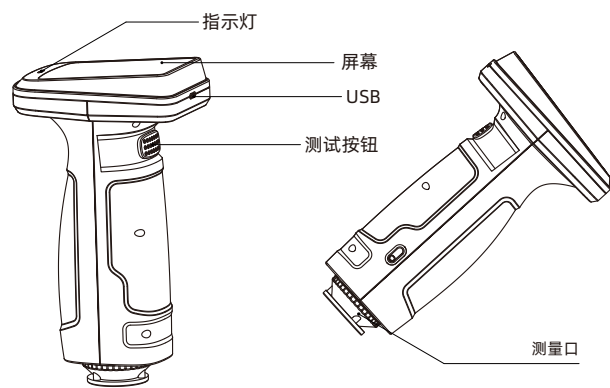
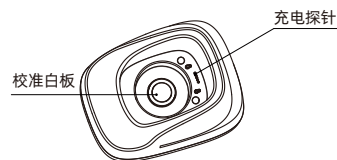


## 产品介绍

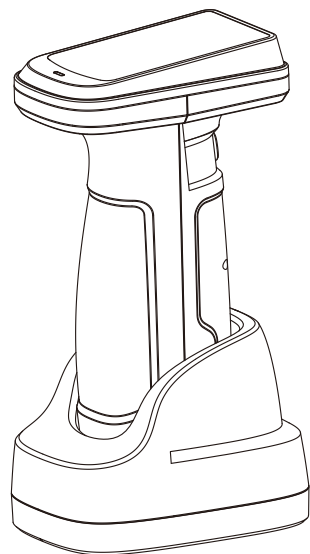
使用产品前请仔细阅读本说明书,并妥善保管



主机



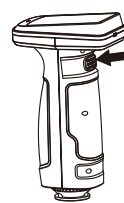
校准充电底座



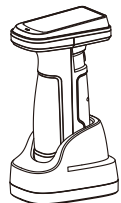
# 分光测色仪 使用说明书

## 快速使用教程

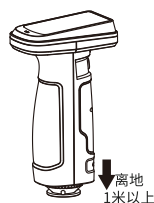
### 1. 开机及校准



开机

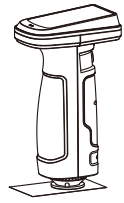


将仪器放到校准底座  
进行白校准

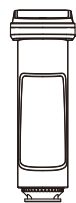


将仪器对准空气  
进行黑校准

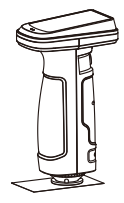
### 2. 如何测色差



测标准

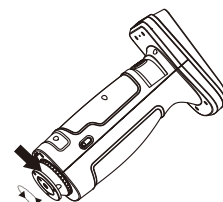


切换到色差测量界面

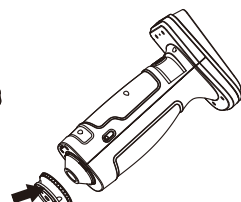


测样品,得出色差

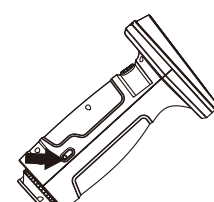
### 3. 口径切换



旋转并取下测量口径

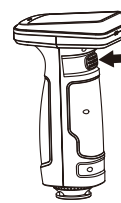


将替换的  
测量口径旋转扣准



根据口径  
选择对应的MAV或SAV模式

### 4. 关机



长按3秒

## 基础参数

照明/受光系统: d/8,SCI+SCE  
传感器: 双列高精度CMOS阵列传感器  
分光方式: 光栅  
积分球尺寸:  $\Phi$ 40mm  
测量波长范围: 400-700nm  
测量波长间隔: 10nm  
反射率测定范围: 0-200%, 分辨率: 0.01%  
照明光源: 全波段均衡LED光源+UV  
测量时间: 约1.5秒  
测量/照明口径: 3个口径 (MAV: $\Phi$ 8mm/ $\Phi$ 11mm;  
SAV: $\Phi$ 4mm/ $\Phi$ 6mm;MINI:1\*3mm)

