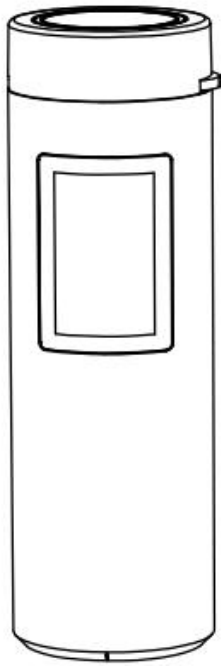


sisco

Lab Colorimeter



1.utton and interface description

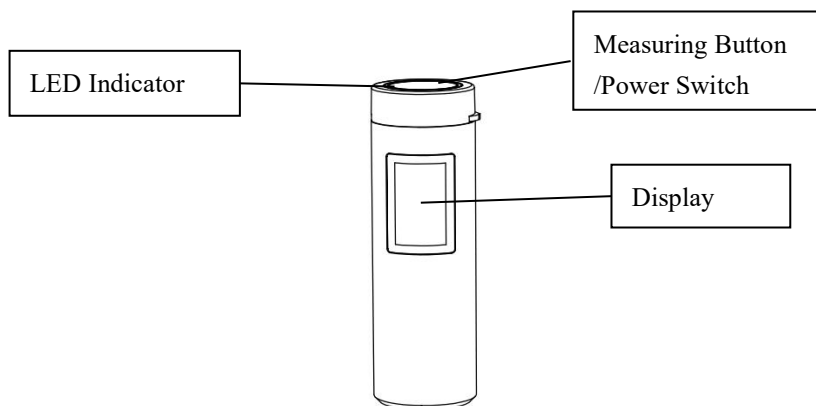


Figure 1 Schematic diagram of button interface (front)

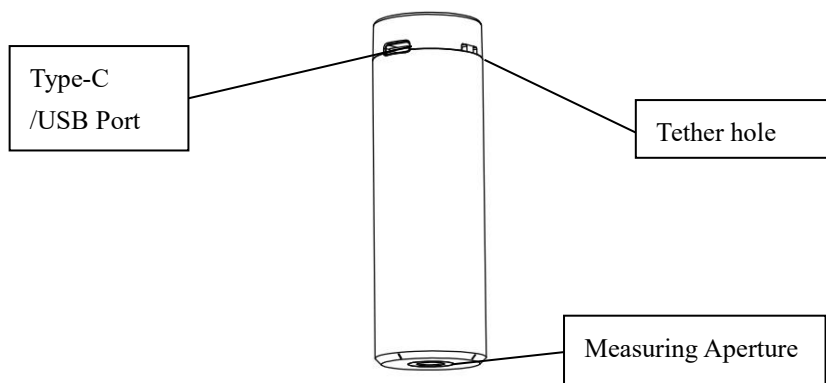


Figure 2 Schematic diagram of button interface (rear)

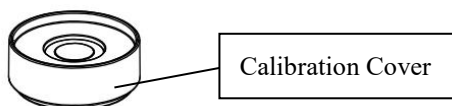


Figure 3 Schematic diagram of calibration cover

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 data cable to connect to the USB port on the PC or connect to a 5V==1A power adapter to charge the lithium battery. The maximum charging current can reach 500MA. When charging, the battery level is greater than 80%, the LED indicator is green, the battery level is less than 20%, the LED indicator is red, and the battery level is between 20% and 80% is yellow. The display 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, press the top button of the instrument briefly to power on the instrument, 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. When the automatic sleep mode is turned on, the instrument will automatically shut down.

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

2.3 calibration

The calibration cover is placed on the bottom of the instrument and automatically calibrated after the instrument is turned on. The instrument displays "Automatic Calibration Completed!" and automatically jumps to the measurement interface.

