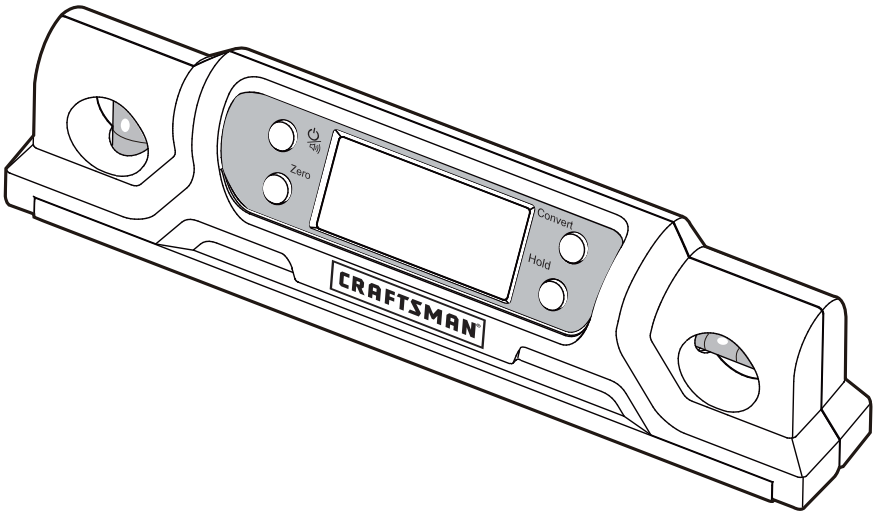


Product Manual



7-in. Digital Multi-function DIGITAL LEVEL

Model No. 320. 48295



▲ CAUTION! Read, understand and follow all Safety Rules and Operating Instructions in this Manual before using this product.

- Warranty
- Safety
- Description
- Operation
- Maintenance
- Troubleshooting

Sears, Roebuck and Co., Hoffman Estates, IL 60179
www.craftsman.com

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ONE YEAR FULL WARRANTY ON CRAFTSMAN® TOOL

If this Craftsman tool fails to give complete satisfaction within one year from the date of purchase, **return it to any Sears store or other Craftsman Outlet in the United States for free replacement.**

This warranty does not include expendable parts, such as blades and lamps.

This warranty applies for only 90 days from the date of purchase if this product is ever used for commercial or rental purposes.

This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state.

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SAVE THESE INSTRUCTIONS!

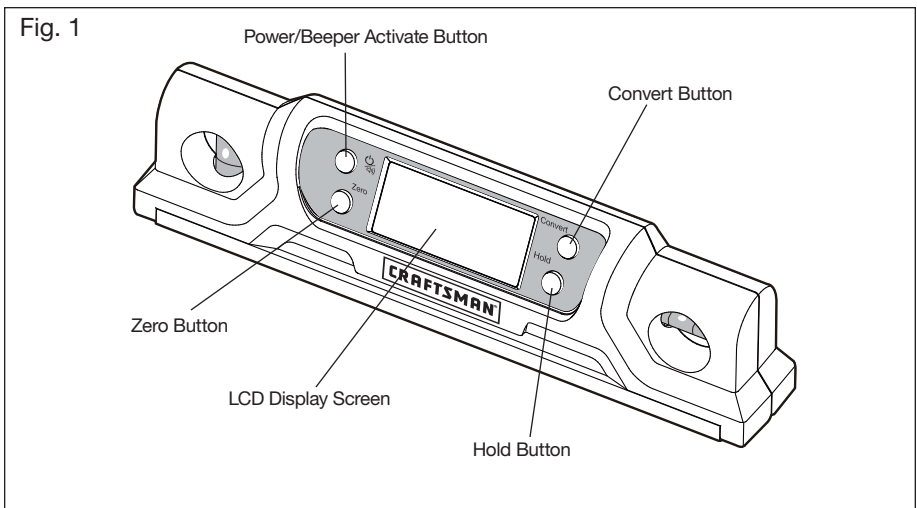
READ ALL INSTRUCTIONS!

