

StudSensor™ A100

Edge-Finding Stud Finder

BEFORE YOU BEGIN

ZIRCON® STUD FINDERS WORK BY SENSING DENSITY CHANGES BEHIND THE WALL. OTHER OBJECTS CAN BE DETECTED ESPECIALLY IF THEY ARE VERY CLOSE TO THE WALL. **DO NOT ASSUME EVERYTHING DETECTED IS A STUD.**

- Always use a new alkaline battery with an extended expiration date. Match battery direction to image inside of battery cavity.
- Do not rely exclusively on the scanner to locate items behind a surface. Use other information to help locate such items before penetrating the surface, including construction plans, visible points of entry of pipes and wiring into walls such as in a basement, and standard stud-spacing practices.

- Always start your scan in StudScan Mode which scans through surfaces up to 19 mm deep. Scanning in DeepScan™ Mode may detect an object further behind the wall that may or may not be a stud.

- Always scan for studs at several different heights on the wall and mark the location of every target indicated by the stud finder. This is called "mapping the wall." Pipes and other objects will likely not give consistent readings from floor to ceiling, like a stud will.

- Readings should always be consistent and repeatable.

- Zircon stud finders are recommended for interior use only.

- Studs normally run from floor to ceiling, except above and below windows, and above doors.

- Other objects commonly contained in walls, floors, or ceilings are water pipes, gas lines, firestops, and electrical wiring.

- Sensing depth and accuracy can vary depending on scanning environment conditions such as mineral content, moisture, texture and consistency of the wall materials.

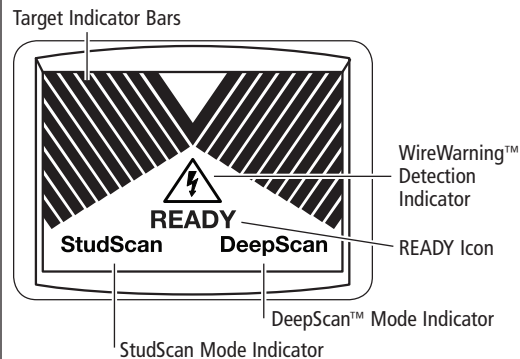
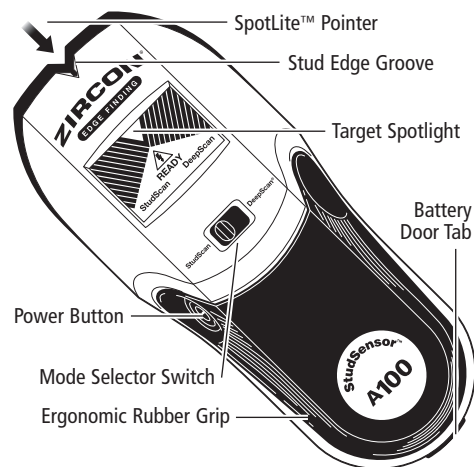
- Always turn off power when working near electrical wires.

- Depending on the proximity of electrical wiring or pipes to the wall surface, the scanner may detect them in the same manner as studs. Caution should always be used when nailing, cutting, or drilling in walls, floors, and ceilings that may contain these items.

- Studs and joists are normally spaced 40 or 60 cm apart, are normally 38 mm wide, and may be separated by firestops. Anything closer together, or of a different width, may not be a stud or joist.

