



Colorimeter & Gloss Meter

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Brief Introduction

- TCD100 is a light-sensitive instrument mainly used in colorimetry for measuring and psychophysical analyse the color of an object or color sample. This portable colorimeter is easy to use and can be carried anywhere, irrespective of environmental conditions.

Features

- Easy and direct operation with the simple function key
- Display directly color difference by ΔE^*ab , ΔL^*a^*b , $CIE_L^*a^*b$, $CIE_L^*c^*h$
- Silicon photodiode as light sensors for analyzing the absorption spectra.
- Standard deviation within $\Delta E^*ab0.2$ (test condition: choose average values by 12 pcs white tabula)
- Possibility of measuring any color of smooth surface
- LED illumination available
- Communication with PC the practical software

TCD100

COLOR DIFFERENCE METER

Standard Delivery

• Main unit	1
• Software	1
• USB connecting cable	1
• Batteries AA 1.5V	2
• Power	1
• TIME certificate	1
• Warranty card	1
• Instruction manual	1

Technical Specification

Test accuracy	Within $0.2\Delta E^*ab$
Color space	ΔE^*ab , CIE_Lab , ΔL , Δa , Δb , CIE_Lch
Measuring range	L: 0~100 a: -128~127 b: -128~127
Measuring time	About 2 seconds
Measuring interval	About 2 seconds
Measuring aperture	$\varnothing 8mm$
Automatic shutdown	Automatic shutdown after 5 minutes waiting
Memory	Keep a group of data automatically (without connecting to PC)
Field of view	10° regulated by CIE
Light source	D65 light source
Sensor	Correct silicon photodiode (seed array)
Screen type	LCD with backlight
Power	1.5V AA batteries $\times 2$, DC/5V (1.5A)
Operating environment	$0^\circ C \sim +40^\circ C$; lower than 85% relative humidity
Dimension (mm)	170 \times 50 \times 48.8
Weight (g)	204 (without batteies)



TCR200

PRECISE COLOR READER

Features

- High performance-price ratio among similar products
- High accuracy and stable performance
- PC software for data and statistical management
- Suitable for a company's internal and external color evaluation and data control
- Energy saving design, USB and bluetooth(optional) data connection
- Yellowness and whiteness measurement
- Multi-point measurement for averaging
- Large data storage space
- Chinese metrology accreditation



Optional Accessory

- Obtained china metrology Accreditation
- Both Chinese and English language options
- Ultra stable performance
- Display precision 0.01
- Repeatability precision AE's standard deviation 0.08
- Can measure whiteness or yellowness
- Measure at multiple spots for average
- Enhance the measure accuracy through white and
- Black calibration

Technical Specification

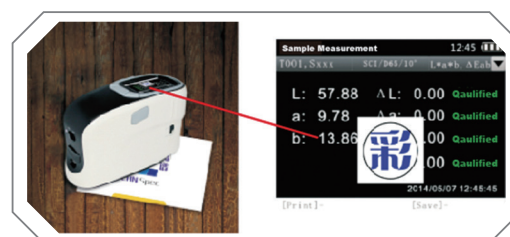
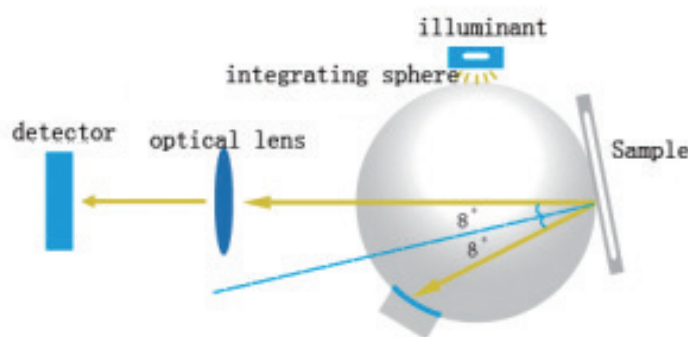
Illumination system	8/d (8°/diffused illumination), specular component included (SCI)	Storage	100 sets of standard samples; up to 100 under each standard sample
Display modes	Colorimetric values: Lxaxb, LxCxh, ΔE^*ab , XYZ, relative RGB values; Color difference values: $\Delta(Lxaxb)$, $\Delta(LxCxh)$; Whiteness values: hunterwhiteness, ganz whiteness Yellowness value: YI	Measuring time	About 0.5 seconds
		Measuring light source	LED
		Interface languages	Chinese, English
Measuring caliber	About 8mm	Power source	Four AA1.5V alkaline battery or nickel-metal hydride batteries; Exclusive DC5V adapter
Measuring conditions	CIE 10° standard observer; CIE D65 light source	port	USB 2.0, printer
Measuring range	L*: 1-100	Dimension (mm)	77×86×210
Repeatability	Standard deviation within ΔE^*ab^* , 0.08(condition: measure the white calibration board 30 times for average	weight (g)	550

TCR300

SPECTROPHOTOMETER

Brief Introduction

- Our device adopts internationally agreed observe condition D/8 (Diffused lighting, 8 degrees observe angle) and SCI(specular reflection included)/SCE(specular reflection excluded). It could be used for color matching for many industries and widely used in painting industry, textile industry, plastic industry, food industry, building material industry and other industries for quality control.
- Camera view to catch the testing area (Patent Right Number: ZL20130519382X)
- In previous measurement instrument, we can only aim at the testing area approximately, and this may introduce errors. Our spectrophotometers include a camera in our optical system, and the user can clearly see the tested area to avoid measurement errors.