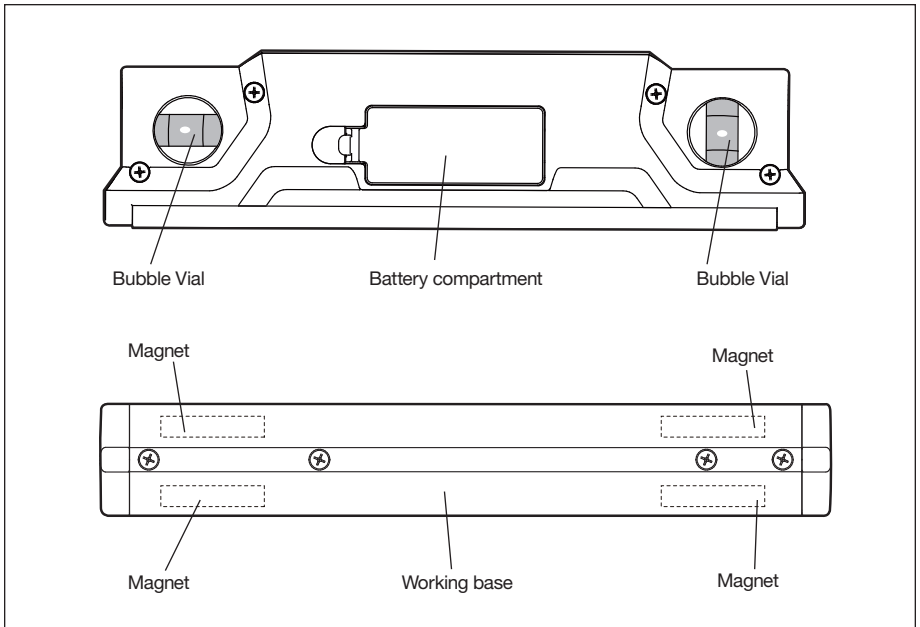
SAFETY INSTRUCTIONS

- **Be sure to read and understand all instructions** in this manual before using this digital level. Failure to follow all instructions may result electric shock, fire and/or serious personal injury.
- **Always use two “AAA” size batteries.** Use of any other batteries may create a risk of fire.
- **Insert the batteries correctly.** Match the polarities, positive (+) to positive and negative (-) to negative, as marked on the inside of the battery compartment.
- **Do not** short-circuit the battery terminals.
- **Do not** mix old and new batteries. If the batteries are weak, replace both of them with two new batteries. The batteries should match each other in brand and type.
- **Remove dead batteries** immediately, and dispose of them according to local ordinances.
- **Never** dispose of batteries in fire.
- **Keep batteries out of the reach of children.** They are not playthings.
- **Remove batteries** and store them separately if the level will not be used for several days.
- **Do not** attempt to repair or disassemble the digital level. Any repair required on this product should be performed by authorized, service-center personnel.

DESCRIPTION

KNOW YOUR LEVEL





This Craftsman 7-inch Digital Level is a highly versatile leveling tool designed for fast, easy operation:

- Heavy-duty, lightweight aluminum construction
- LCD digital module is constructed of unbreakable ABS polymer, sealed against dirt
- Acrylic block bubble vials
- Measures in degrees, with up to 0.1° accuracy
- Measures any slope in percent
- Measures level and plumb with either the LCD digital display or with the vertical and horizontal bubble vials.

NOTE: Install 2 “AAA” 1.5-volt batteries (sold separately) to power the LCD module display of this digital level. See ‘BATTERY INSTALLATION’ section.

1. **Power/Sound button** - Press the button to turn the LCD display screen on, off, and to turn the sound on and off.
2. **LCD Display** – Large, easy-to-read display screen reads right side up, even when the level is upside down.
3. **Hold Button** - Press this button in order to “freeze” and “unfreeze” the display reading.
4. **Zero Button** – Absolute/relative angle conversion for the comparison of two work-surface angles.
5. **Convert Button** - Use this button to convert measurements to different units.

