

F-NIRSI™ 菲尼瑞斯

ERD-10

电磁辐射检测仪说明书

V1.2

ELECTROMAGNETIC RADIATION DETECTOR USER MANUAL



※使用产品前请仔细阅读本说明书,并妥善保管。

※Please read this instruction manual carefully before using the product and keep it properly.

目录

一、安全要求	>>>	01
二、产品概览	>>>	01
三、技术规格	>>>	06
四、操作指南	>>>	07
五、快速入门	>>>	10
六、故障排查	>>>	11
七、维护保养	>>>	11
八、生产信息	>>>	13
九、保修说明	>>>	13
保修卡	>>>	页末

CATALOG

1.SECURITY REQUIREMENT >>> 14

2.PRODUCT OVERVIEW >>> 14

3.technical specification >>> 19

4.OPERATION GUIDE >>> 20

5.QUICK START GUIDE >>> 23

6.TROUBLESHOOTING >>> 23

7.MAINTENANCE >>> 24

8.CONTACT US >>> 25

9.WARRANTY INSTRUCTIONS >>> 26

WARRANTY CARD >>> Last Page

一、安全要求

1.1 环境要求

! 注意事项

- 避免高温、明火、腐蚀性气体、潮湿或多尘环境，以防设备故障。
- 测量时请勿遮挡设备检测口，避免影响测量结果。

! 远离以下物品

- 加热器：避免过热或火灾风险。
- 水源、化学品：溶剂：泄漏可能损坏设备或引发火灾。
- 强磁性设备：防止磁场干扰设备正常运行。

 请勿随生活垃圾丢弃废旧电池或设备，应按国家或当地法规处理。

二、产品概览

2.1 产品简介

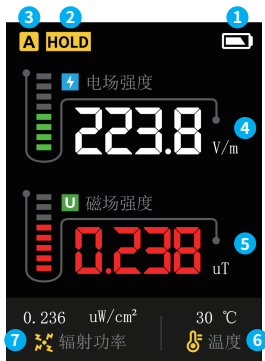
ERD-10是一款电磁辐射检测仪，是测量电磁辐射的专业仪器，主要用于家庭、办公室、车内、户外环境等多种场合下应用。采用2.4寸高清彩屏，支持电场强度、磁场强度、辐射功率、环境温度等监测。

2.2 产品说明



2.3 主页面示意图

- ①电量指示:指示系统电量。
- ②数据保持:短按 $\frac{\text{HOLD}}{\blacktriangleright}$,实现HOLDS数据保持功能。
- ③自动关机指示:指示自动关机开启情况。
- ④电场强度测量:此区域显示电场强度的测量值。
- ⑤磁场强度测量:此区域显示磁场强度的测量值。
- ⑥温度值:此区域实时显示设备测量的温度值。
- ⑦辐射功率测量:此区域显示射频辐射功率。



按键	操作	功能
	长按	关机
	短按	开机(关机状态下)/ 返回
$\frac{\text{HOLD}}{\blacktriangleright}$	短按	开启/关闭数据保持功能HOLDS
	长按	进入系统菜单,再次长按关闭
MODE OK	短按	切换到数据曲线界面,数据可视化。 再次单击退出曲线界面。

2.4 系统设置页面示意图

- ①功能页面显示:此区域显示选择功能的名称。
- ②音量设置:可设置0~10档音量。
- ③亮度设置:可设置1~10档亮度。
- ④语言设置:左右键可设置简体中文/English。
- ⑤恢复出厂设置:左右键选择是否恢复出厂,OK键确定。



按键	操作	功能
	长按	关机
	短按	开机(关机状态下)/ 返回
 / HOLD 	短按	选择键
	长按	退出系统菜单,再次长按进入系统菜单
	短按	确认选择

2.5 曲线界面页面示意图

- ① **电量指示**:指示系统电量。
- ② **自动关机指示**:指示自动关机开启情况。
- ③ **温度值**:此区域实时显示设备测量的温度值。
- ④ **电场强度测量**:此区域显示电场强度的测量值。
- ⑤ **磁场强度测量**:此区域显示磁场强度的测量值。
- ⑥ **曲线显示**:此区域实时显示曲线测量的数值,曲线页面0.5S更新一次。