重复性<sup>\*</sup>:  $\Delta E^*ab \leq 0.025$   
器间差<sup>\*\*</sup>:  $\Delta E^*ab \leq 0.25$   
语言模式: 简体中文, 英语  
显示精度: 0.01  
标准观察者: 2°, 10°  
观察光源: 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

色空间/色度指标: 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,TaubeBergerStensby),  
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)

内存: APP海量存储  
端口: USB, 蓝牙  
电池容量: 单次充电可连续测量8000次, 3.7V/3000mAh  
摄像头取景定位: 有  
校准: 智能自动校准  
软件支持: Andriod,IOS,微信小程序, Windows  
准确性保证: 保证一级计量合格  
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  
屏幕: IPS全彩屏幕3.5英寸  
光源寿命: 10年100万次

<sup>\*</sup> 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

<sup>\*\*</sup> BCRA系列 II 12块色板测量平均值

\*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,服务内容包括:

- 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、自您签收日起12个月内,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

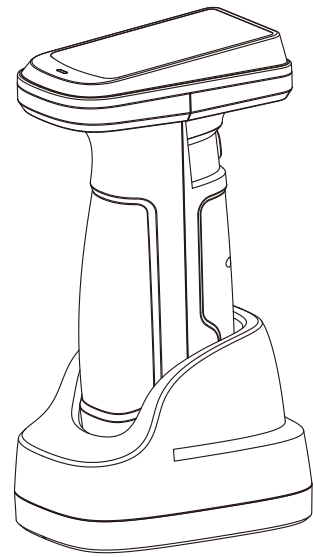
- 1、未经授权的维修、误用、碰撞、疏忽、滥用、进液、事故、改动、使用非本产品配件,或撕毁涂改标签、防伪标记;
- 2、已超过三包有效期;
- 3、因不可抗力造成的破坏;
- 4、不符合《产品性能故障表》所列性能故障的情况;
- 5、因人为原因导致非本产品及其配件产生《产品性能故障表》所列性能故障。

## 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

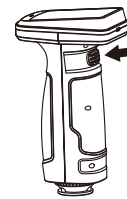
名称	性能故障
分光测色仪	1、电源指示灯不亮(电池没电除外); 2、仪器开关卡滞,不能正常开关; 3、仪器显示器无法正常显示; 4、测量光源不亮; 5、蓝牙无法连接。



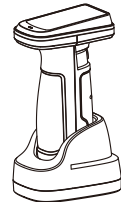
## Spectrophotometer Operation Instruction

### Quick Start

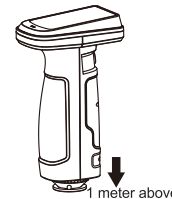
#### 1. Power on and Calibration



Power on

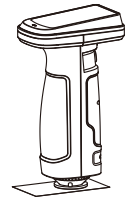


Put the instrument into the calibration base for white calibration.

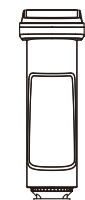


Measure air for black calibration

#### 2. How to measure color difference

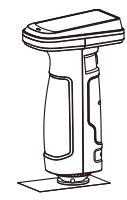


Measure Target



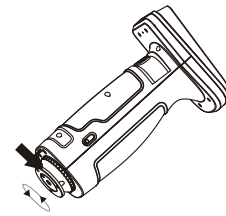
Enter into color difference measurement interface

dL\*:-  
da\*:-  
db\*:-  
dE\*ab:-

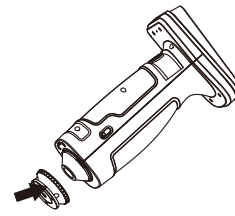


Measure sample to get the color difference

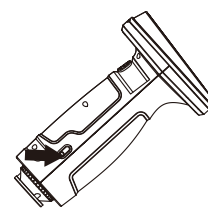
#### 3. Switch Aperture



remove the aperture.

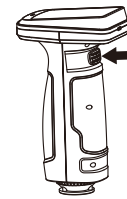


Rotate the aperture buckle



Choose MAV or SAV according to the aperture size.