TROUBLESHOOTING & CONSTRUCTION TIPS

SITUATION	LIKELY CAUSE	SOLUTION
All display elements turn on at the same time and the tool beeps continuously.	Tool not held flat against wall.	<ul style="list-style-type: none"> Hold the tool with your thumb on one side and your fingers on the other side. Do not touch the surface being scanned or the scanning head of the tool. Move the tool straight up and down, parallel to the studs. Do not rotate the tool.
	Tool tilted or lifted during scan.	<ul style="list-style-type: none"> When scanning an uneven surface, place thin cardboard on the surface to be scanned and scan over the cardboard in DeepScan Mode. Move Mode Selector Switch to enter DeepScan Mode.
	Scanning surface is too dense or too wet for tool to operate.	If you are using tool on a recently taped, painted, or wallpapered wall, allow time to dry and try again.
Unable to detect studs in StudScan mode; middle Target Indicator Bars do not display or flash.	Wall is thick or dense.	<ul style="list-style-type: none"> Switch to DeepScan Mode to locate the stud. Use the Target Indication Bars closest to the centre as indication of stud edge.
READY icon shows but nothing happens when you scan.	Tool may not be flat against wall. In DeepScan Mode, you may have calibrated over a stud.	Hold tool so that the pads on the back make full contact with the surface. Recalibrate in a different area, then continue the scan.
Can't detect studs in DeepScan Mode.	You may have calibrated over a stud.	Move the unit to a different area, then scan again. Also ensure that you are holding the tool against the wall as shown in illustrations.
Tool detects objects other than studs, or finds more studs than should be there.	Electrical wiring and metal or plastic pipes may be near to or touching the back of the wall surface.	Check for other studs equally spaced to either side at 30, 40, or 60 cm, or check for the same stud at spots directly above or below the first scan area. Studs will run straight up and down, from floor to ceiling, while pipes may change direction. Standard studs measure approximately 38 mm between edges. Anything larger or smaller is likely not a stud (unless near door or window).
Area of voltage detection is too large.	Voltage detection can spread on drywall by as much as 30 cm on each side of the wire.	Narrow the scan detection: 1. Turn tool off. 2. Turn it on again at the edge of where the wire was first detected. 3. Repeat scan.
	Wires are shielded by a metal conduit, braided wire or metallic wall covering.	If there is an outlet switch, turn it to ON position while scanning, but turn OFF when working near the wires. Use extra caution if the area has plywood, thick wood backing behind drywall, or walls that are thicker than normal.
	Wires deeper than 50 mm from the surface might not be detected.	See above.
You suspect electrical wires, but WireWarning Detection does not alert.	Wires may not be live.	Plug a lamp into the outlet and turn it on to test whether wires are live.



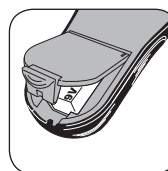
2 scanning modes:

- **StudScan** locates edges of stud (wood or metal) up to 19 mm deep
- **DeepScan** locates edges of stud up to 38 mm deep

WireWarning Detection automatically detects and alerts for live AC (alternating current) wires in both modes. When AC voltage is detected, WireWarning Detection Indicator shows on the display.

INSTALL 9-VOLT BATTERY

Always use a new alkaline battery with an extended expiration date. Match battery direction to image inside of battery cavity.



⚠ WARNING Do not rely exclusively on the scanner to locate items behind a surface. Use other information to help locate items before penetrating the surface, including construction plans, visible points of entry of pipes and wiring into walls such as in a basement, and standard stud-spacing practices.

SELECT MODE / POWER UP

Move Mode Selector Switch to desired mode: **StudScan** or **DeepScan**.

To activate tool, press and hold Power Button. If button is not pressed and held, unit shuts off.

FIND A STUD

For best results, hold the tool as shown (Figure A) and move slowly when scanning. **Do not touch the surface during calibration or scan.**

1. Hold tool flat against wall, then press and hold Power Button. In 1–2 seconds, the unit will calibrate. A short beep confirms that calibration is complete. **DO NOT MOVE SCANNER DURING CALIBRATION.**

2. While holding down the Power Button, slide the tool slowly along the wall. As you approach a stud, the Target Indicator Bars start to show. (Figure B)

3. When you reach the edge of the stud, all bars show, the pointer and spotlight shine, and a steady tone sounds. Mark the spot. (Figure C)

4. Without releasing Power Button, continue the scan direction until the Target Indicator Bars turn off, then reverse direction. (Figure D)

5. Slide tool until you locate the other edge of the stud, and mark this as well. (Figure E) The centre of the stud is the midpoint between the two marks.

DEEPSCAN MODE

DeepScan Mode will detect studs up to 38 mm deep, or twice the depth of StudScan. Switch to DeepScan Mode, then follow steps 2–5 under FIND A STUD.

⚠ WARNING DO NOT ASSUME THERE ARE NO LIVE ELECTRICAL WIRES IN THE WALL. DO NOT TAKE ACTIONS THAT COULD BE DANGEROUS IF THE WALL CONTAINS A LIVE ELECTRICAL WIRE. ALWAYS TURN OFF THE ELECTRICAL, GAS, AND WATER SUPPLIES BEFORE PENETRATING A SURFACE. FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN ELECTRIC SHOCK, FIRE, AND/OR SERIOUS INJURY OR PROPERTY DAMAGE.

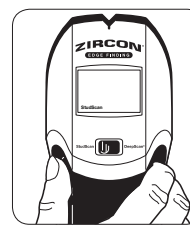


Figure A

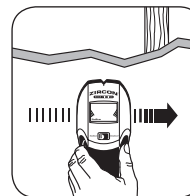


Figure B

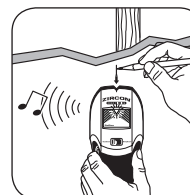


Figure C

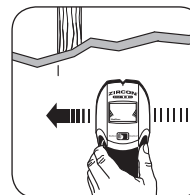


Figure D

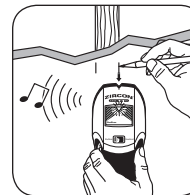


Figure E

WIREWARNING DETECTION

The Zircon® WireWarning Detection feature works continuously in both modes. When live AC voltage is detected, the WireWarning Detection Indicator shows. If scanning begins over a live AC wire, the indicator will flash continuously. (Figure F)

Use extreme caution under these circumstances, or whenever live AC wiring is present.