按键	操作	功能
	长按	关机
	短按	开机(关机状态下)
	短按	切换电场强度/磁场强度
	长按	跳转系统菜单,再次长按退出系统菜单

三、技术规格

3.1 机型参数

参数	规格
产品型号	ERD-10
屏幕材质	2.4寸彩屏
背光	背光亮度可调
供电电源	TYPE-C (5V/1A)
电池	1000mAh
语言	中文, English
产品尺寸	≈143×68×29mm
裸机重量	≈143g

3.2 测量参数

参数	电场	磁场
单位	V/m (伏/米)	μT (微特斯拉)
精度	1V/m	0.01μT
量程	1V/m - 1999V/m	0.01μT - 99.99μT
报警阈值	40V/m	0.4μT
射频辐射功率范围	0.2-1000mW/cm ²	

四、操作指南

4.1 开机

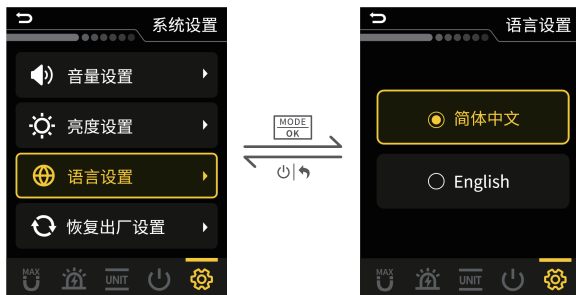
短按  开机，等待系统加载，进入系统设置默认界面。



主界面

4.2 语言设置

在主界面长按 ，进入系统菜单， /  选择系统设置，短按OK确认键进入系统设置， /  选择语言设置，后短按OK确认键进入语言设置， /  选择中英文，短按OK确认键确认即可。



4.3 调整磁场、电场强度上限

磁场强度上限调节：

在主界面长按 ，进入系统菜单，◀ / ▶ 选择磁场强度上限设置参数，短按OK确认键进入磁场强度上限设置，◀ / ▶ 调整数值，单击  |  保存设置并返回上一级。



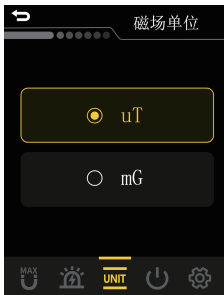
电场强度上限调节：

在主界面长按 ，进入系统菜单，◀ / ▶ 选择电场强度上限设置参数，短按OK确认键进入电场强度上限设置，◀ / ▶ 调整数值，单击  |  保存设置并返回上一级。



通用设置其他功能调节：

对应功能选择与开启同以上两点操作导航大致相同，省略步骤描述



磁场单位设置界面

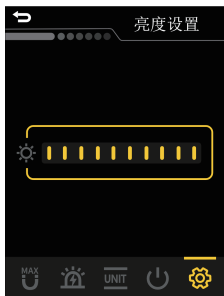
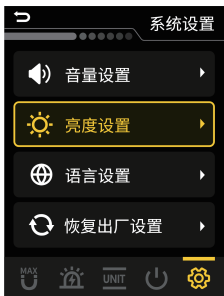


自动关机设置界面

4.4 亮度调节

亮度调节：

在主界面长按 ，进入系统菜单，◀ / ▶ 选择系统设置，短按OK确认键进入系统设置，◀ / ▶ 选择亮度设置，后短按OK确认键进入亮度设置，◀ / ▶ 实时调整亮度，单击  保存设置并返回上一级。



系统设置其他功能调节：

对应功能选择与开启同以上两点操作导航大致相同，省略步骤描述

五、快速入门

5.1 快速测量

- 1、开启电磁辐射检测仪，设备开启后，实时测量环境电场、磁场、辐射。
- 2、查看屏幕主界面测量数据，切换曲线页面，数据可视化，分析数据与记录数据。
- 3、短按 ，实现HOLDS数据保持功能。
- 4、长按 ，进入系统菜单。可设置电场、磁场上限值与其他参数设置等。

5.2 固件升级

- 设备关机,同时按住**OK**键和 ，此时设备会弹出固件更新update界面,插入USB Type-c数据线连接电脑,进入固件更新update界面进行固件升级。
- 进入固件更新update后，电脑识别出U盘，把固件文件直接拷贝到U盘即可。
- 在固件更新update界面长按关机键可进行关机。

六、故障排查

6.1 设备无法开机

可能原因：

- 电池电量耗尽
- 电池连接松动或损坏

解决方法：

- ① 检查电池电量，若电量不足请充电。
- ② 如果电池无法充电或设备依然无法开机，尝试重新安装电池，或更换电池。
- ③ 如果设备仍无法开机，请联系技术支持。

