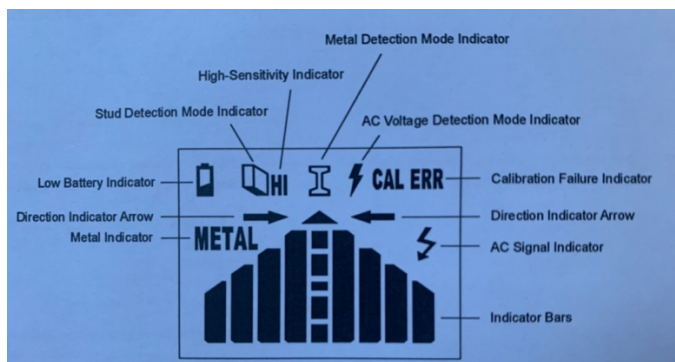
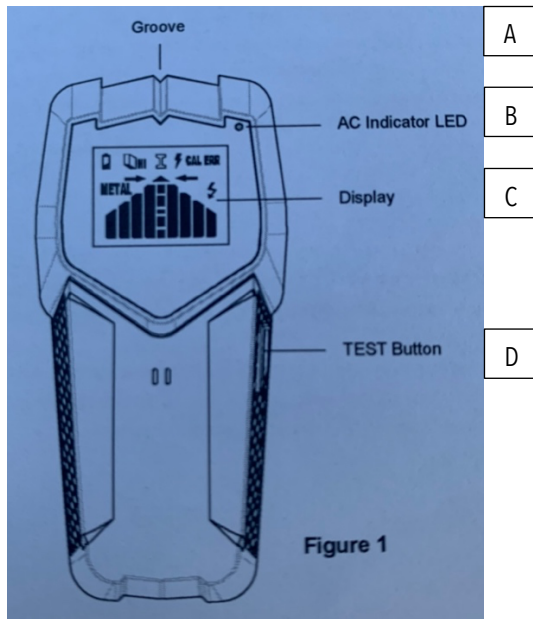


USER MANUAL [EN]

WS6300 – STUD FINDER

OVERVIEW



SAFETY & WARRANTY

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

Turn the wires' power off when working near electrical wires.

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.

For safety, in any detection mode the AC voltage detection is enabled during detection. When the unit detects a live AC wire or AC voltage, the AC indicator LED [B] will light or flash red and the AC signal indicator ⚡ will appear on the display. The built-in buzzer will beep.

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. During calibration or when the Test Button [D] is released, the unit cannot indicate presence of a live AC wire or AC voltage.








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 [C]. Replace the internal battery (Steps 1.1 to 1.4).


2 DETECTING STUD

- 2.1 Make sure that the unit is off.
- 2.2 Place the unit flat against the wall surface (the surface should be flat and dry).
- 2.3 Press the TEST button [D] once to turn on the unit. The unit defaults to the common sensitivity stud detection mode. The icon  appears on the display [C], but the icon  is absent from the display [C].
 - If you want to select the high sensitivity stud detection mode, briefly press the TEST button [D] once more until both the icons  and  will be present on the display [C].
- 2.4 Press and hold the TEST button [D]. The unit starts calibrating, shown by the icon  on the display [C].
- 2.5 Do not move the unit until the calibration is completed.
 - During the calibration, more and more indicator bars will appear from right and left towards the center.
- 2.6 When all indicator bars are present on the display, the calibration is finished and the built-in buzzer sounds a beep. The indicator bars will disappear from the display [C].
- 2.7 Keep pressing the TEST button [D] through the following procedures.
- 2.8 Slowly move the unit sideways across the wall (keep it flat; do not rock or lift the unit).
- 2.9 When the unit detects a stud, two adjacent indicator bars will appear on the side of the display [C] and a direction indicator arrow  or  will indicate the approximate direction in which you can move the unit to approach this stud.
- 2.10 As you approach the edge of the stud, the two adjacent indicator bars will gradually move to the center and become higher and higher.
- 2.11 When the signal strength indicator bars peak and the built-in buzzer sounds continuously, the unit has detected the center of the stud.
- 2.12 Stop moving and mark the stud center at the groove [A] with a pencil.
 - The unit can be carried normally on papered walls. However it may not function on some types of foil backed or metallic fabric surfaces.

