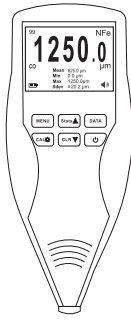


VICTOR 852E 涂层测厚仪

使用说明



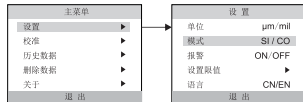
-1-

CLM (删除/下箭头)键: 在测量模式下, 短按进入删除数据界面:



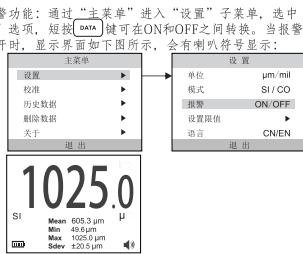
三、操作指南

开机: 短按 **ON** 键开机, 蜂鸣器发出一声短鸣, 开机后显示的产品型号
测量模式及切换: 测厚仪的测量模式分为单个测量模式 (SI) 和连续测量模式 (CO), 通过“主菜单”进入“设置”子菜单, 选中“模式”选项, 短按 **DATA** 键可在测量模式之间转换。

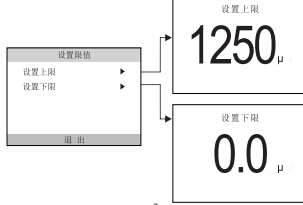


-4-

单个测量模式 (SI): 将探头紧贴被测表面, 并保持与被测面垂直, 完成有效测量时, 蜂鸣器会发出一声短鸣, 同时显示测量数据。需要连续多次测量时, 测厚仪应移离被测物, 并间隔2秒以上, 切勿沿被测面向一侧拖动探头。显示界面如下图所示:



设置限值: 通过“主菜单”进入“设置”子菜单, 选中“设置限值”选项, 分别设置上、下限值: 短按 **CLM** 或 **Stat** 是一个单位的加或减, 长按则以 0, 10, 20, 50, 100 递增或递减。

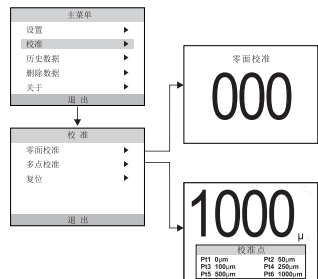


-7-

完成无涂层归零校准的测厚仪通常就可以准确测量了, 但当测厚仪使用在非规范基材和恶劣环境时, 会产生累计误差, 在这种情况下, 无涂层归零校准后的测厚仪有可能仍然不能准确测量, 此时需要再次进行标准片校准。

标准片校准: 测量标准片, 如显示数据超出说明书标称的精度范围, 将测厚仪从被测表面移开, 界面中显示“Pt1-μm”闪烁, 通过 **Stat** 或 **CLM** 键调整显示数据与标准片厚度一致即完成调整 (短按 **Stat** 或 **CLM** 是一个单位的加或减, 长按则以 10 为单位递增或递减)。

标准片校准可以使用两点校准的方法, 即校准一个较薄片, 一个较厚片。如果您测量的涂层厚度相对固定, 那么选择最接近厚度的标准片单点校准即可。



-10-

本款手持式有线涂层测厚仪能快速、精确地实现金属上涂(镀)层厚度的测量。视基材而定, Fe代表铁基(导磁金属, 如铁、钢), NFe代表铝基(非导磁金属, 如铝、合金、非导磁的不锈钢等也属于此类, 而不是Fe类) 本款测厚仪配备二合一探头能自动识别基材。可用来精确测量钢铁表面的油漆层、瓷、搪瓷防护层、塑料、橡胶覆层, 包括镍铬在内的各种有色金属电镀层, 以及化工石油的各种防腐涂层。同时也适用于对非磁性导电体上的非导电体覆层厚度的测量, 如航天航空器表面、车辆、家电、铝合金门窗及其它铝制品表面的漆、塑料涂层及阳极氧化膜。如果涂层材料有一定的导电性, 同样也可测量, 但要求两者的导电率之比至少相差3倍以上, (如铜上镀铬)

