MICRORAD

Percipere,Aestimare et Inquirere

ISO 9001:2015

微纳德 MICRORAD

NHT 310F 使用手册

微纳德中国

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1 SAFETY INSTRUCTIONS 安全指引

1.1 Foreword 序言

The following general safety precautions must be observed during all phases of operation, service, and repair of this instrument. 本仪器的所有操作、服务和维修时必须遵守一般安全预防措施。

Read the entire manual carefully before using the instrument.在使用之前请仔细阅读完整的操作手册。

Always keep a copy of the manual with the instrument, available to anyone who uses it, even if it is transferred to a third party. 如果仪器交由第三方，请始终将手册副本与仪器放置一起以供使用。

1.2 Correct use 正确使用

The NHT310F has been designed and built to provide the operator with an instrument for the measurement of electromagnetic fields. Use the instrument only for the purpose and under conditions for which it is designed.NHT310F 为操作者提供测量电磁场设计和制造的仪器。仅在规定的设计条件下使用仪器。

In particular, follow the technical specifications of use, shown in appendix A, "NHT310F technical specifications".特别应遵循附录 A“NHT310F 技术规范”中所示技术规范下使用。

Make sure that the instrument is used by qualified and adequately trained operators. 确保仪器由合格且经过充分培训的操作人员使用。

1.3 Improper use 不当使用

The NHT310F is not an alarm device. Its purpose is not to alert the operator for the presence of a dangerous field by means of an audio or visual signal.NHT310F 不是报警装置。其目的不是通过音频或视频信号提醒操作员存在危险区域。

Remember that the NHT310F instrument is a measuring device and not an alarm device. The operator must be careful, continuously checking the field value indicated by the instrument, when it is in areas with an unknown field.谨记 NHT310F 仪器是一个测量装置而不是报警装置。当仪器位于未知场强时，操作员必须小心并不断检查仪器的场强指示值。

1.4 Dangers from electromagnetic fields 电磁场危险

• ***Pay attention to high fields** 注意高场强*

Fields with particularly high values may be present near some sources. Do not cross barriers or safety warnings. Persons particularly at risk, as carriers of active implanted medical devices (eg pacemakers), must avoid dangerous electromagnetic field

situations.某些辐射源附近可能存在具有特别高数值的场强。不要越过障碍物或安全警告。特别是有风险的人，例如植入医疗设备（如起搏器）的携带者必须避免危险的电磁场条件。

• ***Check the operation of the probe** 检查探头工作状况*

Before starting the measurement, check that the probe connected to the instrument is working properly. This will prevent the operator from being in high field areas without the instrument having detected the level. Therefore carry out a preventive measure under known conditions.开始测量之前，检查探头连接仪器是否正常工作。这将防止操作员在仪器没有检测到辐射值的情况下进入高磁场区域。因而在已知条件下采取预防措施。

• ***Possible measurement errors***

Do not apply metal labels or other on the probe, since metal parts in contact with the part of the probe suitable for the measurement of the electromagnetic field can influence the value detected by the instrument.请不要在探头上贴金属标签，因为接触的金属对于适合测量电磁场的探头会影响仪器检测到的数值。

• ***High static magnetic fields** 高静态磁场*

In the presence of high static magnetic fields, pay attention to the effect of attraction caused by the field on the instrument itself.在存在高静态磁场的情况下请注意磁场对仪器本身产生的吸附影响。

1.5 Dangers from electric sources 电源危险

• ***DO NOT use the instrument near electric sources** 不要靠近电源使用仪器*

Since the instrument shell is made of metallic material, always keep the instrument away from electrical sources in order to avoid the risk of electric shock.由于仪器外壳由金属材料制成，因此应始终保持仪器远离电源，以避免电击的危险。

1.6 Dangers due to batteries 电池引起的危险

NHT310F is powered by a rechargeable lipo battery pack. Batteries can break, burn or explode when they are handled incorrectly. Shorting a lithium battery can cause fires and explosions. NHT310F 由可充电锂电池组供电。如果处理不当，电池可能会断裂、燃烧或爆炸。短接锂电池会引起火灾和爆炸。

• ***DO NOT access the battery compartment** 不要接入电池盒*

Operators must not remove the instrument covers and must not access the battery compartment. The battery supplied with the instrument must not be changed or replaced.操作人员不得拆下仪表盖也不得接入蓄电池室。不得变更或更换随仪器提供的电池。

1.7 Dangers due to the battery charger 电池充电器引起的危险

Electrical shock events may occur due to improper use of the battery charger.电池充电器使用不当可能导致电击事件。

• ***Check the battery charger** 电池充电检查*

The battery charger, provided with the instrument, must be used to recharge the battery. 仪器附带的电池充电器用于电池充电。

Do not use the charger if it is damaged.如果充电器损坏，请勿使用。

Do not use the charger if it is moved from a cold to a warmer environment, as this may cause condensation on the device.如果充电器从寒冷的环境转移到温暖的环境中，请勿使用，因为这可能导致设备冷凝。

• ***Conditions for recharging** 充电条件*

Recharge only indoor, with ambient temperature and humidity within the operating limits of the device. Keep away from flammable and explosive sources.仅在室内充电，环境温度和湿度应在设备的工作范围内。远离易燃易爆源。

• ***Verification of the AC line** 交流线路的查验*

Check that the specifications of the electric network used for recharging are exactly those for the battery charger. If the mains voltage is different, it can cause damage to the charger.检查用于充电的电网规格是否与蓄电池充电器的规格完全一致。如果电源电压不同，可能会损坏充电器。

1.8 Additional risks 附件风险

• ***DO NOT substitute parts or modify the instrument** 不要替换零件或维修仪器*

To avoid the danger of introducing additional hazards, do not open the NHT310F meter, do not install or substitute parts, or perform unauthorized modifications to the instrument. Return the instrument to ***Microrad*** Service Center for service and repair to ensure that safety features are maintained in operational condition.为避免引入额外危险，不要打开NHT310F 仪表，不要安装或替换零件，或对仪器进行未经授权的修改。将仪器送回Microrad 服务中心进行维修，以确保在运行状态的安全特性得到维护。

2 GENERAL INFORMATION 一般信息

2.1 Application 应用

Human exposure to electromagnetic fields (not ionizing radiation) is nowadays a very critical subject almost all countries in the world are dealing with. Technical and normative bodies work alongside government institutions to enact new guidelines and decrees regarding maximum permitted exposure levels for populations and workers.人类暴露于电磁场（非电离辐射）是当今世界上几乎所有国家都要应对的非常重要课题。相关技术和规范的机构与政府机构合作，制定了关于普通人员和工作人员最大允许的暴露水平的新准则和法令。

The measurement equipment for this type of analysis must suit the technical requirements from the guidelines and must provide the user with qualified physical parameters for compliance with legally required thresholds.用于此类分析的测量设备必须符合这些指引的技术要求，并且必须向用户提供符合法律要求阈值的合格物理参数。

2.2 About the instrument 关于仪器

NHT310F is Microrad's entry solution for electromagnetic safety assessment. In a handy and compact structure it allows to operate from static electromagnetic fields up to 40 GHz.NHT310F 是 ***Microrad*** 一款评估电磁辐射安全应用入门解决方案。仪器操作简单，结构紧凑，可在 DC-40GHz 的宽频带模式下工作。

It is user-friendly and performs extremely reliable measurements; it provides the operator with ambient temperature and humidity data and, using the GPS optional accessory, also the coordinates of the site being measured for inclusion in a final report. 用户界面友好，测量极为可靠；可为操作员提供环境温度和湿度数据，可使用 GPS 可选附件，以便测量现场坐标包含在最终报告中。

The system uses a variety of probes to measure specific physical parameters (magnetic induction, magnetic field and electric field) according to the frequency band of interest.该系统使用多种探头，可根据感兴趣的频段测量特定的物理参数（磁感应、磁场和电场）。

On the instrument LCD display, the following parameters are displayed simultaneously: 在仪表 LCD 显示屏上，同时显示以下参数：

