5701 series

HANDHELD SPECTROPHOTOMETER OPERATION MANUAL

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EN -- Please scan the QR code or visit the website for operation manual.
IT --- Scansiona il codice QR oppure visita il sito web per il manuale d'uso.
CZ -- Pro návod prosím naskenujte QR kód nebo navštivte webovou stránku.
ES -- Por favor, escanee el código QR o visite la página web para ver el manual de instrucciones.
FR -- Veuillez scanner le QR Code ou visiter notre site web pour accéder aux manuels d'utilisation.
DE -- Bitte scannen Sie den QR-Code oder besuchen Sie die Website für die Bedienungsanleitung.
PT -- Para aceder ao manual de instruções, por favor, faça a leitura do código QR ou visite o nosso site.

MN-5701-Series-E
V0

Safety instructions

This instrument is a very safe device, but to ensure that you can use it correctly and safely, please read and strictly follow the following terms to avoid accidental injury or harm. Losses incurred due to not following the operating instructions in this manual are not within the scope of our company's responsibility.

This device has a built-in battery. Please use the original battery and do not replace it with other batteries to prevent damage to the instrument or other malfunctions.

Do not dismantle, squeeze, strike, or heat the battery privately, and do not place it in a fire or high temperature environment, otherwise it may cause the battery to explode and cause a fire.

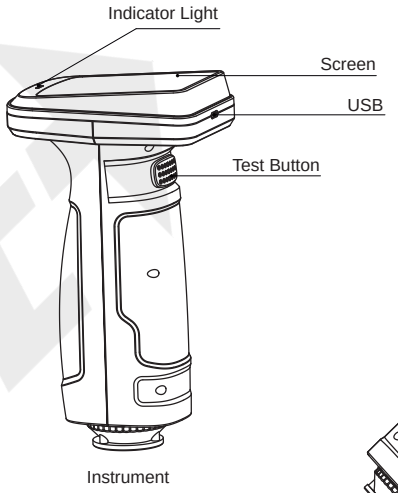
After the instrument is fully charged, the external power supply should be cut off when not in use to prevent electric shock and damage to the instrument.

Do not throw the product into the trash can at will. If you do not want the product, you can find a professional organization to recycle or dispose of it.

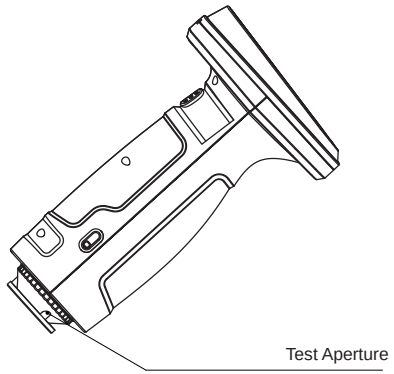
This product has passed CE certification.

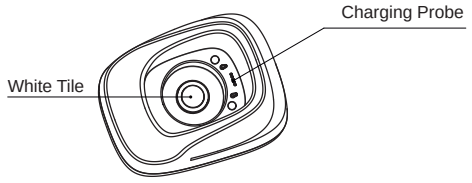
This product is recyclable and reusable.

Appearance structure



Instrument

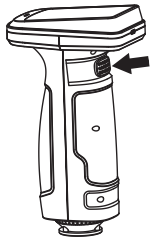




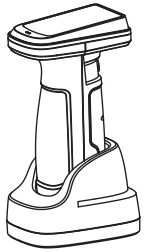
Calibration and Charging Base

Quick Start

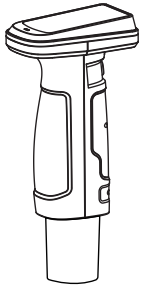
1.Power on and Calibration



Power on

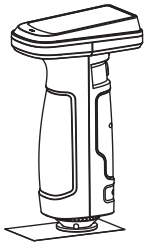


Put the instrument into the calibration base for white calibration.

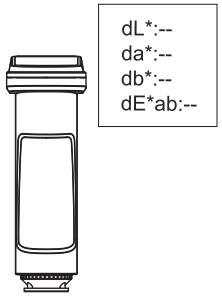


Place the instrument on the black calibration box for black calibration or measure one meter above the ground.