⚠ WARNING THE TOOL MAY NOT DETECT LIVE CURRENT IF WIRES ARE MORE THAN 50 mm BELOW THE SCANNED SURFACE, IN CONCRETE, ENCASED IN CONDUIT, BEHIND A PLYWOOD SHEAR WALL OR METALLIC WALL COVERING, OR IF MOISTURE IS PRESENT IN THE ENVIRONMENT OR SCANNED SURFACE.

WORKING WITH DIFFERENT MATERIALS

This tool can scan effectively through most sheet materials, including:

- Bare wood flooring (in DeepScan Mode)
- Linoleum on wood base
- Gypsum drywall over plywood sheathing
- Walls with wallpaper (if dry)
- Textured ceilings with uniform thickness (place a thin piece of cardboard on ceiling and scan over it to avoid damage to texturing)

It is **not** designed for use with:

- Ceramic floor tile
- Carpeting and padding
- Wallpaper with metallic fibers
- Freshly painted walls that are still damp (may take one week or longer to dry after application)
- Lath and plaster walls
- Foil covered insulation board
- Glass or any other dense material

LIMITED 1 YEAR WARRANTY

Zircon Corporation ("Zircon") warrants to the product owner that this product will be free from defects in materials and workmanship for one year from the original date of purchase. Any defective product returned to Zircon within the warranty period to the address below, freight prepaid, along with proof of purchase, will be repaired or replaced, at Zircon's option. Repair or replacement may be made with a new or refurbished product or components, at Zircon's sole discretion. If the returned product is no longer available, Zircon may replace the product with a similar product of similar function. This warranty is limited to the electronic circuitry of the product and original case of the product, and specifically excludes any damage caused by abuse, modification, handling contrary to these instructions, other unreasonable use, or neglect. This is your sole and exclusive remedy for breach of this Limited Warranty.

This Limited Warranty is in lieu of all other warranties, express or implied, and no other representations or claims of a similar nature will bind or obligate Zircon. Any implied warranties applicable to this product that cannot be disclaimed are limited to the one year period following its purchase. This Limited Warranty does not cover consumable parts, including batteries, or software, even if packaged with the product.

Wallpaper This tool functions normally on walls covered with wallpaper or fabric, unless the materials are metallic foil, contain metallic fibers, or are still wet after application. Wallpaper may need to dry for several weeks after application.

Freshly painted walls It may take a week or longer to dry after application.

Lath and plaster Due to irregularities in plaster thickness, this tool is not recommended for use on lath and plaster.

Highly textured walls or acoustic ceilings

When scanning a ceiling or wall with an uneven surface, place thin cardboard on the surface to be scanned and scan over the cardboard in DeepScan Mode.

Wood flooring, subflooring, or gypsum drywall over plywood sheathing Use DeepScan Mode and move the scanner slowly. Target Indicator Bars may only display a few bars when the tool locates a stud trough a thick surface.

This tool cannot scan for wood studs and joists through carpet and padding

NOTE: Sensing depth and accuracy can vary depending on scanning environment conditions such as mineral content, moisture, texture and consistency of the wall materials.

Electrical wiring and pipes Depending on the proximity of electrical wiring or pipes to the wall surface, the tool may detect them in the same manner as studs.

Caution should always be used when nailing, cutting, or drilling in walls, floors, and ceilings that may contain these items.

Studs and joists are normally spaced 40 or 60 cm apart, and are 38 mm wide. Anything closer together, or of a different width, may not be a stud or joist.

IN NO EVENT WILL ZIRCON BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM POSSESSION, USE OR MALFUNCTION OF THIS PRODUCT.

Some states do not allow limitations on certain implied warranties and/or the limitation on incidental or consequential damages, so the above limitations and exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Return products for warranty service, freight prepaid with proof of purchase (a dated sales receipt) to:

Zircon Corporation, Attn: Returns Department
1580 Dell Avenue
Campbell, CA 95008-6992 USA

Be sure to include your name and return address. Allow 4–6 weeks for delivery.

Customer Service: 1-800-245-9265 or 1-408-963-4550
Monday–Friday, 8:00 a.m.–5:00 p.m. PT
info@zircon.com • www.zircon.com

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