- R.m.s. isotropic value of measured field (**Iso**)r.m.s.各向同性测量值（**Iso**）
- R.m.s. value on the three Cartesian axes (**X**, **Y**, **Z**)三轴上 r.m.s.值（**X**, **Y**, **Z**）
- Maximum value of measured r.m.s. field (**Max**)最大测量值（**Max**）
- Moving average r.m.s. value (**Avg**)移动平均值（**Avg**）
- Spatial average value (**Spt**)空间平均值（**Spt**）
- Instantaneous peak value of the field (**Peak**)瞬时峰值（**Peak**）
- High resolution plot of the field waveform in the time domain (oscilloscope mode **OSC**)电磁场时域波形的高分辨率图（示波器模式 OSC）
- Scrolling history log diagram of the rms isotropic field (or other quantities selectable by the user)r.m.s 各向同性值的滚动历史记录图（或用户可以选择其他的量）
- Graphic bars proportional to the rms isotropic field and to the three

Cartesian components X, Y, Z of the field (X,Y,Z)三轴上 r.m.s 分量值的比例图形条

- Parameters relating to the pulse characteristics of the field in the time domain (pulse duration and duty cycle)与时域中电磁场的脉冲特性有关的参数（脉冲持续时间和占空比）
- Temperature, humidity, measurement unit, date and time, battery level,external devices status (i.e. optional Gps module).温度、湿度测量单位、日期和时间、电池电量，外部设备状态（比如选件 Gps 模块）。

The instrument can be directly operated using the touch-screen display or the function keys and measurements can be viewed on the display. The instrument can also be remotely controlled by connecting it to a smartphone/tablet via Wi-Fi, or to a PC via fiber optic.可以使用触摸屏显示屏直接操作仪器，也可以在显示屏上查看功能键和测量值。该仪器还可以通过 Wi-Fi 连接到智能手机/平板电脑或通过光纤连接到 PC 进行远程控制。

Thanks to the rechargeable lithium polymer battery, the instrument has autonomy of over 15 hours in typical operating conditions, exceeding 24 hours in continuous recording mode.由于提供了可充电锂聚合物电池，在典型条件下，仪器操作时间超过 15 个小时，在低功耗的连续记录模式下可达到 24 小时的电池寿命。

2.2.1 NHT310F remote control 远程控制

The instrument can be used directly through its touch screen and the physical buttons located at the bottom, or it can be managed remotely.For this purpose, the operator can use an optional accessory (Wi-Fi module) for wireless communication, which allows establishing a connection between the instrument and a Personal Computer, a Tablet or an Android Smartphone.设备可以通过触摸屏和底部的物理按钮直接使用，也可以远程管理。为此，操作员可以使用可选附件（Wi-Fi 模块）进行无线通信，以便在仪器和个人电脑、平板电脑或 Android 智能手机之间建立连接。

2.2.2 Data storage and transfer 数据存储和传输

The measurement data are stored in a removable and interchangeable 8 GB memory card, which allows user to save a practically unlimited number of measurements.测量数据存储在一个可移动和可更换的 8gb 存储卡中，使用户可以保存几乎无限数量的测量数据。

Data transfer from the instrument to a computer can take place via USB cable connection, wireless connection or fiber optic connection. Data transfer is also possible by removing the memory card from the instrument and inserting it into a card reader connected to the computer.从仪器到 PC 的数据传输可以通过 USB 电缆连接、无线连接或光纤连接进行。从仪器中取出存储卡并将其插入与计算机相连的读卡器中，也可以进行数据传输。

Once the measurements have been imported in the computer, they are included in a local archive created on the hard disk, and remain available for analysis and export at any time.一旦将测量数据导入计算机，它们将保存在硬盘上创建的本地存档中，并随时可用于分析和导出。

2.3 Measurement probes 测量探头

Measurement probes available for use in conjunction with NHT 310F, are listed below, according to the type of probe and field being measured:取决于探头类型和被测电磁场，与 NHT 310F 结合使用的测量探头如下所示：

Probe name *探头名称*	***Measured field*** *测量电磁场*	***Frequency band*** *频率贷款*	***Measurement Interval*** *测量量程*
Low frequency electric field probes *低频电场探头*			
11E	Electric	1 Hz - 400 kHz	1 V/m - 20 kV/m
Low frequency magnetic field probes			
10B	Magnetic	1 Hz - 400 kHz	100 nT + 1 mT
20B	Magnetic	1 Hz - 20 kHz	300 nT - 16 mT
30B	Magnetic	1 Hz - 400 kHz	300 nT - 16 mT
Magnetostatic field probes *磁场探头*			
10H	Magnetostatic	DC	1 pT + 4 mT
20H	Magnetic	DC - 1 kHz	1 mT - 15 T
30H	Magnetic	DC - 1 kHz	200 MT - 600 mT
Combined probes *组合探头*			
33S	Electric	1 Hz - 1 MHz	1 V/m - 100 kV/m
	Magnetic	1 Hz - 1 MHz	150 nT - 15 mT
	Magnetostatic	DC	5 MT ^ 60 mT
Radio frequency electric field probes *射频电场探头*			
01E	Electric	100 kHz - 6.5 GHz	0.2 V/m - 360 V/m
02E	Electric	400 kHz - 40 MHz	2 V/m - 800 V/m
03E	Electric	100 kHz - 18 GHz	0.8 V/m - 340 V/m
04E	Electric	3 MHz - 40 GHz	0.5 V/m - 350 V/m
Radio frequency electric field probes *射频磁场探头*			
02E	Magnetic	300 kHz - 30 MHz	0.016 A/m - 16 A/m

Tab 2.2 - Measurement probes

Each probe is automatically recognized by the NHT 310F when inserted.NHT 310F 可自动识别每个接入探头。

Please refer to Microrad website for additional technical details on probes and for availability of new products (www.microrad.it).有关探头更多技术细节和新产品的可用性，请参阅 Microrad 网站（www.microrad.it）。

2.4 Description of measurement values 测量数值说明

The NHT310F instrument calculates and updates on the screen, 4 times per second, the following measurement values and indices:NHT310F 设备每秒 4 次在屏幕上计算并更新以下测量数值和指标：

- **Iso**: r.m.s. isotropic value of the field; it corresponds to the value displayed in large digits on the instrument screen; the r.m.s. average is calculated on a time interval of 250 ms, which is also the screen refresh time. r.m.s.电磁场的各向同性值；它对应于仪器屏幕上以大数字显示的数值；r.m.s.平均值按 250 ms 的时间间隔计算，这也是屏幕刷新时间。

- **X, Y, Z**: cartesian components of the r.m.s. isotropic value.r.m.s.各向同性值的各轴分量

- **Peak**: peak value of the field, occurred in the last 250 ms 最近 250ms 内电磁场峰值

- **Max**: maximum r.m.s. isotropic value, evaluated from the last insertion of the probe or from the last clear. This value is updated only when a new higher amplitude value is detected. A clear can be performed when required. The value is also cleared every time data are stored, or when there is a change of the measuring sensor (field and range selection).r.m.s.各向同性最大值，从探头最后一次插入或从最后一次清除开始计算，仅当检测到最新更高幅值时才会更新。必要时可进行清除。每次存储数据或测量传感器发生变化（电磁场或和测量范围选择）时，该值也会被清除。

- **Avg**: long-term r.m.s. value; the average is calculated on a moving window. The time window width is configurable from a minimum of 1s up to a maximum of 99 hours. A clear can be performed when required. The Avg value is evaluated only after a period of time equal to the length of the moving window has been elapsed (starting from power on, from insertion or change of the measuring sensor or from the average clear).r.m.s.长时段均值；平均值在移动窗口上计算。时间窗口宽度可配置为从最小 1s 到最大 99 小时。必要时可进行清除。平均值仅评估一段时间等效于移动窗口的长度（从通电、插入或变更测量传感器或从平均值清除开始）。

- **Spt**: represents the r.m.s. value of measure points acquired through single acquisitions. This function can be useful to quickly obtain an average value in space when capturing two or more values in different locations from which spatial average name is derived. A clear can be performed when required. The Spt value is also cleared when the instrument is switched on or when the probe is changed. 表示通过单次采集获得的测量点的 r.m.s.值。此功能可以用于凯苏获得空间中的平均值，当捕获两个或多个不同位置空间的数值时。必要时可进行清除。打开仪器或更换探头时 Spt 值也会被清除。