6.2 屏幕无法显示

可能原因：

- 屏幕背光关闭
- 显示屏硬件故障
- 系统软件异常

解决方法：

- ① 按照手册检查并调节背光亮度设置。
- ② 尝试重启设备，确保系统恢复正常。
- ③ 如果屏幕仍无法正常显示，可能需要维修或更换显示屏。

七、维护保养

清洁设备外部

- **频率：**每月清洁一次，具体取决于使用环境。
- **方法：**使用柔软的布轻轻擦拭设备表面。避免使用化学清洁剂，特别是含有酒精或强酸、强碱的清洁剂，以免损坏外壳或屏幕。
- **注意事项：**
 - 定期清理通风口和按钮周围的灰尘，以保持设备通风散热良好。
 - 确保设备无任何液体、灰尘或杂物进入设备接口。

检查电池与电源

- **电池保养：**对于内置电池的仪器，定期检查电池的健康状态。避免电池完全放电，建议定期充电并避免长时间不使用设备。

- **充电规范:**使用官方提供的充电器进行充电,避免过充或过放,确保电池处于适宜的工作电压范围。
- **电池更换:**若电池表现出过度衰减(如无法正常充电或极快放电),应及时更换。

存放与携带

- **存放环境:**仪器应存放在干燥、通风的环境中,避免高温、高湿或剧烈的温度变化。避免将其放置在阳光直射的地方。
- **携带:**使用时应小心避免摔落,尤其是在携带过程中。推荐使用保护套或专用包进行携带。

软件更新

- **定期检查设备**是否有新的固件更新。最新的固件可以修复已知的BUG并提升设备性能。
- **更新时**确保操作步骤正确,使用官方发布的固件文件,并避免断电或其他干扰。

恢复出厂设置

- 若设备出现异常或无法正常工作,可尝试恢复出厂设置。恢复设置后,设备将清除所有自定义配置,恢复到初始状态。
- 恢复出厂设置的方法可以参考用户手册或联系厂商客服。

八、生产信息

产品名称:电磁辐射检测仪

品牌/型号:FNIRSI / ERD-10

服务电话:0755-28020752

生产商:深圳市菲尼瑞斯科技有限公司

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

服务邮箱: support@fnirsi.com

商务邮箱: business@fnirsi.com

官方网站: www.fnirsi.cn

执行标准:GB/T 12787-2020

九、保修说明

感谢您选择本公司产品,本产品自销售之日起计保修期。在产品保修期内,凡按照产品使用说明书安装使用于正常环境、条件使用之下,因原物料及加工过程中之瑕疵而导致故障,可依据本保修条款的内容享受无偿维修服务,本保修卡请用户妥善保管,以作保修凭证,丢失恕不补发。

以下情况将实施有偿维修服务:

- 不能出示有效保修卡原件;
- 产品安装不符合产品要求、标准和相关规范造成的损坏;
- 产品安装环境中相关配件不符合产品要求、标准和相关规范造成的损坏;
- 用户对产品使用不当、保管不妥或擅自拆机、私自维修等原因造成的损坏;
- 超过保修期。

1.SECURITY REQUIREMENT

1.1 Environmental Requirement

Precautions

- Avoid high temperatures, open flames, corrosive gases, and humid or dusty environments to prevent device failure.
- Ensure that the vents are not blocked to prevent the device from overheating.

Keep away from the following items

- Heaters: Avoid overheating or fire risks.
- Water sources, chemical solvents: Leakage may damage the device or cause a fire.
- Strong magnetic equipment: Prevent magnetic fields from interfering with the normal operation of the device.



Please do not dispose of used batteries or equipment with regular household waste. They should be handled according to national or local regulations.

2.PRODUCT OVERVIEW

2.1 Production Introduction

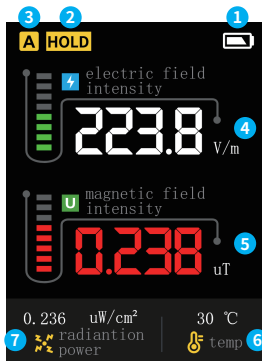
The ERD-10 is an electromagnetic radiation detector, a professional instrument used for measuring electromagnetic radiation. It is suitable for various application scenarios, such as homes, offices, vehicles, and outdoor environments. It features a 2.4-inch high-definition color screen and supports monitoring of electric field strength, magnetic field strength, radiation power, and environmental temperature.

