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## CAMWAY CAMWT414USV

# CAMWAY HW300PRO Paint Thickness Gauge User Manual

Model: CAMWT414USV

## 1. INTRODUCTION

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Thank you for choosing the CAMWAY HW300PRO Paint Thickness Gauge. This digital device is designed for precise measurement of coating thickness on various metallic surfaces. It is particularly useful for assessing paint thickness on automobiles, as well as other non-conductive coatings on ferrous metals and non-ferromagnetic coatings on non-ferrous metals. Please read this manual thoroughly before operation to ensure correct usage and optimal performance.

## 2. PRODUCT OVERVIEW AND FEATURES

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The CAMWAY HW300PRO is a compact and portable paint thickness gauge equipped with advanced features for accurate and convenient measurements.

### Key Features:

- **High Precision Measurement:** Accurately measures the thickness of non-conductive coatings on metallic surfaces and non-ferromagnetic coatings on ferromagnetic metals.
- **Multiple Data Recording:** Stores average, maximum, minimum, and differential values. Supports up to 50 data points for statistical analysis.
- **Three Measurement Units:** Switchable units between microns (um), millimeters (mm), and mils for versatile applications.
- **HD Backlit Display:** High-definition screen with backlight ensures clear readability of data in various lighting conditions.
- **Automatic Shutdown:** The device automatically powers off after 3 minutes of inactivity to conserve battery life.
- **Ergonomic Design:** Features an anti-slip groove design for comfortable handling and a compact size for easy portability.
- **Wide Application:** Suitable for automotive paint inspection, manufacturing, workshops, paint shops, and industrial fabrication.

### Components:



**Figure 2.1: Device Layout.** This image displays the CAMWAY HW300PRO Paint Thickness Gauge with its LCD display, control buttons, and probe. Key labels include "LCD Display", "Probe Mode Switch/Clear Statistics", "Unit Switch", "Switch Machine (Power Button)", "Zero Calibration, Switching Average/Minimum/Maximum/Number", and "Backlight Switch/Automatic Shutdown Switch".

# PAINT THICKNESS GAUGE



**Figure 2.2: Detailed Features.** A close-up view highlighting the HD backlit display, the anti-slip groove design on the side for better grip, and the high-precision measurement probe at the bottom of the device.

- **LCD Display:** Shows measurement readings, unit, battery status, and mode indicators.
- **Power Button ( ):**  Turns the device on/off.
- **F/NF Button:** Switches between Ferrous (F), Non-Ferrous (N), and Automatic (AUTO) measurement modes. Also used to clear statistics.
- **um/mm/mils Button:** Changes the measurement unit (microns, millimeters, mils).
- **Light/CAL Button:** Toggles backlight on/off. Long press to enter calibration mode.
- **AUTO OFF Button:** Toggles automatic shutdown function.
- **Probe:** The sensor at the bottom of the device for contacting the surface to be measured.
- **Lanyard:** For secure handling and portability.

## 3. SETUP

### 3.1 Battery Installation

The device requires two AAA batteries. These are typically included with the product.

1. Locate the battery compartment cover on the back of the device.
2. Slide or unclip the cover to open the compartment.
3. Insert two AAA batteries, ensuring correct polarity (+/-) as indicated inside the compartment.
4. Replace the battery compartment cover securely.



Figure 3.1: Battery Installation. The device uses two AAA batteries, shown here in relation to the device's automatic shutdown feature.

## 3.2 Powering On/Off

- To power on, press the Power button ( ). The display will light up.
- To power off, press and hold the Power button ( ) for a few seconds until the display turns off.
- The device will automatically shut down after 3 minutes of inactivity if the auto-off function is enabled.

## 4. OPERATING INSTRUCTIONS

### 4.1 Basic Measurement

1. Ensure the device is powered on.
2. Select the desired measurement unit (um, mm, or mils) by pressing the "um/mm/mils" button.
3. Select the appropriate measurement mode (AUTO, F, or N) by pressing the "F/NF" button.
  - **AUTO**: Automatically detects the substrate type (ferrous or non-ferrous).
  - **F (Ferrous)**: For measurements on magnetic substrates like iron or steel.
  - **N (Non-Ferrous)**: For measurements on non-magnetic substrates like aluminum or copper.
4. Place the probe firmly and perpendicularly onto the surface to be measured.
5. The measurement reading will appear on the display.
6. Lift the device from the surface to take another measurement.

# AUTO FE + NFE : 0-2000UM



**Figure 4.1: Taking a Measurement.** The image demonstrates how to position the gauge's probe on a car surface to obtain a thickness reading.

## 4.2 Backlight Function

To activate or deactivate the display backlight, press the "Light/CAL" button briefly. The backlight improves visibility in low-light conditions.

