UNI-T UT343A

UNI-T UT343A Digital Coating Thickness Gauge User Manual

Model: UT343A

1. Introduction

The UNI-T UT343A is a digital coating thickness gauge designed for measuring the thickness of plated and coated sheets on both ferrous (Fe) and non-ferrous (NFe) metal substrates. It offers a wide measurement range up to 1750µm and is suitable for various applications in manufacturing, metal processing, chemical industries, and commodity inspection. This device is engineered for stable operation in both workshop and outdoor environments.

Key features include data storage for up to 199 groups, single/continuous measurement methods, Max/Min/Avg display, unit conversion (µm/mil), a rotatable screen for convenient viewing, LED/Buzzer alarms, and an auto power-off function to conserve battery life.

Specifications	Range
Certificates	CE, UKCA
Measuring range	0~1750μm
Accuracy	±(3%H+1)μm
Measurement methods	Single/continuous
Measurement mode	MAX/MIN/AVG
Metal type	Ferrous/ non-ferrous

Features	
Display type	EBTN display
LCD brightness control	√
Rotatable screen	√
Unit conversion	μm/mil
Rotatable screen	√
LED alarm	√
Data storage	199 sets
Auto power off	√
Low battery indication	√

Characteristics	
Power	1.5V battery (LR03) x 2
Product color	Red and grey
Product net weight	About 111g
Product size	117mm x 53mm x 37mm
Standard accessories	Ferrous substrate, Non-ferrous substrate
Standard individual packing	Gift box, English manual

Image: The UNI-T UT343A coating thickness gauge in various application scenarios and a detailed specification table.

2. What's in the Box

Upon unpacking, please ensure all the following items are present:

- UNI-T UT343A Coating Thickness Gauge
- User Manual
- Battery (1 Lithium Metal battery included)
- Charger
- Test Lead

- Ferrous Substrate
- Non-ferrous Substrate
- Standard Individual Packing

Image: The UNI-T UT343A gauge alongside a storage bag, illustrating its compact dimensions.

3. Specifications

Specification	Value
Measuring Range	0~1750μm
Accuracy	±(3%H+1)μm
Measurement Method	Single/Continuous
Measurement Mode	Max/Min/Avg
Metal Type	Ferrous/Non-ferrous

Specification	Value
Display Type	EBTN display
LCD Brightness Control	Yes
Rotatable Screen	Yes
Unit Conversion	µm/mil
Audio Alarm	Yes
LED Alarm	Yes
Data Storage	199 groups
Auto Power Off	Yes
Low Battery Indication	Yes
Power Source	Battery Powered (1 Lithium Metal battery included)
Product Dimensions	11.81 x 3.94 x 7.87 inches
Item Weight	0.25 Milligrams

4. Setup

4.1 Battery Installation

The UT343A gauge requires one Lithium Metal battery for operation. Ensure the battery is correctly inserted according to the polarity markings in the battery compartment. The device features a low battery indication to alert you when replacement is needed.

4.2 Power On/Off

Press the power button to turn the device on. The EBTN display will illuminate. To turn off the device, press and hold the power button, or allow the auto power-off function to engage after a period of inactivity.

5. Operating Instructions

The UT343A offers various modes and features to ensure accurate and convenient coating thickness measurements.

5.1 High Precision Sensor

The UT343A is equipped with a high-precision sensor, ensuring accurate, durable, and stable measurements across various applications.

Image: The gauge highlighting its high precision sensor for accurate measurements.

5.2 Automatic Substrate Identification

The gauge automatically identifies whether the underlying substrate is ferrous (Fe) or non-ferrous (NFe), simplifying the measurement process. The display will indicate the detected material type.

Image: The gauge's display highlighting features such as screen flip, data storage, and magnetic/non-magnetic substrate identification.

5.3 Measurement Modes

- **Single Measurement:** For individual readings at specific points.
- **Continuous Measurement:** For scanning surfaces and obtaining real-time readings.
- **Max/Min/Avg:** Displays the maximum, minimum, and average values from a series of measurements, useful for assessing coating uniformity.

Image: The gauge being used for rapid testing on a car's painted surface.

5.4 Unit Conversion

Easily switch between micrometers (µm) and mils (mil) units to suit your measurement requirements.

5.5 Rotatable Screen

The display automatically rotates, allowing for convenient reading from various angles, enhancing usability in different working positions.

Image: The gauge demonstrating its rotatable LCD display for optimal viewing.

5.6 LED and Buzzer Alarms

The device features LED and buzzer alarms to provide immediate feedback on measurement results, especially when values fall outside predefined limits. A 3-color warning light indicates the current value attribute:

- **Green:** Measurement is within the acceptable range.
- **Yellow:** Measurement is above the upper limit.
- **Red:** Measurement is below the lower limit.

