

Please read through this owners manual carefully before using your new tool. Use your tool properly and only for its intended use.

# WESTWARD® Digital Protractor

## Feature Overview

The digital protractor is a revolutionary measuring tool that provides an immediate digital reading of all angles in a 360° range. The machined aluminum frame is a rigid, light weight, precise platform that allows the sensor and its microprocessor circuit to provide high accuracy throughout the protractor's 360° range.

The digital protractor works normally in a standard mode where the protractor's reference displayed as 0.0°. However, alternate reference points for 0.0° can easily be set by pushing the ABS/ZERO button. You can also "freeze" any displayed angle on the LCD by pushing the HOLD button. The 360° range of the unit is organized into four 90° quadrants for display purposes. In each, the unit achieves an accuracy of +/-0.0° at level and plumb with a maximum error of +/-0.1°.

The digital protractor does not need to be returned to the manufacturer or dealer for recalibration. By following instructions in this manual, you can test and recalibrate this unit in just a couple of minutes on site and without any special fixtures.



### Specifications:

Range: 360°  
Resolution: 0.1°  
Accuracy: +/-0.1°  
Temperature: -5°C~50°C  
Power: 3V, Lithium Cell  
Battery Life: 500 hours

## Operating Instructions

### Battery

- The digital protractor is powered by a 3V Lithium Cell, model is CR2032. A new lithium cell battery (normal capacity is 210mAh) will provide 500 hours of use.
- If the battery is low, the unit will indicate this by the sign of a battery. Change the battery when this sign appears.

### Angle Measuring

- To operate your protractor, simply push the ON/OFF button; it will begin displaying angle readings immediately. Set the unit on the surface to be measured and read the angle.
- When the unit is first turned on, "-1-" will appear on the display, which means the unit needs to be calibrated, after that, the unit can measure angles normally. An arrow on the left side of the LCD will indicate which way to move the unit to achieve level or plumb.
- If you continue to rotate the unit, the numbers on the unit display "flip over" when the unit is upside-down, allowing for easy reading in any position.

## Key Function

### HOLD

- If you need to measure angles in an unreadable position or you want to lock the reading while recording it, simply press the HOLD button while measuring the angle (Make sure the unit has been in position and still for 6 seconds). The readout will freeze and "HOLD" icon will appear and blink in the right side of the LCD, you can record the reading when the icon "HOLD" stops blinking.
- While "HOLD" feature is engaged, the ABS/ZERO cannot work. Simply press ON/OFF to turn it off, the reading remains when you turn it on again.
- To release, press the "HOLD" button again.



### ABS/ZERO

- ABS/ZERO allows two measuring modes: Standard Reference Mode and Alternate Reference Mode.

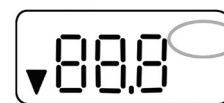
#### Standard Reference Mode:

If the icon "ABS" is in the display it is in the horizontal measurement mode.



Change to relative measurement mode by pressing ZERO button.

Change to horizontal measurement mode by pressing ZERO button.

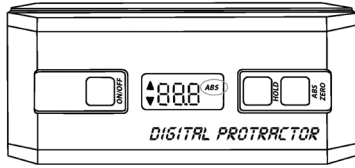


#### Alternate Reference Mode:

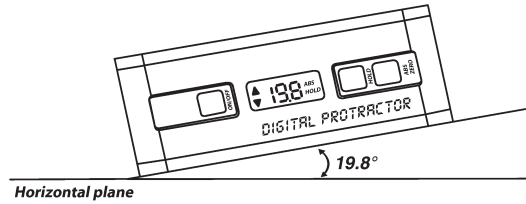
If the icon "ABS" is not in the display it is in the relative measurement mode.

## Standard Reference Mode

- ABS/ZERO allows you to measure angles in standard reference mode (true horizontal). Below is an example for measuring actual angles in this mode.