## Fonction de Rétro-éclairage

Permet de lire les valeurs avec précision, même dans l'obscurité



**Figure 4.2: Backlight Function.** This image illustrates the difference in display visibility with the backlight off versus on, demonstrating enhanced readability.

## 5. CALIBRATION

Regular calibration ensures the accuracy of your measurements. The device supports zero calibration and multi-point calibration.

### 5.1 Zero Calibration

1. Ensure the device is powered on and in the desired measurement mode (F or N).
2. Place the probe directly onto the bare metal substrate (included standard aluminum or a known bare ferrous/non-ferrous surface).
3. Press and hold the "Light/CAL" button until "ZERO CAL" appears on the display.
4. Release the button. The device is now zero-calibrated for that specific substrate type.

### 5.2 Multi-point Calibration

For enhanced accuracy, especially when measuring specific coating thicknesses, use the included calibration films.

1. Perform a zero calibration first (Section 5.1).
2. Place one of the calibration films (e.g., 0.05mm) onto the bare metal substrate.
3. Place the probe firmly onto the calibration film.
4. Adjust the reading on the device to match the known thickness of the film using the appropriate buttons (refer to the device's specific button functions for adjustment, typically the up/down arrows or mode buttons).
5. Repeat this process for other calibration films (0.10mm, 0.25mm, 0.50mm, 1.00mm, 2.00mm) to cover the desired measurement range.

# ZERO CALIBRATION

## And Multi-point Calibration



Figure 5.1: Calibration Components. This image shows the CAMWAY HW300PRO device along with the set of six calibration films and the standard aluminum substrate used for accurate calibration.

## 6. DATA MANAGEMENT

The device can store and display various statistical data from your measurements.

- **Viewing Statistics:** After taking multiple measurements, the device can display the average (AVG), maximum (MAX), minimum (MIN), and differential (DIF) values. Refer to the device's button layout (Figure 2.1) for specific button presses to cycle through these statistics.
- **Clearing Statistics:** To clear the recorded data and start a new set of statistics, press the "F/NF" button (or the designated clear button if different) for a few seconds until the statistics reset. The device supports up to 50 data points for statistics.

## 7. MAINTENANCE

- **Cleaning:** Wipe the device with a soft, dry cloth. Do not use abrasive cleaners or solvents. Ensure the probe tip is clean and

free of debris for accurate readings.

- **Storage:** Store the device in a dry, cool place, away from direct sunlight and extreme temperatures. If storing for an extended period, remove the batteries to prevent leakage.
- **Probe Care:** The probe is a sensitive component. Avoid dropping the device or subjecting the probe to excessive force.

## 8. TROUBLESHOOTING

Problem	Possible Cause	Solution
Device does not power on.	Low or dead batteries; incorrect battery installation.	Replace batteries with new AAA batteries. Check battery polarity.
Inaccurate readings.	Device not calibrated; dirty probe; incorrect measurement mode selected; surface not flat.	Perform calibration (Section 5). Clean the probe tip. Ensure correct F/NF/AUTO mode. Measure on a flat surface.
Display is dim or unreadable.	Backlight off; low battery.	Press the "Light/CAL" button to turn on backlight. Replace batteries.
Device shuts off unexpectedly.	Auto-off function enabled; low battery.	Disable auto-off function if continuous use is needed. Replace batteries.
Cannot switch units or modes.	Buttons not pressed correctly; device frozen.	Ensure a firm, brief press. Try powering off and on again.

## 9. SPECIFICATIONS

Feature	Detail
Model Number	CAMWT414USV
Brand	CAMWAY
Measurement Range	0-2000 um (microns)
Resolution	1 um
Measurement Units	um (microns), mm (millimeters), mils
Measurement Modes	AUTO, F (Ferrous), N (Non-Ferrous)
Display	HD Backlit LCD
Data Storage	Up to 50 data points for statistics (AVG, MAX, MIN, DIF)
Automatic Shutdown	After 3 minutes of inactivity
Power Supply	2 x AAA batteries (included)
Package Dimensions	14.1 x 5.6 x 3.7 cm
Weight	100 grams
Included Components	Coating thickness gauge, lanyard, 6 calibration films (0.05/0.25/0.10/0.50/1.00/2.00 mm), substrate, instruction manual.



**Figure 9.1: Device Dimensions and Features.** This image provides a visual representation of the device's physical dimensions and reiterates its core features.

## 10. WARRANTY AND SUPPORT

Information regarding specific warranty terms and conditions for the CAMWAY HW300PRO Paint Thickness Gauge is not available in the provided product data. For warranty claims, technical support, or further assistance, please contact the seller or manufacturer directly.

Manufacturer: CAMWAY

Seller: CAMWAYUK (as per buybox\_winner fulfillment details)

Please retain your purchase receipt as proof of purchase for any warranty or support inquiries.

