NDI KC-098D Multi Function Detector User Manual

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Introduction

The KC-098D multi-function detector utilizes advanced electronic signal technology to detect the precise location of metal, studs, and AC live wires hidden behind walls. Additionally, this detector can measure ambient temperature and humidity in real-time. With its electronic level and laser line functions, it is the perfect tool for indoor decoration wiring, electrical equipment installation (such as air conditioners and range hoods), and detecting wood furniture and wood product structures.

PRODUCT OVERVIEW

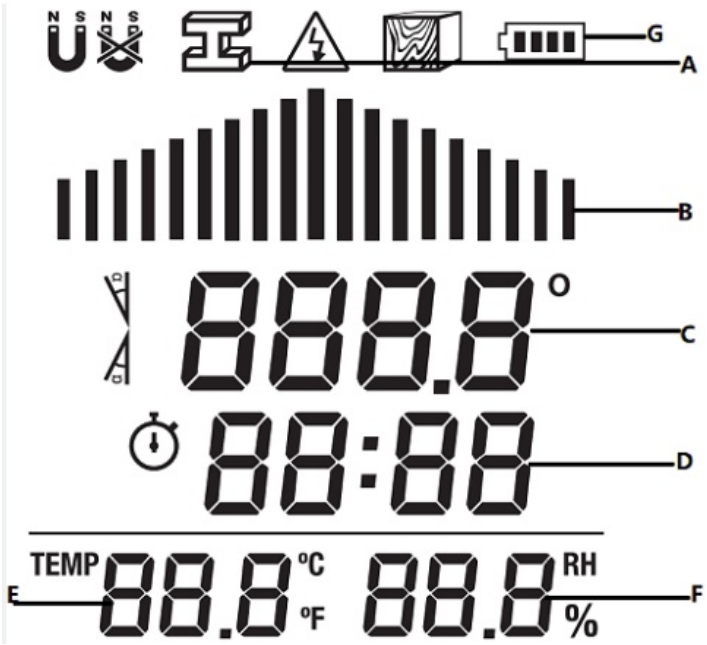
- A. Status indicator LED light
- B. Backlit LCD
- C. Function button:

UP Button; DOWN Button;

MODE button; POWER Button

- D. Detect button
- E. Laser punched light exit hole

LCD SCREEN OVERVIEW



- A. Detect mode icon: METAL ;AC LIVE WIRE ;STUD
- B. Detection signal strength indicator with green, yellow, red three color
- C. Angle display value
- D. Laser line time
- E. Ambient temperature date
- F. Ambient humidity date
- G. Battery indicator

OPERATING INSTRUCTIONS

INSTALL BATTERIES

To open the battery compartment on the back of the KC-098D.Then insert 3pcs AAA batteries into the compartment, orienting the battery so its+and- terminals(anode and cathode) line up with the+and- markings in the compartment. Don’t forget to place the black fabric strap under the battery before you install it to make the batteries easy to remove later.

SELECTING THE MODE

1. Press the POWER button to turn on the tool with a beep and enter the detection mode.

2. Press the MODE button to switch between the detection mode and laser line mode. In the detection mode,press the UP and DOWN button to switch to the desired mode: MATEL or AC WIRE or STUD. No matter which detection mode you are in, press and hold the side detection button on
   the side of the object to be calibrated. When you hear a beep, it means that the calibration is complete, and the target detection can be performed;
   In the laser line mode,press the UP button to switch to the desired laser line time:10min;30min;60min;0min(UN-timed);press the DOWN button to switch to the desired laser line mode:Horizontal line or Vertical line or Horizontal+Vertical line.In this mode,the tool will not shut down until the end of the set laser line time and will shut down automatically after the end of the time,but it can be manually turn off.Press the POWER button to switch to the desired display angle mode:Horizontal mode(H), Vertical mode(U).
3. Press the POWER button for about 2 seconds to turn off.