6. **Bubble Vials** - For visual determination of level and plumb.
7. **V-groove in working base** - For use on curved and angled surfaces
8. **Magnetic base with V groove** - Four magnets in the working base allow for secure contact to metal: handy when working with steel studs or metal ductwork.
9. **Battery compartment** - Holds two “AAA” batteries to power the LCD display.

TECHNICAL SPECIFICATIONS	
Recommended Use	Indoors or Outdoors
Power supply	Two “AAA” 1.5-volt batteries
Angle Measuring Range	0° - 360°
Optimum Operating Temperature	0° to 40° C (32° to 104° F)
Accuracy of vials	±0.029° (level or plumb)
Accuracy of digital display	±0.1° (level or plumb)
Estimated battery life	12 hours with 2 AAA alkaline batteries

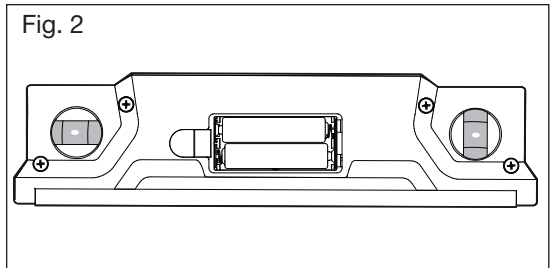
OPERATION

BATTERY INSTALLATION (Fig. 2)

This multi-function digital level uses two “AAA” batteries (sold separately), to power the LCD module display.

NOTE: Always turn off the level before installing or replacing the batteries.

1. Open the battery cover, located on the back of the level (Fig. 2).
2. Insert two new “AAA” alkaline batteries with the polarity (+/-) as indicated on the inside of the battery compartment.
3. Securely close the cover.





LCD DISPLAY AND BUTTON FUNCTIONS

LCD screen icons

0 ——— ▼ Up/Down Indicator:

- The zero line (0°) indicates the “true level.”
- The second line, appearing either above or below the 0° line, indicates the level’s position relative to “true level.”
- The arrow indicates the direction in which the level needs to be moved to achieve “true level.”

 **Battery Power Icon** - Indicates the amount of battery power in the unit. Replace batteries when the black power bar disappears.

 **Sound Icon** - This icon appears on the screen when the sound function is activated.

H Hold Icon: Indicates that the displayed measurement is frozen.

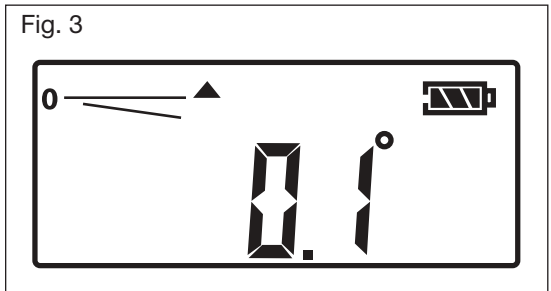
Button Functions

Button (On/Off, Sound)

Press the button to turn the LCD display screen on.

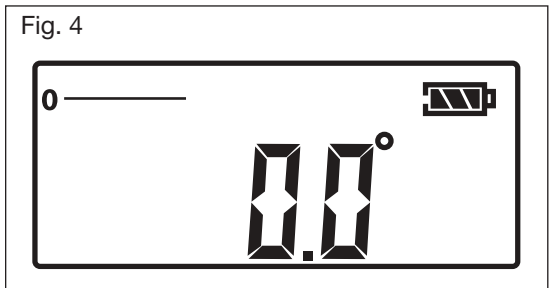
- When the LCD screen first comes on, the ambient temperature is displayed in Fahrenheit for approximately 2 seconds to help the user determine whether the level is being used in the optimum temperature range (32° to 104° F).

- The current angle of the level is then displayed on the LCD screen, and a line representing that angle is shown either above or below the line that indicates the position of true level (Fig. 3).



