FNIRSI 菲尼瑞斯

FNIRSI/S1

大屏数显智能万用表
使用说明书

DIGITAL MULTIMETER INSTRUCTION MANUAL

目 录

CATALOG

用户须知

●请详细读完本使用说明书以及操作指示，并且要确实遵守文中的规定。

●请妥善保存本使用手册

●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。

●当仪器出现任何质量问题或者对使用仪器有疑问时，可联系“菲尼瑞斯-FNIRSI”在线客服或厂家，我们将在第一时间为您解决。

一、产品概述

本产品是一款手持式大屏数显智能万用表。具有测量数据快，大屏幕液晶双显示屏,并有照明灯，用户容易读数等产品优点。具有过载保护和电池欠压指示等功能。无论专业人员、工厂、学校、爱好者或家庭使用，均为一台理想的多功能仪表。属二级污染,过压标准为CAT III 1000V。

二、安全说明

使用本仪表时，使用者必须遵守关于以下两方面的全部标准安全规程：

1.防止电击方面的安全规程。

2.防止错误使用仪表方面的安全规程为保证您的人身安全，请使用随表提供的测试笔。在使用前,检查并确保它们是完好的。

1、开关机

●在电磁干扰比较大的设备附近使用仪表,仪表的读数会不稳定，甚至可能会产生较大的误差。

●当仪表或表笔外观破损时，请不要使用。

●若不正确使用仪表,仪表提供的安全功能可能会失效。

●在裸露的导体或总线周围工作时,必须极其小心。

●禁止在爆炸性的气体、蒸汽或灰尘附近使用本仪表。

●必须使用正确的输入端、功能、量程来进行测量。输入值切勿超过每个量程所规定的输入极限值,以防损坏仪表。

●当仪表已连接到被测线路时,切勿触摸没有使用的输入端。

●当被测电压超过60V DC或30V AC有效值时,小心操作防止电击。

●使用测试笔测量时,应将手指放在测试笔的护环后面。

●在转换量程之前,必须保证测试笔已经离开被测电路。

●对于所有的直流功能,为避免由于可能的不正确读数而导致电击的危险,请先使用交流功能来确认是否有任何交流电压的存在。然后,选择一个等于或大于交流电压的直流电压量程。