3 CERTIFICATION AND WARRANTY 认证和质保

3.1 Certification 认证

Microrad certifies that this product met its published specifications at the time of

shipment from the factory. ***Microrad*** also certifies that each probe for the NHT310F instrument has been calibrated according to DIN EN ISO 9001: 2015. On request, SIT certification is available, covering magnetic and electric field strength and high frequency electromagnetic power density, and OKD certification for magnetic induction intensity and low frequency electric field. Microrad 认证该产品在出厂时符合其公布的规格。Microrad 还认证，NHT310F 仪器的每个探头都已根据 DIN EN ISO 9001:2015 进行了校准。根据要求提供 SIT 认证，包括磁场和电场强度和高频电磁场功率密度，以及磁感应强度和低频电场的 OKD 认证。

3.2 Warranty 质保

This ***Microrad*** product is warranted against defects in material and workmanship for a period of 24 months. During the warranty period, ***Microrad*** will, at its option, either repair or replace products that prove to be defective.Microrad 产品的材料和工艺缺陷保修期为 24 个月。在保修期内，Microrad 可以选择维修或者更换有缺陷的产品。

For warranty service or repair, this product must be returned to ***Microrad.***对于保修服务或维修，必须将本产品返回 Microrad。

Microrad warrants that its software and firmware, designated by ***Microrad*** for use with an instrument, will execute its programming instruction when properly installed on that instrument.Microrad 保证由 Microrad 设计用于仪器的软件和固件，将在正确安装在仪器上时执行其编程指令。

3.3 Limitation of warranty 质保限制

The foregoing warranty shall not apply to defects resulting from: improper use or inadequate maintenance by User, User-supplied software or interfacing, unauthorized modification or misuse, operation outside the environmental specifications for the product, or improper site preparation or maintenance.上述保证不适用于以下原因造成的缺陷：用户使用不当或维护不当、用户提供的软件或接口、未经授权的修改或误用、产品环境规范之外的操作、现场准备或现场维护不当。

4 PREPARATION TO USE 使用准备

4.1 Unpacking 开箱

As soon as the instrument arrives at destination, please carefully check the packages to verify possible damages caused by shipment. If any damage is found, inform ***Microrad*** immediately. It is recommended to keep the original packages for a future shipment due to, for instance, repairing or setting.仪器到达目的地，请仔细检查包装，以确认装运可能造成的损坏。如果发现任何损坏，立即通知 Microrad。由于维修或设置等原因，建议保留原始包装以备将来装运。

4.2 Items included 装箱清单

Check that all materials have been delivered. Open the rigid case and check that the following parts are contained there in:检查所有材料是否已交付。打开坚固包装箱并检查其中是否包含以下部件：

-NHT310F

- Power Charger - USB Cable 电源充电器-USB 电缆
- USB memory stick containing MicroLink application, manual, calibration certificatesUSB 存储卡包含 Microlink 应用、手册、校准证书等

The rigid case may also contain the optional accessories ordered with the meter and the selected measurement probes.坚固包装箱可能还包含随订购仪表和所选测量探头的可选配件。

The optional accessories available are: the GPS receiver module, the Wi-Fi module, the fiber optic connection, the external power bank.可选配件包括：GPS 接收模块、Wi-Fi 模块、光纤连接线、外置移动电源。

4.3 Storage 存放

After the material contained in the packages has been inspected and it has been verified for damages, it shall be stored in its original packing until the time of use. The storage deposit must be well protected and free from humidity.包装内的材料经检验无损坏后，应按原包装贮存至使用时为止。存放处必须妥善保护，无湿气。

If the instrument should be kept in storage for a long time, it is advisable to insert hygroscopic substances (such as silicon gel salts) in the package.如果仪器长期存放，建议在包装中插入吸湿性物质（如硅凝胶盐）。

4.4 Unit description 设备描述

The images and tables below show the main parts and interfaces available on the NHT310F instrument base unit.下图和表格显示 NHT310F 仪器基本单元的主要部件和接口。

Fig. 4.1 - Base unit front view

Item	*Description*
1	On / Off key 开/关键
2	Temperature and humidity sensor 温湿度探测器
3	Brightness sensor 亮度探测器
4	Green / Red / Blue Led 绿./红/蓝灯
5	Color TFT touch-screen display 彩色 TFT 触摸屏显示
6	Function keys 功能键
7	Removable memory card 移动存储卡

Tab. 4.1 - Front interfaces

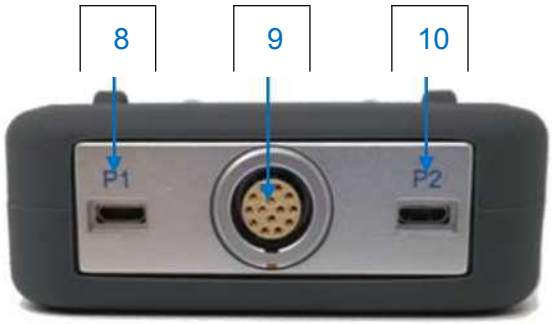


Fig. 4.2 - Base unit top view

Item	*Name*	*Description*
8	MICRO USB	Optional accessories input connector - P2 port 选配件输入接口
9	PUSH PULL CONNECTOR	Probes Interconnection connector 探头互联接口
10	MICRO USB	Optional accessories and power bank input connector -P1 port 选配件和移动电源输入接口

Tab. 4.2 - Top interfaces

Fig. 4.3 - Base unit bottom view

Item	*Name*	*Description*
11	BARREL JACK	Battery charge input connector 电池充电输入接口
12	%-inch threaded hole	Fastening for tripods or brackets mounts 三脚架或支架的安装固定

Tab. 4.3 - Bottom interfaces

4.5 Connecting the probes 探头连接

The probe is equipped with a Push/Pull connector. To connect it to the NHT310F unit, push the probe plug straight down into the probe socket until it clicks into place (the red mark on the probe plug must point towards the red mark on the unit socket).探头配有推/拉接头。要将其连接到 NHT310F 设备时，请将探头插头直接向下推入探头插座，直到其卡入位（探头插头上的红色标记必须指向设备插座上的红色标记）。

To disconnect the probe, slide the sleeve on the probe plug upwards and pull the probe upwards to remove it.要断开探头，请向上滑动探头插头上的套筒并向上拉动探针以将其拆下。

PROBE PLUG
WARNING: TO REMOVE DO NOT TURN THE PROBE !警告：拆卸时请勿转动探头！

Fig. 4.4 - Probe connection

SLIDE THE SLEEVE ON THE PROBE PLUG UPWARDS AND PULL THE PROBE UPWARDS TO REMOVE IT.向上滑动探头插头上的套管，然后向上拉探头将其拆下

4.6 Power supply and autonomy 供电与自动

NHT310F operates with LiPo rechargeable batteries.NHT310F 使用锂离子充电电池。

The batteries are usually delivered pre-charged, but could need a complete charge before the first use. The full recharging time is about 5 hours.电池通常是预先充电的，但在首次使用前可能需要完全充电。完全充满电时间约为 5 个小时。

During the battery recharge cycle the instrument cannot be switched on and, if the instrument is already operating, the reliability of the measurement is not guaranteed.在电池充电周期内，仪器无法打开，如果仪器已经运行，则无法保证测量的可靠性。

Turning on the instrument when it is charging, an indication of the charge level is displayed, and within a few seconds the NHT310F automatically switches off and continues the battery charge.充电时打开仪器，显示充电水平指示，几秒钟内 NHT310F 自动关闭并继续电池充电。

During the batteries charging cycle, the blue LED (figure 4.1, item 4) lights up with the following meanings:在电池充电周期中，蓝色 LED（图 4.1，第 4 项）亮起，含义如下

- Led on: battery charging in progress LED 亮起：电池正在充电
- Led off: charge cycle completed or charger unplugged LED 熄灭：充电周期完成或充电器拔出

The battery discharge time is longer than 24 hours of continuous operation in low-power acquisition mode 在低电力采集模式下，电池放电时间可超过连续工作 24 小时

During normal operation, the percentage battery charge status is always displayed at the top right of the screen.在正常操作期间，电池充电百分比状态始终显示在屏幕右上角。

4.7 Optional power bank connection 可选移动电源连接

In order to further extend the autonomy of the instrument, it is possible to use an external charge source (power bank).为进一步扩大仪器的自主性，可使用外置充电电源（移动电源）。