- Briefly press the button once more to activate the sound, which will beep when the level is positioned at 0°, 45°, 90°, and last hold angle to true level.
- Briefly press the button a third time to turn off the sound. Additional brief presses on the button will turn the sound function on and off.
- An arrow on the display indicates the direction in which the level needs to be moved to reach true level.

- True level is indicated when the angle line and the level line in the display are together, and the angle shows 0 (Fig. 4).



- Turn off the level by pressing the button and holding it in for approximately 3 seconds.

- The level will shut itself off when it has not been used for 5 minutes.

Zero Button - Absolute/relative angle conversion button for comparison of two work surface angles.

1. When the level is first turned on, it is in the **absolute angle** mode and displays the angle from true level.
2. Take a measurement of the first work surface; the LCD screen indicates the angle between that surface and true level.
3. Press the zero button for the **relative angle** mode, and the level will set the first angle to zero.
4. Move the digital level to the second work surface, and the LCD screen indicates the relative angle between the first and second surfaces.
5. To return to **absolute angle** again, turn the power button off and back on.

Convert Button – Converts the angle display on the LCD screen among 3 different units.

- Press the button to proceed through the display units: Degrees (°), Slope (%), and Pitch (in/ft).
- Pitch readings are in increments of 1/8-in. per ft. Plus and minus signs indicate whether the pitch is slightly more (+) or slightly less (-) than the pitch that is shown on the display.

Hold Button

To hold the information of the current reading, press the Hold button to freeze the displayed reading; press it again to return to measuring mode.

TO USE THE LEVEL FOR HORIZONTAL AND PLUMB MEASUREMENTS

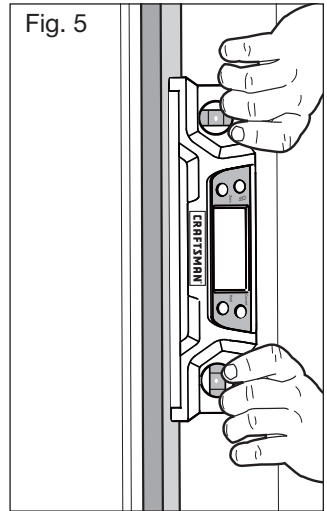
Horizontal and Plumb measurements can be made with both the bubble vial and the LCD display features

Horizontal

- Use the level on horizontal surfaces to determine when they are level. Place the level against the horizontal surface. The surface will be at true level when the bubble is positioned exactly between the marks on the level vial.
- The LCD display represents the surface you are measuring as a line, either above or below the 0, or “true level,” line, with an arrow showing whether the surface should be raised or lowered in order to be level. The digital display shows the degree to which the surface is “out of level.” If the sound is turned is on, the level will beep when true level, or 0°, is reached.

PLUMB (Fig. 5)

- To find the plumb of a work surface, place the digital level against the vertical surface with the plumb bubble vial at the top. The surface will be at true plumb when the bubble is positioned exactly between the marks on the vial.
- The LCD display will show the actual angle of the surface. 90° is “plumb;” a beep will sound at 90°, if the sound function is turned on.

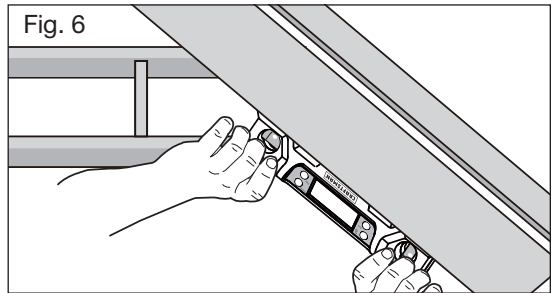


TO USE THE LEVEL FOR ANGLE MEASUREMENTS

Pitch (Fig. 6)

- The digital level can be used to measure pitch, for example, the pitch of a roof.
- Pitch is measured in inches of rise per foot of run.
- The pitch will be read as inches (in 1/8-in. increments) per foot, with a + or a - sign to indicate that the pitch is slightly above or below the displayed measurement.

