FNIRSi˙ 菲尼瑞斯

CTG-20

涂层测厚仪使用说明书
COATING THICKNESS GAUGU MANUAL

目 录

CATALOG

用户须知

●本手册详细介绍了产品的使用方法和注意事项,请仔细阅读本手册按说明规范使用本产品,以便发挥产品的最佳性能。

●不要在易燃、易爆的环境中使用仪器。

●仪器更换的废旧电池和报废的仪器不可与生活垃圾一同处理,请按国家或者当地的相关法律规定处理。

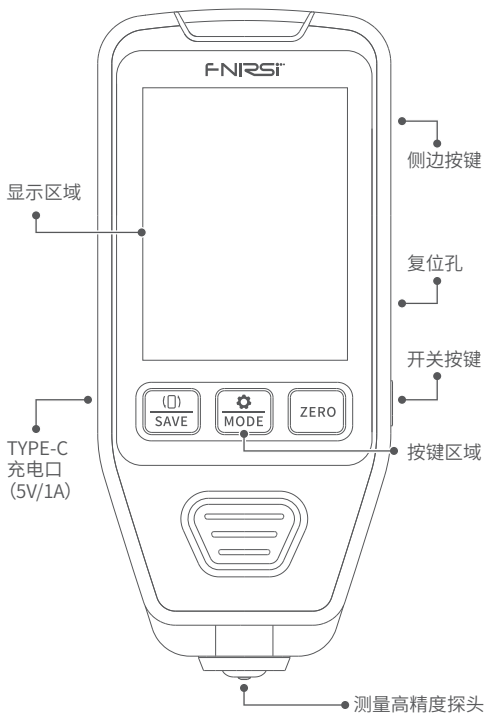●仪器出现任何的质量问题,或对使用仪器有任何疑问时,请及时联系当地经销商或厂家,我们将第一时间为您解决。

一、产品概述

本产品为涂层测厚仪,用于测量金属表面电镀层或涂层的厚度,具有可测量钢/铁等磁性材料表面的非磁性涂镀层厚度(油漆等),也可测量铝等非磁性材料表面的镀层厚度(油漆等)。内置精密探头,锂电池充电。通过电磁感应和涡流效应自动检测基材属性并探测涂镀层厚度。
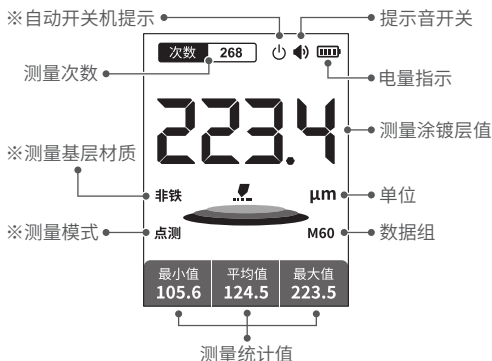
本仪器可以无损测量涂镀层厚度,速度快、精度高。广泛应用于制造业、化工业、汽车类等检测领域。

二、注意事项

请注意事项以下影响精度的干扰因素:

· 待测基材曲率过陡。

· 待测基材面积过小。

· 待测基材表面粗糙。

· 附近有强磁场。

· 环境温度/湿度变化较大。

· 电量不足,请及时充电。

FNIRSi

显示区域

侧边按键

复位孔

开关按键

TYPE-C
充电口
（5V/1A）

按键区域

SAVE

MODE

ZERO

测量高精度探头

四、界面介绍

- ※自动开关机提示 → ⏻
- 提示音开关 → 🔊
- 测量次数 → 次数 **268**
- 电量指示 → 🔋
- 测量涂镀层值 → **223.4**
- ※测量基层材质 → **非铁**
- 单位 → **μm**
- ※测量模式 → **点测**
- 数据组 → **M60**