Microrad provides a power bank on request. The recommended characteristics for a possible power bank are:Microrad 根据要求提供移动电源。可能移动电源推荐参数如下：
-Voltage: 5 Vdc
-Current: > 2 A
-Capacity: > 10 Ah
The power bank must be connected exclusively to the P1 port of the instrument, as shown in figure 4.2. The P2 port cannot be used.移动电源必须专门连接到仪器的 P1 端口，如图 4.2 所示。不能使用 P2 端口。

When the instrument is used with an external power supply the technical specifications of the probe are not guaranteed. The measurement performed is not fully reliable, since all measurements should be performed with the instrument disconnected from any power source.当仪器与外置电源一起使用时，探头的技术规格不受保证。所进行的测量并不完全可靠，因为所有测量都应在仪器与任何电源断开的情况下进行。

5 OPERATION 操作

5.1 Base unit switching on 设备开关

Press POWER ON (item 1, fig. 4.1).按压 POWER ON

The instrument starts an auto test tool, turns on the red and green LEDs simultaneously and emits a beep sound three times. The screen shows Microrad logo.仪器启动自动测试工具，同时打开红色和绿色 LED，并发出三次蜂鸣音。屏幕显示 Microrad 标志。

If no probe is connected to the instrument, then the screen in Figure 5.2 will appear with the text "NO PROBE".如果没有探头连接到仪器，则图 5.2 中的屏幕将显示文本“NO PROBE（无探头）”。

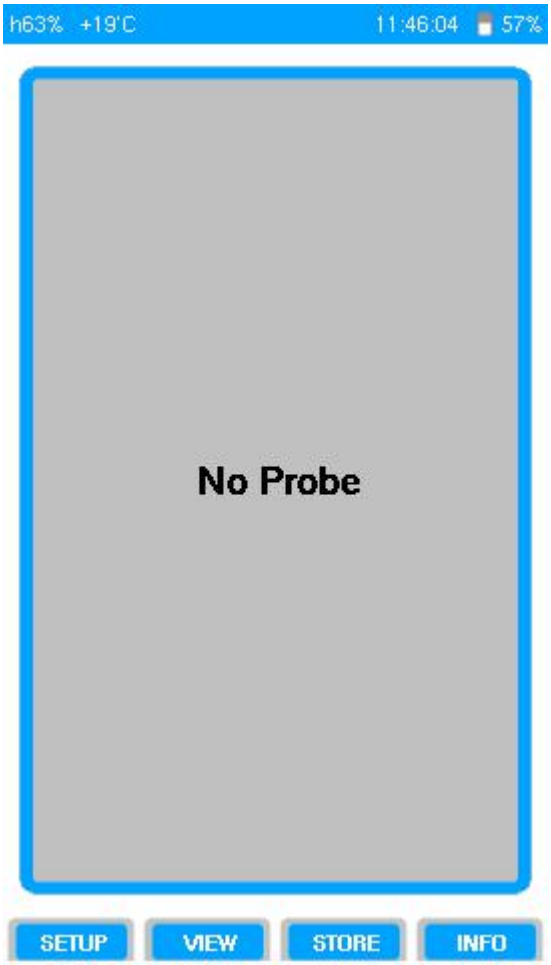


Fig. 5.1 - Typical screen in case of probe absence

The same screen is also displayed as soon as a probe is disconnected from the measuring instrument.当探头与测量仪器断开时也会显示相同的屏幕

From this screen, by pressing the INFO key at the bottom right of the touchscreen, it is possible to view some instrument information (identification data, firmware version, free memory) as shown in figure 5.2.在屏幕上按下触摸屏右下角的信息键，可以查看仪器信息（识别数据、固件版本、可用内存），如图 5.2 所示。

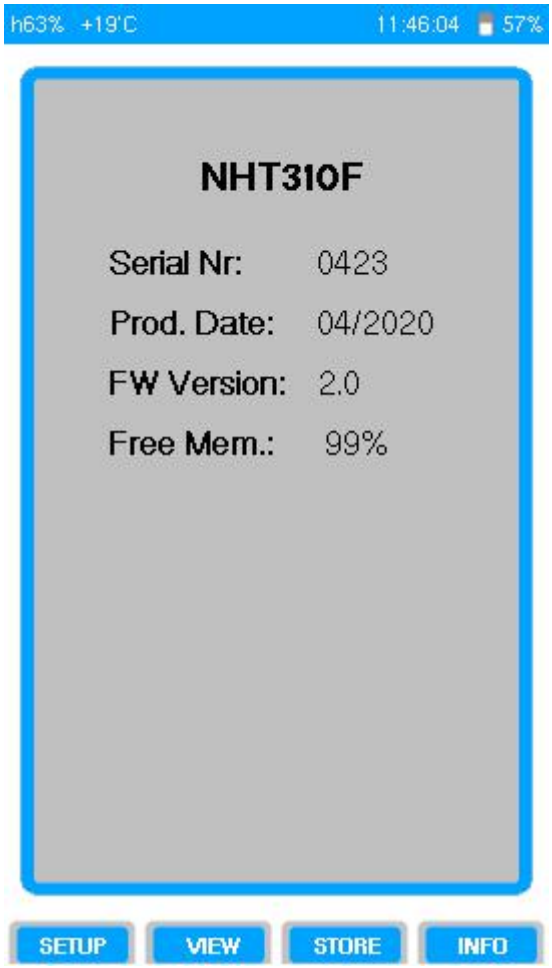


Fig. 5.2 - Instrument data typical screen

5.2 Field sensor selection 场强探头选择

After the power on operation and probe detection and calibration are completed, the NHT310F is ready to perform measures.通电操作和探头检测校准完成后，NHT310F 准备好执行测量。

The first selection that the operator can perform, is the physical quantity he wishes to measure.操作员可以执行的第一步选择是要测量的物理量。

While standard probes measure only electric or magnetic field, combined probes, like 33S probe, can measure electric alternating field, magnetic alternating field, and magnetic static field.标准探头只测量电场或磁场，而组合探头（如 33S 探头）可以测量交变电场、交变磁场和静态磁场。

Furthermore, for alternating fields two dynamic ranges, Low Range (LR) and High Range (HR), are available.此外对于交变磁场有两个动态范围：低范围（LR）和高范围（HR）。

Then, in case the 33S combined probe is connected to the meter, operator can select the type of field to be measured and its range, as follows:如果 33S 组合探头连接到仪表上，操作员可以选择要测量的电磁场类型及其范围，如下所示：

open the ***MEASURE*** Menu, described in chapter 6, and press ***Field*** in order to select the type of field to measure. Available selections are: E for electric field, B for magnetic field, E+B for combined field mode and H for static magnetic field. Then press ***Range*** to select Low or High dynamic range.打开第 6 章中描述的“***MEASURE***（测量）”菜单，然后按“ ***Field***（场）”选择要测量的电磁场类型。可选项有：E 表示电场，B 表示磁场，E+B 表示复合磁场模式，H 表示静态磁场。然后按 “***Range***” 选择低范围或高范围。

5.3 Measurement screen (33S electric field)测量屏幕（33S 电场）

If the probe 33S is connected to the meter and the electric field sensor is selected, the measure screen appears as shown in figure 5.4.如果探头 33S 连接到仪表上，并且选择了电场传感器，则显示测量屏幕，如图 5.4 所示。

