



## MULTI ANGLE SPECTROPHOTOMETER BMAS-1203

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Multi angle spectrophotometer is instrument with combine color imaging with multi-angle technology to deliver precise color measurements.

## BMAS-1203 MULTI ANGLE SPECTROPHOTOMETER

Multi-angle measurement  
More intuitive display  
Effect measurement discrimination function  
256 Image Element Double Array CMOS Image Sensor  
Adopt Full spectrum LED light source with blue enhancement  
Concave grating spectrophotometric technology  
Professional-grade white board  
Higher quality  
Ergonomics Novel and fashionable appearance design  
Color camera preview, can clearly observe the measured area  
Multiple color measurement space, multiple observation light sources  
Easily analyze data

## SPECIFICATIONS

Model	BMAS-1203
Measurement Geometry	6 measurement angles (6 illumination sources, 1 receivers)
Measure Angle	45° Receiver: 45as-15°,45as15°,45as25°,45as45°,45as75°,45as110° Standards: ASTM D 2244,E 308,E 1164,E 2194, E2539,DIN 5033,5036,6174,6175-1,6175-2;ISO 7724, 11664-4 SAE J 1545
Light Source	Full spectrum LED light source with blue enhancement
Lamp Life	5 years, 3 million times measurements
Spectroscopic Mode	Concave Grating
Sensor	256 Image Element Double Array CMOS Image Sensor
Spectral Range	400-700nm
Wavelength interval	10 nm
Measurement Range	0~600%
Semiband Width	10 nm
Measuring Aperture	Φ12mm
color space	CIE LAB,XYZ,Yxy,LCh,βxy,DIN Lab99
Color Difference Formula	$\Delta E^*ab, \Delta E^*94, \Delta E^*cmc(2:1), \Delta E^*cmc(1:1), \Delta E^*00$ , DIN $\Delta E99, \Delta E$ DIN6175
Other Colorimetric Index	Flop Index, Int-Em
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)
Display	3.5-inch TFT color LCD, Capacitive Touch Screen
Measuring Time	Approx. 1 second for one angle Approx. 6 seconds for all angles

Repeatability	Spectral reflectance:Standard deviation within 0.08% Chromaticity value: $\Delta E^*_{ab}$ 0.03 ( When a white calibration plate is measured 30 times at 5 second intervals after white calibration)
Reproducibility	$\Delta E^* < 0.10$ , avg on the gray tile of BCRA tile set, $\Delta E^* < 0.25$ , avg on the color BCRA tile set
Inter-instrument error	0.2 $\Delta E^*_{00}$ (avg on reference Series II BCRA tile set)
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:0.09% (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, button trigger, software trigger
Measuring Mode	Single measurement, average measurement (1-99), continuous measurement (1-99)
Locating Mode	Color camera preview
Interface	USB, Bluetooth
Data Storage	1000 pcs Standards,4000 pcs Samples
Language	Simplified Chinese, Traditional Chinese, English
Calibration	Built-in white board parameters, external white board, black light trap, color board
Calibration Interval	4 hours,8 hours,24 hours,Startup calibration
Standard Accessories	Power Adapter, USB Cable, User Guide,PC Software(download from the official website), Calibration Board, black light trap,Protective cap, wristband
Dimension	195X83X128mm
Weight	About 1Kg
Power	lithium-ion battery, 3.7V,3200mAh, Continuous test 6000 times within 8 hours of full charge



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