Index	Flop Index,Radiation intensity value
Observer Angle	2°/10°
Illuminant	D65,A,C,D50,D55,D75,F1,F2(CWF),F3,F4,F5,F6,F7(DLF),F8,F9,F10(TPL5),F11(TL84),F12(TL83/U30)
Displayed	Spectral graph/value, sample chromaticity value, color difference value/graph, pass/fail result, color simulation, sample effect value, effect difference value
Measuring Time	Single angle measurement time is about 1s, all angle measurement takes about 12s
Repeatability	Reflectance: standard deviation within 0.08%, chromaticity value: 0.02 ΔE*ab (after the instrument is warmed up and corrected, the average value of 30 measurements on the whiteboard at an interval of 5s)
Reproducibility	△E*<0.10, the average value on the gray BCRA swatch, △E*<0.25, the average value on the color BCRA swatch
Inter-instrument Error	0.18ΔE*00 (Measured average value of 12 swatches of BCRA series II)
Effect Parameters	Sparkle Grade(SG),Diffuse coarseness(DC) and Color Variation(CV)
Effect Measurement	6 angles Sparkle Grade(SG),Color Variation(CV):15as-45°,15as-30°,15as-15°,15as15°,15as45°,15as80°15d Diffuse coarseness(DC)
Effect Repeatability	Sparkle Grade(SG) Short-term repeatability: 0.12% (10 times standard deviations) (When a color plate is measured 10 times at 10 second intervals after white calibration) Diffuse coarseness(DC) Short-term repeatability:e0.09% (10 times standard deviations) (When a color plate is measured 10 times at 10 second intervals after white calibration)
Effect Reproducibility	Sparkle Grade(SG) Reproducibility: 1.9% (10 times standard deviations) (avg on reference Series II BCRA tile set) Diffuse coarseness(DC) Reproducibility: 1.4% (10 times standard deviations)(avg on reference Series II BCRA tile set)
Trigger mode	Pressure sensing trigger, key trigger, software trigger
Measuring Mode	Single measurement, average measurement (1-99), continuous measurement (1-99)
Locating Method	Color camera preview
Dimension	Length x width x height=195X83X128mm
Weight	about 1Kg
Power	Lithium battery, 3.7V, 3200mAh, can continuously test 6000 times within 8 hours of full charge
Display screen	TFT true color 3.5inch, capacitive touch screen
Interface	USB, Bluetooth
Data Storage	Standard 1000 Pcs, Sample 4000 Pcs
Language	Simplified Chinese, English, Traditional Chinese
Calibration	Built-in white board parameters, external white board, black light trap, color board
Calibration interval	4 hours, 8 hours, 24 hours, boot calibration
Standard accessories	Power adapter, data cable, manual, quality management software (download from official website), calibration box, black light trap, protective cover, wrist strap
Optional accessories	Micro Printer