FNIRSI

FNIRSI-WD-02

WALL DETECTOR INSTRUCTION MANUAL

CATALOG

NOTICE TO USER

●Please read this manual and operating instructions in detail, and strictly abide by the regulations in the document so that the best function of the detector can be brought into play.

●Please keep this manual properly.

●Do not use the device in a flammable or explosive environment.

●The used batteries for replacement and discarded devices cannot be disposed of together with domestic waste. Please according to the relevant national or local laws and regulations to deal with them.

●When there is any quality problem with the device or have any question about the use of the product,please contact"FNIRSI" online customer service or manufacturer, we will solve it for you in the first time.

1.INTRODUCTION

This detector can detect metal (steel bars, copper pipes) and cables hidden in walls, ceilings and floors; wooden beams, metal and cables under plasterboard.

2.PRECAUTIONS

●Please use a safe charger with a Type-C interface,voltage output of 5V and current ⩾ 500mA. The company is not responsible for any accidents caused by the charger.

●Before starting up the detector, please make sure that there is no moisture on the detection area, and dry the detector with a cloth if necessary.

●Don't allow moisture to penetrate into the detector, and don't let sunlight shine directly on the detector.

●If the detector is first exposed to an environment with a large temperature difference, it is necessary to wait for the temperature of the detector recovering, the detector can be started.

●Using or operating transmitting equipment such as microwave ovens near the detector will affect the detection results.

●Basically speaking, the detection result will be affected by surrounding environmental factors to some extent. So-called environmental factors refer to whether the decive is close to machines that generate strong magnetic or electromagnetic fields when detecting. In addition, wet gas, building materials with metal, insulating materials covered with aluminum, wallpaper with good conductivity, carpet with conductivity or tiles will affect the detection results. Therefore, before drilling and sawing on wall panels, ceilings and floors, be sure to pay attention to relevant information (such as architectural drawings).

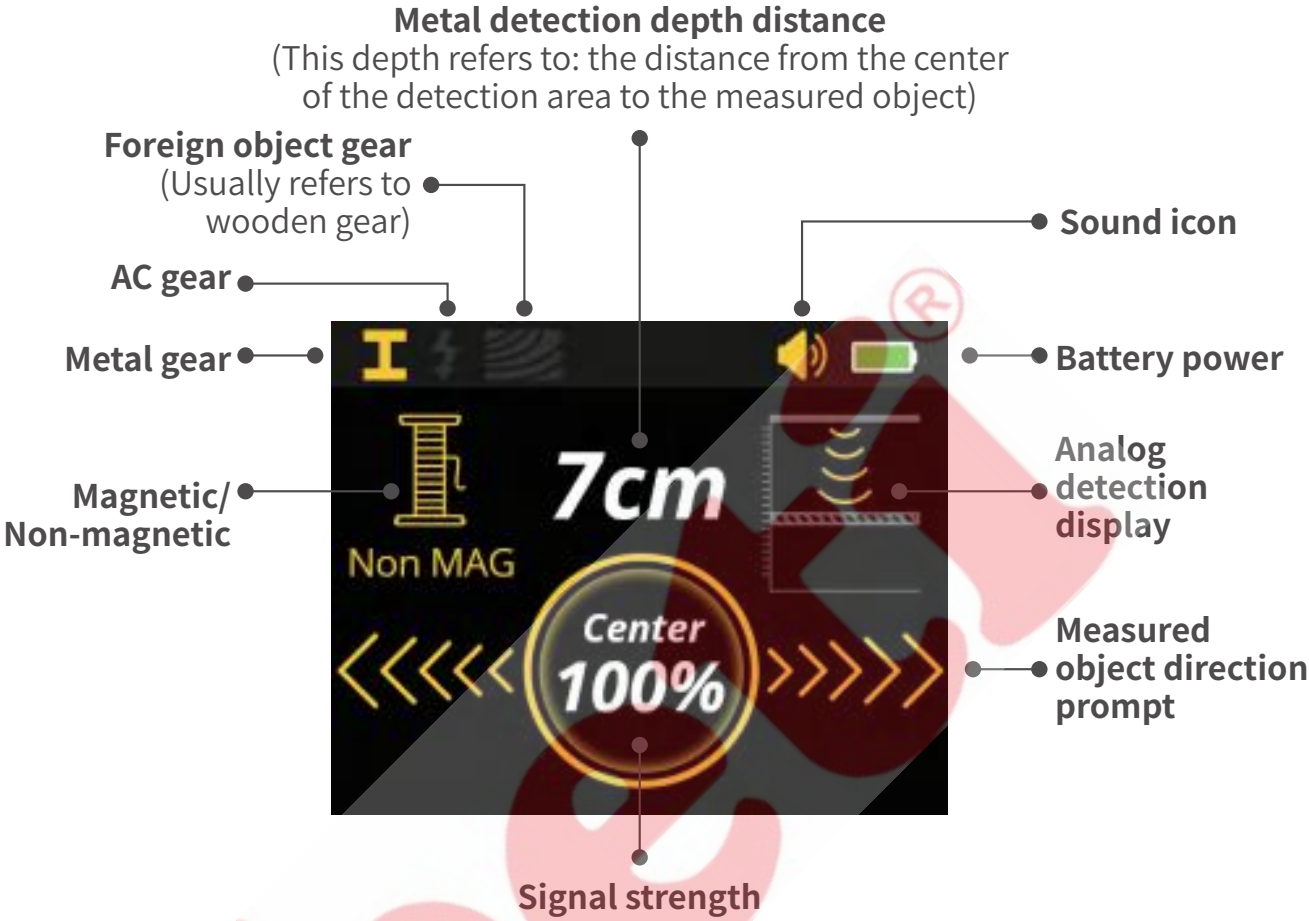
●If the wall contains live wires, do not take measures that may be dangerous. Before drilling or nailing through the wall surface, please turn off the power, gas and water first.