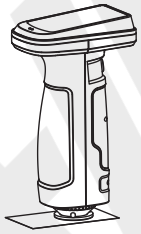
2.How to measure color difference



Measure Target

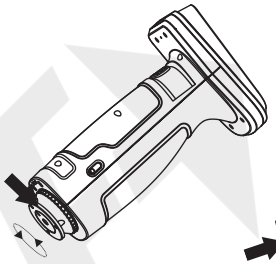


Enter into color difference measurement interface

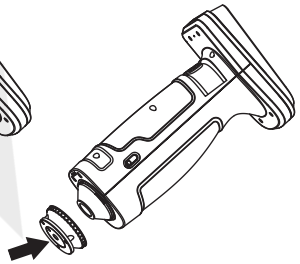


Measure sample to get the color difference

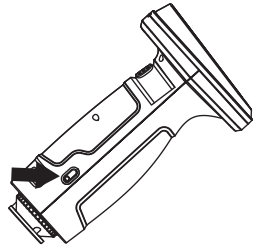
3.Switch Aperture



remove the aperture

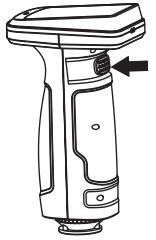


Rotate the aperture buckle



Choose MAV or SAV according to the aperture size

4. Power off

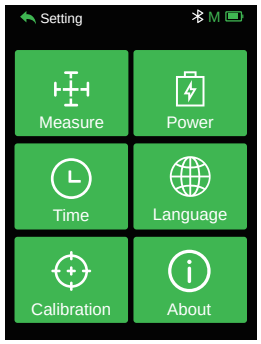


Long press 3s

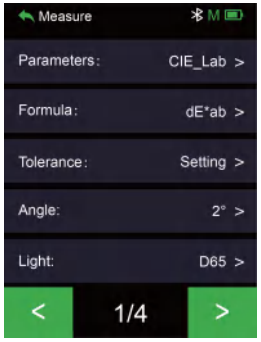
Set up

Select measurement parameters: Click "Settings" - "Measurement" - "Display Parameters" on the instrument interface and select the measurement parameters required by the user.

Click "Setting" to enter



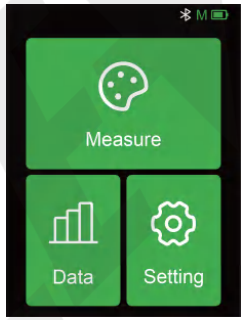
Click "Measure" to enter



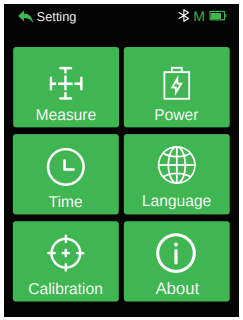
Click "Show Parameters" to enter

Selecting measurement parameters

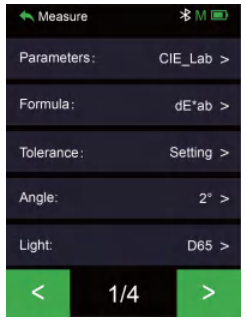
Tolerance setting: Click "Settings" - "Measurement" - "Tolerance" on the instrument interface. The factory default tolerance is 2. You can set it according to the actual situation.



Click "Setting" to enter

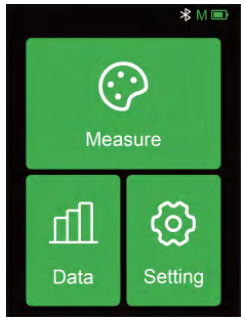


Click "Measure" to enter

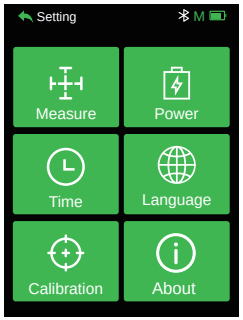


Click "Tolerance" to set the tolerance

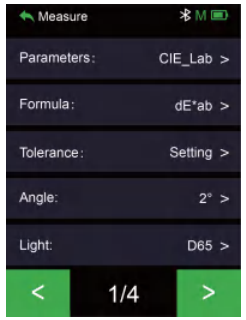
Set measurement conditions: Click the "Settings"-"Measurement" module on the instrument interface to enter, and set the "Color Difference Formula", "Observer Angle", "Light Source", "Measurement Mode", etc. according to the actual situation.



Click "Setting" to enter



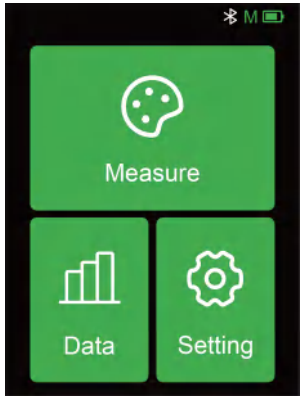
Click "Measure" to enter



Setting the measurement conditions

Single-machine measurement of color and color difference

Color measurement: Click the "Color Measurement" module on the instrument interface to enter, aim the instrument test port at the test target sample, short press the test button or click the middle of the screen to measure the color.