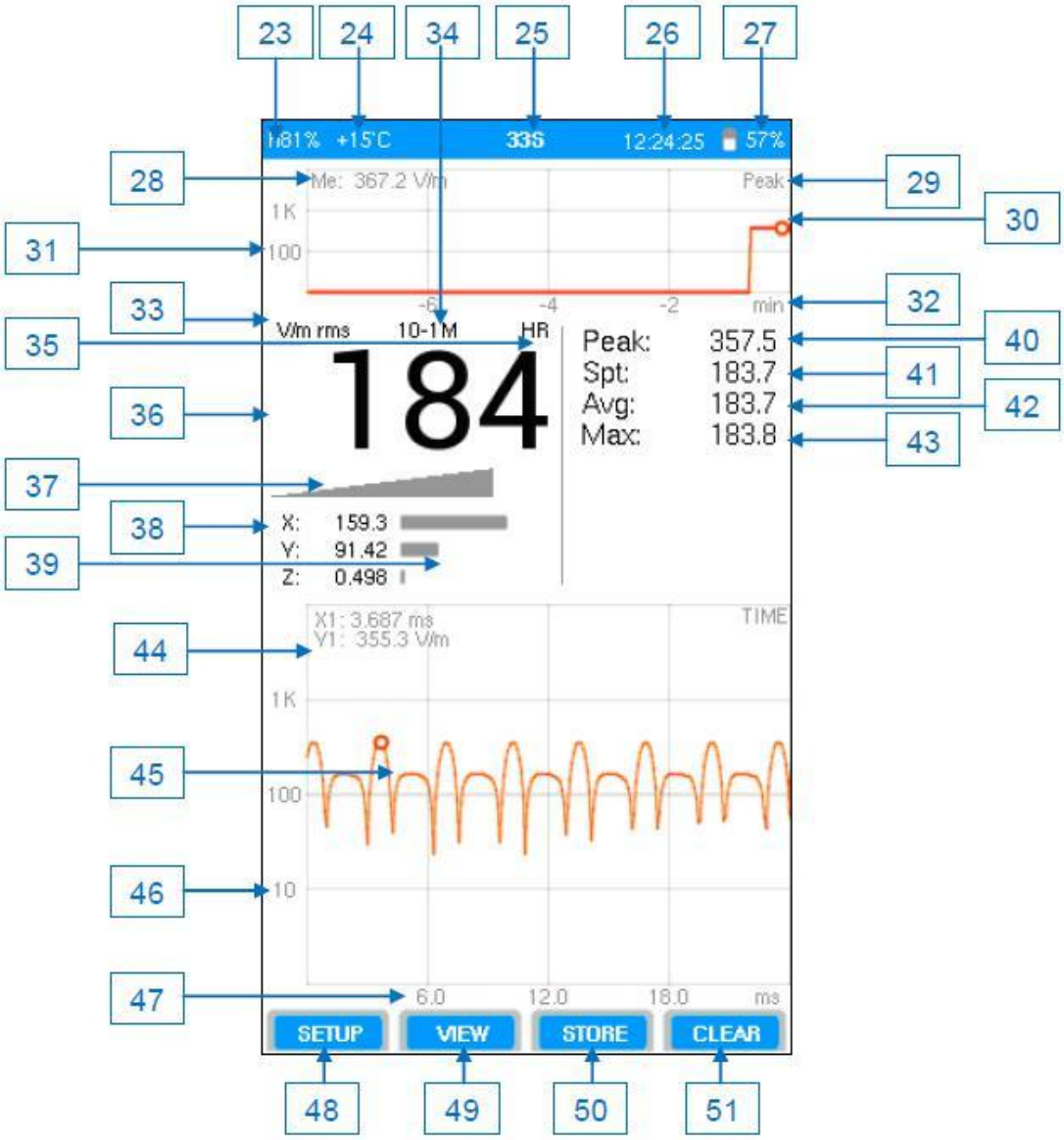


Fig. 5.4 – Low frequency electric field measurement screen

Item	*Description*
23	Relative humidity (%)相对湿度（%）
24	Ambient temperature value, in degrees Celsius or Fahrenheit 温度，摄氏度后华氏度
25	Model of probe connected to the instrument 连接仪器的探头型号

26	Time and date (displayed alternately)时间和日期
27	Graphic representation of the battery charge level and percentage of remaining battery charge 电池电量和剩余电量百分比的图形表示
28	历史记录最大值，Me 代表电场的最大值，Mb 表示磁场的最大值
29	Type of measurement represented in the history log, selectable among Rms / Peak / Medium / Avg 历史记录中表示的测量类型，可选 Rms / Peak /Avg
30	History Log of the selected value 所选值的历史记录
31	Vertical scale (logarithmic) of the electric field values 电场值的垂直刻度（对数）
32	Horizontal time scale 水平时间刻度
33	Measurement unit: V/m, A/m, W/m2, mW/cm2, uW/cm2, kV/m, uT, mT, G 测量单位：V/m、A/m、W/m2、mW/cm2、uW/cm2、kV/m、uT、mT、G
34	Measurement band: the lower limit, for the frequency selective probes, can be modified from the menu by means of the high pass filter 测量波段：可通过高通滤波器从菜单中修改频率选择探头的下限
35	Low Range or High Range selection 低量程或高量程选择
36	Rms isotropic value of the measured field (Iso) r.m.s 各向同性测量值（iso）
37	r.m.s.各向同性测量值的图形条
38	三轴上 r.m.s.分量值（X, Y, Z）
39	三轴上 r.m.s.分量值（X, Y, Z）的比例图形条
40	Peak 峰值
41	Spatial average value of the field (Spt) 空间平均值
42	Avg 平均值
43	Max 最大值
44	Makrer 标记值

5.4 Recording measured values 记录测量值

During the use of the instrument the user can record the measured values, that will be saved on the removable memory of the instrument. It is possible to operate in two different modes:在使用仪器的过程中，用户可以记录测量值，这些值将保存在仪器的可移动存储器中。可以在两种不同的模式下操作：

The user can record the measured values using two different methods:用户可以使用两种不同的方法记录测量值：

- Storing of the single measured value (single storing)存储单个测量值（单个存储）
- Storing of a sequence of samples acquired continuously over time (monitoring).储存一系列随时间连续获取的采样（监测）

Single storing 单个存储

Each time the user makes preliminary measurements or he wants to store data displayed on the screen, he has to simply press the ***STORE*** key (Fig. 4.4, item 47).每次用户进行初始测量或想要存储屏幕上显示的数据时，只需按下“***STORE*** 存储”键（图 4.4，第 47 项）。

Single acquisition is performed only if the instrument is set in single recording mode. To make sure the instrument is correctly set or to change its setting, open the ***MEASURE*** menu, press on the ***RECORDING*** line, and select the row ***Mode: Single.*** Refer to par. 6.4.3 for details on the ***MEASURE*** menu.单次采集仅在仪器设置为单次记录模式时执行。

确保仪器设置正确或更改其设置，请打开“***MEASURE*** 测量”菜单，按“***RECORDING*** 记录”行，然后选择“***Mode: Single*** 模式：单个”。参见第 6.4.3 有关测量菜单的详细信息。

At each individual pressure, a set of values is stored that includes all the measurement data and a screen shot, saved as a compressed image file. As soon as the recording has been made, the message " Data Saved " appears on the screen, as shown in figure 5.6. 在每次个别按下，存储一组数值包括所有测量数据和屏幕截图，保存为压缩图像文件。一旦记录完成，屏幕上就会出现信息“Data Saved”（数据已保存），如图 5.6 所示。

Fig. 5.6 - Data saved screen

Monitoring 监测

The instrument is able to carry out continuous recording activity over time: practically it performs a sequence of single stores, all spaced from the same time delay.仪器能够随着时间的推移进行连续的记录活动：实际上它执行一系列单个存储，所有存储都有相同的时间延迟间隔。

Monitoring is performed only if the instrument is set in continuous mode. To make sure the instrument is correctly set or to change its setting, open the ***MEASURE*** menu, press on the ***RECORDING*** line, and select the row ***Mode: Continuous.*** Refer to par. 6.4.3 for details on the ***MEASURE*** menu.仅当仪器设置为连续模式时才执行监测。要确保仪器设置正确或更改其设置，请打开“***MEASURE*** 测量”菜单，按下“***RECORDING*** 记录”，然后选择“***Mode: Continuous***”（模式：连续）。参见第 6.4.3 有关测量菜单的详细信息。

The ***RECORDING*** submenu, described in par. 6.4.3.1, allows operator to select the time interval between the storage of a sample and the next one (sampling step) acting on the row ***Sampling Time. “RECORDING*** 录制”子菜单，如第 6.4.3.1 描述，允许操作员选择两个采样存储之间的时间间隔（采样步进），即为“***Sampling Time*** 采样时间”。

This submenu also allows operator to set a value (acting on the row ***Countdown***) to start

a countdown before the acquisition start, to allow the user to move away from the instrument installed on a tripod and thus avoid a possible disturbance of the measurements.此子菜单还允许操作员设置一个值（即为 ***Countdown*** 倒计时），以便在采集开始前开始倒计时，允许用户远离安装在三脚架上的仪器，从而避免可能的测量干扰。

