

## 快速使用教程

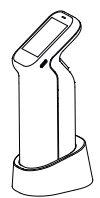
### 1.扫描二维码获取手机App及操作说明



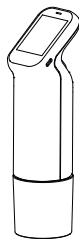
### 2.开机及校准



开机

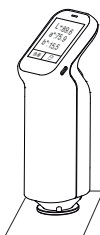


将仪器放到白校准底座上进行白校准

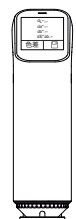


将仪器放到黑校准盒上进行黑校准

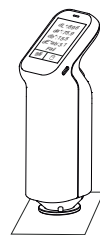
### 3.如何测色差



测标准

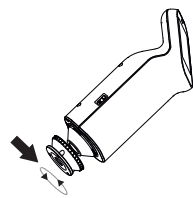


切换到色差测量界面

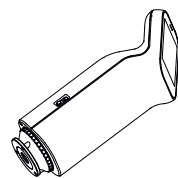


测样品,得出色差

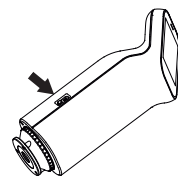
### 4.口径切换



旋转并取下测量口径

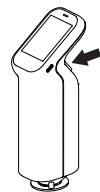


将测量口径旋转扣合



根据口径选择对应的MAV或SAV模式

### 5.关机



长按3秒

## 基础参数

测量结构: D/8,SCI/SCE(漫射照明/8°方向接收,包含镜面反射/去除镜面反射)  
符合标准: 符合标准CIE No.15,GB/T 3978,GB 2893  
GB/T 18833,ISO7724-1,ASTM E1164,DIN5033 Teil7

分光方式: 纳米集成光谱器件  
感 应 器: 硅光电二极管阵列 双16组  
测量指标: 光谱反射率

CIE-Lab,CIE-LCh,HunterLab,CIE-Luv,XYZ,Yxy,RGB  
色差( $\Delta E^*ab, \Delta E^*cmc, \Delta E^*94, \Delta E^*00$ )  
白度(ASTM E313-00,ASTM E313-73,CIE/ISO  
AATCC,Hunter,TaubeBerger,Stensby,R457)  
黄度(ASTM D1925,ASTM E313-00,ASTM E313-73)  
黑度(My,dM),沾色牢度,变色牢度,Tint(ASTM E313-00)  
色密度CMYK(A,T,E,M),同色异谱指数MilM  
孟塞尔,遮盖力,力份(染料强度,着色力)

积分球直径: 40mm  
照明光源: 全波段均衡LED光源+UV  
测量口径: 稳定型:  $\Phi 11mm, \Phi 10mm, \Phi 6mm, \Phi 5mm, \Phi 3mm$ ;  
灵巧型:  $\nabla 11mm, \nabla 10mm, \nabla 6mm, \nabla 5mm, \nabla 3mm$

波长间隔: 10nm  
波长范围: 400-700nm(用户可查看31个波长反射率)  
反射率测定范围: 0-200%  
反射率分辨率: 0.01%  
显示精度: 0.01  
测量重复性:  $\Delta E^*ab \leq 0.03$   
(仪器校正后,以5秒间隔测量白色校正板30次以MAV口径测量结果标准偏差)

测量时间: 约1秒  
接 口: USB, 蓝牙  
光源条件: A,B,C,D50,D55,D65,D75,F1,F2,F3,F4,F5,F6,F7,  
F8,F9,10,F11,F12,CWF,U30,U35,DLF,NBF,TL83,  
TL84,ID50,ID65,LED-B1,LED-B2,LED-B3,LED-B4,  
LED-B5,LED-BH1,LED-RGB1,LED-V1,LED-V2

视 场 角:  $2^\circ, 10^\circ$   
屏 幕: 全彩屏幕, 2.4英寸  
电池容量: 单次充电可连续测量8000次, 3.7V/3000mAh  
光源寿命: 10年100万次  
语 言: 简体中文, 英语  
校 准: 智能自动校准  
软件支持: Android, iOS, Windows, 微信小程序  
测量观察方式: 摄像头  
重 量: 约260g  
体 积: 180mm\*60mm\*51mm  
准确性保证: 一级计量合格  
存 储: 仪器: 1万条数据; APP: 海量存储

\*参数如有修改,恕不另行通知

## 保修说明

本产品售后服务严格依据《中华人民共和国消费者权益保护法》、《中华人民共和国产品质量法》实行售后三包服务,服务内容如下:

- 1、自您签收日起7日内,本产品出现《产品性能故障表》所列性能故障的情况,经由本司售后服务中心检测确定,可免费享受退货或换货服务;
- 2、自您签收日起8-15日内,本产品出现《产品性能故障表》所列性能故障的情况,经由本司售后服务中心检测确定,可免费享受换货或维修服务;
- 3、由你签收日期至保修期结束,本产品出现《产品性能故障表》所列性能故障的情况,经由本司售后服务中心检测确定,可免费享受维修服务。

## 提示信息

因运输过程中需用包装箱保证产品运输安全,建议自签收日起至少保留包装箱30天。

## 非保修条例

- 1、未经授权的维修、误用、碰撞、疏忽、滥用、进液、事故、改动、使用非本产品配件,或撕毁涂改标签、防伪标记;
- 2、已超过三包有效期;
- 3、因不可抗力造成的破坏;
- 4、不符合《产品性能故障表》所列性能故障的情况;
- 5、因人为原因导致非本产品及其配件产生《产品性能故障表》所列性能故障。

## 警告

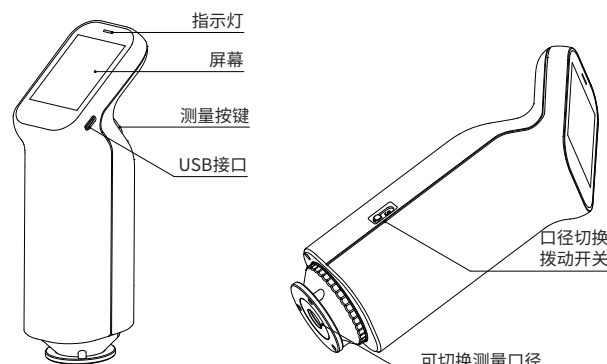
- 请勿尝试拆卸或更换仪器内部零件,如需服务请联系代理商或官方客服。
- 请勿将仪器放置于热源或直接暴露在炉火旁。
- 若任何液体不小心进入仪器,请立即关闭仪器电源。
- 本产品及内部零件,如被儿童误食可能导致窒息等危险。

## 性能故障表

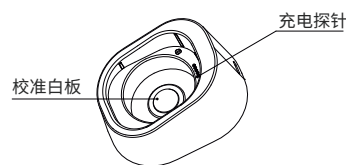
名称	性能故障
分光色差仪	1、电源指示灯不亮(电池没电除外); 2、仪器开关卡滞,不能正常开关; 3、仪器显示器无法正常显示; 4、测量光源不亮; 5、蓝牙无法连接。