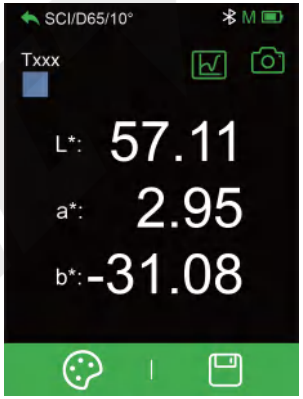


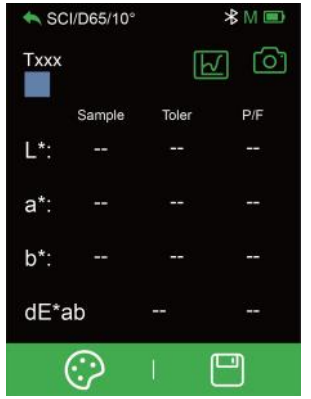
Click "Color Measurement" to enter

Monochrome interface

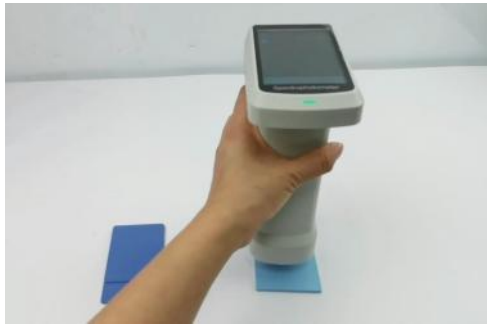
Measuring Standards

Color difference measurement: After completing the color measurement steps, click the "Color Difference" button in the lower left corner of the screen to switch to the color difference measurement interface. Aim the instrument test port at the test sample, short press the test button or click the middle of the screen to complete the color difference measurement; click the "Color Palette" icon in the lower left corner of the screen to switch to the color measurement interface.





Click "Color Difference" in the lower left corner to switch to the color difference interface



Measuring samples

Judgment data analysis:

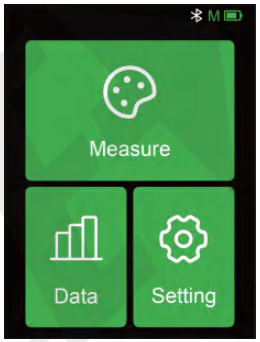
When L* is a positive value, it means more white and less black, so reduce the addition of white; when L* is a negative value, it means more black and less white, so reduce the addition of black;

When a* is a positive value, it means more red and less green, so reduce the addition of red; when a* is a negative value, it means more green and less red, so reduce the addition of green;

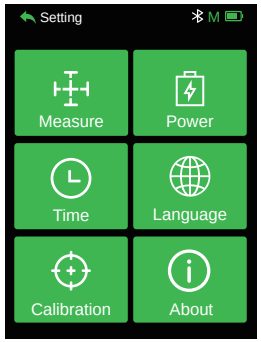
When b* is a positive value, it means more yellow and less blue, so reduce the addition of yellow; when b* is a negative value, it means more blue and less yellow, so reduce the addition of blue;

Calibration Settings

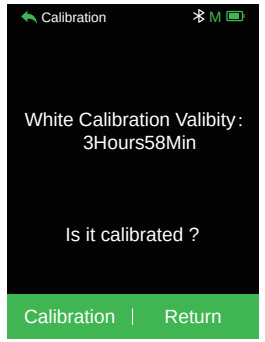
Active calibration: Click the "Settings" - "Calibration" - "Calibration" button on the instrument interface to perform active calibration.



Click "Setting" to enter

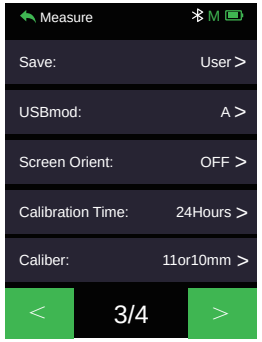


Click "Calibration" to enter

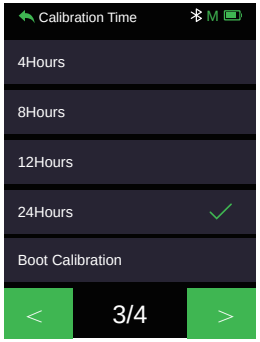


Click "Calibration" in the lower left corner To perform active calibration

Set calibration time: Click "Settings" - "Measurement" - "Calibration Time" on the instrument interface to enter, and you can set the instrument calibration time by yourself



