Guangdong Threenh Technology Co., ltd.

Precision in revealing fluorescent essence, defining new benchmarks for color.



PS420 Spectrophotometer

The PS420 is a dedicated color measurement instrument for fluorescent samples. It features an added UV light source enabling full spectrum measurement, a 10-aperture configuration combined with non-contact automatic calibration to balance flexibility and accuracy, and offers ample storage capacity. It is ideally suited for quality control in high-end manufacturing sectors requiring fluorescent material inspection.

≤0.02
Repeatability ΔE*ab

≤0.3
Inter-instrument Error ΔE*ab

10 apertures
Measuring Aperture



Own the core tech: Top performance, budget price.



I. CORE TECHNOLOGY : PRECISE COLOR DIFFERENCE MEASUREMENT

Internationally Standard D/8 SCI+SCE Integrated Technology

Compatible with both SCI and SCE measurements, supporting their simultaneous and rapid acquisition (approximately 1 second). This minimizes interference from object surface texture, objectively revealing the true color.

Combined Full–Spectrum LED + UV Light Source

Covers the entire range from visible to ultraviolet light. The spectral distribution is uniform with no missing specific bands, enabling effortless measurement of fluorescent samples.

Nano–Integrated Optical Spectroscopic Element

Achieves nanometer–level spectroscopic capability, significantly enhancing both the accuracy of color signal capture and the stability of the instrument.



High–Performance Dual–Array Silicon Photodiodes

Featuring a silicon photodiode array (dual–column, 18 sets) coupled with a large 40mm integrating sphere, enabling more efficient and accurate color data processing.

Dual Optical Path System with Proprietary Algorithm

Offers superior anti–interference capability compared to single–path systems, providing higher measurement accuracy and data reliability.

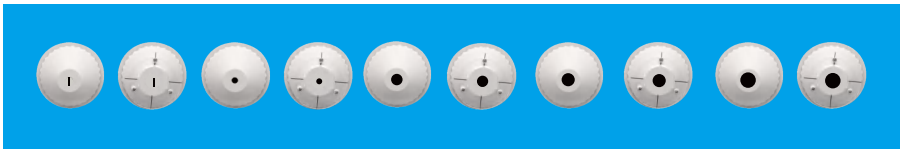
Data Stability and Multi–Unit Consistency

With repeatability ΔEab ⩽ 0.02 and inter–instrument agreement ΔEab ⩽ 0.3, the system ensures stable, reliable data and measurement consistency across multiple devices. This makes it ideal for color matching and precise color communication.

II. PRACTICAL DESIGN, VERSATILE COMPATIBILITY, AND USER-FRIENDLY OPERATION

Equipped with 10 Flexible Aperture Configurations

Includes platform and pointed tip combinations in sizes 3mm, 6mm, 10mm, 11mm, and 1×3mm, covering specialized aperture requirements and meeting the measurement needs for complex samples across multiple industries.





High-Definition Camera with Real-Time Viewfinder Positioning

Intuitively monitors the measurement area, ensuring the test point is centered on the target and guaranteeing result validity.



quick color card number matching

Supports quick color card number matching, saves manual color-finding time, and improves production color-matching efficiency.



Contact-Based Smart White Tile Calibration

Equipped with a dedicated calibration base, the instrument automatically calibrates to maintain optimal performance without frequent manual operation.

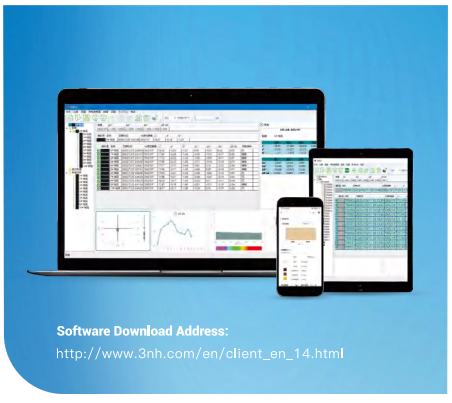


III. DATA MANAGEMENT & EFFICIENT CONNECTIVITY

Rich Light Sources & Multi-Dimensional Measurement: Supports over 30 light sources and 40 measurement indices, covering mainstream industry types. It can display multi-dimensional results including spectral graphs/data, chromaticity values, and color difference values/graphs.

High-Capacity Storage & Cloud Traceability: Offers sample storage for up to 15,000 records and supports cloud-based data management, meeting the needs of enterprises for large-scale quality traceability.

Multi-Platform Compatibility & Portable Data Management: Equipped with USB and Bluetooth interfaces. It is compatible with multiple platforms including Android, iOS, Windows, WeChat Mini Programs, and HarmonyOS, enabling fast data transfer, sharing, and remote management.