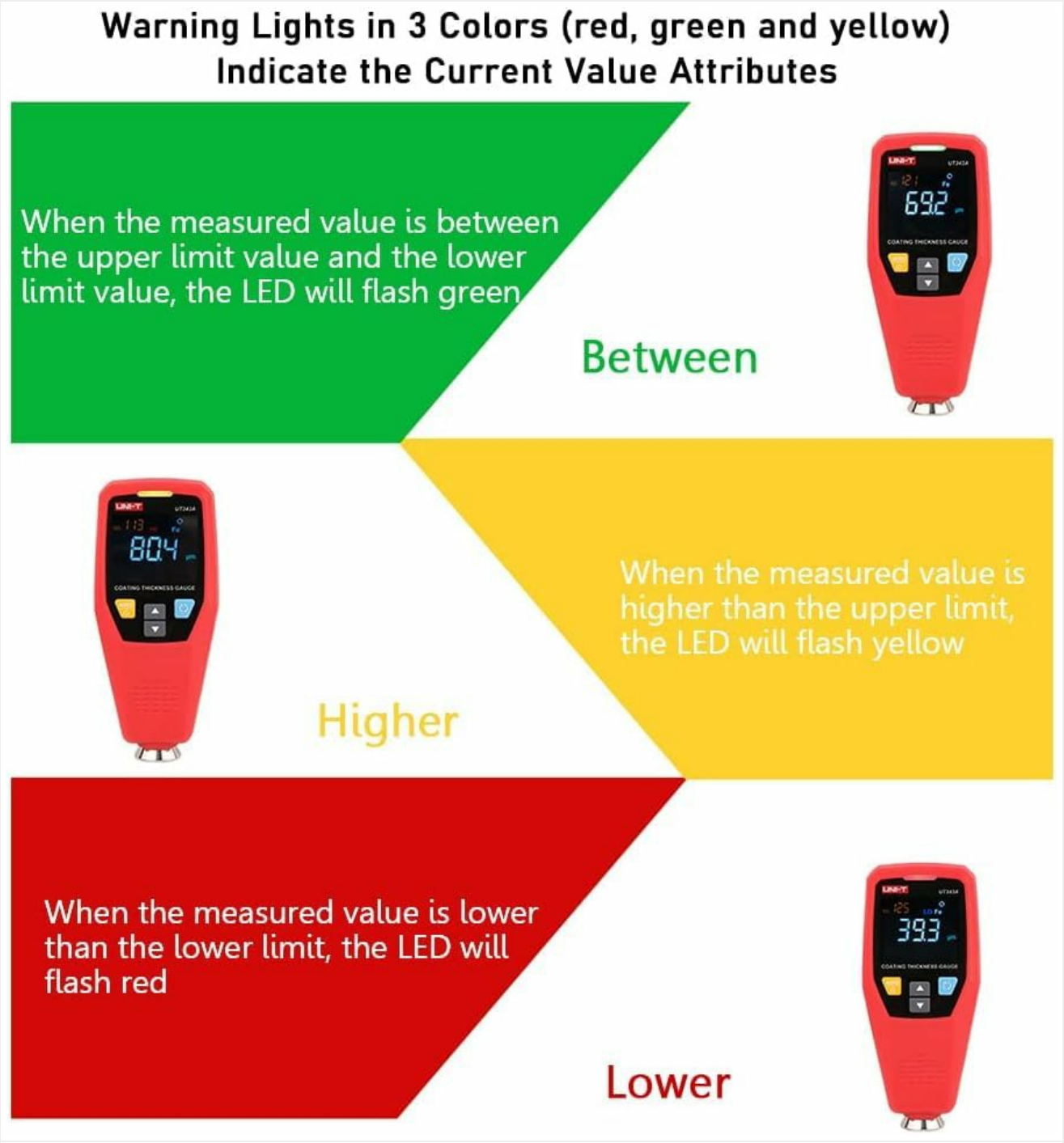

Image: Illustration of the 3-color warning lights (red, green, yellow) indicating measurement status relative to set limits.

5.7 Calibration

Calibration is crucial for ensuring measurement accuracy. The UT343A supports both zero calibration and two-point calibration.

- **Zero Calibration:** Used to set the baseline measurement to zero on an uncoated substrate.
- **Two-Point Calibration:** Involves calibrating with two known thickness standards to improve accuracy across a range.

Always perform calibration before critical measurements to maintain precision.

5.8 Quick Test Mode

The quick test mode allows for rapid assessment of coating thickness, useful for identifying potential issues quickly.

- **Single-point Judgement Mode:** Quickly determines if a single measurement is qualified or not based on set tolerances.

- **Multi-point Judgement Mode:** A quick method to find cars with accident history by assessing multiple points and automatically calculating and displaying average values.

Image: The gauge's display showing its capability to store 199 sets of measurement data.

5.9 Data Storage and USB Communication

The UT343A can store up to 199 groups of measurement data. For advanced analysis and reporting, the device features a USB communication function. It can be connected to computer software via USB for data export, trend chart generation, real-time online measurement, and printing.

[redacted]

Video: Demonstrates the UNI-T UT343D (similar model) coating thickness gauge features, including measurement on various surfaces, automatic substrate identification, 3-color warning lights, auto-rotatable screen, calibration, quick test modes, and USB data communication.

6. Maintenance

- Keep the device clean and free from dust and debris. Use a soft, dry cloth for cleaning.
- Avoid exposing the gauge to extreme temperatures, humidity, or direct sunlight.

- Store the device in its protective packaging when not in use.
- Replace the battery when the low battery indicator appears to ensure continuous operation and accurate readings.
- Regularly check the probe for any damage or wear that might affect measurement accuracy.

7. Troubleshooting

Problem	Possible Cause	Solution
Device does not power on	Low or dead battery; incorrectly installed battery.	Replace battery; ensure correct polarity.
Inaccurate readings	Needs calibration; dirty probe; damaged probe; incorrect measurement mode.	Perform zero or two-point calibration; clean the probe; inspect for damage; select appropriate measurement mode.
Display not rotating	Feature might be disabled in settings (if applicable) or a software glitch.	Check user manual for display rotation settings; restart the device.
USB connection issues	Incorrect cable; driver not installed; software issue.	Use the provided USB cable; install necessary drivers/software from UNI-T website; restart computer and device.

8. Safety Information

- Do not attempt to disassemble or modify the device.
- Keep the device away from strong magnetic fields.
- Use the device only for its intended purpose as a coating thickness gauge.
- Dispose of batteries according to local regulations.