LS173

Generic Portable Color Meter Analyzer LS173 User Manual

Model: LS173

1. INTRODUCTION

This manual provides detailed instructions for the safe and effective operation of the Generic Portable Color Meter Analyzer LS173. This device is designed for precise color measurement and analysis, featuring a touch screen interface and integrated color cards for various applications. It addresses common challenges in color management, such as inconsistent color in finished products, difficulties in matching colors, and the inconvenience of managing physical color samples.

Good helper in color management

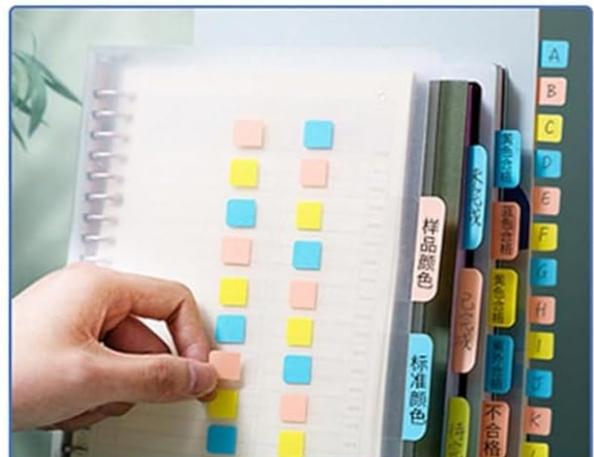## I am not a problem with any of the following issues

Large color difference in finished products
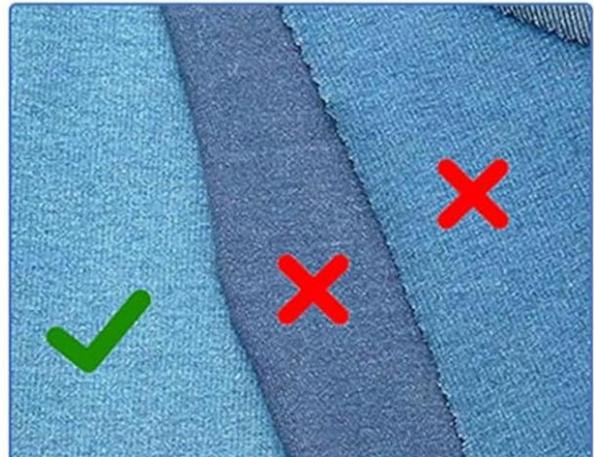
Color difference unqualified

Paper color cards are easy to lose

There are too many colors in the sample to store?

Figure 1.1: The LS173 Color Meter Analyzer helps resolve common color management issues, improving consistency and efficiency.

Please read this manual thoroughly before using the instrument to ensure optimal performance and longevity.

2. PRODUCT OVERVIEW

2.1 Key Features

- **Integrated Color Cards:** Quickly matches measured colors to the closest color code from multiple natural color cards.

- **3.5-inch IPS Capacitive Touch Screen:** Provides an intuitive and responsive operating experience.

- **Large Storage Capacity:** Stores up to 1000 colors and 1000 color difference records.

- **Color Difference Comparison:** Supports color difference comparison functions and multiple standard color

addition methods.

- **Portable Design:** Compact and lightweight for easy storage and transport, with an ergonomic design for stable measurements.

- **Electronic Color Charts:** Access multiple standard electronic color charts, eliminating the need for physical color cards.

- **Data Management:** Supports import and export of personal color charts, with localized data storage for privacy.

2.2 Components

The LS173 Color Meter Analyzer includes the main unit, a calibration tile, and a USB Type-C charging cable. Familiarize yourself with the device's physical features:

Calibration tile

8mm measuring hole

Figure 2.2.1: Device bottom view showing the 8mm measuring hole and the calibration tile. The measuring hole is where the device takes color readings, and the calibration tile is used for accurate calibration.

Figure 2.2.2: Main unit of the LS173 Portable Color Meter Analyzer. This image displays the overall design of the device, highlighting its compact and ergonomic form factor.

3. SETUP

3.1 Initial Charging

Before first use, fully charge the device using the provided USB Type-C cable. Connect the cable to the charging port on the device and a suitable USB power adapter (not included). The charging indicator on the screen will show the charging status.

3.2 Power On/Off

- **To Power On:** Press and hold the power button until the screen illuminates.
- **To Power Off:** Press and hold the power button until a shutdown prompt appears on the screen, then confirm.

