

## High Repeatability Bench-top Spectrophotometer



## CS-821N

## Product Features

Automatic calibration

Excellent long-term repeatability, ensure excellent measurement repeatability even after environment changes

It has two lamps: pulsed xenon and LED

24 kinds of illuminants and more than 40 measurement indices

Temperature and humidity compensation function

Seven -inch touch screen, Android operate system

Dual optical paths spectrum analysis technology

Support SCI+SCE simultaneous rapid measurement

## Technical Data

Name	Specifications
Illumination/ Viewing System	Reflectance: d/8(Diffused illumination, 8 degree viewing);Simultaneous measurement of SCI/SCE, conform to CIE No.15, GB/T 3978, GB 2893, GB/T 18833, ISO7724/1, DIN5033 Teil7, JIS Z8722 condition C, ASTM E1164, ASTM-D1003-07 Transmittance d/0(Diffused illumination, 0 degree viewing )
Sensor	Silicon Photodiode Array
Grating Method	Concave Grating
Sphere Diameter	152mm
Wavelength	360nm~780nm
Wavelength Pitch	10nm
Half Band Width	5nm
Reflectance Range Resolution	0-200%,0.01%
Light Source	Pulse Xenon Lamp and LED
UV Measurement	Include UV, 400nm cut, 420nm cut, 460nm cut
Measurement Time	SCI/SCE < 2s;SCI+SCE < 4s
Measurement Aperture	Reflectance: XLAV Φ30mm, LAV 18mm,MAV Φ11mm,SAV Φ6mm Transmittance:Φ25mm(Auto aperture size recognition)
Transmittance Sample Size	No limit on sample width and height, thickness ≤50mm
Long Term Repeatability	XLAV Chromaticity value: Standard deviation within $\Delta E^*ab$ 0.015 (20°C±10°C arbitrary temperature change, white tile is measured every hour within 24 hours)
Repeatability	XLAV Spectrum Reflectance/Transmittance: standard deviation within 0.1%;XLAV Chromaticity value: Standard deviation within $\Delta E^*ab$ 0.015 * When a white calibration plate is measured 30 x at 10-second intervals after white calibration
Inter-Instrument Agreement	XLAV $\Delta E^*ab$ 0.15 (BCRA Series II, Average measurement of 12 tiles, at 23 C )
Observer	2° and 10°
Illuminants	A,C,D50,D55,D65,D75,F1,F2,F3,F4,F5,F6,F7,F8,F9,F10,F11,F12,CWF,U30,DLF,NBF,TL83,TL84
Language	English, Russian, Spanish, Portuguese, Japanese, Thai, Korean, German, French, Polish,Chinese (simple and traditional),
Display	Reflectance and Transmittance graph/value, color value, color difference values, pass/fail, color simulation, color assessment, haze, liquid chromaticity values, color tendency
Color Spaces	L*a*b,L*C*h,Hunter Lab,Yxy,XYZ
Other Indices	WI(ASTM E313-00,ASTM E313-73,CIE/ISO, AATCC, Hunter, Taube Berger, Stensby) YI(ASTM D1925,ASTM E313-00,ASTM E313-73),Tint(ASTM E313-00),Metamerism index milm, stain fastness, color fastness, ISO brightness, R457, A density, T density, E density, M Density, APHA/PT-Co/Hazen, Gardner, Saybolt, ASTM color, Haze, Total Transmittance, Opacity, Color Strength
Color Difference	$\Delta E^*ab$ , $\Delta E^*CH$ , $\Delta E^*uv$ , $\Delta E^*cmc$ , $\Delta E^*94$ , $\Delta E^*00$ , $\Delta Eab$ (Hunter),555shade sort
Storage Memory	8GB
Screen Size	7 Inches Touch Screen
Operate System	Android
Power Adaptor	12V/3A
Operate Temperature	5-40°C(40-104F), relative humidity 80% (at 35°C) no condensation
Storage Temperature	-20-45°C(-4-113F), relative humidity 80% (at 35°C) no condensation
Accessories	Power Adaptor, USB Cable, fixture for transmittance, U disk (PC software), Black Calibration Cavity, White and Green Calibration Tile, Reflectance Test Support,30mm,18mm,11mm and 6mm apertures, reflectance sample fixture, Glass Cell 40x10mm
Optional Accessories	Heating Fixture for Transmittance, Vertical Support and Pneumatic ram for downward measurement, Reflectance fixture for small size sample, Reflectance Glass Cell Support, Corrosion-Resistant Protective Plate (non-removable), Sample Holder for Fiber, Film Fixture, Transmittance Fixture for Small Aperture, Trolley Case, European Standard Plug, American Standard Plug
Interface	RS-232、USB、USB-B
Other Function	1. Camera to view measurement area;2. Support horizontal, vertical and downward measurement method (need optional accessories to support for downward measurement);3. Auto humidity and temperature compensation function.