●For the best scanning effect, please avoid wearing jewelry such as rings or watches when using the detector,metal may cause inaccurate results; move tool evenly over the wall surface, do not lift it or vary applied pressure.

●When detecting foreign objects, the tool must always be in contact with the wall surface during scanning.

● Make sure that the fingers of the hand holding the tool do not touch the surface being scanned. Do not touch the detector or the scanning surface with your hands or any other part of your body. Please always detect slowly for maximum accuracy and sensitivity.

3.INTERFACE ANALYSIS



4.BUTTON FUNCTION

※The "red indicator light" is on when charging, and the "green indicator light" is on when fully charged

5.PARAMETERS AND SPECIFICATIONS

Basic parameters

Usage time	≈2h	**Battery**	3.7V 300mAH
Dimensions	138*68*22mm	**Auto shutdown time**	≈5min

Maximum Detection Depth

Ferrous metal	120mm
Non-ferrous metals (copper)	100mm
AC	50mm
Single-strand copper wire (⩾ 4 square mm)	40mm
Foreign matter (generally refers to wooden files)	Up to 38mm
Note: The detection result will be affected by factors such as the material and ize of the detection object, as well as the material and state of the detection surface; if the cable is not charged, the detection depth will be reduced.	

Temperature range

Working humidity	Metal mode	0~85%RH
	Foreign object mode	0~60%RH
	AC mode	0~30%RH
Working temperature	-10°C~50°C	
Stored temperature	-20°C~70°C	

6.OPERATING INSTRUCTIONS

6.1 Basic settings

●Enter language switch first when booting for the first time

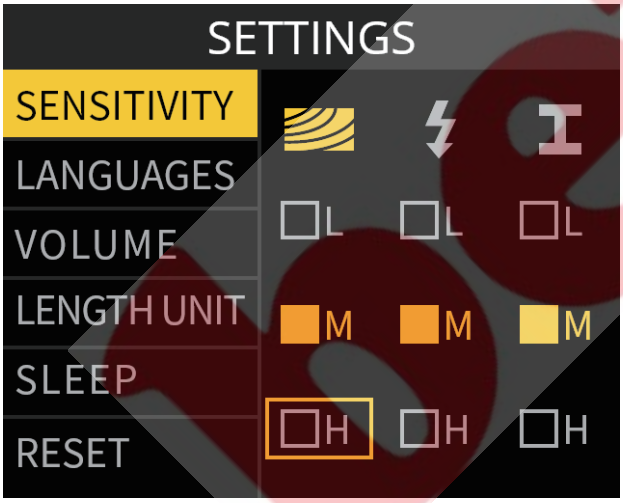
●Short press to switch on and off, and the detector enters the metal detection mode by default after it is turned on.

●Short press to switch to wooden gear.

●Short press to switch between metal gear and AC gear.

6.2 Menu Settings

Simultaneously short press to enter/exit the setting interface.