The operator can start the monitoring sequence by simply pressing the ***STORE*** key (fig. 5.4 item 47). The start recording screen shown in Figure 5.7 will appear with an indication of the countdown in progress.操作员只需按下"***STORE*** 存储"键（图 5.4 第 47 项）即可启动监测序列。图 5.7 所示的开始记录屏幕将显示倒计时进程的指示。

Fig. 5.7 – Start recording screen

During countdown or monitoring, the recording can be interrupted by pressing anywhere on the screen or on the keys at the instrument bottom, which all assume the STOP function during recording.在倒计时或监测过程中，可通过按屏幕上的任何位置或仪器底部的按键中断记录，所有按键在记录过程中都具有“STOP 停止”功能。

Monitoring start and stop can also be set selecting the start date and time and the duration of the recording through the ***TIMER*** menu of the instrument. To this end, it is important that the instrument clock is well synchronized.也可以通过仪器“***TIMER*** 计时器”菜单设置监测开始和停止，选择开始日期和时间以及录制持续时间。为此，仪器时钟必须同步良好

Open the ***MEASURE*** menu, press the ***TIMER*** row, thanks to this submenu (described in par. 6.4.3.2) the operator can enable the automatic start of a recording, he can then define the automatic recording mode by setting both the start time that its duration, or can only set the duration, in this case there will be an automatic shutdown. He can also set the

instrument to turn off automatically at the end of the recording.打开 ***MEASURE***（测量）菜单，按下 ***TIMER***（计时器），感谢此子菜单（见第 6.4.3.2）操作员可以启用自动开始记录，然后可以通过设置其持续时间的开始时间来定义自动记录模式，或者只能设置持续时间，在这种情况下将会自动关闭。另外还可以设置仪器在记录结束时自动关闭。

When a timer has been set, the intermittent symbol □ appears in top bar of the instrument screen, as shown in the figure below. Once the start date and time are reached, the symbol disappears, the monitoring starts automatically for the expected duration.设置好计时器后，仪表屏幕上的顶栏会出现间歇性符号，如下图所示。一旦到达开始日期和时间，符号就会消失，监测会在预期的持续时间内自动启动。

Recording

00:00:06

Sampling@1s

Stop@00:00:18

Fig. 5.8 - Screen during monitoring

In the window that appears during monitoring, that is illustrated in fig. 5.8, the time elapsed from the start of the monitoring, the sampling interval and, if selected, the time remaining before the interruption of the monitoring are displayed.在监测期间出现的窗口中（如图 5.8 所示），显示从监测开始到采样间隔所经过的时间。如果选择，则显示监测中断前的剩余时间。

5.5 Measurement download and display 测量下载和显示

All measured values, stored in NHT310F memory, can be downloaded to an external PC/Tablet. This data can then be viewed, processed and analyzed using the MicroLink software.存储在 NHT310F 内存中的所有测量值都可以下载到外部 PC/平板电脑。然后可以使用 Microlink 软件查看、处理和分析这些数据。

6 OVERVIEW OF THE METER MENUS 菜单概览

6.1 Access the menus 进入菜单

From the main screen, operator can access the instrument menus. There are 5 different first level menu pages. Pressing the touch screen in the areas indicated in the following figure, one of the 5 menu pages can be selected and opened.从主屏幕，操作员可以访问仪器菜单。有 5 个不同的一级菜单页。按下图示区域的触摸屏，可以选择并打开 5 个菜单页之一。

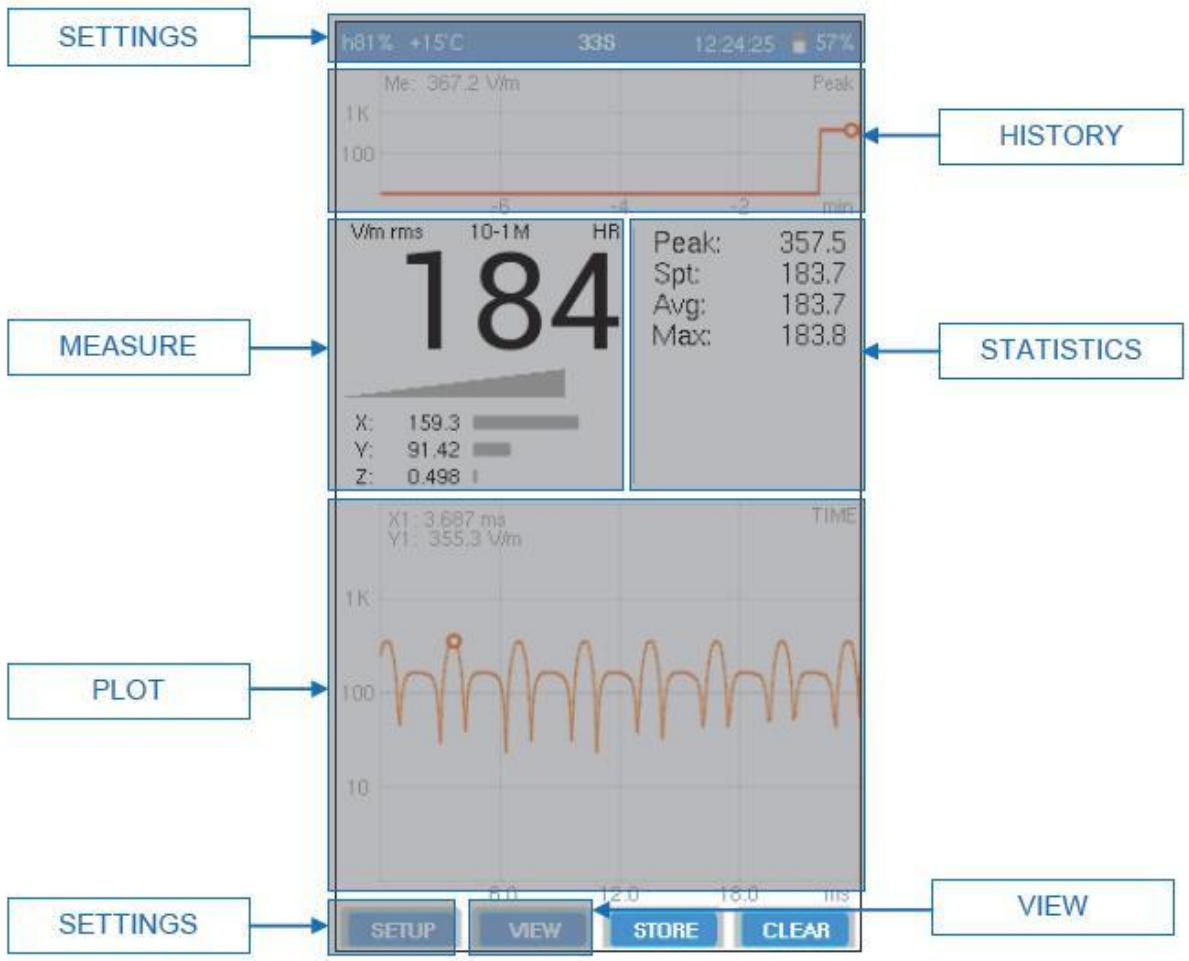


Fig. 6.1– Access areas to menus

SETTINGS Menu is also accessed by pressing the **SETUP** function key or the corresponding physical push button.按 **SETUP**（设置）功能键或相应的物理按钮也可访问设置菜单。

Once a menu is selected, a gray window will open with the menu header at the top of the screen.选择菜单后，将打开一个灰色窗口，菜单标题位于屏幕顶部。

Operator can access the next menu by pressing the arrow on the right of the menu header on the touch screen, or he can access the previous one by pressing the left arrow. 操作员可以通过按触摸屏上菜单标题右侧的箭头进入下一个菜单，也可以通过按左箭头进入上一个菜单。

< SETTINGS >

Alternatively, operator can press the function keys at the bottom of the touch screen or the corresponding physical push buttons.或者，操作员可以按下触摸屏底部的功能键或相应的物理按钮。

Item	***Description***
◄	Allows moving from a menu page to the previous 允许从菜单页移到上一页
▼	Allows moving vertically downwards in the selected menu, from one row to the next 允许在所选菜单中从一行垂直向下移动到下一行
▲	Allows moving vertically upwards in the selected menu, from one row to the previous 允许在所选菜单中从一行垂直向上移动到上一行
►	Allows moving from a menu page to the next 允许从菜单页移动到下一页