DETECTING MODE

How to calibrate:

1. Choose detection mode (Stud , AC wire , Metal)
2. Place tool flat against the surface
3. Press and hold the Detect Button. Do not move tool until calibration is complete (2 seconds with a beep sound)
4. Move slowly and keep it flat against the wall. Don't release Detect Button during thewhole process.

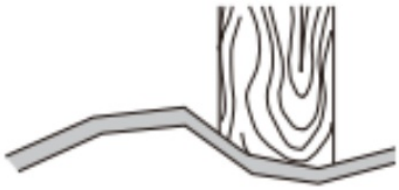
A.Stud Scanner

After calibration continue to hold the Detect Button. Move slowly across the surface. As you approach the stud the signal strength indicator on screen will begin to light up from the left or right. It means it's approaching the target. Continue to move to that direction when signal indicator bar is red and buzzer sounds the you've reached the center of the
stud.

To make sure the stud location you can start it over from a reverse direction.

(Note if you calibrate over a stud you may not detect any stud. Move tools a few inches right or left to start over again)

1.



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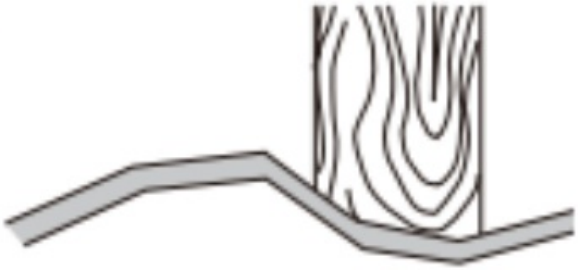
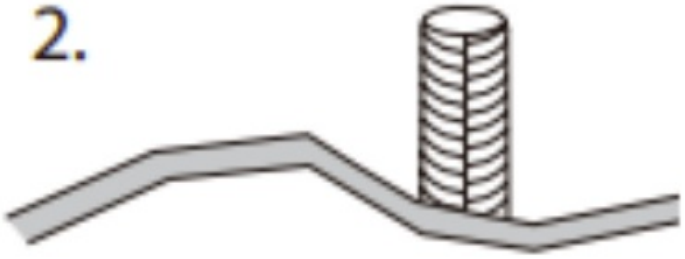