最小值	平均值	最大值
105.6	**124.5**	**223.5**

测量统计值

※**自动开关机提示：**

显示代表开启自动开关机，无操作5分钟自动关机。

※**测量基层材质：**

· 铁基（钢/铁等磁性基材）

· 铝基（铝/铜等非磁性基材）

· 铁锌基（镀锌的钢/铁基材）

※**测量模式：**

· 点测（单点测量模式）

· 连测（连续快速的单点测量）

五、按键说明

按键	按键方式	功能
$\dfrac{(\square)}{\text{SAVE}}$	短按	测量页面屏幕翻转
	长按	保存数据
$\dfrac{\mathbf{\Phi}}{\text{MODE}}$	短按	点测/连测
	长按	进入/退出设置
ZERO	短按	零点校准
	长按	清除零点校准
$\circlearrowleft$	短按	开关机
	长按	开启/关闭自动关机
▲▼	向上	向上切页
	向下	向下切页

六、技术参数

类型	铁基(磁性材料)
测量范围	0-1400um
精度	±3%+2um
分辨率	0.1um
校准	零点校准、多点校准
单位	um、mil
最小凸面曲率半径	5mm
最小凹面曲率半径	25mm
最小测量面积直径	20mm

类型	铁基(磁性材料)
工作环境	无强磁场
	温度:-10°C-50°C 湿度:20%-90%RH
供电	600mAh
尺寸	≈115x48x18mm
重量	≈83g

七、操作说明

7.1 测量

短按 $\frac{\varnothing}{MODE}$ 按键切换测量模式

点测(单点测量模式):探头垂直接触并轻压试件,机器自动检测被测试件属性及涂层厚度,显示在屏幕上,下次测量需要将设备拿起超过被测试件5CM距离,方可再次单次测量。

连测(连续测量模式):探头垂直接触并轻压试件,机器自动快速检测被测试件属性及涂层厚度并实时更新显示在屏幕上。

7.2 数据保存

长按 $\frac{(0)}{SAVE}$ 按键,可将测量的数据保存到数据记录页面

7.3 数据查看与删除

● 上下拨动侧面 $\boxed{\vdots}$ 开关切换页面到数据记录页面
● 在数据记录页面, 短按 $\frac{\clubsuit}{MODE}$ 进入删除选项
● 短按 $\frac{(\square)}{SAVE}$ 和 ZERO 选择删除最新记录或者全部数据,
再次短按 $\frac{\clubsuit}{MODE}$ 确定删除

7.4 屏幕翻转

测量多斜面的基体时, 如发现观察屏幕的角度不合适, 可
以短按 $\frac{(\square)}{SAVE}$ 切换屏幕反向, 已便达到最优的观察角度

7.5 设置

● 长按 $\frac{\clubsuit}{MODE}$ 按键进入设置页面
● $\frac{(\square)}{SAVE}$ / ZERO 切换一级菜单
● 上下拨动侧面 $\boxed{\vdots}$ 开关调节二级菜单设置选项

7.6 零点校准

● 短按 ZERO 按键进入零点校准页面, 此时将机器水平按
压在标准基片上, 然后抬起, 会自动检测基材并且校准
零点后弹出选择是否保存校准零点数据
● $\frac{(\square)}{SAVE}$ / ZERO 选择是否保存校准零点数据
● 短按 $\frac{\clubsuit}{MODE}$ 确定选择

八、固件升级

插入USB连接电脑，按住 $\frac{\boxed{(0)}}{SAVE}$ + $\frac{\boxed{\Phi}}{MODE}$ + ⏻ ，此时电脑会弹出一个U盘，格式化U盘后拉入固件即可自动升级

九、生产信息

产品名称：涂层测厚仪
品牌/型号：CTG-20
服务电话：0755-28020752
生产商：深圳市菲尼瑞斯科技有限公司
网址：www.fnirsi.cn
地址：广东省深圳市龙华区大浪街道伟达工业园C栋西边8楼
执行标准：GB/T 37361-2019

NOTICE TO USERS

●This manual provides a detailed introduction to the product. Please read this manual carefully ensure obtain the best state of the product.