- 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.
- 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.
- 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.
- When the unit detects a metallic stud/object, the icon **METAL** will appear on the display (in any stud detection mode).


If the icon **CAL ERR appears on the display, the calibration has failed. Move the unit a few inches right or left, release the TEST button [D] and then start over (Steps 2.1 to 2.12).**

3 DETECTING METALLIC OBJECT

- 3.1 Place the unit flat against the wall surface (the surface should be flat and dry).
- 3.2 To select the metal detection mode, press the TEST button [D] until the icon  appears on the display [C].
- 3.3 Before the unit turns off, press and hold the TEST button [D]. The unit starts calibrating, shown by the icon **CAL** on the display [C].
- 3.4 Do not move the unit until the calibration is completed.
 - During the calibration, more and more indicator bars will appear on the display from right and left towards the center.
- 3.5 When all indicator bars are present, the calibration is finished and the built-in buzzer sounds a beep. The indicator bars will disappear from the display [C].
- 3.6 Keep pressing the TEST button [D] through the following procedures.
- 3.7 Slowly move the unit sideways across the wall (keep it flat; do not rock or lift the unit).
- 3.8 As you approach an edge of a metallic object, more and more indicator bars will appear from right and left towards the center. These signal strength indicator bars will indicate that you are getting close.
- 3.9 When the signal strength indicator bars peak and the built-in buzzer sounds continuously, the unit has detected an edge of the metallic object.
- 3.10 Stop moving and mark the spot at the groove [A] with a pencil.
- 3.11 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.
- 3.12 Mark the spot at the groove [A] with a pencil (the midpoint of the two marks is the center of the metallic object).

If the icon **CAL ERR appears on the display, the calibration has failed. Move the unit a few inches right or left, release the TEST button [D] and then start over (Steps 3.1 to 3.12).**

4 DETECTING LIVE AC WIRE

- 4.1 Place the unit flat against the wall surface (the surface should be flat and dry)
- 4.2 To select the AC voltage detection mode, press the TEST button [D] until the icon  appears on the display [C].

- 4.3 Before the unit turns off, press and hold the TEST button [D]. The unit starts calibrating, shown by the icon **CAL** on the display [C].
- 4.4 Do not move the unit until the calibration is completed.
 - During the calibration, more and more indicator bars will appear on the display from right and left towards the center.
- 4.5 When all indicator bars are present on the display [C], the calibration is finished and the built-in buzzer sounds a beep. The indicator bars will disappear again.
- 4.6 Keep pressing the TEST button [D] through the following procedures.
- 4.7 Use the position where you have adjusted the unit as the center of a 60 cm straight scanning path along which you will scan.
- 4.8 Move the unit forth and back along this scanning path. The unit will adjust its sensitivity automatically.
- 4.9 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.
- 4.10 Slide the unit forth and back 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 [B] or signal strength indicator bars remain off, move the unit to another position, release the button and start over (Steps 4.1 to 4.10).

If the icon **CAL ERR appears on the display, the calibration has failed. Move the unit a few inches right or left, release the TEST button [D] and then start over (Steps 4.1 to 4.10).**

SPECIFICATIONS

	WS6300
Detection depth	Wood: up to 1 ½ (38mm) Metal: up to 3" (76mm) Live AC wires: up to 2" (50mm) NOTE: detection depth can vary due to moisture content of materials, wall texture and paint.
Accuracy	+/- 1/8" (3.2mm) for wood studs under drywall of ½ - ¾" (12.7-19mm) thickness +/- 3/8" (10mm) for wood studs under drywall of 1" & ½" (25 & 38mm) thickness +/- ¼" (6.4mm) for metal studs under drywall of ½ - ¾" (12.7-19mm) thickness +/- 3/8" (10mm) for metal studs under drywall of 1" & ½" (25 & 38mm) thickness 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	165 x 81 x 36 mm
Weight	About 175g (including battery)