一、技术参数
 量程: 0-1250 μm (微米) / 0-50mil (密耳)
 分辨率: 0.1 μm / 0.1mil
 精度: ± (2%+2 μm) / ± (2%+0.1mil)
 主机尺寸: 166 x 68 x 30mm
 重量: 180克(含电池)

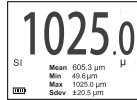
操作温度范围: -10至+50°C (+12至+122°F)
 备注: 在开始测量之前请确保机器在环境温度下达到持平, 因为环境因素影响请忽略测量的前几组数据。

二、按键功能(分长按/短按两种操作)

ON (开机/关机)键: 短按开机, 长按关机; 无操作180秒后将会自动关机

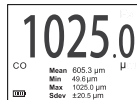


-2-



图中: 1025.0 μm 表示当前测量值
 Mean 605.3 μm 表示后台所有存储数据的平均值
 Min 49.6 μm 表示后台所有存储数据中的最小值
 Max 1025.0 μm 表示后台所有存储数据中的最大值
 Sdev ±20 μm 表示当前测量值允许的误差 (2%+2 μm)
 Fe 表示当前测试基材为磁性材料 (如NFe 表示当前测试基材为非磁性材料)

连续测量模式 (CO): 将探头紧贴被测表面, 并保持与被测面垂直, 完成有效测量时, 蜂鸣器会连续发出短鸣声, 同时显示测量数据。注意, 此时测厚仪探头不应移离被测物, 可以沿被测面向一侧拖动探头。显示界面如下图所示:

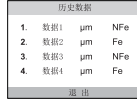


-5-

测试范围: 测厚仪能测试厚度在0 μm到1250 μm之间的基材上的涂(镀)层, 当基材厚度大于1250 μm时, 测厚仪将显示“...”。
 显示如下图所示:

报警功能: 通过“主菜单”进入“设置”子菜单, 选中“报警”选项, 短按 **DATA** 键可在ON和OFF之间转换。当报警功能打开时, 显示界面如下图所示, 会有喇叭符号显示:

读取与删除历史数据
 查看历史数据: 短按 **DATA** 键进入历史数据界面, 可以通过 **CLM** 或 **Stat** 键翻页查看最后50个测量值。



删除历史数据:

1: 短按 **CLM** 键进入删除数据界面, 选中要删除的数据, 短按 **DATA** 键即可删除数据。

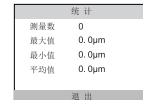


2: 长按 **MENU** 进入菜单界面, 选中“删除数据”, 短按 **DATA** 键可选择删除单个数据或全部数据。

MENU (菜单/返回)键: 长按此键进入主菜单, 短按退出菜单:



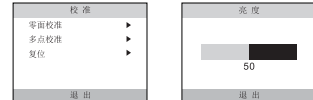
Stat (统计/上箭头)键: 在测量模式下, 短按显示统计内容:



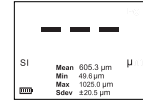
DATA (数据/进入下一层)键: 在测量模式下, 短按进入历史数据 displays 界面:



CLM (校准/背光)键: 短按进入校准模式, 长按调节背光:

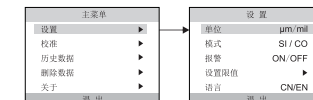


-3-

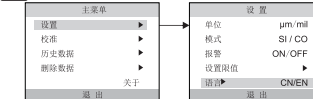


电量显示: 本款测厚仪测厚仪使用四节“AAA”碱性电池, 显示当前电量满格, 使用一定时间之后, 图中的绿色方块会相应减少。当此图标变为红色并闪烁, 表示电池电量不足, 注意: 在电量不足情况下测量, 会影响测量精度, 请及时更换电池。

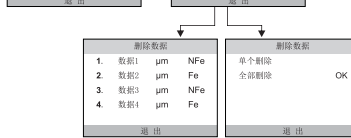
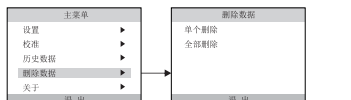
测量单位: 通过“主菜单”进入“设置”子菜单, 选中“单位”选项, 短按 **DATA** 键可在微米 (μm) 和密耳 (mil) 之间转换。



