NS Spectrophotometer Series

NS800 NS808 NS820 NS810

The NS spectrophotometer has higher precision and is very sensitive to any color. In addition to accurately measuring the Lab value and dE value, it can also directly display the spectral reflectance curve, realize the color matching function, and accurately calculate various color differences. The true parameters of the meter formula.

- Standard 45/0 geometric optical structure, in line with CIE, ISO, ASTM, DIN related standards;
- A variety of light source modes, in line with a variety of standard chromaticity indicators, to meet various color measurement needs;
- Large integrating sphere, more effective homogenization of light, making the measured data more accurate;
- 15° screen tilt angle, more in line with human eye observation habits.

Cost-effective

NR colorimeter series

NR60CP NR110 NR100
NR10QC NR20XE NR145

3nh microcomputer colorimeter is suitable for color detection and control in various occasions. It is an ideal choice for color management in garment factories, chemical factories, printing factories, automobile factories, hardware processing factories, mold factories, paint factories, etc.

- Light and cross dual positioning functions make the measurement easier;
- Using 3nh's original new super optical path and dynamic integration time, which has higher measurement stability and measurement accuracy;
- Ring light design, suitable for materials with polarized light (polarization);
- Equipped with high-end CQCS3 color quality management software, which can be connected to a computer.

NH colorimeter series

NH310 NH300 NR200

NH series portable computer colorimeter adopts the core multi-channel color sensor of international imported brand, more stable IC platform and efficient and accurate algorithm to provide users with accurate and fast color management and application.

- Humanized design and simplicity of operation, automatic black and white calibration function when power on;
- Stable measurement performance The average fluctuation of △E is less than 0.06;
- Flexible and accurate framing and positioning function;
- PC-side software realizes more function expansion, which can perform color difference analysis, color difference accumulation analysis, chromaticity index, color sample library management,simulated object color, etc.

SPECIFICATION PARAMETER

NS series technical parameters

Model	NS800	NS810	NS820	NS808 (Traffic Sign Measurement)
Optical Geometry	45°/0° (45°ring-shaped illumination, vertical viewing)	D/8°	D/8°	45°/0°
Standards compliant	CIE No.15, GB/T 3978.	Diffuse illumination, 8°viewing	Diffuse illumination, 8°viewing	CIE No.15, GB/T 3978, GB2893,GB/T 18833
Integrating Sphere Size	Φ58mm			
Light Source Device	Combined LED light sources			
Sensor	Silicon Photodiode			
Light wave range	400~700nm			
Wavelength Pitch	10nm			
Reflectance Range	0~100%			0~200%
Measuring Aperture	Φ8mm	Φ8mm	Φ4mm	Φ8mm
Color Space	CIE LAB,XYZ,Yxy,LCh,CIE LUV,HunterLAB	CIE LAB,XYZ,Yxy,LCh,CIE LUV		
Color Difference Formula	ΔE*ab,ΔE*94,ΔE*cmc(2:1), ΔE*cmc(1:1),ΔE*00, ΔE (h) , ΔE*cmc(l:C)	ΔE*ab,ΔE*94,ΔE*cmc(2:1),ΔE*cmc(1:1),ΔE*00, ΔE*cmc(l:C)		
Other Colorimetric Data	WI(ASTM E313,CIE/ISO,AATCC,Hunter), YI(ASTM D1925, ASTM 313), TI(ASTM E313,CIE/ISO), Metamerism Index(MI), Color Strength, Color Stain, Color Fastness,Opacity			Increase coverage
Observer	2°/10°			
Illuminant	D65,A,C,D50,D55,D75,F2,F6,F7,F8,F10,F 11,F12			increase F1,F3,F4,F5,F9
Displayed Data	spectrum chart/ spectrum data, Sample chromatic value, color difference data/chart, pass/fail, color deviation, color simulation			No color simulation
Measurement Time	1.5s			
Repeatability	Spectral reflectivity: error will be less than 0.1%(400-700nm, less than 0.2%) Chromatic value: delta e*ab will be less than 0.04(after preheating, average value for 30 times measuring the white calibration board within 5 seconds interval)			
Inter-instrument agreement	ΔE*ab less than 0.2(average value for measuring BCRI series II 12pcs palettes)			
Size	L*W*H= 90*77*230(mm)			
Weight	about 600g			
Battery Performance	Li-ion Battery : 5000 times within 8 hours			
Lamp Life	5 years, more than 1.6 million measurements			
Display	3.5-inch TFT color LCD, Capacitive Touch Screen			
Interface	USB			
Data Storage	Standard: 1000, Sample: 10000			
Operating Environment	0~40°C (32~104°F)			
Storage Environment	-20~50°C (-4~122°F)			
Standard Accessories	Powder Adapter, Li-ion Battery, User manual, QC software (please download it on our website), USB Line, White and Black Calibration Cavity, Wristband, dust cover			
Optional Accessories	Universal Test Component, Micro Printer, Powder Test Box,Multifunctional test component			