3.3 Calibration

Regular calibration ensures measurement accuracy. Perform calibration before each measurement session or if the device has not been used for an extended period.

1. Place the device firmly on the white calibration tile, ensuring the measuring hole is centered over the tile.
2. Navigate to the calibration menu on the touch screen.
3. Follow the on-screen instructions to complete the calibration process.

4. OPERATING INSTRUCTIONS

4.1 Basic Color Measurement

1. Ensure the device is calibrated.
2. Place the measuring hole firmly against the surface of the object whose color you wish to measure. Ensure there is no light leakage.
3. Press the measurement button or tap the "Scan" option on the touch screen.
4. The measured color values (e.g., L*a*b*, L*C*h) will be displayed on the screen.
5. You can save the measurement results to the device's internal storage.

Figure 4.1.1: The LS173 device displaying various electronic color charts and measurement options. This illustrates the device's capability to access and utilize digital color libraries.

4.2 Color Difference Comparison (QC Test)

The device can compare a sample color against a standard color to determine color difference (ΔE*ab).

1. From the main menu, select the "Color Compare" or "QC Test" function.

2. Measure the standard color by placing the device on the standard sample and selecting "Scan Standard".

3. Measure the sample color by placing the device on the sample and selecting "Scan Sample".

4. The screen will display the color difference values (ΔL*, Δa*, Δb*, ΔE*ab) and indicate if the sample passes or fails based on a set threshold.

5. The total color difference formula $\Delta E^*ab = \sqrt{(\Delta L^*)^2 + (\Delta a^*)^2 + (\Delta b^*)^2}$ is used for calculation.
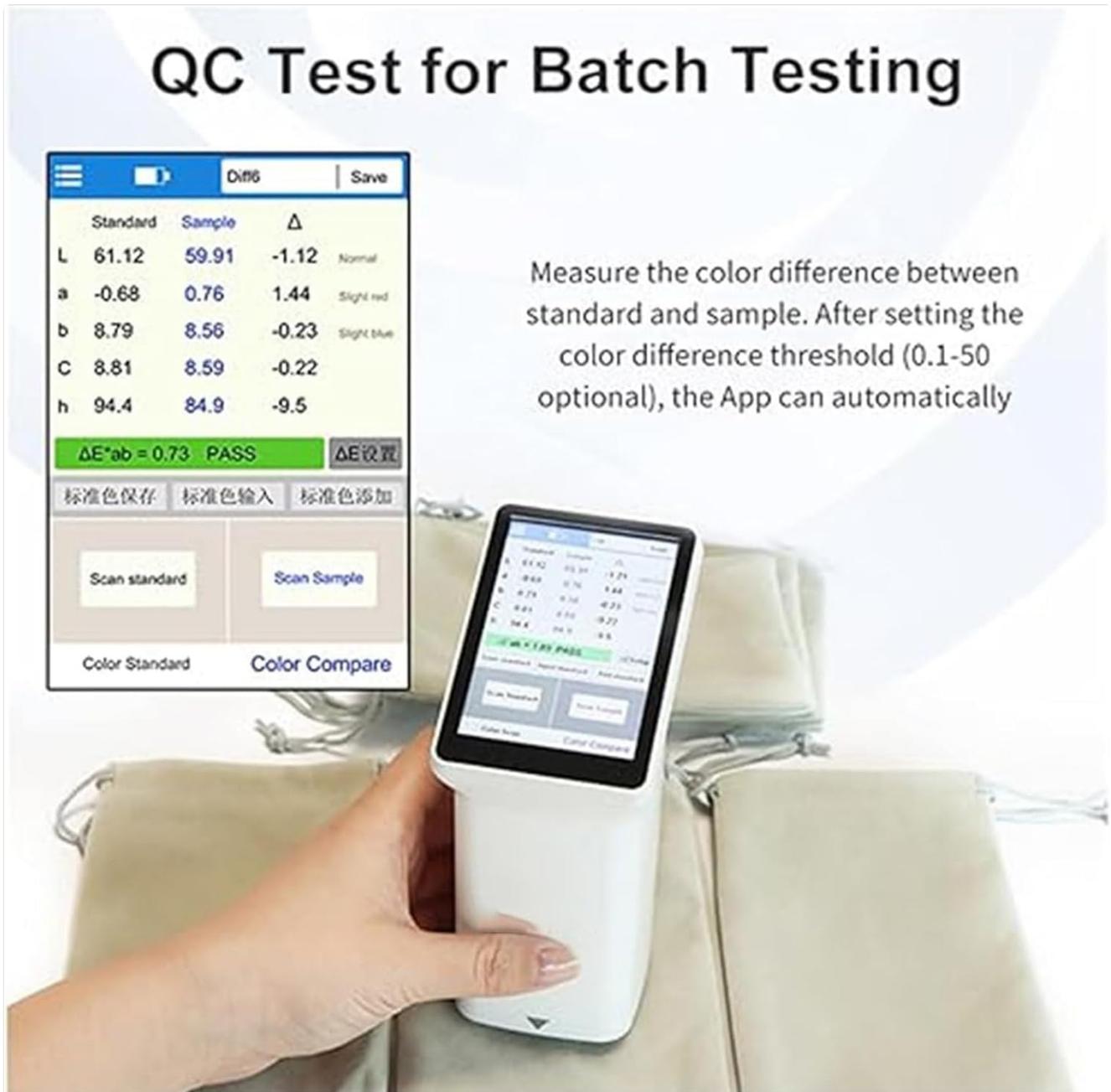