语言: 通过“主菜单”进入“设置”子菜单, 选中“语言”选项, 短按 **DATA** 键可在中文 (CN) 和英文 (EN) 之间转换。



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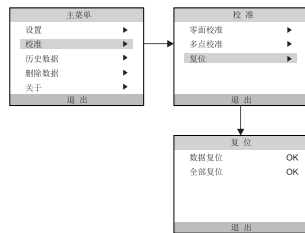
精度检查: 精度检查表用户根据已参考标准 (产品包装内附标准塑料片, 采用标准塑料片可以迅速完成对测厚仪的精度检查, 在被测表面粗糙或温度高的情况下, 也可起到保护作用。), 对测厚仪的精度进行检查。测厚仪读取的数据必须在说明书标称的精度范围内, 如: 说明书标称精度为 ± (2%+2 μm), 那么测50 μm的标准片, 显示47 μm-53 μm范围内可视为精度达标, 否则就需要校准。

校准: 本测厚仪出厂时已经校准, 并且每次进行测量时会进行自检。在多数情况下, 只需检查非涂层基底是否为零, 如不是, 则可采取如下操作:

无涂层归零校准: 短按 **CLM** 键进入校准界面, 选中“零面校准”选项, 短按 **DATA** 键, 显示屏显示“000”, 然后测量无涂层基材, 显示屏自动归零并记忆。

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初始化: 如果测厚仪无法正常校准或进行标准片校准时, 可进行初始化操作, 具体操作是: 短按 **CLM** 键进入校准界面, 选中“复位”选项, 再选中“全部复位”, 短按 **DATA** 键, 蜂鸣器会发出两声短鸣, 界面中会显示“全部复位OK”, 便完成初始化, 为了确保测量精度建议在初始化操作后, 再进行无涂层归零校准, 初始化后将删除存储的所有测量数据, 清除当前校准调整的设置。

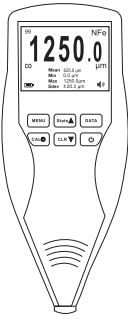


备注: 才测量不锈钢及合金材料的时候请在使用前作如下操作:
 1: 开机后回复出厂设置, 然后关机。
 2: 在开机进行多点校准。
 3: 请在校准时候注意探头周围不能有金属材料。

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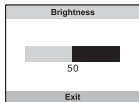
-12-

Coating Thickness Gauge Instruction Manual

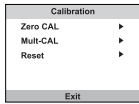


-1-

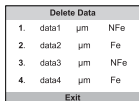
Calibration/Backlight: Under measuring mode, Long press **Cal** switch on the backlight, press **Stat** or **Cal** to adjust the brightness.



Short press **Cal** go to the calibration page. Refer to the below image:



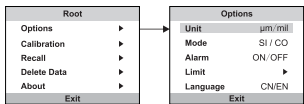
Delete/Down: Under measuring mode, short press **Cal**, to delete a recorded data.



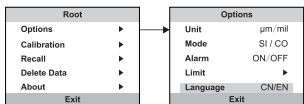
Operation:
Switch On: Short press **On**, the instrument switched on with a beep and the model No. CM8811FN displays on the screen.

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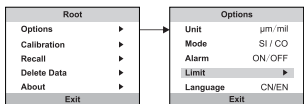
Long Press **Menu** enter main menu, "Root"->"Options"->"Unit". Press **Data** to choose between μm and mil.



Language:
Long Press **Menu** enter main menu, "Root"->"Options"->"Language". Press **Data** to choose between English (EN) and Chinese (CN).



Alarm Function
Alarm Range setting: Long Press **Menu** enter main menu, "Root"->"Options"->"Limit", User can set the upper range and lower range for alarm. Press **Stat** or **Cal** (long press fast adjustment) to adjust the range.



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Accuracy Checking
The user may check the accuracy of the instrument according to given reference standards (The instrument is provided with standard plastic films which can be used to check the measurement accuracy, and to cover rough or hot surface during measurement to protect the sensor of the instrument from possible damage.), using the standard plastic films and substrate blocks supplied in the package.
The measured value should be within the accuracy range specified in the user's manual. For example, if the accuracy specified as $\pm (2\% + 2\mu\text{m})$, the reading should be 47-53 μm when it's used to measure the standard plastic film with 50 μm thickness. Otherwise, the instrument should be calibrated.

