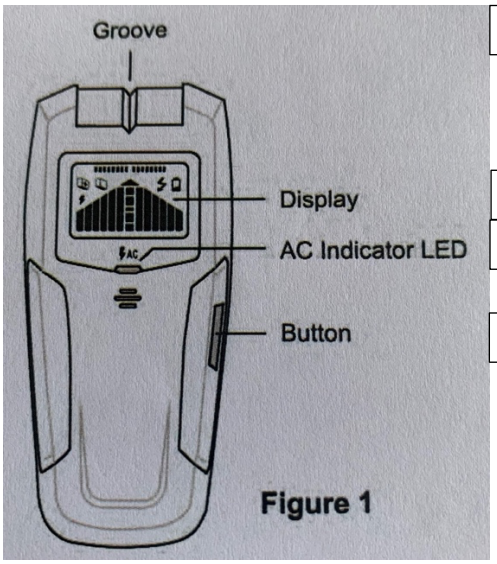
USER MANUAL [EN]

WS4300 – STUD FINDER

OVERVIEW



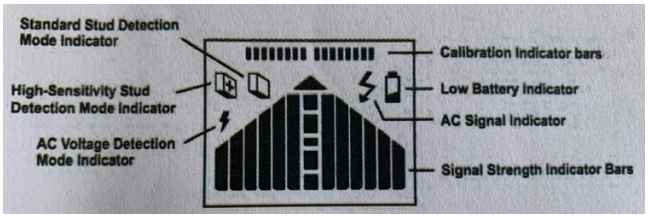
A

B

C

D

E: battery cover



SAFETY & WARRANTY

Read the complete safety and warranty instructions provided together with the device before using.

Depending on the proximity of electrical wiring or pipes to the wall surface, the unit may detect them in the same manner as studs. Caution should be used when nailing, sawing or drilling into walls, floors and ceilings that may contain these items.
Turn the wires' power off when working near electrical wires.
Shielded wires, dead wires, live wires in metal conduits, casings, metal walls or thick dense walls will not be detected as live wires.
Certain environmental conditions fundamentally impair the measurement results, such as the proximity of devices that generate strong electric, magnetic or electromagnetic fields, moisture, metal building-materials, foil-laminated insulation materials or conductive wallpapers or tiles. Therefore, also check other information sources (e.g. construction plans of the walls, floors or ceilings).
Do not use the unit if it is damaged or if it operates abnormally.
The stud detector can be carried normally on papered walls. However, it may not function on some type of foil backed or metallic fabric surfaces.

OPERATING

1 INSTALLING BATTERY

1.1 Open the battery cover [E].

1.2 Insert a battery of 9 Volt (6F22 or equivalent) by clicking the smallest round into the largest round.

1.3 Place inside.

1.4 Close the battery cover [E].

When the internal battery is low, the low battery indicator  appears on the display [B]. Replace the internal battery (Steps 1.1 to 1.4).

2 DETECTING STUD

2.1 Place the unit flat against the wall surface (the surface should be flat and dry).

2.2 Press the button [D] once to turn on the unit.

- To select the standard stud detection mode, press the button until the icon  appears on the display [B].
- To select the high detection mode, press the button until the icon  appears on the display [B].

2.3 Before the unit turns off, press and hold the button [D]. The unit starts calibrating.

- During calibration, more and more calibration indicator bars will appear from right and left towards the center.

2.4 Do not move the unit until the calibration is completed.

2.5 The calibration is completed when the signal strength indicator bars disappear and the built-in buzzer sounds a beep.

2.6 Keep pressing the button [D] through the following procedures.

2.7 Slowly move the unit sideways across the wall (keep it flat; do not rock or lift the unit).

2.8 As you approach the edge of a stud, the signal strength indicator bars will indicate that you are getting close.

2.9 When the signal strength indicator bars peak and the built-in buzzer sounds continuously, the unit has detected an edge of the stud.

