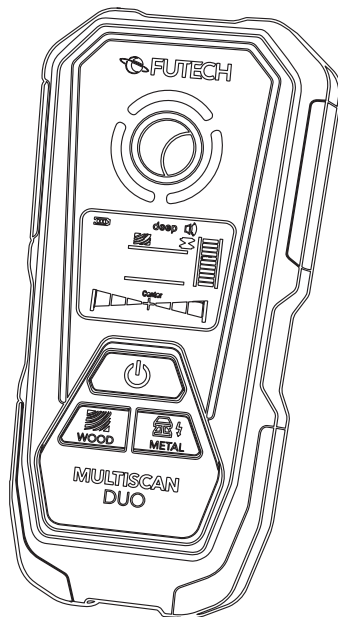


USER MANUAL

520.12L MULTISCAN DUO



EN ENGLISH

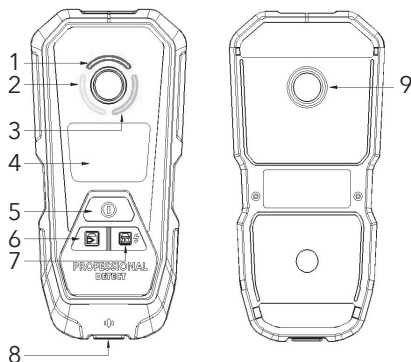
Manual
in your language?

Check the back cover



OVERVIEW

■ DEVICE



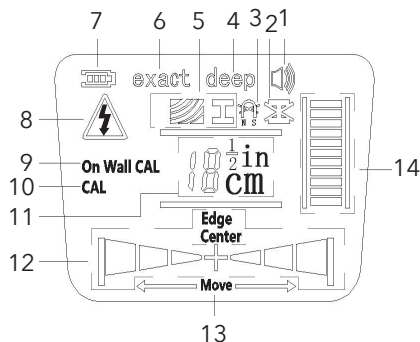
1. Red indicator light
2. Yellow indicator light
3. Green indicator light
4. Display screen
5. Switch "ON/OFF"
6. Foreign objects button
(generally referring to wooden batten).
Long press the button to switch between
exact mode and deep mode.
7. Metal buttons

8. Type-C charging port
9. Detection area center

WARNING!

Please use the interface Type-C, the voltage output is 5V Charge with safe charger with a current of $\geq 500\text{mA}$, our company is not responsible for any accidents caused by chargers.

■ SCREEN



1. Sound icon
Note: The sound can be turned on and off.



The sound icon is not displayed when turned off.

Press the wood button [6] and the metal button [7] simultaneously to turn off or on the sound.

2. Non-metallic icon

Note: In the foreign object mode indicates that the current object under test is not a metal.

3. Magnetic or non-magnetic ICONS

4. The depth mode in the detection of foreign objects mode (generally referring to wooden batten)

Note: The maximum detection depth in depth mode is 38mm (1.50 in).

5. Current detection mode

They are foreign objects (generally referring to wooden batten) and metals respectively.

6. Exact mode in foreign object mode (generally referring to wooden batten)

Note: The maximum detection depth is 20mm (0.79 in)

7. Battery level

8. The indication of an alternating current electrical signal was detected

9. When entering the foreign object mode, it indicates to press the instrument tightly against the wall. Wait for the instrument to calibrate automatically or manually press the

wooden gear button briefly for calibration.

After calibration is completed, the left-right movement icon [13] will be displayed

10. Indicate calibration metal, the left-right movement icon [13] will be displayed.

11. Detect the metal depth display area

(This depth refers to: the distance from the center point of the detection area to the object being measured.

Press and hold both the metal button and the power button simultaneously to switch units.

12. The display icon indicating the boundary or Center of the object being measured to the the center line of the instrument in the foreign object detection mode, in metal mode, only the Center icon is displayed.

13. The left or right movement indicator icon, the instrument moves left or right to perform the detection operation

14. Detection signal strength display area.



USE THE INSTRUMENT

■ TURN ON/OFF

Before starting the detector, it is necessary to ensure that there is no moisture in the detection area. The detector should be dried with a cloth when necessary.

Press the start/stop button [5] briefly to turn on the instrument.

After a brief automatic test, the detector entered the ready operation state. The

instrument automatically enters the metal detection function mode. At this time, if there is signal displayed in area [14] on the display screen without metal interferences, it indicates that calibration is required. The calibration method is as follows: Place the instrument in an environment free of metal and strong magnetic field interference (such as lifting the instrument into the air, etc.), then hold down the metal button [7] until the signal in the detection area [14] of the display screen returns to zero and the green light comes on. At this point, release the button and start the metal detection work.