Calibration
The instrument has been carefully factory calibrated and the built-in self-check functions every time before measurement. Therefore in most cases, the only thing needed to do is to check whether the reading is zero when tacking a measurement on uncoated metal. If not, Zero-in procedure is suggested.

Zero CAL: Short press **Cal**, choose "Zero CAL", short press **Data** "000" will blink on screen, take a measurement on the uncoated substrate, it displays "0", and been calibrated to zero. After Zero-In, usually the instrument can be used to accurately measure thickness, however, due to abnormal base material or severe environment, accumulated error may occur, in this case, you can use standard plastic films to do the multi point calibration for the instrument.

Multi-CAL: Use the instrument to measure the standard plastic film on a substrate block, in case the measured value is beyond the accuracy range as specified in the user's manual. Lift the probe up, "P1 μm " blinks on the screen, press **Stat** or **Cal** (long press keys for fast adjustment) to adjust the value to the

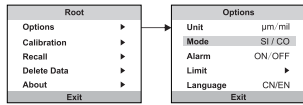
-10-

This handheld thickness gauge with separate probe is a highly intelligent and precise instrument used to quickly and accurately measure thickness of coating or plating on almost all kinds of metal surface. It not only indicates thickness of coating or plating but also automatically identifies the base material (Fe means magnetic metals such as iron & steel; NFe means non-magnetic metals, such as aluminum, alloy & non-magnetic stainless steel). It is applicable to measure various coating or plating, including non-magnetic painting, ceramic, enamel, plastic, rubber coating on magnetic base materials such as iron and steel, non-ferrous metal plating such as nickel & chromium, anticorrosive coating in chemical and petroleum industry, non-conductive painting, plastic coating and anodic oxide film on non-magnetic conductive devices, such as an aircraft or spacecraft, vehicle, home appliances, al-alloy door & window as well as other aluminum ware, and conductive coating or plating as long as the conductivity of coating or plating is at least 3 times less than that of base materials (such as copper with chromium plating).

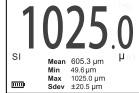
Specification:
Measuring Range: 0-1250 μm / 0-50mil
Resolution: 0.1 μm / 0.1mil
Accuracy: $\pm(2\% + 2\mu\text{m}) / \pm(2\% + 0.1\text{mil})$
Product Size: 166 x 68 x 30mm 6.5 x 2.5 x 1 inch
Product Weight: 180g/ 0.4 lb (with batteries)
Operation Temperature: -10 to +50°C (+12 to +122°F)
Note: Only take measurement after the probe of the instrument reaches environment temperature. Please disregard the first several readings if you are not sure whether the probe is stable under current environment temperature.

Keypad Introduction:
On Short press, switch on the instrument. Long press **On** switch off the instrument. Instrument automatically switches off

Measuring Mode: The instrument has 2 measuring modes available, **Single Measurement** and **Continuous Measurement**. Long press **Menu**, enter **ROOT** menu, "Options"->"Mode", press **Data** to choose measuring mode



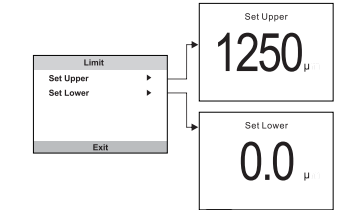
Single Measurement (SI): Press the probe vertically against the measured surface to take a measurement, the instrument will beep once and display the thickness value on the screen when reading is acquired. Wait at least 2 seconds to take another measurement. Note: Do not drag the probe on the measured surface. Refer to the below image for display:



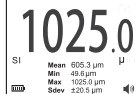
1025.0 μm -the measuring value
Mean 605.3 μm - The average value of all the recorded data
Min 49.6 μm --- The minimum value of all the recorded data
Max 1025.0 μm --- The maximum value of all the recorded data
Sdev $\pm 20.5\mu\text{m}$ --- The standard deviation (2%+2 μm)
Fe --- The substrate material is magnetic ferrous like steel (NFe --- The substrate material is non-magnetic ferrous like Aluminum.)

