



Coating Thickness Gauge MPM-300

INSTRUCTION MANUAL



Thank You!

Thank you for choosing this InspectWise® diagnostic tool. We always endeavor to bring you products that makes car inspections easy and thorough. To always ensure the optimal functioning and performance of your product, we would like to advice the following.

1. Before using this product for the first time, carefully read the instructions in this manual and always adhere to these.
2. If you have any further questions or you want to see instruction videos, visit www.InspectWise.net/manuals/, or for any assistance, you can rest assured that we are just a call away.

Thank you again for choosing our products!





Brief Introduction

This product is mainly used to measure the thickness of non-conductive coating on metal surface, as well as the thickness of non-ferromagnetic coating on ferromagnetic metal (such as iron, nickel, cobalt, etc.), such as paint thickness on automobile surface, coating thickness of metal parts and so on. This product also has built-in magnetic induction and vortex double principle probe, can automatically identify the measured metal substrate, only need to be placed on the measured surface, can automatically calculate the thickness of the coating.



1. Mode: AUTO, Magnetic (F), Vortex (N)
2. Measurement reading
3. Statistical display (average, min, max, dif)
4. Automatic shutdown instruction
5. Low power indicator
6. Substrate properties (Fe: iron; N: non-iron)
7. Unit (μm , mm, Mill)
8. -
9. Up key (unit switch)
10. Right (calibration, switch statistical display)
11. Down key (backlight, aut. shutdown switch)
12. Left key (probe mode switch, clear statistics)
13. On/Off switch
14. Probe
15. v groove, easy to measure convex surface
16. Diaphragm / Paint surface
17. Substrate to be tested

Note: if the  symbol is displayed, the battery is full, and if the  symbol is displayed, it means that the battery is almost exhausted and must be replaced.

Install batteries

Please prepare the cross screwdriver and the two AAA-batteries (No. 7) to be replaced, twist the screws on the back of the housing, remove the battery, and be sure to load the new battery in the direction indicated in the battery bin.

This device has two calibration methods:

1. Basic calibration

The base calibration should be carried out when it is used for the first time, or has not been used for a long time, or when replacing the tested substrate material. There are 7 calibration points in the basic calibration, and the calibration unit is mm.

- a. Prepare 6 pieces of standard film, the thickness of which is in 0.04 ~ 0.06, 0.09 ~ 0.11, 0.22 ~ 0.28, 0.45 ~ 0.55, 1.90 ~ 1.05, 1.90 ~ 2.00.
- b. First hold down the up key to hold, then press the on key, LCD full screen kettle display, and then hear a BI, LCD display 0.5%. 00, the lower right corner of the LCD displays the CAL character, indicating that the calibration screen is entered.
- c. Press the probe lightly on the uncoated aluminum base, at which point the LCD displays 0.00, and then BI-BI calibrates twice.
- d. Get rid of the probe and show the number of 0.05mm on the LCD. The second number calibration is carried out, and the probe is gently pressed on the aluminum base where the calibration sheet is placed. After adjusting the value displayed on the LCD and the thickness of the calibration sheet by pressing the upper and lower keys, remove the probe and Bi-Bi-Sound, the second calibration point has been calibrated.

2. Zero calibration

To improve the test accuracy, it is suggested that the instrument should be calibrated to zero.

- a. Preparation of uncoated substrate to be tested.
- b. Hold down the right hand until you hear the drop, and the "zero calibration (ZERO)" on the screen will begin to flicker.
- c. The probe is placed vertically and quickly on the surface of the uncoated substrate to be tested. After hearing the dripping sound, the screen will display "0", and the probe can be lifted at least 2 cm away from the substrate, that is, to return to zero once.

Measurement steps

Step 1. Prepare the parts to be tested.

Step 2. Stay away from the metal object at least 2 cm, press the switch key to turn on. Note: it is suggested that the instrument should be zeroed with reference to "zero calibration" before testing.