COLORIMETER

NH310、NH300、NR200 Contrast

Function / Model	Location Method	Calibration	△E	Aperture	Illuminant	Color Space	SCI/SCE	Whiteness	Color Difference Formula	Yellowness	Software
NH310	Illumination Location /Camera Location	Automatic /Manual	<0.06	8mm/4mm	D65 D50 A	CIE Lab XYZ CIE-RGB LCH CIE Luv	✓	✓	✓	✓	✓
NH300	Illumination Location	Manual	<0.07	8mm	D65	Lab XYZ	–	–	–	–	✓
NR200	Illumination Location	Manual	<0.08	8mm	D65	CIE LAB LCh XYZ	–	–	–	–	✓

Color space	CIE L*a*b*,CIE XYZ,CIE RGB, CIE L*u*v*,CIE L*C*H*, WI(Whiteness), YI(Yellowness),Color Fastness,Staining fastness
Color Difference Formula	ΔE*ab,ΔE (h) ,ΔE*uv,ΔE*94,ΔE*cmc(2:1), ΔE*cmc(1:1),ΔE*00
Optical Geometry	CIE Recommended way:8°/d
Sensor	Silicon Photoelectric Diode Array
Correction function	Auto Calibration at Starting
Illuminant	D65/D50/A/C/F2/F6/F7/F8/F10/F11/F12
Data Storage	Chinese/English interface 100 standard samples 20,000 trial-produced samples
Measurement mode	SCI(Specular reflection)&SCE (Non-specular reflection)
Locate Mode	Illumination Location/Camera Location
Observer	CIE 10°standard observer

Displayed Data	Chromaticity Values, Color Difference Values, Pass/Fail Result, Color Offset/Deviation Direction
Light wave range	L:0-100
Repeatability	ΔE<0.06 (Average of 30 times measurement of the white board)
Measurement Time	1.5s
Battery Performance	Able to do 3000 times of measurements within 8 Hours
Lamp Life	5 years, more than 1.6 million measurements
Display	TFT colour 2.8inch@ (16:9) Resolving power400*240
Interface	USB
Humidity range	Humidity: 0 ~ 85% (No Condensation)
Weight	about400g (Includes 3200 mAh battery weight)
Size	205×70×100mm

NR series parameters

Model	NR145	NR20XE	NR10QC	NR200	NR110	NR60CP	NR100
Optical Geometry	45°/0°	45°/0°	8°/D	8°/D	8°/D	8°/D	8°/D
Standards compliant	CIE No.15, GB/T 3978						
Sensor	Silicon Photoelectric Diode Array						
Measuring Aperture	Φ8mm flat	Φ20mm	Φ4mm	Φ8mm	Φ4mmflat, Φ4mmsharp	Φ8mmflat, Φ4mmsharp	
Color Space	CIE LAB, XYZ, LCh		CIE LAB, LCh	CIE LAB, LCh,XYZ	CIE LAB, LCh,XYZ	CIE LAB, LCh,XYZ, CIE RGB,CIE LUV	CIE LAB
Observer	CIE 10° Standard observer						
Illuminant	D65					D65,A,C,D50,F2,F6, F7,F8,F10,F11,F12	D65
Displayed Data	Chromaticity Values, Color Difference Values, Pass/Fail Result, Color Offset/Deviation Direction						
Measurement Time	1.5s						
Repeatability	ΔE*ab Within 0.08 (average value for 30 times)		ΔE*ab 0.03	ΔE*ab 0.08	ΔE*ab 0.08	ΔE*ab 0.03	ΔE*ab 0.08
Inter-instrument agreement	ΔE*ab Within 0.4 (average value for measuring BCRA series II 12pcs palettes)						
Size	205X67X80mm			205X70X100mm	205X67X80mm		
Weight	About 400g(including battery)					500g	
Battery Performance	Rechargeable Li-on Battery, 3.7V@3200mAh						
Lamp Life	5 years, more than 1.6 million measurements						
Display	TFT Color 2.8inch@ (16:9)						
Interface	USB						
Data Storage	Standard: 100, Sample: 20000		Standard: 100, Sample: 10000	Standard: 100, Sample: 20000	Standard: 100, Sample: 20000	Standard: 100, Sample: 20000	Standard: 100, Sample: 10000
Operating Environment	0~40°C (32~104°F)						
Storage Environment	-20~50°C (-4~122°F)						
PC Software	CQCS3 software		No software	CQCS3 software	CQCS3 software	CQCS3 software	/
Standard Accessories	Power adapter, manual, quality management software (official website download), USB cable, wristband						
Optional Accessories	Micro Printer, Powder Test Box						