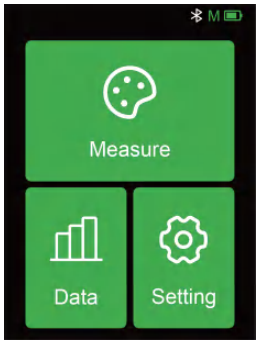
Click "Calibration Time" to enter



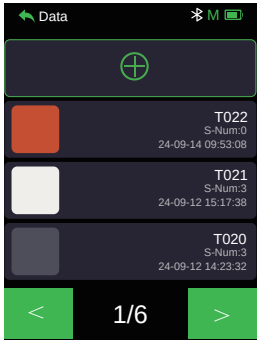
Set calibration time

Other features

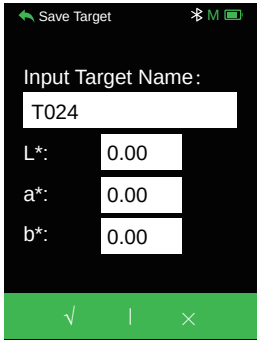
Add Lab value: Click the "Data" module on the instrument interface to enter, click the " ⊕ " icon to enter, enter the corresponding Lab value, and click the "√" icon in the lower left corner to complete the addition of the Lab value.



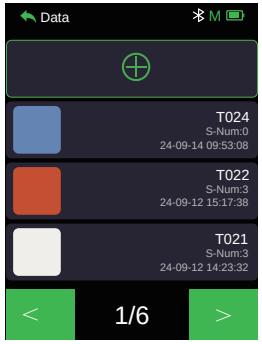
Click "Data" to enter



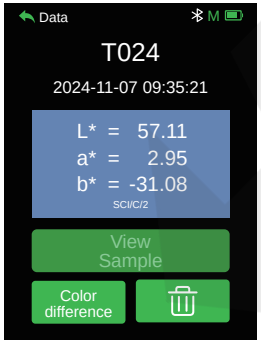
Click " ⊕ " to enter



Enter the Lab value and save



Click the Lab data you want to call out

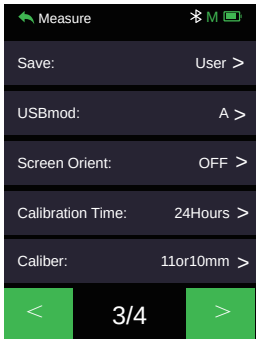


Click the "Color Difference" button to judge the color difference

Switching the aperture: Rotate the aperture on the instrument to the left to remove it, and rotate it to the right to install and use it.

When the 11mm caliber is installed, the button on the left side of the instrument should display the "M" icon; and you need to enter "Settings" - "Measurement" - "Select Caliber" and switch the instrument to the corresponding caliber before you can measure.

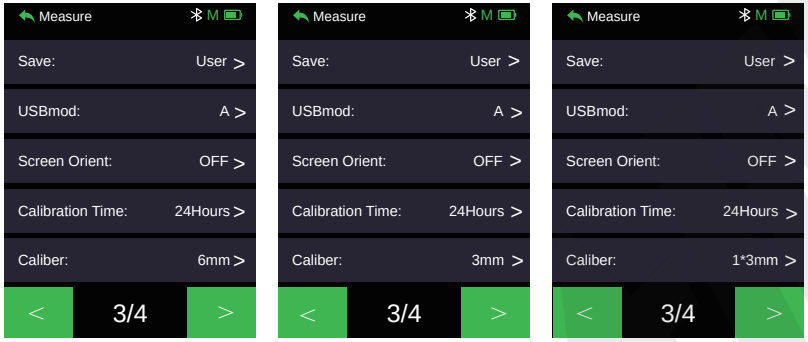
Small caliber switch to "M" display



Select the diameter as "11mm"

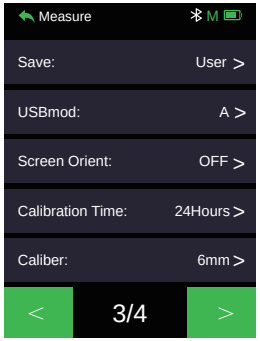
When the caliber is 6mm, 3mm or 1*3mm, the button on the left side of the instrument should display the "S" icon, and you need to enter "Settings" - "Measurement" - "Select Caliber" to switch the instrument to the corresponding caliber before you can measure.

