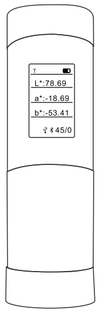
正面

Skin ColorReader

OPERATION MANUAL



V1.0

2.004.01.0227

Overview

Skin ColorReader is a portable small color measuring instrument with small size, convenient use and accurate measurement. It is widely used in industries such as plastic electronics, paint and coating, textile and garment printing and dyeing.

The instrument can be connected to the mobile phone APP and SQCX PC quality management software to achieve more functional expansion. The mobile APP comes with multiple sets of electronic color cards, which can realize color card retrieval and matching. The mobile phone APP and SQCX PC software have a variety of light source, color space, color index, and reflectance functions, which can realize massive chromaticity index testing.

This instrument has the following advantages:
1) It can be measured after power-on, no need to perform white calibration every time, making color measurement easier;

2) Separate design of calibration whiteboard and measuring port to ensure long service life of whiteboard and accurate measurement;

3) Accurate, stable, small size, easy to carry, APP built-in mobile electronic color card, it is a good helper for mobile color quality control;

4) Built-in rechargeable lithium battery, Type-C USB interface, easy to use;

5) Connect the mobile phone APP and PC SQCX software to achieve more functional expansion.

1. Button and interface description

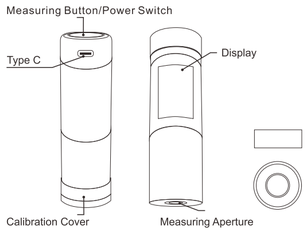


Figure 1 Schematic

2. Operating instructions

2.1 Battery instructions

This instrument uses a built-in lithium battery, the specification of the lithium battery is Li-ion 3.7V, and the capacity is 800mAh. Use a USB cable to connect to the PC or connect to a 5V==1A power adapter to charge the lithium battery. The maximum charging current can reach 500mA. When the battery level is greater than 80% during charging, the LED indicator will be green, while the battery level is less than 20%, the LED indicator will be red, and the the indicator is yellow when the battery level is between 20% and 80%. The display also shows a charging prompt, and the charging is complete, indicating that the battery is full.

2.2 Switch on and off

Power on: In the power off state, short press the power switch, the instrument is powered on, the LED indicator flashes, the display screen lights up and enters the measurement interface.

Shutdown: In the power-on state, long press the power switch to shut down the instrument. After being left idle for a period of time, the instrument will automatically shut down.

Note: When not using the instrument for a long time, please turn off the power.

2.3 Black and white calibration

Cover the calibration box of the instrument, and automatically calibrate after starting up.

2.4 Mobile APP installation and measurement

The mobile APP supports Android and IOS operating system. Use the mobile browser or WeChat to scan the QR code below, download and install.

Figure 2 QR code for Android

Figure 3 QR code for IOS

2.5 Quality management software installation

The instrument can establish a connection with the PC-side SQCX quality management software through a USB data cable or a Bluetooth module (only for products equipped with a Bluetooth module) to communicate and achieve more functional expansion.

2.6 Measurement

The standard sample measurement and sample measurement can be realized by the instrument.

2.6.1 APP measurement

On the color measurement interface of the mobile app, click "Measure Standard" to obtain the chromaticity data and simulated color. Click "Measure Sample" to obtain the chromaticity data, difference value, and simulated color of the sample(Figure 4&5).

Figure 4 Measurement on the instrument

Figure 5 Measurement on the APP

2.6.2 Standard measurement on instrument

In the standard measurement interface, align the measurement aperture to the standard and press the "measurement button". The instrument obtains the chromaticity data of the standard (Figure 6).The green indicator LED flashes once when the measurement is completed. The status bar at the top of the instrument screen displays the current measurement conditions, and the icons below show the USB and Bluetooth connection status.
Double-click the "measurement button", and switch to the skin measurement interface. Press the "measurement button" , and the instrument will obtain the skin measurement data of the standard sample(Figure 7). Long press the "measurement button" can enter the skin sample measurement interface.

Figure 6 Standard measurement-1

Figure 7 Standard measurement -2

258.00 mm

256.00 mm

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2.6.3 Sample measurement on instrument

In the standard sample measurement interface, long press the "measurement button" to enter the sample measurement interface associated with the standard sample(Figure 8). Align the measuring aperture with the sample and press the "measurement button", and the instrument will obtain the chromaticity data of the sample. The green indicator LED flashes once when the measurement is completed.