●在进行电阻测量或通断测试前,必须先切断被测电路电源,并将被测电路里所有的高压电容器放电。

●不可在带电的电路上测量电阻或进行通断测试。

●不使用时不要放在易爆易燃的地方。

●在进行电视机维修或测量电源转换电路时,必须小心被测电路中的高幅电压脉冲以免损坏仪表。

●本产品使用3.7V/1000mA锂电池供电,电池必须正确安装在仪表的电池盒内。

●当电池欠压符号出现时,请及时充电。电池电量不足会使仪表读数错误,从而可能导致电击或人身伤害。

●在进行测量类别,电压测量时不可超过1000V。

●仪表的外壳(或外壳的一部分|被拆下时,切勿使用仪表)。

2、安全保养习惯

●打开仪表外壳或拆下电池盖时,应先拔出测试笔。

●维修仪表时，必须使用指定的替换零部件。

●在打开仪表前，必须断开一切有关的电源,同时也必须确保您没带有静电以免损坏仪表的元器件。

●仪表的校准以及维修操作只能返厂维修。

●打开仪表外壳时，必须注意到仪表内的一些电容即使在仪表关闭电源以后还保存着危险的电压。

●如果观察到仪表有任何异常，该仪表应立即停止使用并送维修。并确保在检查合格前不能被使用。

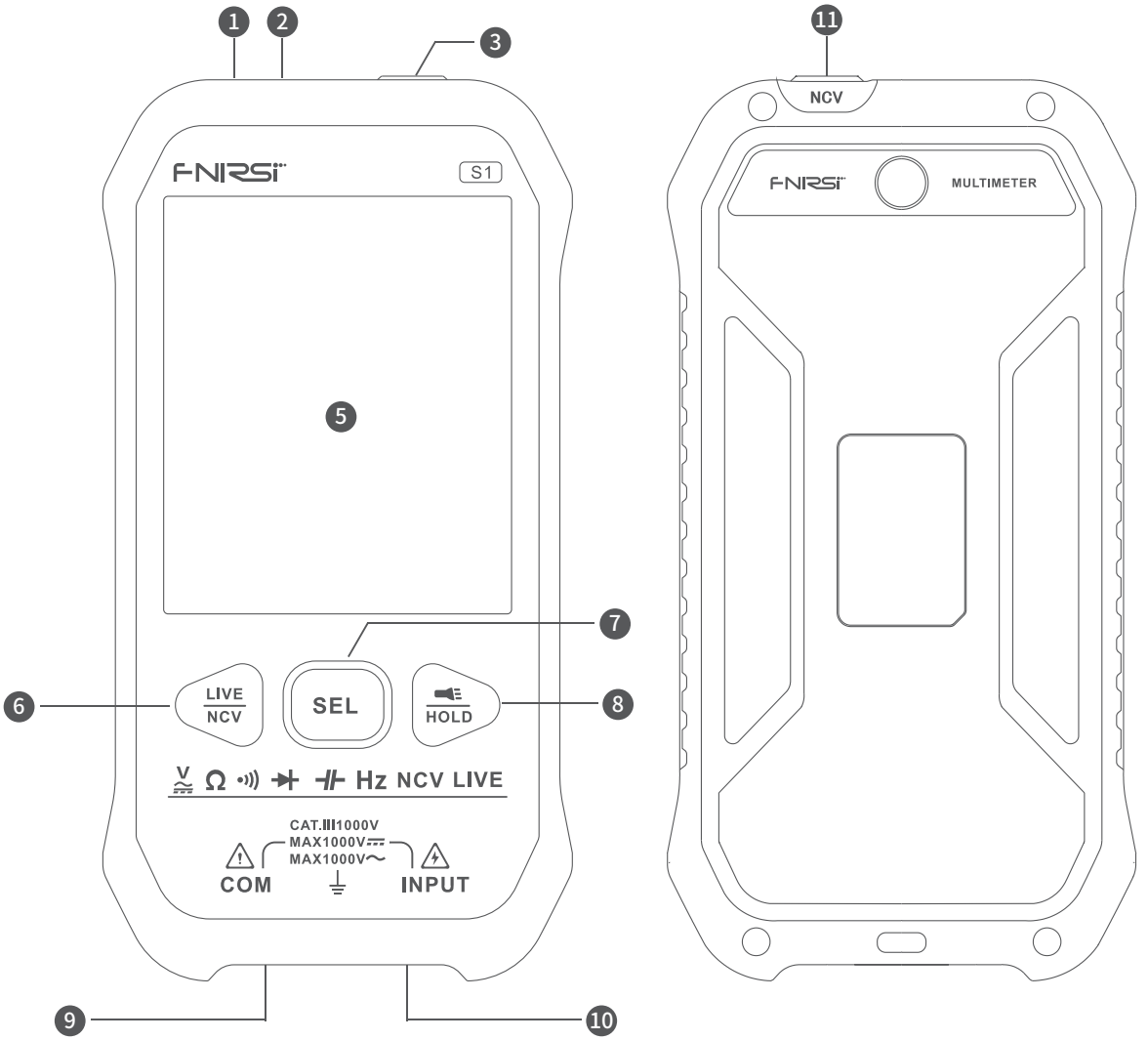
●当长时间不用时，并避免存放于高温高湿的地方。

3、输入保护措施

●在进行电压测量时，可承受最高输入电压是直流电压1000V或交流电压1000V。

●在进行电阻、通断测量时，可承受不超过交流电压250V或等效的有效值电压。

三、仪表说明



❶ 充电接口(5V-1A) ❷充电指示灯(红灯充电，绿灯充满) ❸开关机键

❹照明灯 ❺液晶显示器 ❻NCV和LIVE按键 ❼SEL按键

❽数据保持和手电筒按键 ❾黑色表笔输入端 ❿红色表笔输入端 ⓫NCV感应区

1、按键说明

按键	功能说明
⏻	开机按键
SEL	功能切换按键
HOLD	数据保持按键和手电筒
LIVE NCV	NCV功能和火线功能按键

四、操作说明

1、常规操作

读数保持模式可以将目前的读数保持在显示器上。改变测量功能档位或再按一次键都可以退出读数保持模式。要进入和退出读数保持模式:

1.短按一下"HOLD"键,读数将被保持且符号同时显示在液晶显示HOLD器上。

2.再短按一下"HOLD"键将使仪表恢复到正常测量状态。

3. 长按"HOLD"手电筒开启,再长按关闭手电筒。

3.按“LIVE NCV”键,可进行NCV测量; 再按“LIVE NCV”键,即进入火线(LIVE)测量。

2、自动测量

⚠ 注意

●不可测量任何高于1000V直流电压/1000V交流电压，以防遭到电击或损坏仪器。

●不可在公共端和大地间施加超过1000V直流电压/1000V交流电压以防遭到电击或损坏仪器。

自动模式下可以自动测量交直流电压、电阻、通断。

1.开机后,将自动切换到“AUTO”自动测量模式。

2.分别把黑色测试笔和红色测试笔连接到COM输入插孔和INPUT输入插孔。

3.用测试笔量两端待测电路的电压值、电阻值、短路点。(与待测电路并联)

