

Portable Spectrophotometer

LSP-A31



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Portable Spectrophotometer LSP-A31 is adopted with 45/0 geometry (45 ring shaped illumination, 0 degree observation angle), where the standard white board is included in the optical system for great accuracy of every measurement. Equipped with automatic gloss compensation technology ensures the accuracy of the color measurement data for the surface of different gloss. Large data storage space up to 20000 samples measurement records. The measurement of the color of the powder, granules and other materials can be done by adding the powder accessories to this spectrophotometer.

Features

- 2.8 inch TFT touch screen
- Simultaneous gloss and color measurement
- High capacity rechargeable lithium-ion battery
- LED light source for measurement accuracy
- Pre-locating panel design for instrument calibration
- SCS system for measurement repeatability
- Simultaneous measurement of SCI & SCE
- USB & Bluetooth data transmission
- Large storage capacity
- Connection to mini printer for printing

Application

Used in textile, plastic, food, paint, printing, automobile industries, laboratories & on-site applications for quality control purpose.

Specification

Model no.	LSP-A31
Illumination	45/0 (45 ring shaped illumination, 0° observation angle)
Repeatability	Light splitting reflectivity: standard deviation within 0.08% Color values: $\Delta E^*_{ab} \leq 0.03$ (After calibration, standard deviation of 30 measurements on test white board, 5 second intervals) Maximum: 0.05
Sensor	High sensitivity silicon photodiode
Test angle	60°
Test area	5 × 10 mm
Test range	0 to 1000 GU
Test repeatability	0.2 GU (0 to 100 GU), 0.2% (100 to 1000 GU)
Reproducibility	1.0 GU (0 to 100 GU), 1.0% (100 to 1000 GU)
Inter instrument agreement	0.2 ΔE^*_{ab} (BCRA II color tiles, average test value of 12 tiles)
Illumination light source	LED
Light source	A, C, D50, D55, D65, D75, F1, F2, F3, F4, F5, F6, F7, F8, F9, F10, F11, F12, CWF, NBF, TL83, TLI84, NBF, U35
Wavelength range	400 nm to 700 nm
Wavelength interval	10 nm
Observation angle	2°/10°
Measuring aperture	11 mm
Color space	CIE-L*a*b, L*C*h, L*u*v, XYZ, Yxy, Reflectance, Hunter-lab, Munsell MI, CMYK
Color difference formula	ΔE^*_{ab} , ΔE^*_{CH} , ΔE^*_{uv} , $\Delta E^*_{cmc}(2:I)$, $\Delta E^*_{cmc}(1:I)$, ΔE^*_{94} , ΔE^*_{00} , ΔE_{ab} (Hunter), 555 shade sort

Other colorimetric indices	<p>WI (whiteness) (ASTM E313-10,ASTM E313-73,CIE/ISO, AATCC, Hunter, Taube Berger, Ganz, Stensby)</p> <p>YI (yellowness) (ASTM D1925, ASTM E313-00,ASTM E313-73), Tint (ASTM E313,CIE,Ganz)</p> <p>Metamerism index Milm, Stick color fastness, Color fastness, ISO brightness, A density, T density, M density, E density</p>
Color matching system	Not included
UV light source	Not included
Work temperature range	0 to 45°C, relative humidity 80% or below(at 35°C),no condensation
Battery capacity	Rechargeable Lithium battery, 20000 continuous measurement tests, 7.4V/600 mAh
Interface	USB
Data storage	20000 samples
Display	True color TFT touch screen
Light source longevity	10 years, 3 million test
Dimension	181 × 73 × 112 mm
Weight	800 g (without battery)

Standard accessories _____

Accessories no.	Accessories name	Unit
1	AC adapter	I
2	Lithium battery	I
3	Color QC software	I
4	Driver software	I
5	USB cable	I
6	Calibration tile (black and white)	I
7	Carrying bag	I
8	Gloss calibration tile	I