Figure 4.2.1: The device's screen displaying a Quality Control (QC) test for batch testing. It shows standard and sample values, color differences, and a "PASS" indication, demonstrating its utility in quality assurance.
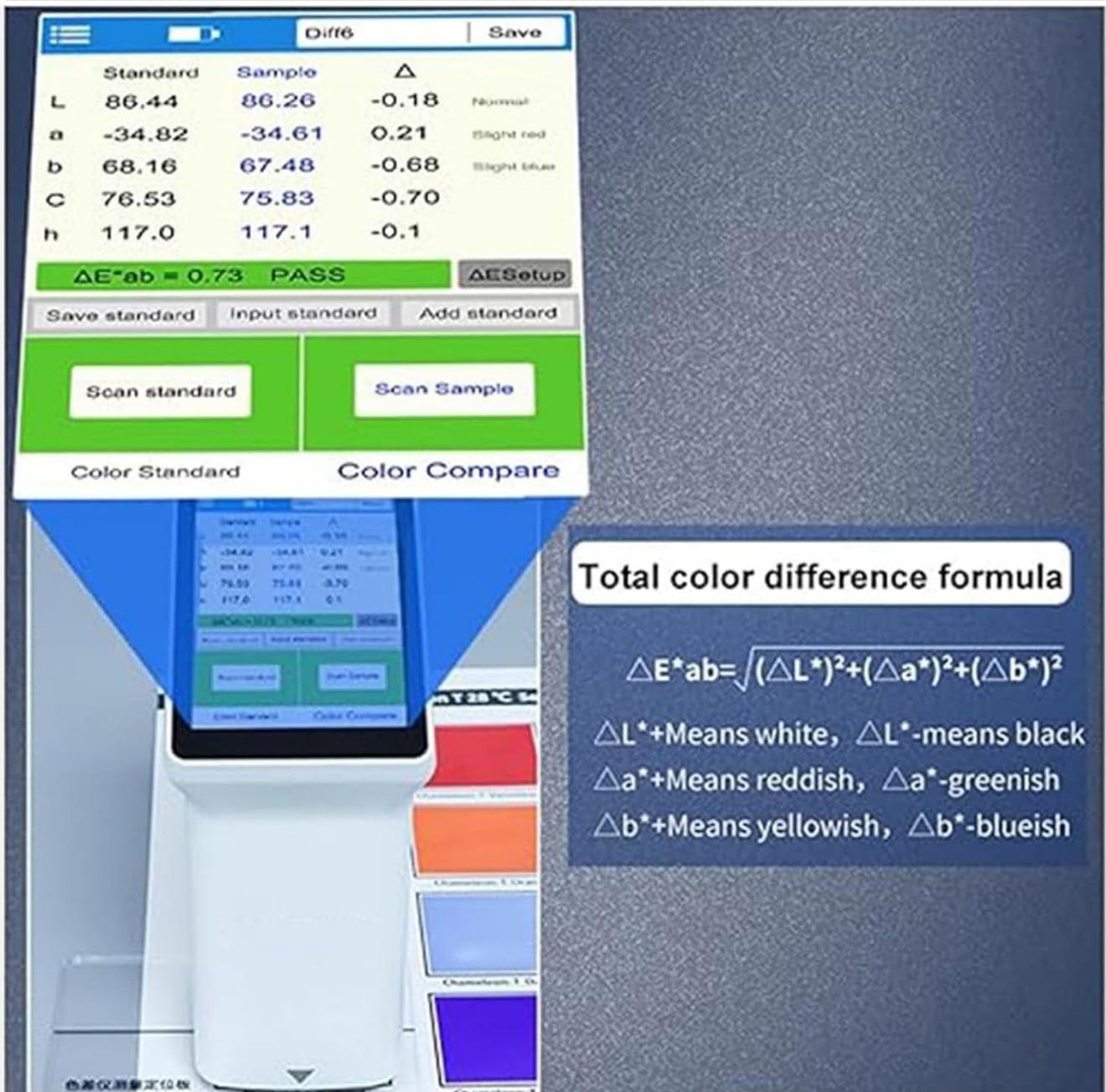
Figure 4.2.2: A close-up of the LS173 screen illustrating the total color difference formula (ΔE*ab) and its components (ΔL*, Δa*, Δb*). This provides insight into the mathematical basis of color difference calculation.