2.10 Stop moving and mark the spot at the groove [A] with a pencil.

2.11 Continue to move the unit across the wall surface in the same direction until all the signal strength indicator bars has disappeared. Then reverse direction (still holding the button in) and locate the other edge by using the same procedure.

2.12 Mark the spot at the groove [A] with a pencil (the midpoint of the two marks is the center of the stud).

- Avoid interference by removing your other hand from the unit while using it.
- Remember that studs or joists are normally spaced 16-24" (41-61 cm) apart and 3.8 cm in width, so anything closer together or of a different width may not be a stud.
- Doors and windows are commonly constructed with additional studs and headers for added stability. The unit detects the edge of these double studs and solid headers as a single, wide stud.
- Metallic object, wiring or water pipe can also be detected as a stud.
- If you do not find a stud, repeat the scanning perpendicular to the original scanning direction.
- Usually, you should use the standard stud detection mode first before using the high sensitivity mode. If the sensitivity is not high enough, you can switch to the high sensitivity mode. But keep in mind that in the high sensitivity mode the unit may be interfered with, if the material of the wall is not homogeneous.

If the signal strength indicator bars flash and the buzzer beeps continuously, the calibration has failed. Move the unit a few inches right or left, release the button [D] and then start over (Steps 2.1 to 2.12).

3 DETECTING LIVE AC WIRE

3.1 Place the unit flat against the wall surface (the surface should be flat and dry).

3.2 Press the button [D] once to turn on the unit.

- To select the standard stud detection mode, press the button until the AC voltage detection mode indicator appears on the display.

3.3 Before the unit turns off, press and hold the button [D]. The unit starts calibrating.

- During calibration, more and more calibration indicator bars will appear from right and left towards the center.

3.4 Do not move the unit until the calibration is completed.

3.5 The calibration is completed when the signal strength indicator bars disappear and the built-in buzzer sounds a beep.

3.6 Keep pressing the button [D] through the following procedures.

3.7 Use the position where you have adjusted the unit as the center of a 60 cm straight scanning path along which you will scan.

3.8 Move the unit back and forth along this scanning path. The unit will adjust its sensitivity automatically.

3.9 Use the position where the AC signal strength peaks as the center of a new 60 cm straight scanning path from which you will continue to scan.

3.10 Slide the unit back and forth several times along this new 60 cm scanning path. The exact position of the live AC wire will now be determined.

- Wires deeper than the detection limit from the wall surface, in conduit, or behind plywood shearwall will not be detected.
- Rubbing or banging the unit on the wall may generate static electricity and cause a false indication.
- Before use, verify the unit's operation by detecting a known live AC wire.
- Because of the extremely small current required to be detected, a strange indication may be seen in some situation; i.e. a conductor with poor insulation touching a damp wall, the unit will show a voltage on the wall. In this situation, the unit is indicating a potential hazard which should be checked with a voltmeter.
- If you do not find a live AC wire, repeat the scanning perpendicular to the original scanning direction.

If the AC indicator LED or signal strength indicator bars remain off, move the unit to another position, release the button and start over (Steps 3.1 to 3.10).

SPECIFICATIONS

	WS4300
Detection depth	Wood and metal studs: up to 1 ½ (3.8cm) through drywall Live AC wires: up to 2" (5cm) through drywall NOTE: detection depth can vary due to moisture content of materials, wall texture and paint.
Accuracy	+/- 1/8" (3.2mm) for wood stud which is buried 0.5"-1" (12-25mm) deep under wall surface +/- ¼" (6.4 mm) for wood stud which is buried 1.5" (38mm) deep under wall surface

	+/- ¼" (6.4 mm) for metal stud which is buried 0.5"-1.5" (12-38mm) deep under wall surface NOTE: Accuracy specification assumes that the unit operates at 20-25°C, with relative humidity between 35% and 55%
Operating environment	Temperature: 0°C – 40°C Relative humidity: <75%
Storage environment	Temperature: -20°C – 70°C Relative humidity: <85%
Battery	9V battery, 6F22 or equivalent (one piece)
Dimensions	146 x 56 x 33 mm
Weight	About 120g (including battery)