4.此时液晶显示器会同时显示相应测量的电压值、电阻值。在测量直流电压时,显示器会同时显示红色表笔所连接的电压极性。如测量电阻值小50时,蜂鸣器会发出报警提示音。

⚠ 注意

在测量直流电压小于0.75V,交流电压小于0.75V时,可能会出现显示电阻值,是因为此产品最小测量电压值为0.75V,交流最小为0.75V。

1.在测量低电阻时,为了测量准确请先短路两表笔读出表笔短路的电阻值,在测量被测电阻后需减去该电阻值。

2.在10M档,要几秒钟后读数才能稳定。这对于高阻值测量来说是正常的。

3.当仪表开路或被测物体电阻值过大时,显示器将显示“OL”,表示测量值超出量程范围。

3、NCV测试

按 LIVE/NCV 键,将仪表顶部贴近导体,如果仪表探测到交流电压,仪表根据探测到的信号强度,当感应到电压较低时,屏幕信号显示低:▮▮▮▮ ,中:▮▮▮▮▮▮▮▮ ,高:▮▮▮▮▮▮▮▮▮▮▮▮▮▮ ,同时蜂鸣器发出不同频率的报警声。

⚠ 注意

●即使没有指示,电压仍然可能存在。不要依靠非接触电压探测器来判断导线是否存在电压。探测操作可能会受到插座设计、绝缘厚度及类型不同等因素的影响。

●当仪表输入端子输入电压时,由于感应电压的存在,蜂鸣器亦会发出声音。

●外部环境的干扰源(如闪光灯等),可能会误触发非接触电压探测。

4、火线测试

按 LIVE/NCV 按键2次,屏幕显示LIVE,将红色表笔插入INPUT端,红色笔插入电源插座,仪表显示LIVE,即是火线。

5、二极管测量

1.开机后,将自动切换到“AUTO”自动测量模式,再按动SEL键切换到“•))) ⊣”二极 管测量模式。

2.分别把黑色测试笔和红色测试笔连接到COM输入插孔、INPUT输入插孔。

3.分别把黑色测试笔和红色测试笔连接到被测物体两端。

4.如果被测物体为二极管,应将红黑表笔分别放在二极管的正负两端,仪表将显示被测二极管的正向偏压值。如果测试笔极性接反或测试点接到二极管的极性接反,仪表将显示“OL”。在电路里,正常的二极管应产生0.5V到0.8V的正向压降;但反向偏压的读数将取决于两表笔之间其它通道的电阻值变化。

6、电容测量

1.开机后,将自动切换到“AUTO”自动测量模式,再按动SEL键,切换到电容测量模式。

2.分别把黑色测试笔和红色测试笔连接到COM输入插孔、INPUT输入插孔。

3.用测试笔量两端待测电容的电容值并从液晶显示器读取测量值。

⚠ 注意

●测量大电容时，稳定读数需要一定的时间。

●测量有极性电容时，要注意对应极性，避免损坏仪表。

7、频率测量

1.开机后,将自动切换到“AUTO”自动测量模式,再按动SEL键,切换到频率Hz测量模式。

2.分别把黑色测试笔和红色测试笔连接到COM输入插孔、INPUT输入插孔。

3.用测试笔量两端从液晶显示器读取测量值。

8、温度测量

1.开机后,将自动切换到“AUTO”自动测量模式,再按动SEL键,切换 测量模式。

2.分别把热电偶的黑色输入端和红色测试笔连接到COM输入插孔、INPUT输入插孔。显示温度值时同时显示华氏度。

3.液晶显示器读取测量值。

如线路当中存在电感阻抗，会出现波动影响测试值或测试数据不准确，需要断开测试即可，就会得到正确的测试数据。

五、技术指标

1、综合指标

●1000V CAT. III污染等级:2

●海拔高度<2000 m

●工作环境温湿度:0-40 °C (<80% RH,<10°C时不考虑)。

●储存环境温湿度:-10-60 °C (<70% RH,取掉电池)。

●温度系数:0.1准确度/°C (<18°C或>28 °C)。

●测量端和大地之间允许的最大电压: 1000V直流或1000V交流有效值

●转换速率:约3次/秒

●显示器: 最大9999 counts液晶显示器显示,按照测量功能档位自动显示单位符号。

●超量程指示:液晶显示器将显示“OL”。

●电池低压指示:当电池电压低于正常工作电压时, “ ”将显示。

●输入极性指示:自动显示“-”号。

●电源:可充电锂电池(3.7V/1000mA)注意:开机状态下设备不可用,显示“----”,此时拔掉充电器自动切换到正常测量模式。

●外形尺寸:143mm*75mm*19mm

●重量:约130g(含电池)