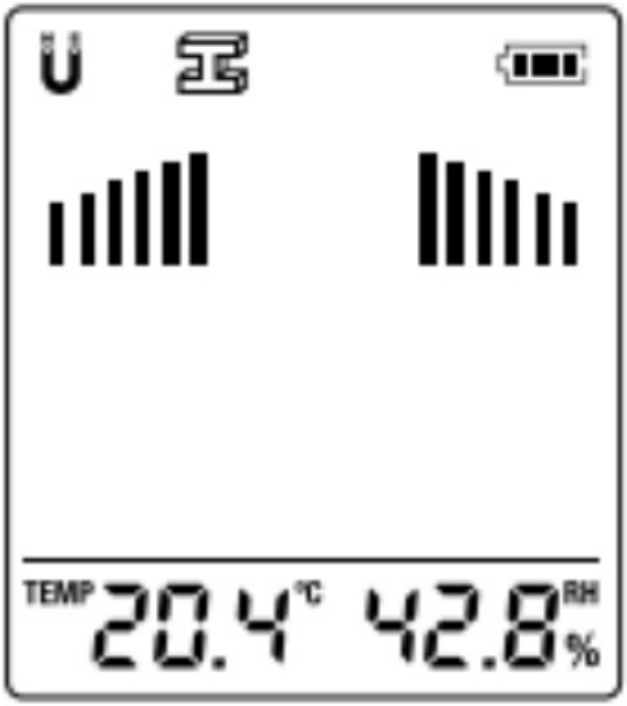
B.Metal or AC mode

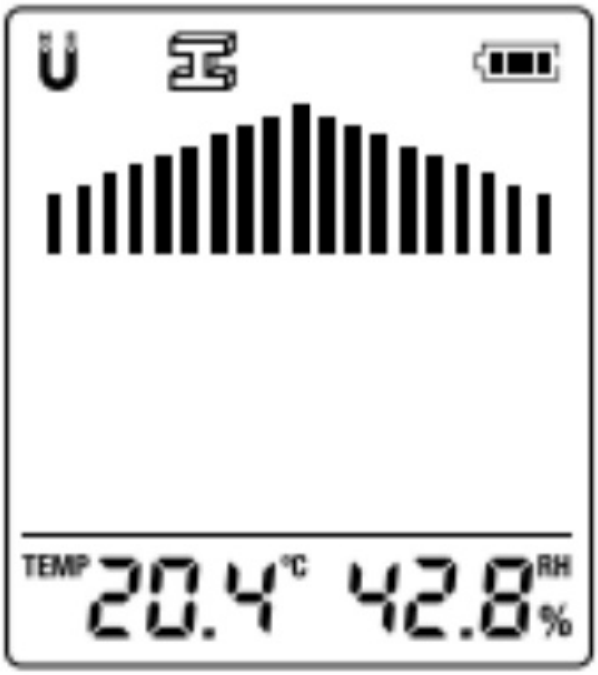
After calibration continue to hole the Detect Button. Slowly move the unit across the surface. As you approach the Metal or AC. The signal strength indicator on screen will begin to light up from the left or right. It means it's approaching the target. Continue to move to that direction when signal indicator bar is red and buzzer sounds the you've reached the center of the Metal or AC.
Reverse direction and mark the spot where the signal bars peak from that direction. Middle point of two marks is approximate center of the object.
(Note if you calibrate over a metal / AC you may not detect any metal / AC. Move tools a few inches right or left to start over again)
Metal:

1.

2.

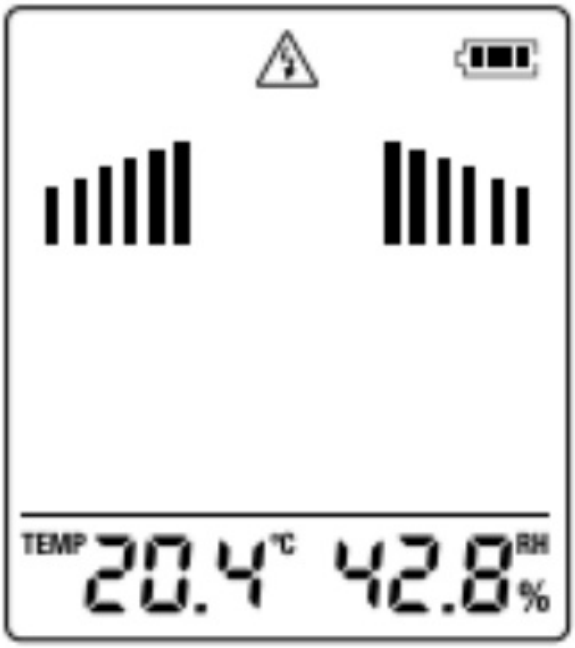


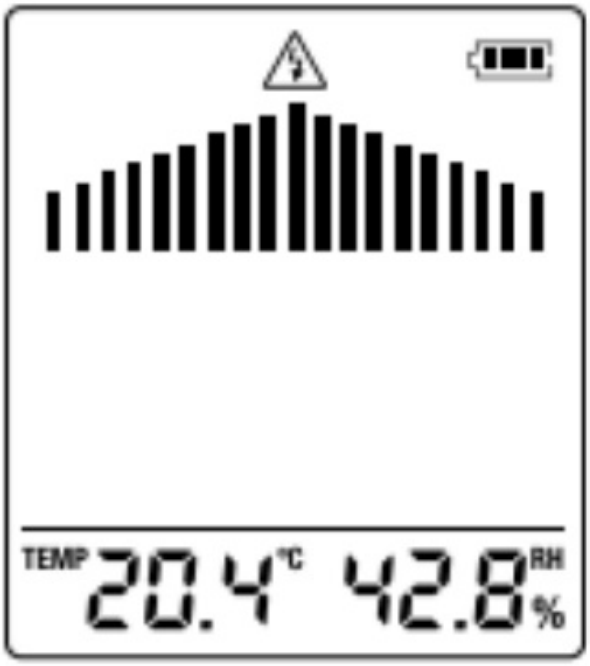




AC:

2.





