



# **SPECTRAL COLORIMETER**

## **LCS-A1 SERIES**

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## Spectral Colorimeter LCS-A1 series

Spectral colorimeter LCS-A1 series with high precision is adopted with spectral measurement working theory to improve the accuracy of colorimeter. Equipped with superior leather design, helps in increasing the friction in case of fingers sliding. The spectral colorimeter comes with mass storage capacity and A, C, D65, D50 as light sources for colorimetric measurement.

### Features

- CLED as source of diffusion illumination, 8° viewing
- Panchromatic true color screen with USB 2.0 interface
- Mass storage capacity of 100 pcs targets and 200 data groups
- Ergonomic design, portable nature
- A.C, DC65, DC50 as light source
- Patented technology guarantees the measurement stability
- Adapted with Camera for viewing measurement area

### Applications

Spectral colorimeter is widely used in plastic, printing, paint, ink, textile, dyeing, food, chemical and other industries for color management.

## Specification

Model no.	LCS-A10	LCS-A11
Illumination	Di/8 (diffusion illumination, 8° viewing), SCI	
Size of integrated sphere	40mm, alvan diffused reflection surface coating	
Illumination light source	CLED	
Sensor	Sensor array	
Wavelength	400-700nm	
Spectral resolution	10nm	
Measuring time	2s	
Measurement caliber size	11mm	
Optional measurement caliber size	4mm, 6mm, 15mm	
Repeatability	Standard deviation $\Delta E^*ab$ 0.08 (when a white calibration plate is measured 30x at 10 second interval after calibration)	
Observe angles	2° and 10°	
Light source	A,C,D50 & D65	
Display	Chromaticity value ( $L^*a^*b$ , $L^*C^*h$ ), $\Delta E$ value, pass/fail, color tendency, average, generate test report	
Camera attachment	Without camera	With camera to see the measurement area
Color difference formula	$\Delta E^*ab, \Delta E^*CH$	
Color space	CIE- $L^*a^*b, L^*C^*h$ , reflectance	CIE- $L^*a^*b, L^*C^*h, XYZ, Yxy$ , reflectance
Measurement indices	Nil	WI(whiteness indices) (ASTM E313-10, ASTM E313-73, CIE/ISO, AATCC Hunter, Taube Berger, Ganz, Stensby) YI (yellowness indices)(ASTM D1925, ASTM E313-00, ASTM E313-73)
Data storage	100 targets and 200 samples	
Light source lifetime	5 years, 1.5 million times	

## Specification

Model no.	LCS-A10	LCS-A11
Screen	Panchromatic True Color Screen	
Interface	USB 2.0	
Working temperature	5-45°C, relative humidity 80% or below( at 35°C ), no condensation	
Storage temperature	-25°C to 55°C, relative humidity 80% or below(at 35°C ), no condensation	
Power	Rechargeable Lithium battery, 8.4V/2000mAh, adaptor DC12V	
Dimension	77×86×210mm	
Weight	550g	

## Standard accessories

- Adapter, color management software, USB cable, black/white calibration tube, protective cover, portable bag, electronic cable charts

## Optional accessories

- Micro printer

## Spectral colorimeter LCS-A12

Spectral colorimeter LCS-A12 with high precision, is adopted with spectral measurement working theory which greatly improves the accuracy of colorimeter. The superior leather design, helps in increasing the friction in case of fingers sliding. It comes with multiple light source for measurements & has metameric index, staining fastness, color fastness for color measurements in textile industry.

### Features

- CLED as source of diffusion illumination, 8° viewing
- Panchromatic true color screen with USB 2.0 interface
- Adopted with multiple source of light like A, C, D50, D65, D75, F1-F12 etc.
- Mass storage capacity of 100 pcs targets and 200 pcs samples
- Ergonomic design, portable nature
- Adapted with Camera for viewing measurement area
- Patented technology guarantees the measurement stability

### Applications

Spectral colorimeter is widely used for plastic, printing, paint, ink, textile, dyeing, food, chemical and other industries for color management.

## Specification

Model no.	LCS-A12
Illumination	Di/8 (diffusion illumination, 8° viewing), SCI
Size of integrated sphere	40mm, avian diffused reflection surface coating
Illumination light source	CLED
Sensor	Sensor array
Wavelength	400-700nm
Spectral resolution	10nm
Measuring time	2s
Measurement caliber size	11mm
Optional measurement caliber size	4mm, 6mm, 15mm
Repeatability	Standard deviation $\Delta E^*ab$ 0.08 (when a white calibration plate is measured 30x at 10 second interval after calibration)
Observe angles	2° and 10°
Light source	A, C, D50, D65, D75, F1, F2, F3, F4, F5, F6, F7, F8, F9, F10, F11, F12, DLF, TL183, TL184, NBF, U30, CWF, U35
Camera attachment	camera viewing for measurement
Display	Chromaticity value ( $L^*a^*b$ , $L^*C^*h$ ), $\Delta E$ value, pass/fail, color tendency, average, generate test report
	With camera to see the measurement area, spectrum reflectance figure data, manual input target data
Color difference formula	$\Delta E^*ab$ , $\Delta E^*CH$ , $\Delta E^*uv$ , $\Delta E^*cmc(2:1)$ , $\Delta E^*cmc(1:1)$ , $\Delta E^*94$ , $\Delta E^*00$
Color space	CIE- $L^*a^*b$ , $L^*C^*h$ , $L^*u^*v$ , XYZ, Yxy, reflectance
Measurement indices	<p>WI (whiteness indices)(ASTM E313-10, ASTM E313-73, CIE/ISO, AATCC, Hunter, Taube Berger, Ganz, Stensby)</p> <p>YI (yellowness indices) (ASTM D1925 ASTM E313-00, ASTM E313-73)</p> <p>Metameric index, staining fastness, color fastness</p>

## Specification

Model no.	LCS-A12
Data storage	100 targets and 200 samples
Light source lifetime	5 years, 1.5 million times
Other function	Input color swatches
Screen	Panchromatic True Color Screen
Interface	USB 2.0
Working temperature	5-45°C, relative humidity 80% or below( at 35°C ), no condensation
Storage temperature	-25°C to 55°C, relative humidity 80% or below (at 35°C ), no condensation
Power	Rechargeable Lithium battery, 8.4V/2000mAh, adaptor DC12V
Dimension	77×86×210mm
Weight	550g

## Standard accessories

Adapter, color management software, USB cable, black/white calibration tube, protective cover, portable bag, electronic cable charts

## Optional accessories

Micro printer