2、精度指标

准确度:±(读数+字),保证期自出厂之日起一年。

基准条件:环境温度18°C至28°C、相对湿度不大于80%。

2.1 直流电压

量程(不包含最大值)	分辨率	准确度
0-10V	0.001V	±(0.8%读数+3字)
10-100V	0.01V	±(0.8%读数+3字)
100-1000V	0.1V	±(0.8%读数+3字)
1000V	1V	±(1.2%读数+3字)

最大输入电压:1000V DC有效值

最小测量电压:0.75VDC

在智能模式下**按SEL键切换自动量程模式**

2.2 交流电压

量程(不包含最大值)	分辨率	准确度
0-10V	0.001V	±(0.8%读数+3字)
10-100V	0.01V	±(0.8%读数+3字)
100-1000V	0.1V	±(0.8%读数+3字)
1000V	1V	±(1.2%读数+3字)

最大输入电压:1000V DC有效值

最小测量电压:0.75VDC

频率响应:50HZ-1KHZ真有效值

在智能模式下**按SEL键切换自动量程模式**

2.3 电阻

量程(不包含最大值)	分辨率	准确度
0-1000Ω	0.1Ω	± (0.8%读数+3字)
1k-100kΩ	0.01kΩ	± (0.8%读数+3字)
100k-1000kΩ	0.1kΩ	± (0.8%读数+3字)
1M-100MΩ	0.01MΩ	± (1.2%读数+3字)

过载保护:250V DC/AC

2.4 蜂鸣通断

功能	量程	分辨率	测试条件	
•))	100Ω	0.1Ω	电阻不大于50Ω 内置蜂鸣器连续发声	开路电压 约0.4V

过载保护:250V DC/AC

2.5 温度测量

量程	分辨率	准确度
-20°C-0°C	1°C	± (5.0%读数+4字)
1°C-400°C	1°C	± (1.0%读数+3字)
401°C-1000°C	1°C	± (2.0%读数+5字
-4°F-32°F	1°F	± (5.0%读数+8字)
33.8°F-752°F	1°F	± (1.0%读数+6字)
753.8°F-1832°F	1°F	± (2.0%读数+10字)

2.6 电容

量程(不包含最大值)	分辨率	准确度
0-10nF	0.001nF	± (4.5%读数+5字)
10-100nF	0.01nF	± (4.5%读数+5字)
100-1000nF	0.1nF	± (4.5%读数+5字)
1μ-10μF	0.001μF	± (4.5%读数+5字)
10μ-100μF	0.01μF	± (4.5%读数+5字)
100μ-1000μF	0.1μF	± (4.5%读数+5字)
1m-10mF	0.001mF	± (4.5%读数+5字)

过载保护:250V DC/AC

2.7 频率

量程(不包含最大值)	分辨率	准确度
0-10Hz	0.001Hz	±(0.1%读数+3字)
10-100Hz	0.01Hz	±(0.1%读数+3字)
100-1000Hz	0.1Hz	±(0.1%读数+3字)
1k-10kHz	0.001kHz	±(0.1%读数+3字)
10k-100kHz	0.01kHz	±(0.1%读数+3字)
100k-1000kHz	0.1kHz	±(0.1%读数+3字)
1000kHz	1kHz	±(0.1%读数+3字)

输入灵敏度: 1.5V有效值。

过载保护: 250V直流或交流峰值(不超过10秒)频率测量。

2.8 二极管

功能	分辨率	测试条件
	0.001V	正向直流电流:约1mA 开路电压:约3.2V 显示器显示二极管 正向压降的近似值

过载保护:250V DC/AC

六、仪表维护

●定期使用湿布和少量洗涤剂清洁仪表外壳,请勿用研磨剂或化学溶剂。

●输入插孔如果弄脏或潮湿可能会影响读数。

●要清洁输入插孔:

1.关闭仪表,并将所有测试笔从输入插孔中拔出。

2.清除插孔上的所有脏物。

3.用新的棉花球沾上清洁剂或润滑剂,清理每个插孔,润滑剂能防止和湿气有关的插孔污染。

七、生产信息

产品名称:大屏数显智能万用表

品牌/型号:FNIRSI/S1

服务电话:0755-83242477

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 32194-2015

NOTICE TO USER

●Please read this instruction manual and operation instructions carefully,Follow the instructions in the manual,In order to make the detector function fully.

●Please keep this manual.

●Dont use this equipment in a flammable and explosive environment.

●Replaced used batteries and discarded instruments cannot be disposed of with household waste.Please handle according to relevant national or local laws.

●When there are any quality problems with the instrument or questions about using the instrument.You can contact "FNIRSI" online customer servic.

1.INTRODUCTION

This product is a handheld large-screen digital display smart multimeter. It has the advantages of fast measurement data, large-screen LCD dual display, lighting, and easy reading by users. It has functions such as overload protection and battery undervoltage indication. Whether it is used by professionals, factories, schools, hobbyists or families, it is a rational think of the multi-function instrument. It belongs to secondary pollution, and the overvoltage standard is CAT III 1000V.