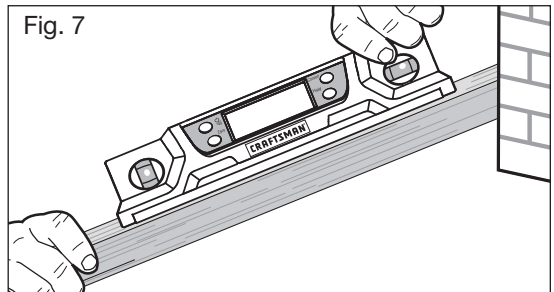
Push the convert button to change the display to Pitch mode (in/ft).



Angle (Fig. 7)

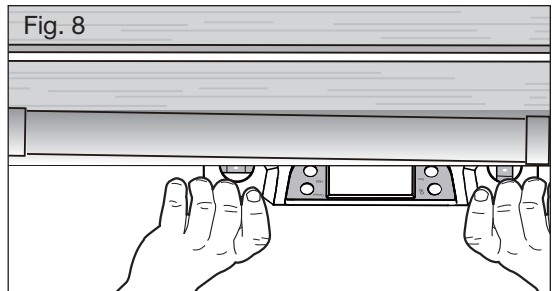
The digital level measures any angle in degrees, with up to 0.1° accuracy. If the sound button is turned on, the level will beep at the 0°, 45°, 90°, and last hold angle.

Push the convert button to change the display to Angle mode (∠°).



Slope (Fig. 8)

The digital level measures the percent slope of a surface. This is useful when laying pipe for proper drainage. When the display is in the slope mode, it will measure the surface in percent, with exact level a




0.0%. If the sound is turned on, the level will beep at 0.0% and 100%.

Push the convert button to change the display to Slope mode (%).

ABSOLUTE AND RELATIVE ANGLE MEASUREMENTS

Absolute angle measurement

1. Place the digital level on a working surface with the base flat against the surface.
2. The display indicates the absolute angle between “true level” and the working surface. The zero line indicates the level position, and the arrow indicates the orientation of the working surface: either above or below true level.
3. To activate the sound, briefly press the  button. The level will beep when the level is at 0° (level), 45°, 90° (plumb), and last hold angle.
4. Press the Hold button to freeze the display reading. To take a new measurement, press the hold button again to return to measurement mode.

Relative angle measurement

The relative angle mode allows you to measure the angle of difference between 2 different surfaces.

1. Place the digital level on Surface 1.
2. The LCD screen indicates the absolute angle between true level and Surface 1.
3. Press the ZERO button to activate the relative-angle measurement mode. The current angle will be considered to be 0.0° and the display will read 0.0°.
4. Place the digital level on Surface 2, and the relative angle between Surface 1 and Surface 2 will be displayed. The zero line indicates the Surface 1 position, and the arrow indicates the orientation of Surface 2, either above or below Surface 1.
5. At this point you can change the display units for the measured angle from degrees (°), to pitch (inch/foot), or slope (%) by pressing the convert button.

MAINTENANCE

This digital level has been designed to be a low-maintenance tool. However, in order to maintain its performance, follow these steps:

1. **HANDLE** the tool with care. Treat it as a precision optical device, such as a camera or binoculars.
2. **AVOID** exposing the tool to shock, continuous vibration, or extreme hot or cold temperatures.
3. **STORE** the tool indoors and in a safe place.
4. The Level is designed to be weather resistant and construction-site tough. If the level is splashed with mortar or other construction-site residue, simply wipe it clean with a damp cloth.
5. **DO NOT** immerse the level in water.
6. Aluminum surfaces can be cleaned with a non-abrasive powder.
7. **REMOVE** the batteries from the tool if it is not going to be used for an extended period.
8. **DO NOT** attempt to take the level apart.

TROUBLESHOOTING

PROBLEM	CAUSE	SOLUTION
The LCD screen will not turn on.	<ul style="list-style-type: none">• Batteries are installed incorrectly.• Battery voltage is low.• The LCD screen is damaged.	<ul style="list-style-type: none">• Reinstall batteries with correct polarity.• Replace with new batteries.• Take tool to Sears Service Center.

NOTES

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