■ DETECTION TYPES

The detector function can be used to search for objects beneath the detection area

DETECT METAL OBJECTS (REBAR, WIRES, COPPER TUBES)

- The maximum detection depth for metals is 120mm (4.72 in).
- When detecting metal objects, press the metal button to enter the metal detection state. At this time, a metal pattern will appear on the display screen and the green indicator light will light up.
- Place the detector on the surface of the object to be detected and move the instrument to the left or right in the same direction. As the instrument gradually approaches the metal object, the scale on the signal strength display area of the screen will gradually rise. When the instrument slowly moves away from the object, the scale will slowly drop again. When the program determines that the signal received by the instrument reaches the maximum, it indicates that the metal object is located directly below the center of the detector. At this time, the center icon will be displayed on the screen.
- When metallic substances are detected, the yellow or red indicator light of the detector will light up. When the red light is on, a continuous sound will be heard from the instrument.



- When both metallic substances and alternating current electrical signals are detected simultaneously, the red indicator light of the detector will flash, and a beeping sound will be heard from the instrument.
- When the detector displays the non-ferrous metal symbol, it indicates that the current object being measured is generally a wire or a copper pipe.
- When the detector displays a magnetic metal symbol, it indicates that the current object being measured is generally a rebar.
- When the detector displays neither ferrous nor non-ferrous metal symbols, it indicates that the current object under test is generally an alloy object.
- When the alternating current symbol on the instrument flashes, it indicates that there is an alternating current signal nearby

NOTE:

When detecting metals, the display screen will synchronously show the detection depth value along with the detection operation. The accuracy of the depth value is related to the shape and material of the metal being measured, the distribution of the measured object relative to the detector, and the properties of the surrounding medium of the

measured object. When the measured object is a standard rebar with a diameter of 18 mm (0.71 in) or a copper pipe with a diameter of 18mm (0.71 in), the accuracy of the depth value is the best. Conversely, it is poor. The depth value can only be used as a rough reference value.

- The signal strength of the 50 to 60 Hertz wire above the conductor must be greater than that of the surrounding environment. If the wall is too damp or poorly grounded, the signal across the entire wall will be the same, The detector shows that the signal has been found in a larger area, but the wire may not have been precisely located.

WARNING!

In some cases, if the internal equipment malfunctions or is operated improperly the tools may not accurately indicate the live wires in the wall, Therefore, one should not rely solely on instruments to identify the existence of dangerous live wires. Other evidence should also be used, such as construction drawings or visual identification of wiring or pipe entry points,



WARNING!

- If the wall contains live wires, do not take measures that may be dangerous. Before drilling holes or nailing through the wall surface, be sure to turn off the power, gas and water.
- Concrete, brick and ceramic surfaces have a shielding effect on electric field signals from live wires. Therefore, when detection is carried out on these surfaces, the detection of alternating current electrical signals will be affected.
- When power appliances are connected to the required conductors and turned on, it is easier to detect alternating current signals.
- The signal of the live wire will spread from both sides of the actual wire, so sometimes the area of the "live" wire alarm appears much larger than that of the actual wire.
- Alternating current signals mainly come from the live wires, and they may also come from static electricity or induced electricity in the environment. Placing your hand on the wall beside the detector may be helpful in eliminating static electricity and induced electricity.

- The signal strength of live wires depends on the position of the cables. Therefore, please repeatedly measure near the wires or use other information to check if there are any live wires.
- Non-electrified wires may be detected as metal objects, while thin wires may not be detected.

DETECT FOREIGN OBJECTS (IT GENERALLY REFERS TO WOODEN BLOCKS)

- Maximum detection depth: exact mode: 20mm (0.79 in); deep mode: 38mm (1.50 in). Long press the button to switch between exact mode and deep mode
- Foreign Object Detection Mode will identify objects within drywall, plywood sheathing, unfinished wood flooring, and coated wooden walls.
- The foreign object detection mode does not detect objects in concrete, mortar, blocks, bricks, carpets, foil materials, metal surfaces, tiles, glass or any other dense materials.
- Due to moisture, Material content, Wall texture and paint, the sensing depth and accuracy will be different.



- The foreign object detection mode actually detects more than just wooden batten. It can also detect metals and other dense materials, such as water pipes and plastic pipes near the back of wall or ceiling surfaces. To help identify the wooden batten, a metal scan is first conducted and the location of any detected metal items is marked. Then scan in the foreign object detection mode. Items detected in the foreign object detection mode but not in the metal detection mode might be wooden studs.
- Press the wood button to enter the foreign object detection mode. At this time, the
- Foreign object icon will appear on the display screen,
- When detecting foreign objects, the instrument must be placed vertically against the wall first. Then, press the foreign object detection button briefly and keep the instrument still for 1 to 3 seconds. Wait until the instrument calibration is completed (at this point, the green light will light up), and then proceed with the detection operation.
- Place the detector on the surface of the object to be detected and move the instrument uniformly and slowly to the left or right in the same direction, do not lift the instrument or apply additional pressure.
- When the instrument approaches the foreign object edge of the object being measured, the scale of the signal strength display area on the display screen rises synchronously. The boundary ICONS in the same direction will gradually be displayed.
- When the instrument is at one boundary of the wooden barrier, the instrument will display boundary characters (Edge) and the corresponding half boundary icon will also be shown.
- Continue to move the instrument in the same direction. The boundary character (Edge) goes out and the other half of the boundary icon gradually appears. When the instrument is in the middle of the wooden gear, the Center character (Center) is displayed on the screen and all the boundary ICONS on both sides are shown. The red light will come on and the buzzer will "beep..." Long sound, the signal strength reaches the maximum.
- At this time, keep moving in the same direction. The central cross icon and characters go out, the buzzer stops sounding, and the boundary icon gradually goes out as the instrument moves away; When the instrument is at the other boundary of the wood mode, the instrument will display the boundary marker