2.SAFETY INSTRUCTIONS

When using this instrument, the user must follow all standard safety procedures regarding:

1.Safety regulations to prevent electric shock

2.To ensure your personal safety, please use the test pen provided with the meter. To ensure your personal safety, use the test pens provided with the meter. Before use, check and make sure they are in good condition.

1.SAFETY PRECAUTIONS

●Use the meter near the equipment with large electromagnetic interference, the reading of the meter will be unstable, and even may produce larger errors.

●Do not use when the appearance of the meter or test leads is damaged.

●If the instrument is not used correctly, the safety function provided by the instrument may be invalid.

● Extreme care must be taken when working around exposed conductors or busses.

●It is forbidden to use this instrument near explosive gas, steam or dust.

●The correct input terminal, function and range must be used for measurement. The input value must not exceed the input limit value specified in each range to prevent damage to the instrument.

●When the meter is connected to the line under test, do not touch the unused input terminals.

●When the measured voltage exceeds the rms value of 60V DC or 30V AC, be careful to prevent electric shock.

●When measuring with a test pen, place your finger behind the protective ring of the test pen.

●Before changing the range, make sure that the test pen has left the circuit under test.

●For all DC functions, in order to avoid the risk of electric shock due to possible incorrect readings, please use the AC function first to confirm whether there is any AC voltage. Then, select a DC voltage range that is equal to or greater than the AC voltage.

●Before performing resistance measurement or continuity test, the power supply of the circuit under test must be cut off, and all high-voltage capacitors in the circuit under test must be discharged.

●Do not measure resistance or conduct continuity tests on live circuits.

●Do not put it in an explosive and flammable place when not in use.

●When repairing TV sets or measuring power conversion circuits, be careful of high-amplitude voltage pulses in the circuit under test to avoid damage to the meter.

●This product uses 3.7V/1000mA lithium battery for power supply, and the battery must be correctly installed in the battery box of the instrument.

●When the battery undervoltage symbol appears, please charge it in time. A low battery can cause the meter to read incorrectly, which could result in electric shock or personal injury.

●In the measurement category, the voltage measurement should not exceed 1000V.

●The case of the instrument (or part of the case | do not use the instrument when it is removed).

2. SAFETY MAINTENANCE HABITS

●When opening the case of the instrument or removing the battery cover, the test pen should be pulled out first.

●When repairing the instrument, be sure to use the designated replacement parts.

●Before turning on the instrument, you must disconnect all related power sources, and you must also ensure that you do not have static electricity to prevent damage to the components of the instrument.

●The calibration and maintenance of the instrument can only be returned to the factory for maintenance.

●When opening the case of the meter, it must be noted that some capacitors in the meter still hold dangerous voltages even after the meter is powered off.

●If any abnormality is observed in the instrument, the instrument should be stopped immediately and sent for repair. And make sure that it cannot be used until it passes the inspection.