4.3 Data Management and Connectivity

The LS173 supports extensive data storage and management features.

- **Saving Measurements:** Measured colors and color difference records can be saved directly on the device.
- **Personal Color Charts:** Create, import, and export personal color charts. Data is stored locally, ensuring privacy.
- **App Connectivity:** Connect the device to a mobile application (if available) for extended functionality, data analysis, and sharing.

Create Color Chart, Massive Storage Space

Support import and export personal color chart; data localized storage, no need to upload to the cloud, no personal privacy data security risks

Local storage

Personal color chart

Color sharing

Electronic color chart

Color import

Mass storage

Figure 4.3.1: Diagram illustrating the data management capabilities of the LS173, including local storage, personal color chart creation, electronic color chart access, color import, color sharing, and mass storage. This highlights the device's comprehensive data handling.

Figure 4.3.2: The LS173 device shown alongside a computer monitor displaying color analysis software and a smartphone running a companion app. This demonstrates the device's connectivity options and integration with other platforms for advanced analysis and management.

5. MAINTENANCE

5.1 Cleaning

- Wipe the device's exterior with a soft, dry cloth.
- For the touch screen, use a screen-specific cleaning cloth.
- Keep the measuring hole free from dust and debris. Use a soft brush or compressed air if necessary. Do not use liquid cleaners directly on the measuring hole.

5.2 Storage

Store the device in a cool, dry place away from direct sunlight, extreme temperatures, and high humidity. Use the original packaging or a protective case to prevent damage.

6. TROUBLESHOOTING

Problem	Possible Cause	Solution
Device does not power on.	Low battery or device malfunction.	Charge the device for at least 30 minutes. If it still doesn't power on, contact customer support.
Inaccurate measurements.	Device not calibrated, dirty measuring hole, or improper placement.	Perform calibration. Clean the measuring hole. Ensure the device is placed firmly and correctly on the sample.
Touch screen unresponsive.	Temporary software glitch or screen damage.	Restart the device. If the issue persists, contact customer support.
Cannot connect to mobile app.	Bluetooth/Wi-Fi off, app not installed, or device not discoverable.	Ensure Bluetooth/Wi-Fi is enabled on both devices. Install the correct app. Follow app instructions for pairing.

7. SPECIFICATIONS

Parameter	Value
Measurement Conditions	Light source D65, field of view 10°
Measuring Time	Approximately 1 second (Average of 30 measurements at 3s intervals on a white board after calibration)
Dimensions	86mm × 62.5mm × 158mm
Weight (Device)	Approx. 245g (0.54 lbs)
Display	480×320 dot matrix IPS color screen
Language Support	Simplified Chinese, English
Charging Port	USB (Type-C)
Storage Capacity	1000 colors, 1000 color difference records
Package Dimensions	3.94 x 3.94 x 3.94 inches
Item Weight (Packaged)	2.2 pounds
Manufacturer	YEHOZZ

8. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the documentation provided with your purchase or contact the retailer/manufacturer directly. Keep your proof of purchase for warranty claims.