●Do not use the instrument in flammable and explosive environments.

●Waste batteries and instruments cannot be disposed of together with household waste. Please dispose of them in accordance with relevant national or local laws and regulations.

●If there are any quality issues with the device or if you have any questions about using the device, please contact "FNIRSI" online customer service and we will solve it for you in the first time.
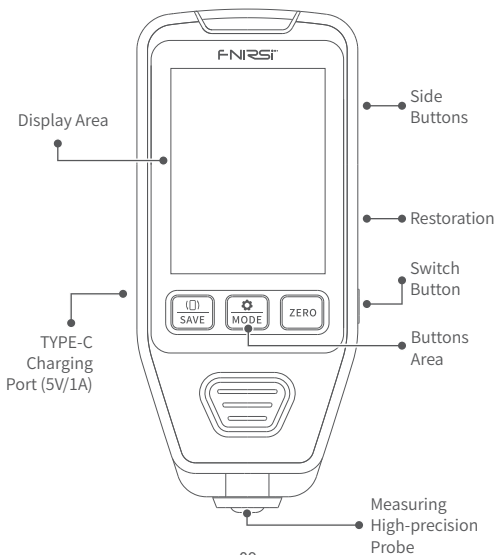
1.PRODUCT INTRODUCTION

This product is a coating thickness gauge used to measure the thickness of electroplated coatings or coatings on metal surfaces. It has the ability to measure the thickness of non magnetic coating (such as paint) on magnetic materials such as steel/iron, as well as the thickness of coating (such as paint) on non magnetic materials such as aluminum. Built in precision probe, lithium battery charging. Automatically detect substrate properties and detect coating thickness through electromagnetic induction and eddy current effects. This instrument can non-destructive measure the thickness of the coating, with fast speed and high accuracy. Widely used in manufacturing, chemical industry, automotive and other testing fields.
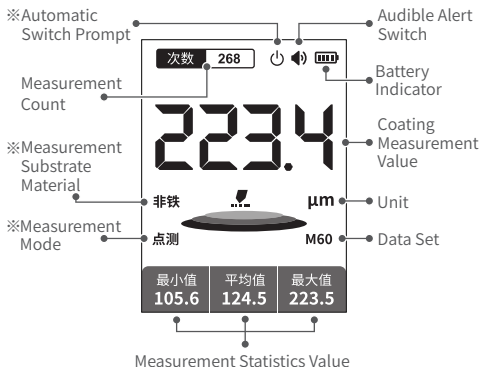
2.NOTICE

Please note the following interference factors that affect accuracy:

· The curvature of the substrate to be tested is too steep.

· The area of the substrate to be tested is too small.

· The surface of the substrate to be tested is rough.

· There is a strong magnetic field nearby.

· The ambient temperature/humidity changes significantly.

· Insufficient battery, please charge in time.

3.BUTTONS INTRODUCTION

FNIRSI

Display Area

Side Buttons

Restoration

Switch Button

SAVE

MODE

ZERO

TYPE-C Charging Port (5V/1A)

Buttons Area

Measuring High-precision Probe

4.PANEL INTRODUCTION

※Automatic Switch Prompt

Audible Alert Switch

次数 **268**

Measurement Count

Battery Indicator

223.4

Coating Measurement Value

※Measurement Substrate Material

非铁

μm — Unit

※Measurement Mode

点测

M60 — Data Set

最小值	平均值	最大值
105.6	**124.5**	**223.5**

Measurement Statistics Value

※**Automatic Switch Prompt:**

The display represents turning on and off the equipment automatically, with no operation for 5 minutes.