Continuous Measurement (CO): Press the probe vertically

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Switch on/off the Alarm: Long Press **Menu** enter main menu, "Root"->"Options"->"Alarm", Press **Data** to switch on or off the Alarm. When the alarm is switched on, the instrument displays as below image:

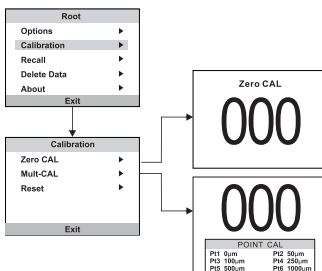


When the measurement is out the range of the alarm setting, the instrument sounds 3 beeps as indication

View and Clear the Recorded Data
View the recorded data: Short press **Data** to view the recorded data, press **Cal** and **Stat** to view all the last 50 data.

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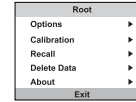
actual thickness, repeat the operation to do the calibration on the other plastic films too.
Two standard plastic films can be used for better calibration, i.e., to do calibration with a thin film and a thick film alternatively. In case the coatings or plating to be measured are relatively close to each other in thickness, it is enough to use only one standard plastic film with similar thickness to do the calibration.



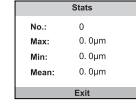
in case of no operation within 180 seconds.



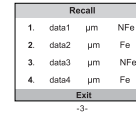
Menu/Back: Long press **Menu** enter into main menu. Short press **Menu**. Return to previous menu.



Stat/Up: Under measuring mode, short press **Stat**, instrument displays the statistic data of Max/Min/Average Value. Refer to the below image:

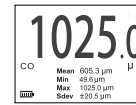


Data/Data/Enter: Under measuring mode, short press **Data**, instrument displays the recorded data. Refer to the below image:

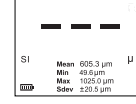


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against the measured surface to take a measurement, the instrument will beep continuously and display the thickness value on the screen when reading is acquired. Note: Do not lift the probe up from the measured surface until the measurement is finished. Refer to the below image for the display:



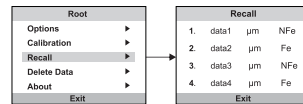
Measure Range: The instrument is used to measure thickness of coating or plating from 0 μm to 1250 μm . In case of thickness beyond this range, "---" will appear on the screen. Refer to the below image:



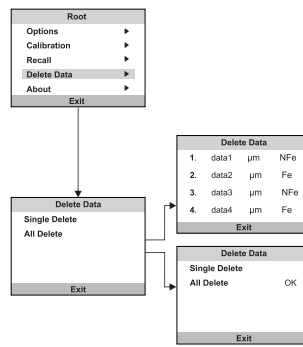
Battery Indication: The instrument is powered by four AAA batteries. Icon in green color means full battery, after using for a period of time the green bar becomes shorter indicating the current capacity of the batteries. When icon appears in red and blinks, the batteries are low. Note: Please recharge or replace the batteries in this case otherwise it may affect measurement accuracy.

Unit of Measurement:

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Data Delete: Long press **Menu**, "Root"->"Delete Data", press **Data** to choose to delete a single data or clear all the data



Standard Plastic Films & Calibration

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Initialization:
In case zero-in or calibration with standard plastic films does not work, please reinitialize the instrument: short press **Cal**, choose "Reset", choose "All Reset", short press **Data**. "All Reset-OK" will blink and beep will sound indicating initialization is completed. To ensure high measurement accuracy, it is suggested to do Zero-In after initialization. All previously saved values and settings will be cleared after initialization. The instrument reset to factory default setting.



Notes:
When measure the coating thickness on alloy material like aluminum alloy and stainless steel, the equipment has to be calibrated in the following way:
1. Switch the device on, initialize it to factory default setting, switch off the device.
2. Switch the device on again, calibrate it on the 6 standard films (In case the accuracy been affected, keep the equipment away from any metal during the whole calibration)

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