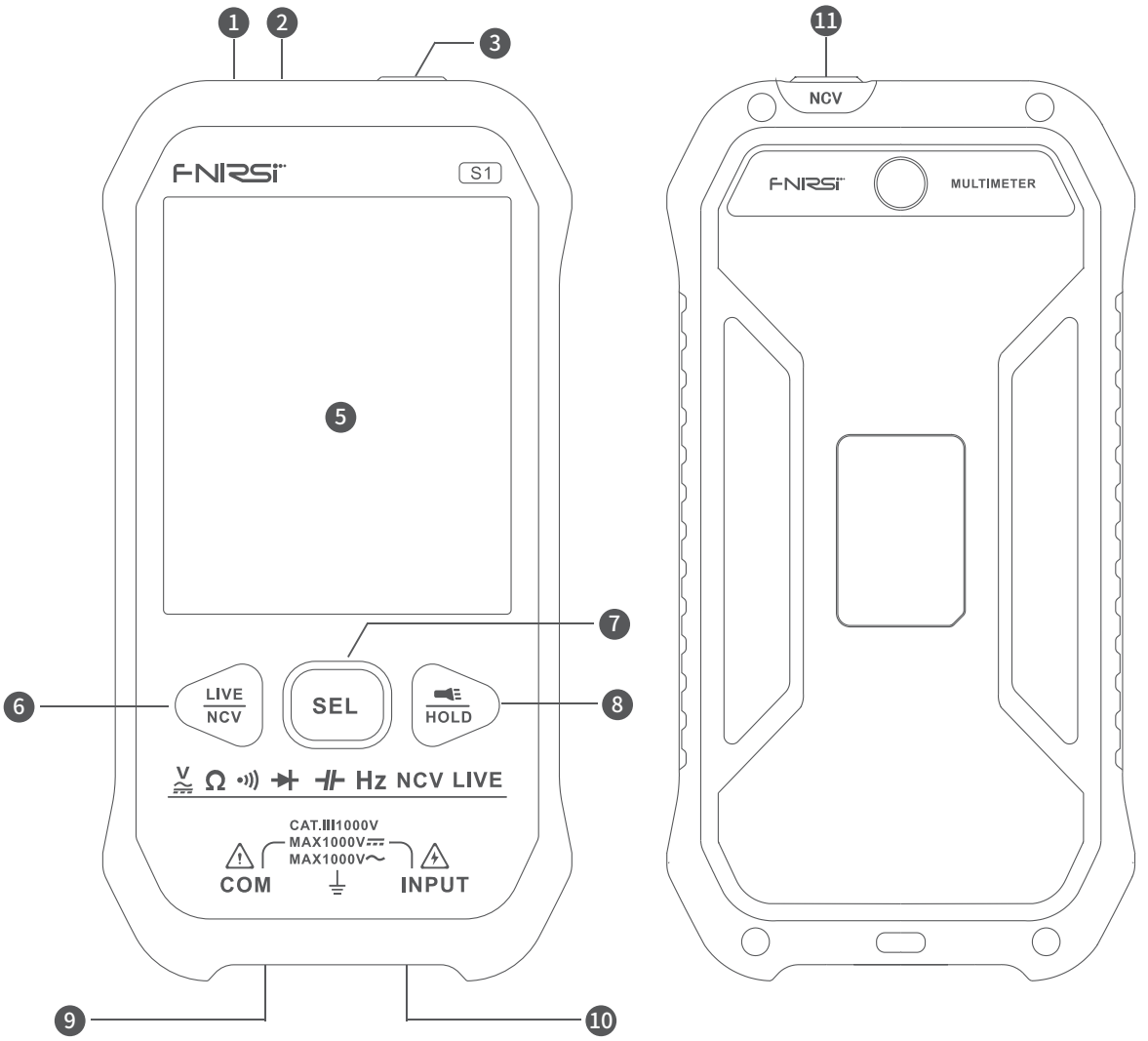
●When not in use for a long time, and avoid storing in places with high temperature and high humidity.

3. INPUT PROTECTION MEASURES

●When performing voltage measurement, the maximum input voltage that can withstand is DC voltage 1000V or AC Voltage 1000V.

●Can withstand no more than 250V AC voltage or equivalent effective value voltage.

3.INSTRUMENT DESCRIPTION



1. Charging port (5V-1A)
2. Charging indicator (red light for charging, green light for full)
3. On/Off Button
4. flashlight
5. LCD Monitor
6. NCV and LIVE buttons
7. SEL button
8. Data hold and flashlight buttons
9. black test pen input
10. red test pen input
11. NCV sensing area

BUTTON DESCRIPTION

Button	Function Description
⏻	power button
SEL	Function switch button
HOLD	Data hold button and flashlight
LIVE / NCV	NCV function and Firewire function buttons

4.OPERATION INSTRUCTIONS

①REGULAR OPERATION

Reading Hold Mode keeps the current reading on the display. The reading hold mode can be exited by changing the measurement function gear or pressing the key again. To enter and exit reading hold mode:

1. Short press the" HOLD "key,the reading will be held and the symbol will be displayed on the LCD HOLD display at the same time.

2. Short press the " HOLD " key again to restore the meter to the normal measurement state.3. Long press " HOLD " to turn on the flashlight, and then long press to turn off the flashlight.

3. Press the " LIVE NCV " key to perform NCV measurement. Press the " LIVE NCV " key again to enter the live wire (LIVE) measurement.

②AUTOMATIC MEASUREMENT

NOTE

●Do not measure any voltage higher than 1000V DC/1000V AC to prevent electric shock or damage to the instrument.

●Do not apply more than 1000V DC voltage/1000V AC voltage between the common terminal and the ground to avoid electric shock or damage to the instrument.

In automatic mode, AC and DC voltage, resistance and continuity can be automatically measured.

1. After power on, it will automatically switch to "AUTO" automatic measurement mode.

2. Connect the black test lead and the red test lead to the COM input jack and the INPUT input jack respectively.

3. Use the test pen to measure the voltage value, resistance value and short-circuit point of the circuit to be tested at both ends. (parallel to the circuit under test)

4. At this time, the liquid crystal display will display the corresponding measured voltage value and resistance value at the same time. When measuring DC voltage, the display will show the voltage polarity connected to the red test lead at the same time. If the measured resistance value is less than 50, the buzzer will issue an alarm sound.