※**Measurement Substrate Material:**

· Iron Substrate (magnetic substrates such as steel/iron)
· Aluminum Substrate (non magnetic substrates such as aluminum/copper)
· Iron zinc Substrate (galvanized steel/iron based material)

※**Measurement Mode:**

· Point measurement (single point measurement mode)
· Continuous measurement (continuous and fast single point measurement)

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5.OPERATING INSTRUCTIONS

Button	Button Mode	Function
(□) SAVE	Short Press	Measurement Page Screen
	Long Press	Rotation
☼ MODE	Short Press	Single Measurement / Continuous Measurement
	Long Press	Enter / Exit Settings
ZERO	Short Press	Zero Calibration
	Long Press	Clear Zero Calibration
⏻	Short Press	Power On / Off
	Long Press	Enable / Disable Auto Power Off
⬆⬇	Up	Page Up
	Down	Page Down

6.TECHNICAL PARAMETERS

Types	Iron Based (magnetic material)
Measuring Range	0-1400um
Accuracy	±3%+2um
Resolution Ratio	0.1um
Calibration	Zero point calibration, multi-point calibration
Unit	um、mil
Minimum Convex Curvature Radius	5mm
Minimum Concave Curvature Radius	25mm
Minimum Measurement Area Diameter	20mm
Work Environment	No strong magnetic field Temperature: -10 ℃ -50 ℃ Humidity: 20% -90% RH
Battery	600mAh
Size	≈115×48×18mm
Weight	≈83g

7.OPERATION INSTRUCTIONS

7.1 Measurement

Pressing the $\frac{\text{⚙}}{\text{MODE}}$ button briefly switches between measurement modes.

Single Measurement (Point Measurement Mode): Place the probe vertically and lightly touch the test piece. The machine automatically detects the properties and coating thickness of the test piece, displaying the results on the screen. For the next measurement, you need to pick up the device and move it more than 5CM away from the test piece before another single measurement can be taken.

Continuous Measurement (Continuous Measurement Mode): Place the probe vertically and lightly touch the test piece. The machine automatically and rapidly detects the properties and coating thickness of the test piece, updating the display in real-time.

7.2 Data Saving

Long press the $\frac{\text{(❑)}}{\text{SAVE}}$ button to save the measured data to the data recording page.

7.3 Data View And Delete

● By toggling the side ⬚ switch, you can switch to the data recording page.

● On the data recording page, short press $\frac{\text{⚙}}{\text{MODE}}$ Enter the delete option

● Short press $\frac{\text{(❑)}}{\text{SAVE}}$ and ZERO to select to delete the latest record or all data Short press $\frac{\text{⚙}}{\text{MODE}}$ again to confirm deletion

7.4 Screen Rotation

When measuring substrates with multiple inclined surfaces, if you find that the viewing angle of the screen is not optimal, you can briefly press the $\frac{(\square)}{\text{SAVE}}$ button to switch the screen orientation for achieving the best viewing angle.

7.5 Settings

● Long press the $\frac{\clubsuit}{\text{MODE}}$ button to enter the settings menu.
● Use $\frac{(\square)}{\text{SAVE}}$ and ZERO buttons to navigate through the primary menu
● Use the side toggle switch $\boxed{\updownarrow}$ to scroll through the secondary menu options.

7.6 Zero Calibration

● Press the ZERO button briefly to enter the zero calibration page. Place the device horizontally on a standard substrate, then lift it up. The machine will automatically detect the substrate and calibrate the zero point. After calibration, a prompt will appear asking whether to save the zero calibration data.
● $\frac{(\square)}{\text{SAVE}}$ / ZERO : Select whether to save the calibrated zero point data
● Short press $\frac{\clubsuit}{\text{MODE}}$ to confirm the selection

8.FIRMWARE UPGRADE

Insert the USB into the computer, press $\frac{(\square)}{SAVE}$ + $\frac{\clubsuit}{MODE}$ + ⏻
button simultaneously, at this point, a USB drive will pop up
on the computer. After formatting the USB drive, drag the
firmware into it to automatically upgrade.

9.CONTACT US

**Any FNIRSI's users with any questions who comes to
contact us will have our promise to get a satisfactory
solution +an extra 6 months warranty to thanks for your
support!**

**By the way, we have created an interesting community,
welcome to contact FNIRSI staff to join our community.**

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