## 产品介绍

使用产品前请仔细阅读本说明书,并妥善保管



主机



校准充电底座

## 分光色差仪 使用说明书

## Quick Start

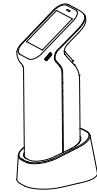
### 1.Scan QR code to get mobile App



### 2.Power on Calibration



Power on

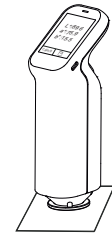


Place the instrument on the white calibration base for white calibration

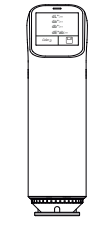


Place the instrument on the black calibration box for black calibration

### 3.How to measure color difference



Measure Target

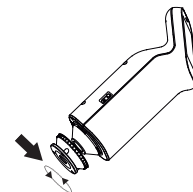


Enter into color difference measurement interface

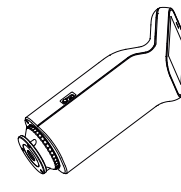


Measure sample to get the color difference

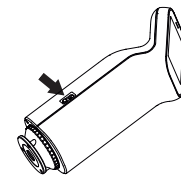
### 4.Change Test Aperture



Twist and take off the aperture

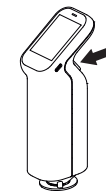


Twist to install the new aperture



Choose MAV or SAV according to the aperture size

### 5.Power off



Long press 3s

## Parameters

GeoMetry and Angle:	d/8 (diffused illumination,8 degree viewing) SCI (specular component included) +SCE (specular component excluded)
Standards compliant:	Conform to standard CIE No.15, GB/T 3978, GB 2 GB/T 18833,ISO7724-1,ASTM E1164,DIN5033 Teil7
Spectroscopic method:	Nano-integrated spectral devices
Sensor:	Silicon Photodiode Array Dual 16 Groups
Color Value:	Reflectance CIE-Lab,CIE-LCh,HunterLab,CIE-Luv,XYZ,Yxy,RGB ColorDifference( $\Delta E^*ab, \Delta E^*cmc, \Delta E^*94, \Delta E^*00$ ) WI(ASTM E313-00,ASTM E313-73,CIE/ISO AATCC,Hunter, TaubeBerger,Stensby,R457),YI(ASTM D1925 ASTM E313-00,ASTM E313-73),Blackness (My,dM) ,Color Fastness Tint(ASTM E313-00),Color Density (CMYK(A,T,E,M)) ,Milm Munsell,Opacity,ColorStrength
Integrating sphere diameter:	40mm
Lighting source:	Full band balanced LED light source+UV
Measuring aperture:	5w/ plate and 5w/o plate: $\Phi 11mm, \Phi 10mm, \Phi 6mm,$ $\Phi 5mm, \Phi 3mm; \nabla 11mm, \nabla 10mm, \nabla 6mm, \nabla 5mm, \nabla 3mm$
Wavelength Interval:	10nm
Wavelength Range:	400-700nm
Reflectance measurement range:	0-200%
Reflectance resolution:	0.01%
Measurement accuracy:	0.01
Repeatability:	$\Delta E^*ab \leq 0.03$ (When a white tile is measured 30 times at 5-seconds interval)
Measurement Time:	About 1s
Interface:	USB,Bluetooth
Illuminants:	A,B,C,D50,D55,D65,D75,F1,F2,F3,F4,F5,F6,F7,F8, F9,F10,F11,F12,CWF,U30,U35,DLF,NBF,TL83,TL84, ID50,ID65,LED-B1,LED-B2,LED-B3,LED-B4, LED-B5,LED-BH1,LED-RGB1,LED-V1,LED-V2
Observer Angle:	2°, 10°
Screen:	Full color screen, 2.4 inches
Battery:	Rechargeable, 8,000 times continuous tests,3.7V /3000mAh
Light Source Lifetime:	10 years,1 million tests
Language:	Chinese,English
Calibration:	Automatic
Software support:	Android/iOS/Windows/WeChat applet
Camera:	Yes
Weight:	About 260g
Instrument Size:	180mm*60mm*51mm
Accuracy assurance:	Guarantee Qualification of First-level Measurement
Storage:	Instrument: 10,000 pieces of data; APP: Mass Storage

\*Parameters are subject to change without notice

## Warranty

### Reminder

It is recommend that keep the packing box for at least 30 days as the packing box is required to ensure the safety of transportation.

### Non warranty regulations

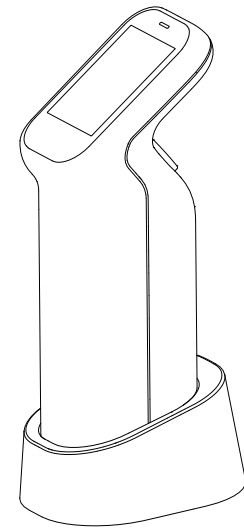
- 1.Unauthorized repair,misuse,accident,modification,use of nonofficial accessories.
- 2.Instrument is out of warranty.
- 3.Damage caused by force.
- 4.Not the performance failure listed in the product performance failure table.
- 5.Performance failure caused by human factors.

## Warning

- .Do not attempt to disassemble or replace any part of the equipment. Please contact the agent or official customer service for after sales service.
- .Do not place the equipment near heat source or directly expose to the fire.
- .If any liquid enters the equipment,please power off the equipment immediately.
- .This product contains small parts.It may cause suffocation and other hazards,if swallowed by children.

## Product Performance Failure Table

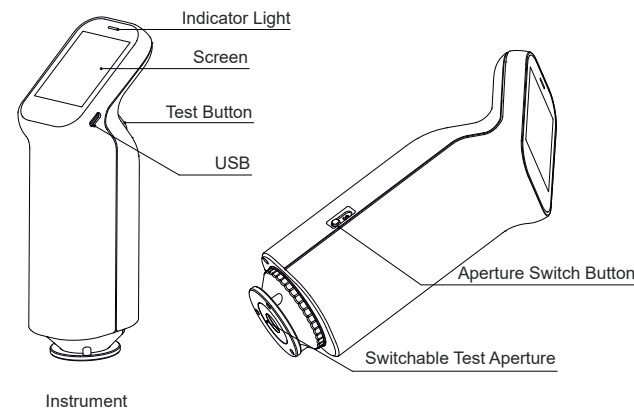
Name	Performance failure
Spectral Colorimeter	<ol style="list-style-type: none"> <li>1.The equipment can't power on.</li> <li>2.The equipment's button can't work normally.</li> <li>3.Equipment screen fails to work normally.</li> <li>4.Equipment lamp fails to work normally.</li> <li>5.Bluetooth can't connect.</li> </ol>



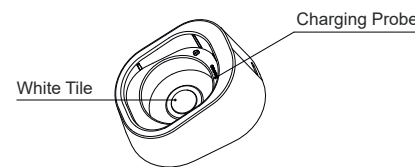
## Spectral Colorimeter Operation Instruction

## Product introduction

Please read this manual carefully before using the product.



Instrument



Calibration and Charging Base