6.2 Menus description 菜单描述

6.2.1 Settings Menu 设置菜单

SETTINGS Menu allows operator to set some general parameters of the instrument.***SETTINGS*** 设置菜单允许操作员设置仪器的一些常规参数。

The entries that make up the menu are described below.组成菜单的条目如下。

Item	***Description***	***Available selections***
Backlight	Modifies the backlight of the screen 修改屏幕背光	*Auto / 20% / 40% / 60% / 80% / 100%*
DATE&CLOCK	Opens a submenu to set the date and time of the clock 打开子菜单设置时钟的日期和时间	
Touchscreen	Enables or disables the touchscreen 启用禁用触摸屏	*On / Off*
Language	Selects the language 选择语言	*English / Italian 英语/意大利语*
CALIBRATION	Starts the calibration procedure to improve the touch screen 启动校准程序以改进触摸屏	
Temperature	Selects the temperature measurement unit 选择温度测量单位	*Celsius / Fahrenheit 摄氏度/华氏度*

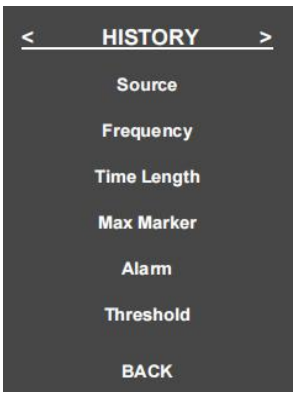
6.2.1.1 Date & Clock 日期&时钟

DATE & CLOCK submenu allows operator to set the date and time of the instrument clock.***DATE & CLOCK*** 日期和时钟子菜单允许操作员设置仪表时钟的日期和时间。

Pressing ***BACK*** returns to the main menu ***SETTINGS.*** 按 ***BACK*** 后退返回主菜单 ***SETTINGS*** 设置。

Item	Description	Available selections
Year	Year	*0 (2000).. 99 (2099)*
Month	Month	*01 (January). 12 (December)*
Day	Day of the month	*01.. 31*
Hour	Hour of the day	*00 .. 23*
Min	Minutes	*00.. 59*
Sec	Seconds	*00 .. 59*

6.2.2 History Menu 历史菜单

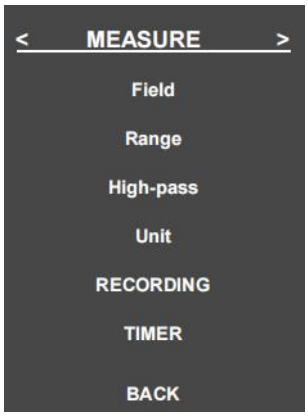


HISTORY Menu allows operator to set the characteristics related to the historical diagram (the one located at the top of the screen), the acoustic alarm and the bar that proportionally represents the measured field.***HISTORY***（历史）菜单允许操作员设置历史图表（位于屏幕顶部的图表）、声音警报和按比例表示被测场强的图形条的相关特征。

The entries that make up the menu are described below.组成菜单的条目描述如下。

Item	Description	Available selections
Source	Select the measured value that will be represented in the historical log section, and that will also be compared to the threshold for the alarm function and the graphic field bar 选择将在历史日志部分中表示的测量值，并将其与报警功能和场强数值图形条的阈值进行比较。	*Rms / Peak / Avg*
Frequency	Not available	
Time lenght	Select the time length of the historical log 选择历史日志的时间长度	*1 m / 4 m / 8 m / 24 m / 48 m / 1 h / 4 h / 8 h / 24 h / 48 h*
Max Marker	Activate or deactivate the maximum marker 激活或停用最大标记	*On / Off*
Alarm	Activate or deactivate the acoustic alarm for exceeding the selected threshold 激活或停用超过所选阈值的声音警报	*On / Off*
Threshold	Set a value for the alarm threshold and the graphic bar 设置报警阈值和图形条	*Field threshold value 场阀值*

6.2.3 Measure Menu 测量菜单



MEASURE Menu allows operator to modify the main parameters of measurement.***MEASURE*** 测量菜单允许操作员修改测量的主要参数。

The entries that make up the menu are described below.组成菜单的条目如下所述。

Item	*Description*	*Available selections*
Field	Select the type of measured field (only with combined probes, eg 33S)选择测量场类型（仅用于组合探头，如 33S）	*E - electric field* *B - magnetic field* *E+B - combined field mode* *H - static magnetic field*
Range	Select the dynamic range 选择动态范围	*Low / High*
High-pass	Setting of the high-pass filter placed at the input of the measurement chain 高通滤波器	*1Hz | 10Hz | 100Hz | 1kHz | 10kHz | 100kHz*
Unit	Select the measurement unit, depending on the type of probe 根据探头类型选择测量单位	*V/m / kV/m / uT / mT / G / A/m / W/m / mW/cm^2 / uW/cm^2*
RECORDING	Open a submenu to setup the recording parameters 打开子菜单以设置录制参数	
TIMER	Open a submenu to setup the recording timer 打开子菜单以设置录制计时器	

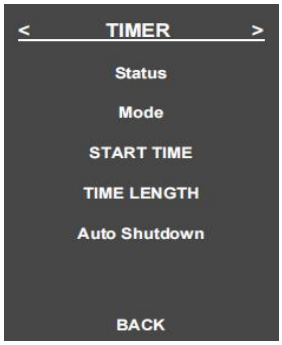
6.2.3.1 RECORDING 录制

RECORDING submenu allows operator to set the parameters for the storage of measurement data ***RECORDING***（记录）子菜单允许操作员设置存储测量数据的参数

Pressing ***BACK*** returns to the first level menu ***MEASURE.*** 按 ***BACK*** 后退返回到第一级菜单 ***MEASURE*** 测量。

Item	***Description***	***Available selections***
Mode	Recording mode:记录模式 -in single mode, only a single measurement is stored, including everything on the screen (like a screenshot);-在单模式下，只存储一个测量值，包括屏幕上的所有内容（如屏幕截图）； - in continuous mode, the recording continues over time, start and stop recording can be manual, using the function keys, or automatic using the timer function-在连续模式下，记录会持续一段时间，可以手动、使用功能键或自动使用计时器功能开始和停止记录。	***Single / Continuous***
Sampling Time	Indicates how often a measurement is acquired, in continuous recording mode 指示在连续记录模式下获取测量数据的频繁度	***1s / 2s / 5s /10s / 20s / 30s / 60s***
Countdown	Sets a countdown before the actual start of the recording 在实际开始录制之前设置倒计时	***No / 2s / 4s / 6s / 8s / 10s / 15s / 20s / 25s / 30s***
Notes	Enables the typing of text notes from the virtual keyboard, before the start or after the end of the recording.允许在录制开始之前或结束之后从虚拟键盘键入文本注释。	***Yes/No***

6.2.3.2 TIMER 时间



TIMER submenu allows operator to set the parameters for the monitoring start.***TIMER*** 定时器子菜单允许设置监测启动参数

Pressing operator returns to the first level menu ***BACK*** 后退操作返回第一级菜单 ***MEASURE*** 测量

Item	***Description***	***Available selections***
Status	Enables or disables the automatic start of a recording.启用或禁用录制的自动开始。	***On / Off***
Mode	Defines the mode in which the recording activation time is programmed.定义编程记录激活时间的模式。 Starting time and time length of the recording can be specified.可以指定录制的开始时间和时间长度。 Alternatively only the duration: in this case the start of the recording will always be manual, while the stop will be automatic.或者仅持续时间：在这种情况下记录的开始将始终是手动的，而停止将是自动的	***Time Length | Start & Length*** 持续时间/开始时间和持续时间
START TIME	***Sets the recording start time*** 设置记录开始时间	
TIME LENGTH	Sets the recording time length 设置记录时间长度	
Auto Shutdown	Indicates whether the instrument should turn off at the end of the recording 指示录制结束时仪器是否应关闭	***On / Off***