2.2 Production Description



2.3 主页面示意图

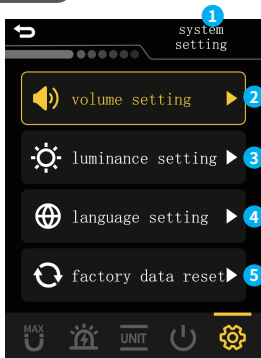
- ①**Power Indicator:**Indicates the system's battery level
- ②**Data Retention:**Short press **HOLD**, to activate Data Retention.
- ③**Auto Power Off Indicator:**Indicates the status of the automatic power-off function.
- ④**Electric Field Strength Measurement:**This area displays the measured value of the electric field strength.
- ⑤**Magnetic Field Strength Measurement:**This area displays the measured value of the magnetic field strength.
- ⑥**Temperature Value:**This area displays the real-time temperature measured by the device.
- ⑦**Radiation Power Measurement:**This area displays the power of radiofrequency radiation.



Key	Operation	Function
	Long press	Power off
	Short press	Power on(Off condition)/Back
HOLD 	Short press	Turn on/off Data Retention
 	Long press	Enter system menu,long press again out
	Short press	Switch to curve interface,visualize data. Click again get out of curve interface

2.4 System Settings Page Illustration

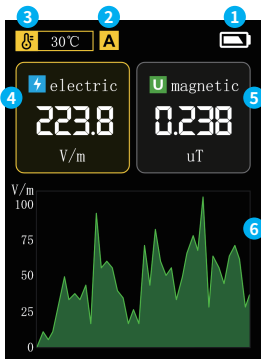
- ① **system setting:** This area displays the name of the selected function.
- ② **volume setting:** Allows adjustment of the volume from level 0 to 10.
- ③ **luminance setting:** Allows adjustment of the brightness from level 1 to 10.
- ④ **Language setting:** Use the left and right keys to select between Simplified Chinese and English.
- ⑤ **factory data reset:** Use the left and right keys to choose whether to restore to factory settings, then press the **OK** button to confirm.



Key	Operation	Function
	Long Press	Power Off
	Short Press	Back Operation
	Short Press	Select Button
	Long Press	Quit system menu, long press again enter system menu
	Short Press	Confirm selection

2.5 曲线界面页面示意图

- ① **Power Indicator:** Indicates the system's battery level.
- ② **Auto Power Off Indicator:** Indicates the status of the automatic power-off function.
- ③ **Temperature Value:** This area displays the real-time temperature measured by the device.
- ④ **Electric Field Strength Measurement:** This area displays the measured value of the electric field strength.
- ⑤ **Magnetic Field Strength Measurement:** This area displays the measured value of the magnetic field strength.
- ⑥ **Curve Display:** This area displays the real-time values of the curve measurement. The curve page updates every 0.5 seconds.



Key	Operation	Function
	Long Press	Power Off
	Short Press	Power On(Off condition)
	Short Press	Switch electric field strength/ magnetic field strength
	Long Press	Switch to system menu, long press again out

3. TECHNICAL SPECIFICATION

3.1 Device Parameters

Parameters	Specification
Item No.	ERD-10
Screen Material	2.4 inches
Backlight	Brightness adjustable
Charging Power	TYPE-C (5V/1A)
Battery	1000mAh
Languages	Chinese/English
Product Size	$\approx 143 \times 68 \times 29 \text{mm}$
Product Weight	$\approx 143 \text{g}$

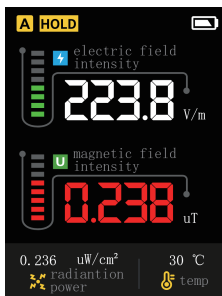
3.2 Measurement Parameters

Parameter	Electric Field	Magnetic Field
Unit	V/m	μT
Accuracy	1V/m	$0.01 \mu\text{T}$
Range	1V/m - 1999V/m	$0.01 \mu\text{T}$ - $99.99 \mu\text{T}$
Alarm Threshold	40V/m	$0.4 \mu\text{T}$
Power Range of Radiofrequency Radiation	$0.2\text{-}1000 \text{mW/cm}^2$	

