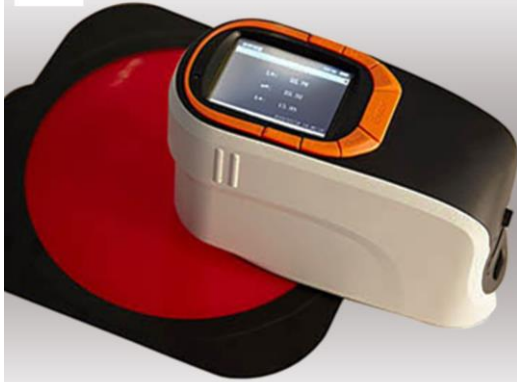# 660A/660B

- Obtained China Metrology Accreditation Certificate
- Large data storage space
- Large TFT display screen
- Modern and fashionable design based on human engineering
- Easy to use operation modes and compact operation interface
- Pre-locating panel design for easy instrument calibration
- Uses LED light source; high capacity rechargeable lithium-ion battery
- Can measure both SCI(specular included)and SCE(specular excluded) at the same time
- USB data transmission ,includes PC software to manage data
- Can connect to mini-printers for printing

Product Overview

High performance-price ratio among international similar products

As China's spectrophotometer, it integrates multiple innovative technical characteristic,

and extends the boundary of on-site color quality control during production;

- It can be applied to laboratories, factories and on-site operations, and can achieve the best color
  management across all application fields'quality control;
- Allows medium and small companies to obtain high performance color management system with relatively low price;
- The software contains all necessary color equations, standard light sources, and a large number of standards for specific industries and applications;
- Operation system supports both English and Chinese interfaces, and we offer to design the interface in other languages based on the need of our customers.
- Professional design, powerful instrument functions
- Professional horizontal design and it does not have any moving parts, which avoids the shaking of the instrument during measurement process. This makes the measurement more accurate; PC software for easy measurement data management;
- Different measurement caliber for A and B. Testing ports for the two instruments are to the left. Can measure both SCI and SCE at the same time. Large data storage space: can store up to 100 sets of standard samples, with up to 200 measurement records for each standard sample;

Specifications

Illumination	d/8(Diffused lighting, 8 degrees observe angle)
	SCS optical engine(light splitting and integration system),ETC
	(real time calibration technology), SCI(specular reflection included)
	/SCE(specular reflection excluded)simultaneous measurement。(conform to CIE No.15、ISO 7724/1、ASTM E1164、DIN 5033 Teil7、JIS Z8722 Condition c standards)
Size of integrating sphere	Φ40mm, Alvan diffused reflection surface coating
Illumination Light source	Composite LEDs(entire wavelength balanced LED light source)
Sensor	dual light path sensor array
Wavelength range	400-700nm
Wavelength interval	10nm
Half spectral width	5nm
Reflectivity range	0-200%
Reflectivity resolution	0.01%
Observation angle	2°/10°
Measurement light source	A,C,D50,D55,D65,D75,F1,F2,F3,F4,F5,F6,F7,F8,F9,F10,F11,F12,
	CWF,U30,DLF,NBF,TL83,TL84
Data being displayed	SPD distribution/data, sample's color values, color difference values/graph, pass/fail
	results, color error tendency, color simulation, display measurement area, history data color simulation, manual input standard sample, generate measurement report
Measurement time interval	0.5 seconds
Measurement time	1 second
Color space	CIE-L*a*b,L*C*h,L*u*v,XYZ,Yxy,reflectivity,Hunterlab,Munsell MI
Color difference formulas	$\Delta E*ab,\Delta E*CH,\Delta E*uv,\Delta E*cmc(2:1),\Delta E*cmc(1:1),\Delta E*94,\Delta E*00,\Delta Eab(Hunter),555$

	,color classification
Other colorimetric 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,CIE,Ganz),metamerism index Milm, adhesive/changing
	color fastness, ISO luminance,8 gloss, A density, T density
Repeatability	light splitting reflectivity：standard deviation within 0.08%
	color values：ΔE*ab<=0.015（After calibration, standard deviation of
	30 measurements on test white board, 5 second intervals）,
	Maximum：0.03
Battery capacity	rechargeable, 20000 continuous tests, 7.4V/6000mAh
Interface	USB, bluetooth
Data storage	40000 test results
Light source longevity	10 years, 3 million tests
Inter-instrument agreement	ΔE*ab within 0.2(BCRA color charts II, average of the 12 charts)
Size	181*73*112mm(L*W*H)
Weight	about 550g(does not include battery's weight)
Display	True color screen that includes all colors
Work temperature range	0~45°C, relative humidity 80% or below(at 35°C),no condensation
Storage temperature range	-25°C to 55°C, relative humidity 80% or below(at 35°C),no condensation
Standard accessories	DC adapter, Lithium battery, manual, color management software, drive software, electronic manual, color management guide, USB cable, black/white calibration tube, protective cover, spire lamella, portable bag, electronic color charts
Optional accessories	powder molding device, microprinter, measurement and test report
Color matching system	Matches
UV light source	Does not include UV light source