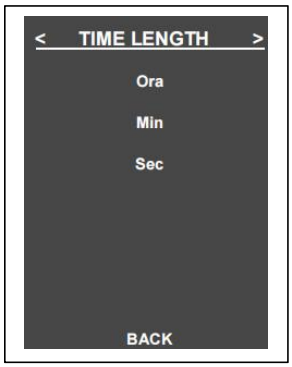
6.4.3.2.1 Start Time

START TIME submenu allows operator to set the recording start time***START TIME*** 子菜单允许设置记录开始时间

Pressing ***BACK*** returns to the menu ***TIMER.*** 按 ***BACK*** 后退健返回菜单 ***TIMER***

Item	*Available selections*
Hour	***00 .. 23***
Min	***00 .. 59***
Sec	***00.. 59***

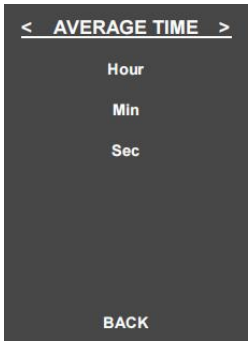
6.4.3.2.2 Time Length



TIME LENGTH submenu allows operator to set the recording duration.***TIME LENGTH*** 子菜单允许操作员设置记录时间间隔

Pressing ***BACK*** returns to the menu ***TIMER.*** 按 ***BACK*** 后退健返回菜单 ***TIMER***

Item	*Available selections*
Hour	***00 ..99***
Min	***00 .. 59***
Sec	***00 .. 59***



AVERAGE TIME submenu allows operator to set the time length for the mobile average calculation.***AVERAGE TIME*** 子菜单允许操作员设置移动平均值计算的时间长度

Pressing ***BACK*** returns to the menu ***STATISTICS.***
按 ***BACK*** 后退健返回菜单 ***STATISTICS***

Item	***Available selections***
Hour	*00 ..99*
Min	*00 .. 59*
Sec	*00 .. 59*

6.2.4 STATISTICS MENU

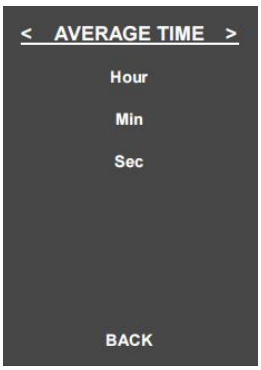
Statistics Menu 统计菜单 ***STATISTICS*** Menu allows operator to clear some values calculated by the instrument.***STATISTICS*** 统计菜单允许清除某些仪器计算值

It is also possible to set the time length of the moving average and select the curve of the reference levels according to which the index Wp is calculated, a curve that is also represented in the FFT window.还可以设置移动平均值的时间长度，并根据计算的 Wp 指数选择参考水平曲线（也在 FFT 窗口中表示的曲线）。

The entries that make up the menu are described below.

Item	***Description***	***Available selections***
CLEAR SPT	Clears the spatial average field value 清除 ***SPT*** 空间平均场数值	
CLEAR AVG	Clears the average field value 清除 ***AVG*** 平均场数值	
CLEAR MAX	Clears the maximum field value 清除 ***MAX*** 最大场数值	
AVERAGE TIME	Opens a submenu in order to set the time length for the mobile average calculation 打开子菜单以设置移动平均值计算的时间长度	
Ref. Level	Not available	
CLEAR INDEX	Not available	

6.2.4.1 Average Time 平均时间

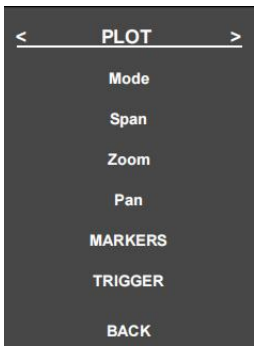


AVERAGE TIME submenu allows operator to set the time length for the mobile average calculation.***AVERAGE TIME*** 子菜单允许操作员设置移动平均值计算的时间长度

Pressing ***BACK*** returns to the menu ***STATISTICS.*** 按 ***BACK*** 后退健返回菜单 ***STATISTICS***

Item	***Available selections***
Hour	*00 ..99*
Min	*00 .. 59*
Sec	*00 .. 59*

6.2.5 PLOT MENU



PLOT Menu allows operator to make settings related to the graph of the time domain (OSC mode) and frequency (FFT mode).***PLOT*** 绘图菜单允许操作员进行与时间域（OSC 模式）和频率（FFT 模式）图相关的设置。

The entries that make up the menu are described below.组成菜单的条目如下所述。

Item	***Description***	***Available selections***
Mode	Not selectable	Time
Span	Data range for time domain mode 时域模式的数据范围	*Time Domain:* *250ms | 25ms | 2.5ms | 0.25ms* *时域：* *250ms | 25ms | 2.5ms | 0.25ms*
Zoom	Sets the horizontal zoom value of the graphic window 设置图形窗口的水平缩放值	*1X/2X/4X*
Pan	Selects the portion of the graph displayed on the screen, useful once the graph has been enlarged 选择屏幕上显示的图形部分，放大图形后很有用	*Zoom 1X: 1 of 1* *Zoom 2X: 1 of 2/2 of 2* *Zoom4X: 1 of 4/2of 4/* *3 of 4 / 4 of 4*
MARKERS	Opens a submenu markers setup 打开子菜单标记设置	
TRIGGERS	Opens a submenu for acquisition trigger setup 打开采集触发设置的子菜单	

6.2.5.1 MARKES

MARKERS submenu allows operator to activate and place the 2 available graphic markers in the time / frequency domain chart.***MARKERS*** 子菜单允许操作员在时间/频率域图表中激活和放置两个可用的图形标记。

Markers 1 and 2 provide the field value at the point where they are placed.标记 1 和标记 2 提供放置点的场数值

In the combined mode marker 1 is associated with the electric field, and marker 2 with the magnetic field.在组合模式中标记 1 与电场有关，标记 2 与磁场有关。

Item	***Description***	***Available selections***
Marker 1	Status and type of marker 1: - Not active, disabled; - active at the position specified in marker 1; active and positioned on the - maximum of the graph 标记 1 的状态和类型： - 未激活、禁用； - 在该位置激活 在标记 1 中指定； - 激活并定位在图的最大值	*Off / Pos / Max*
Marker 1 Pos	Sets the desired position for marker 1 设置标记 1 期望位置	Time where the marker 1 will be positioned 定位标记 1 的时间
Marker 2	Status and type of marker 2: - Not active, disabled; - active at the position specified in marker 2; - active and positioned on the - maximum of the graph 标记 2 的状态和类型： - 未激活、禁用； - 在该位置激活 在标记 2 中指定； 激活并定位在图的最大值	*Off / Pos / Max*
Marker 2 Pos	Sets the desired position for marker 2 设置标记 2 期望位置	Time where the marker 2 will be positioned 定位标记 2 的时间

Pressing ***BACK*** returns to the menu ***PLOT.***按 ***BACK*** 后退健返回菜单 ***PLOT***

6.2.5.2 TRIGGER

TRIGGER sub-menu allows operator to set the parameters related to the acquisition trigger function, within the time domain chart (OSC).***TRIGGER*** 触发器子菜单允许操作员在时间域图（OSC）内设置与采集触发功能相关的参数。

With this function, the time domain chart is updated only when the under control value exceeds the detection threshold.使用此功能，只有当受控值超过检测阈值时，才能更新时域图。

Pressing ***BACK*** returns to the menu ***PLOT.*** 按 ***BACK*** 后退健返回菜单 ***PLOT***

Item	***Description***	***Available selections***
Status	Trigger function activation status 触发功能激活状态	*On / Off*
Mode	Single or continuous trigger: in single trigger mode, the graph is updated only once,upon exceeding the threshold, and then remains frozen, until the trigger is restarted with the RETRIG function key which in this situation appears instead of the VIEW key; in continuous mode, each subsequent exceeding of the threshold causes the consequent updating of the diagram 单个或连续触发器： 在单触发模式下，当超过阈值时，图形只更新一次，然后保持冻结状态，直到使用 RETRIG 功能键重新启动触发器，在这种情况下，RETRIG 功能键代替 VIEW 键出现； 在连续模式下，每次超过 threshold 导致图的后续更新	Single | Continous
Threshold	Detection threshold of the trigger function 触发功能的检测阈值	*Field threshold value*
Position	Position of the trigger point in the graph 图形中触发点位置	*10% / 50% /90%*