2.4 Lab value measurement (single machine measurable)

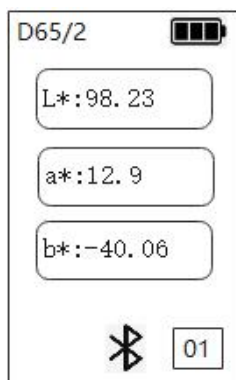


Figure 4 Instrument standard sample measurement

On the standard sample measurement interface, press the measuring aperture tightly against the skin and briefly press the "measurement button" on the top of the instrument to obtain the lab value of the skin, as shown in Figure 4. The measurement is completed and the green LED indicator light flashes once. The status bar above the instrument screen displays the current measurement conditions, the icon below displays the USB and Bluetooth connection status, and the 01 in the lower right corner represents the current standard sample number.

The Lab value of skin chromaticity obtained from the above measurements can be used as a reference for skin color. The L value represents the range from pure black to pure white, with a value range of [0,100]. The L value can reflect the depth or black and white of skin color, and the larger the L value, the whiter the skin; A represents the range from red to green, with a value range of [-128,127]. The value of a can reflect the degree of skin redness, and the larger the value of a, the redder the skin color; B

represents the range from yellow to blue, with values ranging from [-128,127]. The b value is related to sun exposure, and the larger the b value, the more yellow the skin color.

2.5 ITA° value measurement(measured through software)

2.5.1 Software download (choose one of the three methods)

(1)Color Matching Cloud For Android Download,Please scan the QR code below with your browser to download directly.



(2)Color Matching Cloud For iPhone Download, Please search for Color Matching Cloud in the App Store to download directly, or use a browser to scan the QR code below to download directly.



(3) Use WeChat mini program to directly search for the "Color Matching Cloud" mini program on WeChat.

2.5.2 Measurement

(1) Enter the "Color Matching Cloud" software or mini program, complete account registration, and then log in.

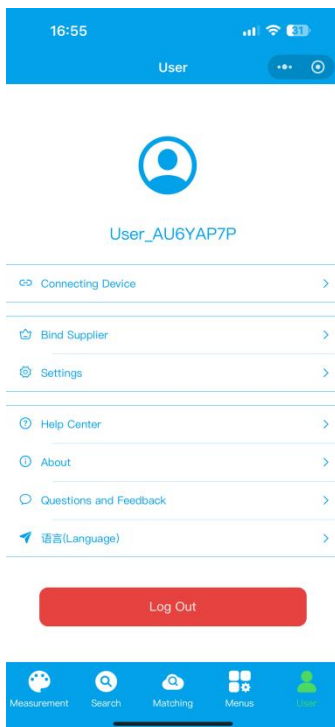


Figure 5 Login completion interface

(2)Click on "Connect Devices". To keep the Bluetooth on, click on "Search for Nearby Devices". Once the device you want to connect to appears below, click on "Connect".