NOTICE

When the measured DC voltage is less than 0.75V and the AC voltage is less than 0.75V, the displayed resistance value may appear, because the minimum measurement voltage value of this product is 0.75V, and the minimum AC voltage is 0.75V.

1. When measuring low resistance, in order to measure accurately, please first short-circuit the two test leads to read the short-circuit resistance value of the test leads, and subtract the resistance value after measuring the measured resistance.

2. In the 10M range, it will take a few seconds for the reading to stabilize. This is normal for high resistance measurements.

3. When the meter is open circuit or the resistance value of the measured object is too large, the display will display "OL", indicating that the measured value exceeds the range

③NCV TEST

Press the LIVE / NCV key ,place the top of the meter close to the conductor, if the meter detects AC voltage, the meter will The signal strength of , when the sensed voltage is low , the screen signal will display low: , medium: , high: , and at the same time the buzzer emits alarm sounds of different frequencies.

⚠ NOTICE

●Even without indication, voltage may still be present. Do not rely on non-contact voltage detectors to determine lead

Whether there is voltage on the line. Probing operations may vary by socket design, insulation thickness and type, etc.

influence of factors.

●When the input terminal of the meter enters the voltage, the buzzer will also sound due to the existence of the induced voltage.

sound.

●Interference sources in the external environment (such as flashlights, etc.) may falsely trigger the non-contact voltage detection.

④FIREWIRE TEST

Press LIVE/NCV press the button twice, the screen displays LIVE, insert the red test pen into the INPUT end, and the red pen into the power socket, the meter displays LIVE, which is the live wire.

⑤DIODE MEASUREMENT

1. After power on, it will automatically switch to the "AUTO" automatic measurement mode, and then press the SEL key to switch to the "  " diode measurement mode.
2. Connect the black test lead and the red test lead to the COM input jack and the INPUT input jack respectively.
3. Connect the black test lead and the red test lead to both ends of the object to be tested.
4. If the measured object is a diode, the red and black test leads should be placed on the positive and negative ends of the diode respectively, and the meter will display the positive bias value of the tested diode. If the polarity of the test leads is reversed or the test points are connected if the polarity of the tubes is reversed, the meter will display "OL". In the circuit, a normal diode should produce a forward voltage drop of 0.5V to 0.8V; but the reading of the reverse bias voltage will depend on the change in the resistance value of the other channels between the two test leads.

⑥CAPACITANCE MEASUREMENT

1. After power on, it will automatically switch to the "AUTO" automatic measurement mode, and then press the SEL button to switch to the capacitance measurement mode.
2. Connect the black test lead and the red test lead to the COM input jack and the INPUT input jack respectively.
3. Use a test pen to measure the capacitance value of the capacitor to be measured at both ends and read the measured value from the LCD.

NOTE

●When measuring large capacitances, it will take some time for the reading to stabilize.

●When measuring polarized capacitors, pay attention to the corresponding polarity to avoid damage to the meter.

⑦FREQUENCY MEASUREMENT

1. After power on, it will automatically switch to the "AUTO" automatic measurement mode, and then press the SEL key to switch to the frequency Hz measurement mode.

2.Connect the black test lead and the red test lead to the COM input jack and the INPUT input jack respectively.

3. Use both ends of the test pen to read the measured value from the LCD display.

⑧ TEMPERATURE MEASUREMENT

1. After power on, it will automatically switch to the "AUTO" automatic measurement mode, and then press the SEL key to switch the measurement mode.

2. Connect the black input terminal of the thermocouple and the red test lead to the COM input jack and the INPUT input jack respectively. Fahrenheit is displayed along with the temperature value.

3. The LCD display reads the measured value.

If there is an inductive impedance in the line, there will be fluctuations affecting the test value or the test data is inaccurate. It is necessary to disconnect the test, and the correct test data will be obtained.

5.TECHNICAL INDICATORS

①COMPREHENSIVE INDICATORS

●1000V CAT. III pollution degree: 2

●Altitude < 2000 m

●Working environment temperature and humidity: 0-40 °C (<80% RH, not considered when <10 °C).

●Storage environment temperature and humidity: -10-60 °C (<70% RH, remove the battery).

●Temperature coefficient: 0.1 accuracy/°C (<18°C or >28°C).

●Maximum allowable voltage between measuring terminal and earth: 1000V DC or 1000V AC RMS

● Conversion rate: about 3 times / second

●Display: LCD display with a maximum of 9999 counts, which is automatically displayed according to the measurement function
unit symbol.

●Overrange indication: LCD will display "OL"

●Battery low voltage indication: When the battery voltage is lower than the normal working voltage, “ ” will be displayed.

●Indication of input polarity: "-" is displayed automatically.

●Power supply: rechargeable lithium battery (3.7V/1000mA) Note: The device is not available in the power-on state, and the display
"----", at this time, unplug the charger and automatically switch to the normal measurement mode.