HarmonyOS

IV.OPTIONAL ACCESSORIES

Product Name	Material Code	Image	Function
Powder Test Box	2.006.01.0011		Easy to use, designed specifically for measuring powdered targets.
Mini Printer	1.609.01.0020		Portable and convenient, capable of continuous printing without connecting to a computer. All measured parameters are easy to store.

V. PRODUCT SPECIFICATIONS

Product Model	PS420
Optical Geometry	D/8 (Diffuse Illumination, 8° Directional Reception), SCI (Specular Component Included)
Meet The Criteria	Conforms to CIE No.15, GB/T 3978, GB 2893, GB/T 18833, ISO 7724–1, ASTM E1164, DIN 5033 Teil 7.
Features	It features a dual–path silicon photodiode array and a built–in electronic color chart. It is used for color difference quality control in industries such as plastics and electronics, paints and inks, textile printing and dyeing, printing, ceramics, and more. The inclusion of UV capability allows for the measurement of fluorescent samples.
Integrating Sphere Size	Φ40mm
Light Source	Combined Full–Spectrum LED and UV Light Source
Spectrophotometric Mode	Nano–integrated Spectral Device
Sensor	Large–area silicon photodiode array (double–row 18 group)
Wavelength Range	400~700nm
Wavelength Interval	10nm
Measurement range	0~200%
Measuring Aperture	Ten Aperture Configurations: 3mm platform + 3mm pointed tip, 6mm platform + 6mm pointed tip, 10mm platform + 10mm pointed tip, 11mm platform + 11mm pointed tip, 1×3mm platform + 1×3mm pointed tip.
Locating Method	Stabilizer plate positioning + camera viewfinder positioning
Calibration	Non–Contact Automatic White Tile Calibration
Specular Component	SCI/SCE
Color Space	CIE LAB,XYZ,Yxy,LCh,CIE LUV,s–RGB,HunterLab,βxy,DIN Lab99
Color Difference Formula	ΔE*ab,ΔE*uv,ΔE*94,ΔE*cmc(2:1),ΔE*cmc(1:1),ΔE*00,DINΔE99,ΔE(Hunter)
Measurement Indicators	Spectral Reflectance Factor, WI (ASTM E313, CIE/ISO, AATCC, Hunter, Taube, Berger, Stensby), YI (ASTM D1925, ASTM 313), Metamerism Index, Staining Fastness, Color Change Fastness, Strength, Hiding Power, 555 Hue Classification, Munsell (C/2), Blackness (My, dM), Color Density CMYK, Tint
Observer Angle	2°/10°
Illuminant	D65,A,B,C,D50,D55,D75,F1,F2(CWF),F3,F4,F5,F6,F7(DLF),F8,F9,F10(TPL5),F11(TL84),F12(TL83/U30), U35,NBF,ID50,ID65,LED–B1,LED–B2,LED–B3,LED–B4,LED–B5,LED–BH1,LED–RGB1,LED–V1,LED–V2
Displayed Data	Spectral Graph/Data, Sample Chromaticity Values, Color Difference Value/Graph, Pass/Fail Results, Color Simulation, Color Deviation
Measuring Time	About 1s
Repeatability	Chromaticity Values (MAV/SCI): Standard deviation within ΔE*ab 0.02 (under conditions: after warm–up calibration, 30 consecutive measurements of a white tile at 5–second intervals). Spectral Reflectance (MAV/SCI): Standard deviation within 0.08% (within 0.18% across 400–700nm).
Inter–instrument Error	MAV/SCI: ΔE*ab within 0.3(Average of measurements from 12 BCRA Series II tiles)
Displayed Accuracy	0.01
Measurement Mode	Single Measurement, Average Measurement(2–99times)
Reflectance Resolution	0.01%
Size	120*75*207mm
Weight	367g (calibration base excluded)
Battery	Lithium battery,3.7V,3200mAh,8000 cycles in 8 hours
Illuminant Life Span	More than 1.2 million measurements over 10 years
Display	3.5 inch TFT true color, Capacitive Touch Screen
Data Port	USB,Bluetooth
Data Storage	Standard 500Pcs, Sample 15000Pcs(One data is able to include SCI/SCE); PC mass storage
Software Support	Andriod,IOS,Windows,Wechat small program, Hongmeng
Language	Simplified Chinese, English, Traditional Chinese
Operating Environment	0~40℃, 0~85%RH (no condensing),Altitude < 2000m
Storage Environment	–20~50℃, 0~85%RH (no condensing)
Accuracy Assurance	Guaranteed First–Class Measurement Qualification
Standard Accessory	Power adapter, data cable, user manual, quality management software (download from official website), calibration box, protective cover, wrist strap, measurement apertures.
Optional Accessory	Micro Printer, Powder Test Box