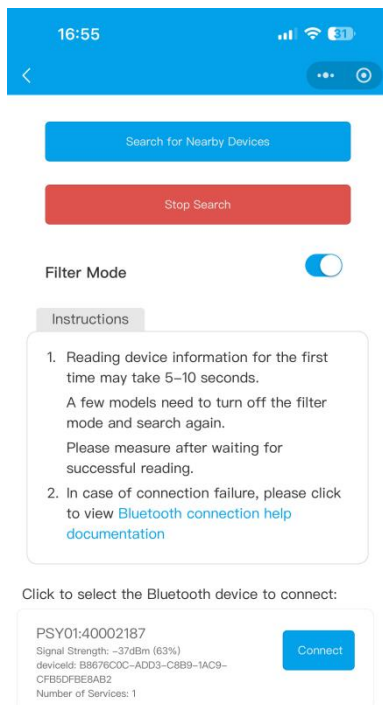
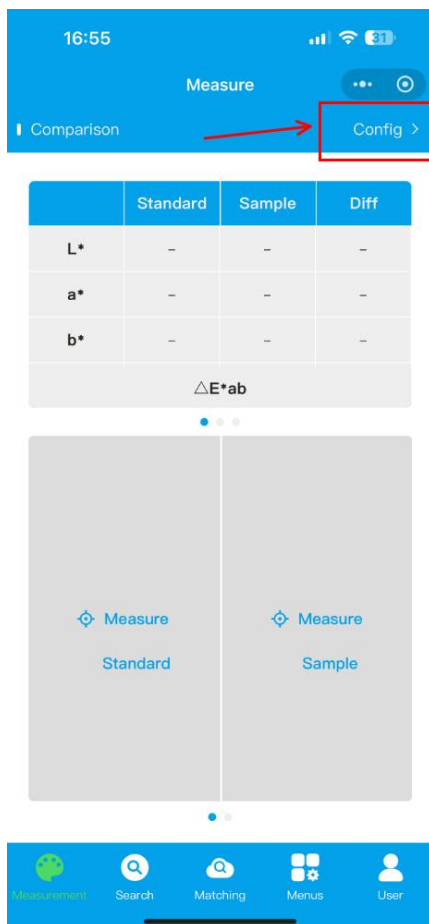
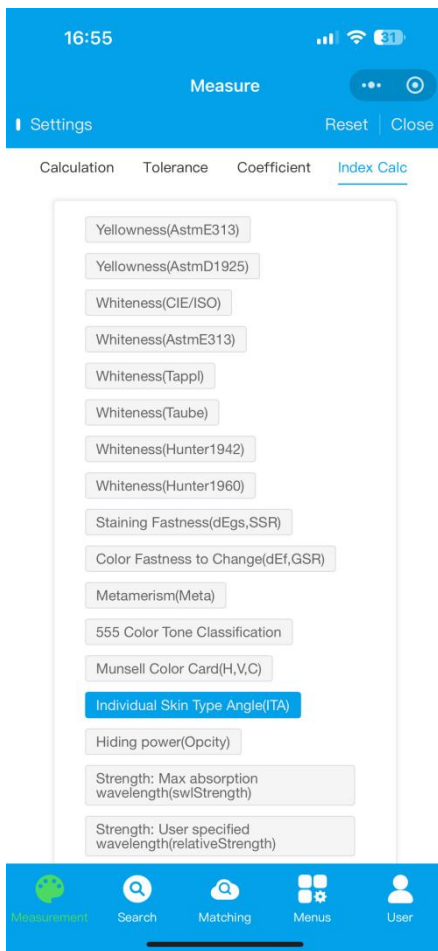


Figure 6 Connection Device Interface

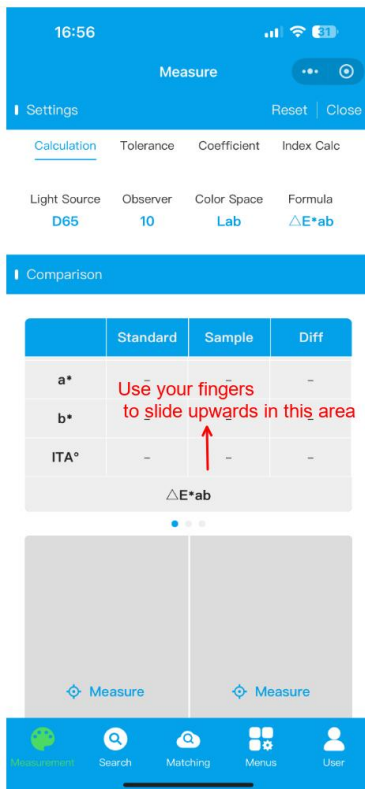
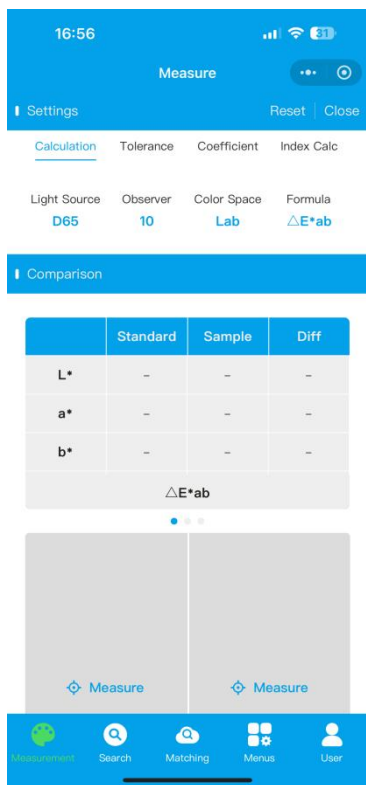
(3) After the instrument is successfully connected, go to the measurement page and click on "Config" in the upper right corner.