●In the setting interface, short press to switch options, short press to enter the option; short press to select the parameters, short press to confirm, short press again to return to the previous interface.

●**Sensitivity** (The three gears are low, medium and high)

●**Language** (6 languages are available)

●**Volume** (Can be turned on or off)

●**Length unit** (cm and in are available)

●**Shutdown time** (5 minutes, 10 minutes, 15 minutes are available)

●**Restore setting**

7.DETECTION OF METAL OBJECTS (STEEL BARS, CABLES, COPPER PIPES)

●The detector enters the "metal detection" mode by default after starting up.

●The maximum metal detection depth is 120mm.

●When detecting a metal object, the pattern of detecting metal will appear on the display screen at this time, and the green indicator light will be on.

●Place the detector on the surface of the object to be detected and move the detector left or right in the same direction, when the device gets closer to the metal object, the scale on the signal strength of the display screen will gradually rise. At the same time, the strength percentage will also gradually increase. When the device is slowly moving away from the object, the scale will slowly.The strength percentage will gradually decrease as it decreases. When the program judges that the signal received by the device reaches the largest, which means that the metal object is located under the center of the detector. At this time, the display shows Center icon. When a metal object is detected, the yellow or red indicator light of the detector will lights up, and a continuous tone sounds from the device.

●When the detector displays a non-magnetic metal icon, it means that the object under testing is generally a wire or copper pipes. When the detector displays the magnetic metal icon, it means that the object under testing is generally a steel bar.

●When the detector does not display the magnetic or non-magnetic metal symbol, it means that the currently detected object is generally alloy.When the AC icon flashes, it means that there is an AC signal nearby.

⚠ Detection Notice

●When detecting metal, the interface will display the detection depth value synchronously as the detection operation. The accuracy of the depth value is related to the shape and material of the metal to be tested, the distribution of the measured object, and the properties of the surrounding medium of the measured object.

●When the measured object is a standard steel bar or copper pipe with a diameter of 18mm, the accuracy of the depth value is the best; otherwise, it is poor, and the depth value can only be used as a reference value.

8.DETECTION OF FOREIGN OBJECTS

●Press  to enter the foreign object detection mode, and the foreign object detection (generally refers to wood gear) icon will appear on the display.

●When detecting foreign objects, the device must be vertically attached to the wall, keep the device still for 1-3 seconds, wait for the device to be calibrated (the green light will be on at this time), and then perform the detection operation.

●Foreign object detection mode will detect objects in plaster drywall, plywood sheathing, bare wood floors. Foreign object detection mode of the coated wood walls will not detect concrete, mortar, lumps, bricks, carpet, foil facing materials, metal surfaces , tiles, glass or any other objects in dense material.

●Sensing depth and accuracy will vary due to moisture, material content, wall texture and paint.

●Foreign object detection mode actually detects more than just wooden stalls. It can also detect metal and other dense materials such as water-filled pipes and plastic pipes near the back of a wall or ceiling surface. To help identify wooden stalls, it first performs a metal scan and marks the location of any detected metal items.The item detected in foreign object detection mode but not in metal detection mode could be a wooden stud.

●Place the detector on the surface of the detected object and turn left or right in the same direction evenly and slowly Do not lift it or apply additional pressure.

●When the device is close to the wooden edge of the measured object, the interface will display the signal percentage synchronously, and at the same time boundary icon in the direction are gradually displayed.

●When the device is at a boundary of a wooden frame, the boundary character (Edge) and the border icon that should be half the side will be displayed.

●Continue to move the device in the same direction, the boundary character (Edge) disappears, and the other half of the boundary icon gradually displays; when the device is in the middle of the wooden gear, the center icon is displayed and all the boundary icons on both sides are displayed. The red light turns on, the buzzer will beep for a long time, and the signal percentage reaches the maximum.

●At this time, keep moving in the same direction, the center icon and character will disappear, the buzzer will stop sounding, and the boundary icon will gradually go out as the device leaves; when the device is at the other boundary of the wooden stall, the boundary character(Edge) will be displayed on the device and the boundary icon corresponding to half of the edge will be displayed.The interface will display the signal percentage synchronously; continue to move the device until it is far away from the wooden gear, the signal percentage will gradually decrease, and the boundary icon will gradually disappear until the green light turns on so that the device cannot detect the wooden gear. The probe operation is completed.

Notice

●Repeat the detection many times, the position will be more accurate.