#### 4. Power off



Long press 3s

### Parameters

Geometry:	d/8,SCI+SCE
Sensor:	DualopticalpathhighpreciseCMOSarraysensor
Spectroscopic method:	Grating spectroscopy
Sphere Size:	Φ40mm
Wavelength Range:	400-700nm
Wavelength Interval:	10nm
Reflectance Range:	0-200%, resolution 0.01%
Light Source:	LED(FullwavelengthbalancedLED)+UV
Measurement Time:	About 1.5s
Illumination Area/Aperture:	3 Aperture (MAV:Φ8mm/Φ11mm; SAV:Φ4mm/Φ6mm,MINI:1*3mm)
Repeatability <sup>※</sup> :	Standard deviation within ΔE*ab ≤ 0.025
Inter-instrument agreement <sup>※※</sup> :	ΔE*ab≤0.25
Language:	English and Chinese
Display Resolution:	0.01
Observer Angles:	2°, 10°
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
Color Spaces and Indices:	Reflectance, CIE-Lab, CIE-LCh, HunterLab, CIE Luv, XYZ, Yxy, RGB, Color difference(ΔE*ab, ΔE*cmc, ΔE*94,ΔE*00), WI(ASTM E313-00,ASTM E313-73,CIE/ISO, AATCC, Hunter, Taube Berger Stensby), 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, Color strength
Storage:	APP Mass Storage 100 pcs of target from instrument
Interface:	USB, Bluetooth
Battery:	Rechargeable, 8000 times continuous tests, 3.7V/3000mAh
Camera to see the measurement area:	Yes
Calibration:	Intelligent auto calibration
Software:	Andriod,IOS,Windows
Accuracy:	Metrology Level I
Standards:	Conform to CIE No.15, GB/T 3978, GB 2893, GB/T 18833, ISO7724-1, ASTM E1164, DIN5033 Teil7
Screen:	IPS Full Color Screen,3.5 inches
Light Source Lifetime:	10 years, 1 million tests

※ When a white tile is measured 30 times at 5-seconds interval with MAV

※※ BCRA Series II , average measurement of 12 tiles

\*Parameters are subject to change without notice

### 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

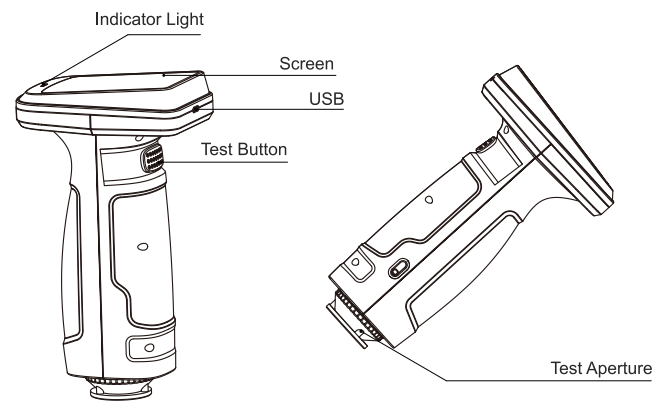
- .Do not attempt to disassemble or replace any part of the equipment. Please contact the agent or official customer service for after sales service.
- .Do not place the equipment near heat source or directly expose to the fire.
- .If any liquid enters the equipment,please power off the equipment immediately.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

### Product Performance Failure Table

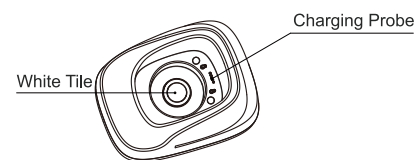
Name	Performance failure
Spectrophotometer	<ol style="list-style-type: none"> <li>1.The equipment can't power on.</li> <li>2.The equipment's button can't work normally.</li> <li>3.Equipment screen fails to work normally.</li> <li>4.Equipment lamp fails to work normally.</li> <li>5.Bluetooth can't connect.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

### Product introduction

Please read this manual carefully before using the product.



Instrument



Calibration and Charging Base