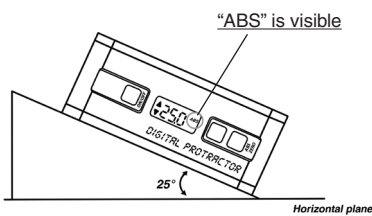
1. "ABS" mode is active when the "ABS" icon is visible and the readout is 0° when the unit is located in the horizontal position.



2. Put the unit on the surface needed to be measured. The protractor shows the angle of the surface from the horizontal (to get the most accurate reading, allow the unit to settle for 6 seconds before noting the angle).

## Alternate Reference Mode

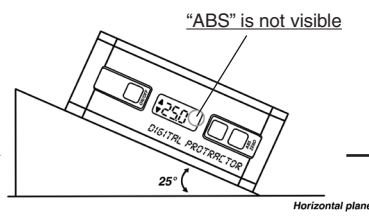
- ABS/ZERO allows you to set any angle as a 0.0° reference point from which to take measurements. For example, you may want a surface that is actually 25° off horizontal displayed as 0.0°, then you can measure all other angles from that benchmark. In the below example, the unit displays 35.0° for an actual 60.0° angle.



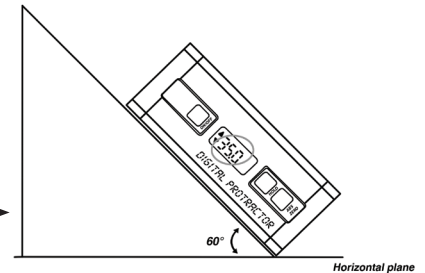
The angle readout is 25° in horizontal measurement mode.

Change to relative measurement mode by pressing ZERO button.

Readout is 00.0°



The angle readout is 0° in relative measurement mode.



The angle readout is 35° in relative measurement mode.

1. The unit is in horizontal measurement mode (the icon "ABS" is visible). Put the protractor on the surface that is actually 25° off the horizontal.

2. Press the ZERO button to change to relative measurement mode (the icon "ABS" is not visible, the angle readout is 00.0°).

3. Put the protractor on the surface that is actually 60° off the horizontal. "35°" showed on the display is relative to the benchmark of the surface that is actually 25° off the horizontal.

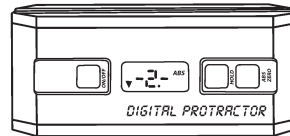
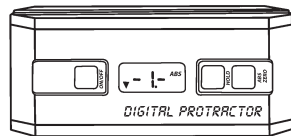
## ON/OFF

- Simply press this button to turn the unit on, it will display the angle reading immediately. Set the unit on the surface to be measured and read the angle (To get the most accurate reading, allow the unit to settle for 6 seconds before noting the angle).
- When you press the ON/OFF button for more than 6 seconds, the unit will be completely turned off, and you will need to recalibrate it once you turn it on again. Please check Calibrating Instructions.

## Recalibration

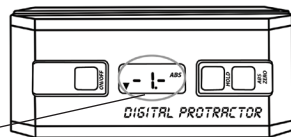
- Normally the digital protractor doesn't need to be recalibrated if you do not take the battery out of the unit, or you do not turn it off by pressing the ON/OFF button for more than 6 seconds. Below is the calibration procedure.

1. Place the unit on a flat surface where the display faces you and the lettering on face is right-side up. Align with an edge or line. Press the ON/OFF button, the "-1-" appears.

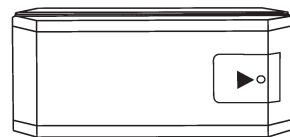


3. Wait 6 seconds until the "-2-" appears.

2. Press the ZERO button and the "-1-" starts blinking.



The icon "-1-" is blinking



4. Rotate the unit 180 degrees horizontally so the display faces away from you, the lettering should be still be right-side up. Align with the same edge or line. Press the ZERO button and the "-2-" starts blinking, wait 6 seconds until the actual angle is visible. The calibration is completed.

**For Replacement Parts Call 1-800-323-0620**  
24 hours a day – 365 days a year

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