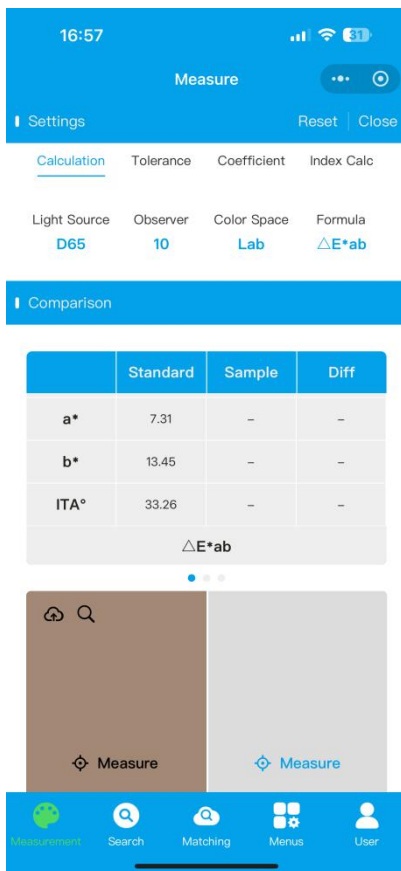
Click on 'Index Calculation' and select 'Individual Skin Type Angle (ITA)'.



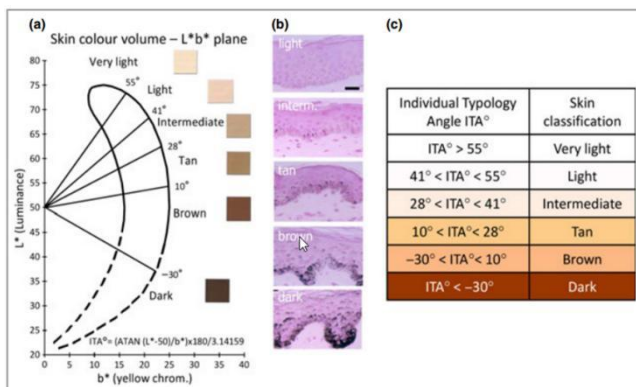
(5) Return to the calculation settings interface, swipe up at the Lab value to display ITA °



(6) Place the measuring aperture tightly against the skin, click on the "Measurement Standard" button on the interface, and the ITA° value will be 33.26, indicating that the skin belongs to type III skin (olive).



2.5.3 ITA° Analysis (for reference only)



skin classification	skin color	reference color	skin reactions
I	White		Easy to get sunburned, not tanned
II	White		Frequent sunburn, difficult to tan
III	Olive		Sometimes sunburned, often tanned
IV	Brown		Rarely sunburned, easily tanned
V	Dark brown		Almost no sunburn, easy to tan
VI	Black		Never sunburned, easily tanned

According to ITA°, skin color can be divided into six categories:

When $ITA^\circ \geq 55$, the skin color belongs to type I, white;

When $41 \leq ITA^\circ \leq 54$, the skin color belongs to type II, white;

When $28 \leq ITA^\circ \leq 40$, the skin color belongs to type III, olive ;

When $10 \leq ITA^\circ \leq 27$, the skin color belongs to type IV, brown;

When $-30 \leq ITA^\circ \leq 9$, the skin color belongs to V-type, dark brown;

When $ITA^\circ \leq -31$, the skin color belongs to type VI, black;