NOTE:

Detect metal mode:

1. If the wall have both magnetic metal (Fe) and non-magnetic metal (aluminum, copper) and near close, it may not be detected or the metal type (magnetic/non-magnetic) is wrong
2. Cement panel wall, cement brick wall, concrete wall can not be accurately detected.

LASER LINE MODE

Press UP button to choose a desired laser line timer : 10min 30min 60min 0min (Un-timed).

Press Down button to choose laser line mode : Vertical, Horizontal or Both V and H. Tool will not shut down until the end of set timer. How ever it can be manually turned off by pressing power button for about 2 seconds.

CALIBRATION INSTRUCTIONS FOR ELECTRONIC LEVEL

Calibration Instructions for Electronic Level in Laser Wiring Mode:

- a) If the machine angle is found to have obvious problems or there is a need for accurate measurement in laser line mode, it is necessary to calibrate the machine.
- b) To begin calibration, press and hold the MODE key until the machine emits two beeps and the horizontal and

vertical modes of the display become number 1.

- c) Place the machine on a horizontal surface and wait until the machine angle display stabilizes. Press the down button and wait until the machine angle display shows 0 (±0.5). At this point, the horizontal and vertical modes of the machine will change from number 1 to 2.
- d) Next, place the machine vertically on the same horizontal surface and wait until the machine angle display stabilizes. Press the down button again and wait until the horizontal and vertical modes of the machine change from number 2 to H/U. This indicates that the calibration is complete.

OPERATION TIPS

1. Before using the detector, please check the battery level. If the power symbol on the display is empty, it indicates that the battery needs to be replaced with a new one.
2. To ensure optimal detection performance, hold the tail of the instrument during operation and keep your other hand at least 6 inches away from the detector.
3. Handle the equipment with care. When measuring, make sure the detection board is close to the surface of the object being measured and is not skewed or separated from it.
4. The detector cannot measure AC live wires in metal pipes, metal-clad wires, metal walls, or high-density walls.
5. The presence of both ferromagnetic and non-ferromagnetic metal in close proximity in a wall can affect the detector’s detection and identification of metal functions.
6. Avoid using the detector near strong electric waves or in places with high-frequency interference.
7. Do not use the detector in places with high temperature and humidity.
8. Avoid using the instrument on damp walls whenever possible.
9. Due to variations in material density, the detector may not always detect slate or mixed plates correctly.
10. When nailing, cutting, or drilling holes in walls, ceilings, or floors, exercise caution to avoid damaging wires and pipes behind them.
11. Live wires can be detected, but outsourced lines, unused lines, telephone lines, cable TV lines, and uncharged lines will not be detected as live lines.
12. The detector is not suitable for metal detection when the measured wall is a metal wall or the metal material in the wall is too densely distributed.
13. Remember to turn off the power supply when working near an AC live line.

BATTERY SAFETY TIPS

- Remove the battery when cleaning this product.
- Please remove the battery when the product will not be used for a long time.
- Please install the battery correctly according to the positive and negative poles of the battery.
- Please dispose of used batteries properly: placing the batteries in a high temperature environment will cause an explosion hazard, please do not throw the batteries into fire. Wrap the battery terminals with insulating tape to prevent them from coming into direct contact with other objects. Many countries have regulations on battery disposal. Please follow the relevant local regulations.

CAUTION

This device complies with Part 15 of the FCC. Operation is subject to the following two co nditions:

1. this device may not cause harmful interference, and
2. this device must accept any interference received, including interference that may ca use undesired operation.