●Dimensions: 143mm*75mm*19mm

●Weight: about 130g (including battery)

②ACCURACY INDEX

Accuracy: soil (reading + word), the warranty period is one year from the date of delivery.

Baseline conditions: ambient temperature 18°C to 28°C, relative humidity not greater than 80%.

2.1 DC VOLTAGE

Range (excluding maximum value)	**Resolution**	**Accuracy**
0-10V	0.001V	± (0.8% reading + 3 digits)
10-100V	0.01V	± (0.8% reading + 3 digits)
100-1000V	0.1V	± (0.8% reading + 3 digits)
1000V	1V	± (1.2% reading + 3 digits)

Maximum input voltage: 1000V DC RMS

Minimum measurement voltage: 0.75VDC

Press the SEL button to switch the auto range mode in the smart mode

2.2 AC VOLTAGE

Range (excluding maximum value)	**Resolution**	**Accuracy**
0-10V	0.001V	± (0.8% reading + 3 digits)
10-100V	0.01V	± (0.8% reading + 3 digits)
100-1000V	0.1V	± (0.8% reading + 3 digits)
1000V	1V	± (1.2% reading + 3 digits)

Maximum input voltage: 1000V DC RMS

Minimum measurement voltage: 0.75VDC

Frequency response: 50HZ-1KHZ true RMS

Press the SEL button to switch the auto range mode in the smart mode

2.3 RESISTANCE

Range (excluding maximum value)	**Resolution**	**Accuracy**
0-1000Ω	0.1Ω	± (0.8% reading + 3 digits)
1k-100kΩ	0.01kΩ	± (0.8% reading + 3 digits)
100k-1000kΩ	0.1kΩ	± (0.8% reading + 3 digits)
1M-100MΩ	0.01MΩ	± (1.2% reading + 3 digits)

Overload protection: 250V DC/AC

2.4 BEEP ON AND OFF

Function	**Range**	**Resolution**	**Test Conditions**	
•)))	100Ω	0.1Ω	Resistance not greater than 50Ω Built-in buzzer sounds continuously	Open circuit voltage About 0.4V

Overload protection: 250V DC/AC

2.5 Temperature measurement

Range	**Resolution**	**Accuracy**
-20°C-0°C	1°C	± (5.0% reading + 4 digits)
1°C-400°C	1°C	± (1.0% reading + 3 digits)
401°C-1000°C	1°C	± (2.0% reading + 5 digits
-4°F-32°F	1°F	± (5.0% reading + 8 digits)
33.8°F-752°F	1°F	± (1.0% reading + 6 digits)
753.8°F-1832°F	1°F	± (2.0% reading + 10 digits)

2.6 CAPACITANCE

Range (excluding maximum value)	**Resolution**	**Accuracy**
0-10nF	0.001nF	±(4.5% reading + 5digits)
10-100nF	0.01nF	
100-1000nF	0.1nF	
1μ-10μF	0.001μF	
10μ-100μF	0.01μF	
100μ-1000μF	0.1μF	
1m-10mF	0.001mF	

Overload protection: 250V DC/AC

2.7 FREQUENCY

Range (excluding maximum value)	**Resolution**	**Accuracy**
0-10Hz	0.001Hz	±(0.1% reading + 3digits)
10-100Hz	0.01Hz	
100-1000Hz	0.1Hz	
1k-10kHz	0.001kHz	
10k-100kHz	0.01kHz	
100k-1000kHz	0.1kHz	
1000kHz	1kHz	

Input Sensitivity: 1.5V RMS

Overload Protection: 250V DC or AC Peak(no more than 10 seconds) frequency measurement

2.8 DIODES

Function	Resolution	Test Conditions
	0.001V	Forward DC current: about 1mA Open circuit voltage: about 3.2V monitor display diode Approximate value of forward voltage drop

Overload protection: 250V DC/AC

6.INSTRUMENT MAINTENANCE

●Regularly clean the meter case with a damp cloth and a small amount of detergent, do not use abrasives or chemical solvents.

●Dirty or wet input jacks may affect readings.

●To clean input jacks:

1. Turn off the meter and unplug all test leads from the input jacks.
2. Remove all dirt from the jack.
3. Use a new cotton ball dipped in detergent or lubricant to clean each socket, the lubricant can prevent and moisture related jack contamination.

7.PRODUCTION INFORMATION

Product name:Large screen digital display smart multimeter
Brand/Model:FNIRSI/S1
Service phone: 0755-83242477
Manufacturer: Shenzhen FRI NI RUI SI Technology Co., Ltd.
URL:www.fnirsi.cn
Factory address: 8th Floor, West of Building C, Weida Industrial Park, Dalang Street, Longhua District, Shenzhen City, Guangdong Province"

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