4. OPERATION GUIDE

4.1 Boot

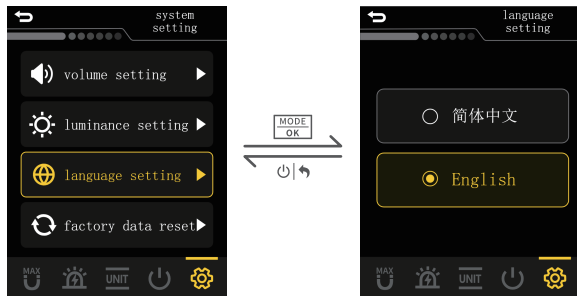
Short press  to turn on the device, then wait for the system to load, then enter the default system settings interface.



主界面

4.2 Language Settings

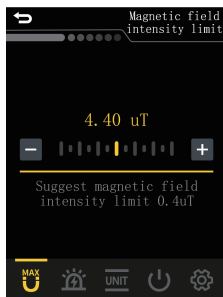
On the main interface, long press  to enter the system menu, ◀ ▶ select system settings, short press **OK** to enter system settings, ◀ ▶ select language settings, then short press **OK** to enter language settings, ◀ ▶ select Chinese or English, short press **OK** to confirm.



4.3 Adjust the upper limit of magnetic and electric field strength

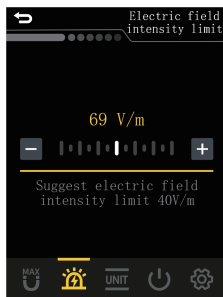
Magnetic field strength upper limit adjustment:

Long press  on the main interface to enter the system menu,   select the magnetic field strength upper limit setting parameter, short press **OK** to enter the magnetic field strength upper limit setting,   adjust the value, click   to save the setting and return to the previous page.



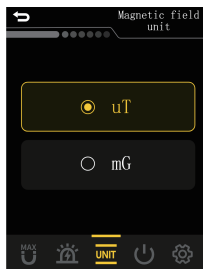
Electric field strength upper limit adjustment:

Long press  on the main interface to enter the system menu,   select the electric field strength upper limit setting parameter, short press **OK** to enter the electric field strength upper limit setting,   adjust the value, click   to save the setting and return to the previous page.

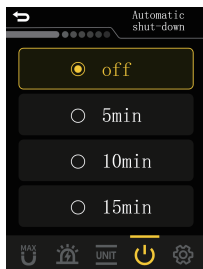


General settings and other function adjustments:

The corresponding function selections and opening are roughly the same as the above two points of operation navigation, and the step description is omitted.



磁场单位设置界面

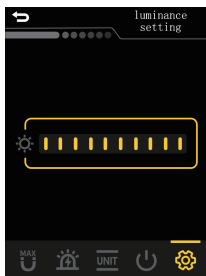
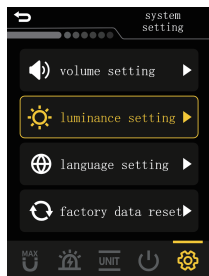


自动关机设置界面

4.4 Brightness adjustment

Brightness adjustment:

Long press  on the main interface to enter the system menu, ◀ ▶ select system settings, short press **OK** to enter the system settings, ◀ ▶ select brightness settings, and then short press **OK** to enter the brightness settings, ◀ ▶ adjust the brightness in real time, click  to save the settings and return to the previous page.



System settings and other function adjustments:

The corresponding function selection and opening are roughly the same as the above two points of operation navigation, and the step description is omitted.

5. QUICK START GUIDE

5.1 Rapid Measurement

1. Turn on the electromagnetic radiation detector. After the device is turned on, it measures the environmental electric field, magnetic field, and radiation in real time.
2. View the measurement data on the main screen interface, switch the curve page, visualize the data, analyze the data, and record the data.
3. Short press  to activate the Data Retention.
4. Long press  to enter the system menu. You can set the upper limit of the electric field and magnetic field and adjust other parameter settings.

5.2 Firmware Upgrade

- Turn off the device, press **OK** and  together, device will boot firmware upgrade interface. Use data cable to connect device and computer, enter the firmware update interface to upgrade the firmware.
- After entering the firmware update, the computer recognizes the U disk. Copy the firmware file directly to the U disk then it's done.
- Long press the power button in the firmware update interface can shut down device.