Step 3. The probe is placed vertically and quickly on the surface to be measured until the drop is heard, and the measured value is displayed on the screen, and then the probe is lifted at least 2 cm away from the part to be measured, and the next measurement can be carried out. Note: if the automatic shutdown function is turned on and there is no operation within 3 minutes, the instrument will automatically shut down.

Unit switching

Press up to switch the unit: micron (μm), millimeter (mm) and 1/1000 of an inch (mils).

Automatic shutdown

Hold down the Down key for about 3 seconds to turn on or off the automatic shutdown function. If the automatic shutdown function is turned on and there is no operation within 3 minutes, the instrument will automatically shut down and save batteries.

Probe mode switching

Press "left" to switch probe mode.

In automatic (AUTO) mode, the instrument can automatically switch the probe and measure it. In the magnetic induction (F) mode, the instrument will be measured by magnetic induction mode. At this time, it is suitable for the measurement of ferromagnetic substrate. In Eddy current (N) mode, the instrument will be measured by Eddy current mode. At this time, it is suitable for the measurement of non-ferromagnetic metal substrate.

Statistical display

- a. Right-click to switch statistical display (average, minimum, maximum, number)
- b. Hold down the left key for about 3 seconds to clear the statistics and start the new statistics at the same time. This instrument supports up to 50 data to carry on the statistics, when reaches 50, the latest data will replace the oldest data, the statistical value will be updated automatically.

Backlight

Press "Down key" to turn on and off the backlight.

Troubleshooting

If a significant anomaly is found in the instrument, the user can unplug the battery for 2 seconds, reinstall the battery, and then boot and try again. If the problem cannot be solved, please turn off the machine, hold down the boot button and do not release until the screen appears "RS", release the button, at this time the instrument resumes the factory settings successfully. If you are still unable to solve the problem, please contact your dealer in a timely manner.

How to recognize repainted or crash repaired car parts

Reading	Common result
< 100 μm	Polished too much, too thin
100 – 180 μm	Normal factory paint*
180 – 300 μm	Repainted because of scratches#
over 300 μm	Prime under the paint#

* Some special paints (like pearlescent) might have a higher reading even from the factory.

Might indicate a crash repair.

To investigate further whether the car has been crash repaired or not, you might want to check the following, that can be signs of crash repairs:

- Misaligned doors or body parts (gaps are not uniform)
- Different hinges (might also be due to normal service from tear and wear)
- Unevenly worn tyres (might just need tracking)
- Welding marks
- Different bolts holding the body parts
- Scratches on the bolts (bolts have been screwed off and back on)
- Condition of the support structures (might be changed or unbended)

Technical index

Probe	Ferrous / Magnetic	Non-Ferrous / Vortex
Magnetic induction	Measuring principle	Eddy current effect
Measuring range	0 ~2000 μm	
Precision	$\pm(3\%+1 \mu\text{m})$	
Resolution	0~99.9 μm (0.1 μm) / 100~999 μm (1 μm) / >1000 μm (0.01mm)	
Zero calibration	Support	
Statistics	Average, minimum, maximum, number	
Unit	μm , mm, mils	
Minimum convex Radian	5mm	
Minimum concave Radian	25mm	
Minimum measured area	Diameter 20mm	
Minimum substrate thickness	0.2mm	0.05mm
Maximum measuring speed	2 readings per second	
Power supply	2 X 1.5V AAA-battery	
Operating environment	Temperature:0 ~ 50 °C 20 ~ 90%rh (non-condensed)	
Preservation environment	Temperature: -10 ^ 60 °C 20 ^ 90%rh (non-condensation)	
Standards and certification	CE ROHS FCC GB/T4956-2003 GB/T4957-2003	
Size / weight / material	113mmX53mmX24mm / 80 g/ ABS	

Warranty

This device comes with 1 year warranty. Please contact InspectWise® by email warranty@InspectWise.net for information about how to return your product for repair to us. Attach the purchase receipt and explain what kind of malfunction occurred. To get the device replaced or repaired we will require you to return the malfunctioning product to our warehouse in Oulainen / Finland on your own expenses.