CS-280

Spectral colorimeter is the colorimeter which adopts the theory of spectrophotometer. It is widely used for plastic, printing, paint, ink, textile, dyeing and other industries for color management. It could measure the target L*a*b, L*c*h and the sample △E and △Lab value.

Product Overview

Part One. Instrument Introduction
1. Spectral colorimeter : The highest precision colorimeter
2.Adoptsspectral measurement working theory which greatly improve the accuracy of colorimeter
3. Patented technology guarantees the measurement stability
4. Obtain national metrology certification
5. Ergonomic Design
Instrument girth radian designs according to human palm so we could test data for a long time. Superior leather design increases the friction in case of fingers sliding.
6. Mass storage memory : It could save 100 pcs targets and 200 pcs samples.

Product Characteristics

Type	CS-280	CS-280+
Illumination	di/8(Diffused Illumination, 8 degree viewing)	
	(conform to CIE No.15、ISO 7724/1、ASTM E1164、DIN 5033 Teil7、JIS Z8722 Condition c standard)	
Size of integrating sphere	Φ40mm, 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 4mm,6m	
Repeatability	Standard Deviation ΔE*ab 0.08(When a white calibration plate is measured 30 x at 10-second intervals after white calibration)	
Observe Angles	2° and 10°	
Light Source	A,C,D50 and D65	
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
Color Difference Formula	ΔE*ab,ΔE*CH	
Color Space	CIE-L*a*b,L*C*h,reflectance	CIE-L*a*b,L*C*h,XYZ,Yxy,reflectance
Other		WI(ASTM E313-10,ASTM E313-73, CIE/ISO，AATCC，Hunter，Taube Berger，Ganz，Stensby)
		YI(ASTM D1925，ASTM E313-00,ASTM E313-73)
Data Storage	20000 samples	
Light Source Lifetime	5 years, 1.5 million times	
Other Function	without	camera view, input color swatches
Screen	Panchromatic True Color Screen	
Language	Chinese and English	
Interface	USB2.0	
Working Temperature	5~45℃,relative humidity 80 % or less (at 35 °C) with no condensation	
Storage Temperature	-25°C – 55°C,relative humidity 80 % or less (at 35 °C) with no condensation	
Power	Rechargeable Lithium battery 8.4V/2000mAh, adaptor DC12V	
Size	77×86×210mm	
Weight	550kgs	
Standard Accessories	adapter, operating manual, color management software, drive software, electronic manual, color management guide, USB cable, black/white calibration tube, protective cover, portable bag, electronic color charts	

Optional	Micro Printer
Color Matching System	Not matched
UV Light Source	without

Parameters

Part Two. Technology Advantages
1).Uses CLEDs light source – spectrally balanced LED light source (Patent NO. : ZL2013107548347)
LED light source that has balanced intensity across visible spectrum avoids the spectral deficiency in certain parts of the spectrum in common white LEDs, which guarantees the speed and accuracy of the measurement results. This research has been published in national leading optical journal Chinese Optics Letter.

2).ETC-Every Test calibration technology (Patent NO. : ZL20130373360.1)
Currently, most instruments use standard white boards for calibration. When white board is damaged, the instrument's accuracy or precision will no longer be guaranteed. In CHNSpec's spectrophotometers, it uses innovative ETC(Every Test Calibration); standard white board is included in the optical system, and therefore has reliable accuracy and repeatability in every measurement.

3).Automatic gloss compensation technology (Patent NO. :ZL201310511357.1)
Different gloss or different instrument's light source or observation conditions will largely affect the color measurement. The automatic gloss compensation technology guarantees the accuracy of color measurement data for surfaces of different gloss. This research is published in international leading journal Optik.

4).Innovative light splitting SCS optical engine (Patent NO. : ZL201210337619.2)
Adopt innovative single-grating-dual-light-paths light splitting system: SCS optical engine , creates the best measurement repeatability for portable spectrophotometers in the industry, and guaranteed accurate measurement of surface color of materials.

Support

Part Six. Guarantee
1).Longest Guarantee Time

a. One Year Guarantee Time.
b. If testing data is not correct, we can do refund.
c. We will provide testing report for every device to assure the authority of the data and it will save the calibration cost for 1 year.