Small aperture switch to "S" display

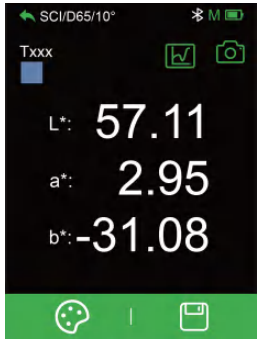


"Settings" - "Measurement" - "Caliber Selection", select the corresponding caliber

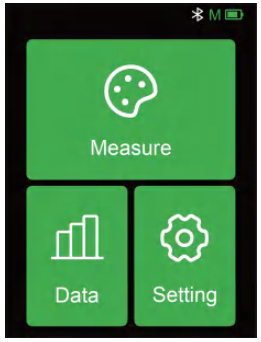
Save settings: Click the "Settings"-"Measurement" module on the instrument interface to enter. On the third page, click "Save settings" to modify automatic or manual data saving.



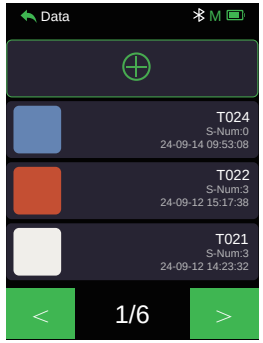
Manually save data: In the "Color Measurement" and "Color Difference" interfaces, click the "Save" icon in the lower right corner to save the test data. The saved test data can be viewed in the "Data" module.



Click the "Save" icon in the lower right corner to save

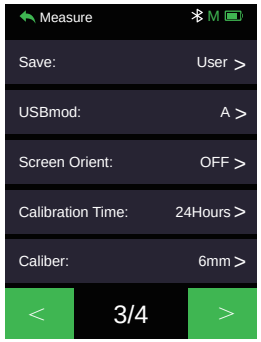


Click "Data" to enter

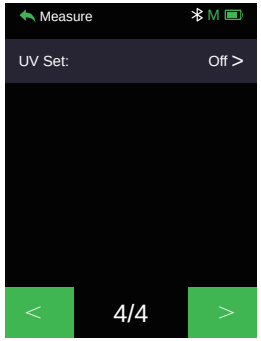


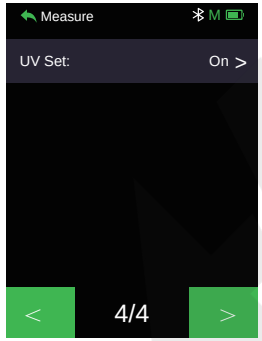
View data

Screen flip: Click the instrument interface "Settings" - "Measurement" module to enter, the third page, click "Screen flip" to modify



UV measurement: Click the "Settings"-"Measurement" module on the instrument interface to enter. On the third page, click "UV Settings" and it will display "On" to measure UV data.





Geometry:	d/8, SCI+SCE
Sensor:	Dual optical path high precise CMOS array sensor
Spectroscopic method:	Grating spectroscopy
Sphere size:	Ø40mm
Wavelength range:	400~700nm
Wavelength interval:	10nm
Reflectance range:	0~200%, resolution 0.01%
Light source:	LED (full wavelength balanced LED) +UV
Measurement time:	About 1.5s
Illumination area/Aperture:	4 Apertures (MAV:Ø11mm; SAV:Ø6mm, Ø3mm; MINI:1×3mm)
Repeatability☆:	ΔE*ab≤0.025
Inter-instrument agreement☆☆:	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, TaubeBergerStensby) , 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
Interface:	USB, Bluetooth
Battery:	Rechargeable 8000 times continuous tests 3.7V/3000mAh
Camera to see the measurment area:	Yes
Calibration:	Intelligent auto calibration
Software:	Windows
Standards:	Conform to CIENo.15, ISO7724-1, ASTME1164, DIN5033Teil7
Screen:	IPS full color screen, 3.5 inches
Light source lifetime:	10 years, 1 million test

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

☆☆BCRA series Ⅱ, average measurement of 12 tiles

Note

- If you just receive the goods and find that the instrument does not display when it is turned on, try charging for 10 minutes and then try again.
- The calibration whiteboard is the basic guarantee for the accuracy of the instrument. It must be well protected and not dirty.
- Please ensure that the surface of the tested sample is flat and the color is uniform, otherwise the measurement accuracy will be affected.
- If the instrument prompts to calibrate, please calibrate according to the prompts before measuring to ensure accurate measurement.
- Do not attempt to disassemble or replace any part of the instrument.
- Do not place the instrument near heat source or directly expose to the fire.
- If any liquid enters the instrument,please power off the instrument immediately.
- This product contains small parts.It may cause suffocation and other hazards,if swallowed by children.

Maintenance Regulations

Reminder

lt is recommend that keep the packing box for at least 30 daysas the packing box is required to ensure the safety of transportation.

Non warranty regulations

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