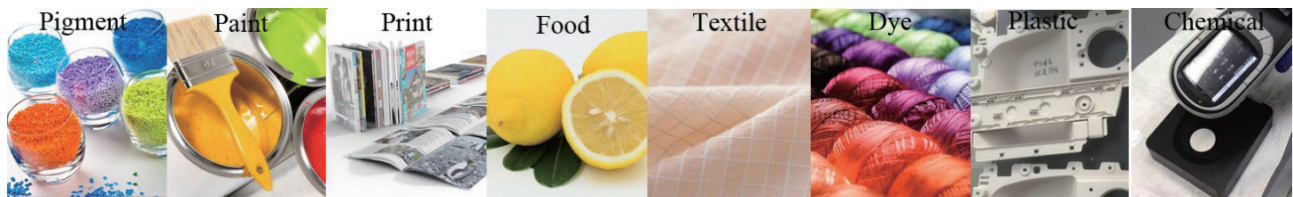


Technical Specification

Type	TCR300A/B
Illumination	d/8(Diffused lighting, 8 degrees observe angle)、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, diffused reflection surface coating
Illumination Light source	CLEDs(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,DLF,TL83,TL84,NBF,U30,CWF
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	2 seconds
Measurement time	1 second
Color space	CIE-L*a*b, L*C*h, L*u*v, XYZ, Yxy, Reflectance

Technical Specification

Type	TCR300A/B
Color difference formulas	ΔE^*ab , ΔE^*CH , ΔE^*uv , $\Delta E^*cmc(2:1)$, $\Delta E^*cmc(1:1)$, ΔE^*94 , ΔE^*00
Other colorimetric indices	WI(ASTM E313-10, ASTM E313-73, CIE/ISO, AATCC, Hunter, Taube Berger, Ganz, Stensby), YI(ASTM D1925, ASTM E313-00, ASTM E313-73), Tint(ASTM E313, CIE, Ganz) Metamerism index Milm, Stick color fastness, Color fastness
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
Battery capacity	rechargeable, 10000 continuous tests, 7.4V/6000mAh
Interface	USB
Data storage	20000 test results
Light source longevity	5 years, 1.5 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, micro printer, measurement and test report
Color matching system	not match
UV light source	without UV light source



HP-300

SINGLE GLOSS METER

Brief Introduction

- HP-300 is a portable instrument mainly applied for the quality control in the field of paints, varnishes, printing, printing ink, building material, plastic cement, ceramic, artificial leather, hardware. It covers the range necessary to measure most surface from high gloss to matt.



Features

- The appearance design conforms to physical dynamics, high accuracy and stable performance easy to operate
- Professional analysis software for the gloss data analysis and output, easy to transfer data by removable memory card
- Automatic calibration, internal calculation of max, min, mean standard deviation and coefficient of variation
- 1000 groups of measurement data can be stored
- Alarms for low-power and space shortage

Standard Delivery

- Main unit
- Software
- USB connecting cable
- Standard panel
- AAA batteries
- Power supply
- TIME certificate
- Warranty card
- Instruction manual

Optional Accessory

- Mobile memory card

Technical Specification

Measuring angle	Degree	60°	
Incidence angle	GU	Gs(60°):0.0~120	Gs(60°):120~1200
Measuring area	mm	Gs(60°):9x15	
Devision	GU	0.1	1
Rcproducibility	GU	0.2	0.2%
	GU	0.5	0.5%
Reading accuracy	GU	-1.5~+1.5	-1.5%~+1.5%
Deviation	GU	0.2	
Working temp	°C	10°C~40°C	
Storage temp	°C	-10°C~70°C	
Humidity		Less than 85%, non-condensing	
Power		4AAA alkaline battery (optional)	
Dimension	mm	163.8x58.1x88.3	
Weight	g	520	



Brief Introduction

- HP-380 is a portable instrument mainly applied for the quality control in the field of paints, varnishes, printing, printing ink, building material, plastic cement, ceramic, artificial leather, hardware. It covers the range necessary to measure almost surface from high gloss to matt.

Features

- The appearance design conforms to physical dynamics, high accuracy and stable performance easy to operate
- Multi-angle one-key measurement: one-key operation can complete three angles' measurement to meet data demand under different gloss conditions, incident angle of light measurement conforms to ISO and ASTM standards
- Professional analysis software for the gloss data analysis and output, easy to transfer data by blue-tooth and mobile memory card
- Automatic calibration, internal calculation of max, min, mean standard deviation and coefficient of variation
- Optional angle mode: measurement angle or angle combination can be selected by user's need
- Big storage: under triangle mode, 10000 times or 1000 groups of measurement data can be stored
- Alarms for low-power and "space shortage"

HP-380

TRI-ANGLE GLOSSMETER

Standard Delivery

- Main unit 1
- Software 1
- USB connecting cable 1
- Standard panel 1
- AAA batteries 4
- Power supply 1
- TIME certificate 1
- Warranty card 1
- Instruction manual 1

Optional Accessory

- Mobile memory card

Technical Specification

Measurement angle	20° 60° 85°	
Standards	ISO2813, ISO7668, ASTM D523, ASTM D2457	
Incidence angle (GU)	Gs(20°): 0.0~120 Gs(60°): 0.0~120 Gs(85°): 0.0~120	Gs(20°): 120~2000 Gs(60°): 120~1200 Gs(85°): 120~160
Measuring optical spot (mm)	Gs(20°): 10x10 Gs(60°): 9x15 Gs(85°): 5x38	
Resolution (GU)	0.1	1
Repeatability (GU)	0.5	0.5%
Indication accuracy (GU)	-1.5~+1.5	-1.5%~+1.5%
Zero value accuracy (GU)	0.2	
Power	Both AAA batteries and power supply	
Operating temperature	10°C~40°C	
Storage temperature	-10°C~70°C	
Humidity	Less than 85%, Non-condensation	
Dimension (mm)	164x58x88	
Weight (g)	520	