Any changes or modifications not expressly approved by the party responsible for compli ance could void the user’s authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reaso nable protection against harmful interference in a residential installation.

This equipment generates uses and can radiate radio frequency energy and, if not install ed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a parti cular installation. If this equipment does cause harmful interference to radio or television r eception,which can be determined by turning the equipment off and on, the user is encou raged to try to correct the interference by one or more of the following measures:

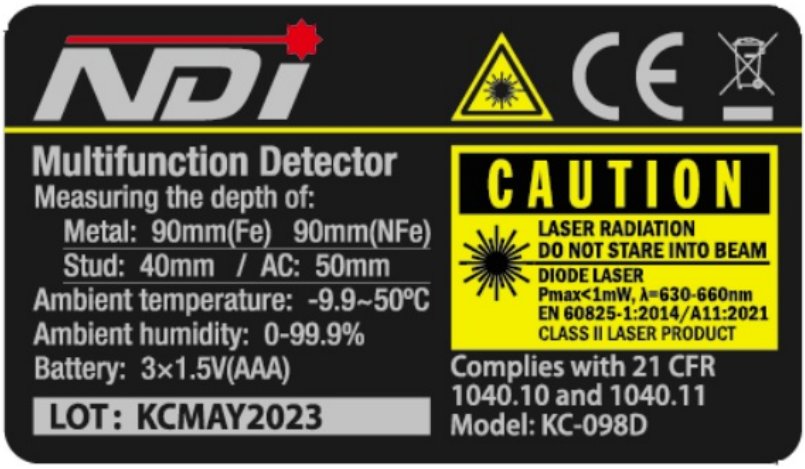
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiv er is connected.
- Consult the dealer or an experienced radio/TV technician for help.

SPECIFICATIONS

Detection Objects		Stud, AC, METAL
Maximum detection capability	Ferromagnetic metal tube	90mm(3 1,/-i)
	Non-ferromagnetic metal tu be	90mm(3 1/-i)
	STUD	40mm(1 1,/2 ‘)
	AC Live Wire	SOmm(2 ”)
Electronic Horizontal Angle Range		0-90°
Ambient Tempe ature		-9.9-50˚C (14-122T)
Ambient Humidity		0-99.9%
Laser Line Function		Two laser lines that are perpendicular to each other
Backlit Auto shut down		Operation without key is about 30 seconds
Auto shut down		After about 2minutes without key operation
Power Supply		3tAAA
Status Indication		LED three color indication
Operation Current		<80mA
Operation Temperature		0-40˚C (32-104T)
Operation Environment Humidity		0%-70%
Storage Environment		-20-4-60˚C (-4-140T).585%RH (w/o battery)
Dimension		198mm•81mm•60mm
Weight		About 270 g (w/o battery)

- Thank you for purchasing our products.
- This instrument isot a universal instrument that can detect any material in the wall, I hope users can understand it.
- Please read this manual carefully before operating it correctly.
- Please keep it properly after use.

LASER SAFETY



- Class II Laser Product, output power <1mW at 630~660nm
- This product complies with 21 CFR 1040.10 and 1040.11
- Caution: Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.
- Labels and Locations.

WARRANTY

The product is warranted to be free from defects in materials and workmanship for a period of one year from the date of purchase.

Notice:

The warranty does not apply to the following conditions:

- Disassembling the laser tool will void the warranty.
- We are not responsible for any damage resulting from abrasion, water, dropping or disassembling.

Tip: Most of the components of this product can be recycled. If you do dispose of this product, do so according to local laws rather than throwing it in the bin.

NDI TOOLS LLC
733 EHRHORN AVE MOUNTAIN VIEW CA 94041-2128
TEL:5157087

Documents / Resources

	NDI KC-098D Multi Function Detector [pdf] User Manual KC-098D Multi Function Detector, KC-098D, Multi Function Detector, Function Detector, Detector

References

- User Manual