Double-click the "measurement button", and switch to the skin measurement interface. Press the "measurement button" , and the instrument will obtain the skin measurement data of the sample sample(Figure 9). Long press the "measurement button " can enter the skin standard measurement interface.

The default tolerance of the instrument is 1.0. When the color difference is within the tolerance range, it will prompt "Pass", otherwise, it will prompt "Fail". The instrument tolerance can be set via APP and SQCX.

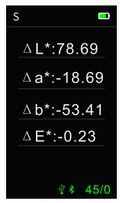

Figure 8 Sample measurement -1

Figure 9 Sample measurement-2

2.7 Bluetooth mini printer

The Bluetooth mini printer is a non-standard accessory and needs to be purchased separately. The instrument is connected to a specially equipped mini printer, which can print measurement data.

3.Daily maintenance

1) This instrument is a precision optical instrument, please keep and use the instrument properly, and avoid using and storing the instrument in humid, strong electromagnetic interference, strong light, and dusty environments. It is recommended to use and store the instrument in a standard laboratory environment (temperature 20 degrees Celsius, 1 standard atmospheric pressure, humidity 50~70%RH).

2) The whiteboard is a precision optical component. It should be kept and used properly. Avoid hitting the working surface with sharp objects, avoid staining the working surface with dirt, and avoid exposing the whiteboard to strong light. Regularly clean the working surface of the whiteboard with a wipe cloth dipped in alcohol, and remove the dust on the working surface in time when correcting.

3) In order to ensure the validity of the measurement data, it is recommended that the complete instrument and the whiteboard should be inspected by the manufacturer or a qualified metrology institute one year from the date of purchase.

4) Please do not disassemble the instrument without permission. If you have any questions, please contact the relevant after-sales staff. Tearing the easy-to-tear label will affect the after-sales maintenance service of the instrument.

Package List

No.	Name	Qty
1	Skin ColorReader	1
2	Calibration Cavity	1
3	Usb Cable	1
4	Operation Manual	1
5	Warranty Card	1

4.Technical specifications

Optical Geometry	45/0 (45°circular uniform illumination 0 ° reception), Conforms to standards CIE No.15, GB/T 3978,GB 2893,GB/T, 18833, ISO7724-1, ASTM E1164, DIN5033 Teil7
Features	Used for skin color measurement, it can conveniently measure individual skin color angles, skin type, melanin index and erythema index. It is compact in size and easy to carry.
Integrating Sphere Size	/
Illuminant Device	Full spectrum LED light source
Spectro Method	Nanometer-integrated spectral device
Sensor	Silicon photodiode array(dual row 16 groups)
Wavelength Range	400～700nm
Measuring Aperture	Φ8mm
SCI/SCE	SCI
Color Space	CIE LAB
Color Difference Formula	ΔE*ab
Other Color Index	ITA°, skin type, melanin index(MI) and erythema index(EI)
Display Accuracy	0.01
Observer Angle	10°
Illuminants	D65
Display	Chromaticity value, color difference value, pass/fail result, color simulation, color offset, reflectance (partly through mobile APP)
Measuring Time	About 1.0s
Repeatability	Color：ΔE*ab within 0.03（After warm-up calibration, the average value of measuring the whiteboard 30 times at an interval of 5s）
Accuracy	Pass National Metrology(Some models are not guaranteed）
Measuring Mode	Single measurement, Average measurement（2～99times）(Implemented through smartphone App）
Dimension	Ø32X100mm
Weight	88g
Battery	Lithium battery, can do tests continuously for 12000 times in a single full charge
Light source lifespan	5-years more than 3 million times measurements
Screen	IPS full color screen, 1.14inch
Port	Type-C USB：Bluetooth
Data Storage	Mass storage can be expanded through mobile APP（Different models are different）
Language	Chinese, English
Working Temperature range	0~40°C，0~85%RH (No condensation)，Altitude：lower than 2000m
Storage Temperature Range	-20~50°C,0~85%RH(No condensation)
Standard Accessories	USB cable, user manual, calibration box, PC Color quality management software, APP (download from official website)
Optional Accessories	USB mini printer, powder test box
Note	Technical parameters are for reference only, subject to actual instruments.

注意：
1.成品尺寸86x128mm
2.单黑色，80g书写纸
3.红色线为折痕，折叠方式如右图
“Skin ColorReader”字样需在正面：
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