●When the foreign object and the alternating current are detected at the same time, the alternating current symbol on the device will flash, and it will make a short sound of "di di di di".

●In "foreign object detection" mode, only AC power is detected, the device will only flash the AC symbol in the interface.

Detection Notice

●Sometimes due to various environmental factors, the device may not be able to calibrate automatically, and a false alarm signal may appear, please calibrate manually. Calibration is done by briefly pressing the foreign object detection mode button until the green light turns on again.

●If the instrument has just been calibrated on the wooden gear, you need to move the tool out of the range of the wooden gear and detect the wooden gear again.

●If you receive erratic scan results, it may be due to moisture inside the wall cavity or drywall, or paint or wallpaper that has not dried completely. While moisture may not be visible, it can interfere with the sensor Please allow the walls to dry for a few days.

Detection Notice (continuation)

●For some environmental factors or uneven surfaces, it is difficult to detect wooden nails using the foreign object detection mode. Using the metal detection mode to locate the nails that hold the material to the wood studs makes it easier to find these items.

● Depending on the proximity of wires or pipes to the wall, the device can detect them in the same way as foreign objects. Always be careful when nailing, cutting, or drilling in walls, floors, and ceilings that may contain these items.

9.DETECTION OF LIVE CABLES

●Maximum detection depth: 50mm (220V @ 50Hz / 110V @ 60 Hz).

●Press  to enter live cable detection. The AC icon will now appear on the interface. At this time, if the percentage of signal strength is displayed on the display screen of the entire measured surface, it means that it needs to be reset to zero. The zeroing method is to press and hold the detection live cable button on the surface to be tested until the signal percentage on the display screen returns to zero and the green light is on, then the calibration is completed. At this time, release the button to start the work of detecting live cables.

●Place the detector on the surface of the object to be detected and move the detector left or right in the same direction, when the device gets closer to the live cable, the scale of the signal strength will gradually rise and the strength percentage will also gradually increase. When the device is slowly moving away from live cables, the scale will decrease slowly and the intensity percentage will also gradually decrease.

●When the program judges that the signal received by the device reaches the maximum, it means that the live cable is detecting below the center of the device. At this time, the icon (Center) is displayed on the interface. At the same time, the yellow or red indicator light of the detector will light up, and the buzzer will make a short sound of "di di di di".

Detection Notice

●Under certain conditions (Such as behind metalized or conductive surfaces, shielded in metal conduits or behind surfaces with high moisture/humidity), "live" wires/conductors cannot be detected definitively. Concrete, brick and ceramic surfaces have a shielding effect on the electric field signal from the live wire, so the detection depth of the live wire will also be affected when testing on these surfaces.

●Easier detection of live AC lines when the electrical appliance is connected to the desired conductor and turned on.

●The signal from a "live" wire will spread from both sides of the actual wire, so sometimes the area where the "live" wire is alerted will appear to be much larger than the actual wire.

●When a fire wire is detected, an alarm may sound in the room sometimes. This is due to high humidity or strong static electricity on the wall. You can calibrate the device by long pressing the detection cable button at the current location until the green light is on and the signal strength percentage is zero, then release the button to continue detection. If the signal strength percentage is still non-zero after doing the calibration operation, it means that the humidity is too high or the static electricity is too strong, or the surrounding electromagnetic radiation is too high (for example, there are a lot of electrical appliances around), and the tool cannot accurately detect the live wire. You'll need to wait for the humidity to drop or turn off appliances before attempting to detect.

●Static electricity may cause inaccurate wire detection. It may also help to place your hand on the wall next to the detector and measure again to help remove static.

● The signal strength of a "live" wire depends on the location of the cable. So take further measurements nearby, or use other information to check for "live" wires.

● Wires that are not "live" may be detected as metal objects or may not be detected. This includes solid copper cables but cannot detect stranded copper cables.

10.INSTRUMENT MAINTENANCE

●Please use a dry and soft cloth to wipe off the dirt on the device, do not use detergent or solvent.

●It is forbidden to paste any labels or nameplates on the detection areas of the front and rear sides of the detector, and avoid pasting metal nameplates.

●Please use the attached protective case to store and carry the detector.

●Please recycle and utilize damaged detectors, accessories and packaging materials in an environmentally friendly manner.

11.CONTACT US

Any FNIRSI'users with anyquestions who comes to contact us wiil have our promise to get asatisfactory solution + an Extra 6-Month Warranty to thanks for yoursupport!

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

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