6. TROUBLESHOOTING

6.1 Unable to boot

Possible causes:

- Battery exhausted
- Loose or damaged battery connection

Solution:

- ① Check battery charge and charge if low
- ② If battery fails to charge or device still does not power on, try reinstalling or replacing the battery.
- ③ If the device still does not power on, please contact technical support.

6.2 Screen does not display

Possible causes:

- The screen backlight is off
- Display hardware malfunction
- System software abnormality

Solution:

- ①Check and adjust the backlight brightness settings according to the manual.
- ②Try restarting the device to ensure the system returns to normal.
- ③If the screen still does not display properly, the display may need to be repaired or replaced.

7.MAINTENANCE

Clean the outside of the device

- Frequency:**Clean once a month, depending on the usage environment.
- Method:**Use a soft cloth to gently wipe the surface of the device. Avoid using chemical cleaners, especially those containing alcohol or strong acids or alkalis, to avoid damaging the casing or screen.
- Note:**
 - Keep the device clean and remove dust around the buttons regularly to keep it in good condition.
 - Ensure that no liquid, dust or debris enters the device interface.

Check the battery and power supply

- Battery maintenance:**For device built-in battery, check the health of the battery regularly. Avoid complete battery discharge. It is recommended to charge regularly and avoid not using the device for a long time.
- Charging specifications:**Use the official charger to charge, avoid overcharging or over-discharging, and ensure that the battery is in the appropriate operating voltage range.
- Battery replacement:**If the battery shows excessive attenuation (such as failure to charge normally or extremely fast discharge), it should be replaced in time.

Storage and Carrying

- Battery maintenance:**Storage environment: The device should be stored in a dry and ventilated environment, avoiding high temperature, high humidity or drastic temperature changes. Avoid placing it in direct sunlight.

- **Carrying:** Be careful to avoid falling when using, especially when carrying. It is recommended to use a protective case or a special bag for carrying.

Software Update

- Regularly check whether the device has new firmware to update. The latest firmware can fix known bugs and improve device performance.
- When updating, make sure the operation steps are correct, use the officially released firmware files, and avoid power outages or other interference.

Restore factory settings

- If the device is abnormal or does not work properly, try to restore the factory settings. After restoring the settings, the device will clear all custom configurations and return to the initial state.
- For methods to restore factory settings, please refer to the user manual or contact the manufacturer's customer service.

8.CONTACT US

Any FNIRSI users who contact us with questions will receive our promise of a satisfactory solution, plus an extra 6-month warranty as a token of our appreciation for your support! By the way, we have created an exciting community, and we welcome you to contact FNIRSI staff to join.

SHENZHEN FNIRSI TECHNOLOGY CO.,LTD

Product Name: Electronmagnetic Radiation Detector

Model: ERD-10

Address: 8th Floor, West Side, Building C, Weihua Da Industrial Park, Dalang Street, Longhua District, Shenzhen, Guangdong, China

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Service Email: support@fnirsi.com

Business Email: business@fnirsi.com

Website: www.fnirsi.com



<http://www.fnirsi.com/>

9.WARRANTY INFORMATION

※**This page is the basic warranty card. Please keep it.**

Thank you for choosing our company's products. The warranty period of this product starts from the date of sale. During the product warranty period, if the product is installed and used in accordance with the product manual and used in normal environment and conditions, and the fault is caused by defects in the original materials and processing, you can enjoy free repair services according to the content of this warranty clause. Please keep this warranty card properly as a warranty certificate. No reissue will be issued if it is lost.

The following situations will incur paid repair services

- 1.Unable to present the original valid warranty card.
- 2.Damage caused by improper installation not meeting product requirements, standards, or relevant specifications.
- 3.Damage caused by accessories in the installation environment not meeting product requirements, standards, or relevant specifications.
- 4.Damage caused by improper use, improper storage, unauthorized disassembly, or unauthorized repairs by the user.
- 5.Expiration of the warranty period.

保修卡



产品型号	ERD-10	数量	
渠道商名称 (购买商店)			
联系方式			
渠道商地址			
发票号 (订单号)			
购买时间	年	月	日
客户姓名:	地址:		
			
联系方式:	故障说明:		
			

Warranty Card



Product Model	ERD-10	Qty.	
Distributor Name (where to buy)			
Contact			
Address			
Invoice Number (Order Number)			
Purchase Date (as per invoice)	Year	Month	Day
User Name:	Address:		
			
Contact:	Fault Description:		
			



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