(Edge), and the corresponding side's boundary icon will appear the scale of the signal strength display area on the display screen rises synchronously.

- Keep moving the instrument, until away from the wooden block, the signal strength indicator scale on the display screen decreases synchronously, the boundary ICONS gradually disappeared the instrument failed to detect any foreign objects until the green light of the instrument came on the detection operation is completed.

NOTE:

Repeated detection will be more accurate

When foreign objects are detected, alternating current is also detected simultaneously. At this time, the alternating current symbol 8 on the instrument will flash, the instrument will make a short "beep beep beep" sound.

In the foreign object mode, when it is detected that the object is metal, the metal symbol will be displayed. Non-metal symbols will be displayed when it is not a metal (Note: When metal is detected in foreign object mode, the depth of the metal will not be displayed).

When foreign objects are buried too deep, the

boundary icon may not be displayed.

PLEASE NOTE:

- Sometimes, due to various environmental factors, the instrument may not be able to calibrate automatically and may give incorrect alarm signals. Please calibrate manually.
- The calibration method is that when the instrument is turned on, place it on the detection surface and briefly press the foreign object mode button until the green light comes on again.
- If the instrument was just calibrated on the wood reference, the tool must be moved outside the wood measurement range before re-detecting the same wood reference to obtain valid measurements.
- If you receive unstable scanning results, please recalibrate them. It could also be caused by moisture in the walls or drywall, or by recently applied paint or wallpaper that has not dried completely. Although moisture may not always be visible, it can interfere with the sensors of tools. Please let the walls dry for a few days.
- For certain environmental factors or uneven surfaces it is very difficult to detect wooden



nails using the foreign object detection mode. Locate the nail that fixes the material to the wooden nail by changing the metal detection mode. It might be easier to find these items.

When the wires or pipes are relatively close to the wall surface, the instrument can detect them in the same way as it detects foreign objects. On the walls that might contain these items, when nailing, cutting or drilling on the floor and ceiling, one should always be careful.

The detection results will be affected by factors such as the material and size of the detected object, as well as the material and condition of the detection surface. If the cable is not electrified, the detection depth will decrease.

TECHNICAL SPECIFICATIONS

— MAXIMUM DETECTION DEPTH:

Ferrous metal:	120 mm	(4.72 in)
Non-ferrous metal (copper):	110mm	(4.33 in)
Alternating current:	50mm	(1.97 in)
Copper wire (≥4 mm):	40mm	(1.57 in)
Foreign object (It generally refers to wooden batten)		
exact mode	20mm	(0.79 in)
deep mode	38mm	(1.50 in)

— WORKING HUMIDITY RANGE:

Metal mode:	0-85% RH
Foreign object mode:	0-60% RH
Working temperature range:	-10°C to +50°C (14°F to +122°F)
Storage temperature range:	-20°C to +70°C (-4°F to +158°F)

— GENERAL

Automatic shutdown time:	About 5 minutes
Battery:	Li-ion - 3.7V - 300mAh
Usage time approximately:	3 hours
Product size:	146x72x24 mm (5.75 x 2.83 x 0.95 in)



MAINTENANCE, SERVICE, CLEANING

- Use a dry and soft cloth to wipe the dirt off the instrument, do not use cleaning agents or solvents.
- Do not stick any labels or nameplates on the front or back detection areas of the detector. It is strictly forbidden to stick metal nameplates.
- Use the included protective case to store and carry the detector.
- Deal with waste
Damaged detectors, accessories and packaging materials must be recycled in a way that meets environmental protection requirements





DECLARATION OF CONFORMITY

Futech (Belgium) declares under its own responsibility that this device:

- 520.12L - MULTISCAN DUO

is in conformity with the standards

EMC DIRECTIVE 2014/30/EU:

- EN IEC 61326-1:2021

- EN IEC 61326-2-1:2021

FCC Part 15 subpart B - EMC report

- 47CFR Part 15 (2023)

- ANSI C63.4 (2014) +A1 (2017)

Lier, Belgium,
March, 2025
Patrick Wauters



USER MANUAL

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