

Operating instructions: STABILA 196-2 Electronic-IP65



ON/OFF
Illumination
MODE
Hold
Key lock
sound
REF
calibration

TECH 196E Manual Revision

IP65 Code: International Protection Rating.

6: Dust tight, complete protection against dust. 6 is the highest possible rating.

5: Water projected by a nozzle against enclosure from any direction shall have no harmful effects. Not submersible. 8 is the highest rating.

Button Functions:

- On/Off
 - This button simply powers the electronic module on and off.

- CAL= Calibration
 - **Explanation:** This button enables you to re-calibrate your level at any time. Although the accuracy of this level is locked in, it is always a good practice to check your module for accuracy as it is with any high precision measuring instrument. If your level has taken a fall or you just want a piece of mind; follow our simple instructions and re-calibrate your Electronic level in less than 7 seconds.

 - **How to use:** With the patented wall gripping end caps, simply press your Electronic level up against a wall or other solid vertical surface. (See picture) Adjust your level until the bubble on the horizontal vial is exactly centered between the indicator rings. At this point, since the end caps are gripping the wall surface, use one hand to hold the level still and with the other hand press the CAL button once, then once again. (this is a safety mechanism built in for accidental button pushing) Hold still for approximately 4 seconds while the module takes 128 measurements and locks in the new calibration. At this point the LCD screen will show ready "RDY" and the module beeps. Now your level is "ready" and newly calibrated.



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4-Point Calibration

Press CAL and MODE at the same time to enter the 4-Point calibration.

The square after „CAL“ shows the four positions of the 4-point calibration. Positions that have not been calibrated are blinking, the user simply has to follow the arrows to the right calibration position. The bar indicates when the position has been reached. The first position has to be adjusted with the vial, therefore no arrows are visible for the first step.

Please note: Do not move or shake the instrument during calibration - this might result in measuring errors. Make sure that the position of the bubble in the vial does not change during calibration. When movements occur during the calibrating process "err" is shown on the display.

Inclinations of more than 1° above the set 0°-value are blocked. The former calibration will remain valid.

- (<)= Sound
 - **Explanation:** This button enables the level to tell you when you are precisely level or plumb. The sound will start as a beeping tone when you bring the level within 2 degrees to level or plumb. At this point, the closer you get to level and plumb, the faster the beeping will happen. When you achieve level or plumb, the module will emit a solid tone. If you pass level or plumb in the other direction, the beeping will happen again but in a different tone. This makes it possible to learn which direction to move

your level to reach level or plumb without looking at your level module LCD.

- o **How to Use:** Simply push the sound button to turn it on, or push the same button to turn it off. It is that simple.
- **MODE= (contractor language)**
 - o **Explanation:** This button controls which **dimension (language)** your electronic module will **measure (speak)** in. Your level has the capability to speak in Degrees, Percentage of slope, Millimeters per Meter, Inches per foot (Slope, Pitch) in decimal form and Inches per foot in fractions of an inch. A symbol on the upper right hand corner of either screen will explain which MODE you are currently in. Besides working in the language that you use, this multi MODE function empowers you to switch from one MODE to another to do conversions. (example: convert inches per foot to degrees to make a cut)
 - o **How to Use:** Simply push the Button that is labeled MODE to switch from one language to another. Which ever MODE you are in when the level is powered off will be the MODE displayed when the level is powered back on.
 - o **Note:** This unit has "higher resolution" than the previous model. Definition: is two digits after the decimal in degree mode. You can have this on or off by simply pressing the mode button.
- **REF= Reference**
 - o **Explanation:** The Reference function in this level is designed to make it quicker and more consistent when doing the same angle or slope continuously. You are able to make any angle or slope

"0". It is easier to find "0" over and over and this will help reduce errors. Being able to Reference any angle or slope as "0", also enables you to have your electronic level "tell" you when you have reached your precise angle or slope with an even tone as it does for level and plumb.

- o **Tip: (Foreman function)** With this function, a foreman or lead-man can set the level to work at specific angle or slope to ensure that their crew is doing the work at hand properly.
- o **How to Use:** Adjust your electronic level to the exact angle or slope that you wish to reference. Push the REF button once and the LCD screen will then read 0.0 at your angle or slope. As a built in safety mechanism, the digits on the screen will continuously blink in this function in order to alert the user that the measurement is no longer at zero being level. While in the Reference mode, if you wish to be reminded what angle or slope you are referring to, push the button once. The screen will display your angle or slope for 2 seconds and then return to Reference mode. To return your electronic level back to calibrated level again, simply push the REF button for 3 seconds then release, or power your level off, then on again.

New reference value (REF)

For some applications it might be useful to select a reference other than 0°.

With the REF button, any inclination can be selected as 0°.

When the REF button is pressed the last value is set as 0°. All subsequent measurements are indicated in reference to the selected inclination.

During this mode the display values will blink slowly to indicate that the selected reference is not 0°.

Press the REF button briefly: the stored reference angle is shown in the display briefly.

Press the REF button longer: the reference angle is deleted and the unit switches back to standard mode.

If the inclinometer is switched off the reference angle is deleted (except for KEYLOCK mode). When switched on again, the inclinometer will start with the calibrated values.

In the REF mode the "auto-off time" is increased to 2 hours.

- **HOLD= Hold**
 - **Explanation:** This function works well if you are in an awkward position or cannot see the LCD screen. It is also handy to lock in an important measurement on the screen until it is convenient to write it down or cut your material.
 - **How to Use:** Move your Electronic level into the position that is needed and press the HOLD button. At this time the measurement that you are measuring stays on your LCD screen. The arrows on each side of the digital readout blink in this function to remind you that you are in the HOLD function not level.

- **Auto Shut-off**
 - **Explanation:** In order to conserve on battery life, we have built in an automatic shut off function into the electronic module. The factory preset for the module is 10 minutes after the last movement. Should you find the need to extend the auto shut-off time; the module can be adjusted to automatically shut off after 2 hours.
 - **How to Use:** If the module is set in the 10 minute auto shut-off mode, there will be no symbol displayed on the LCD screen. To switch the module over to the 2 hour auto shut-off, simply push the sound button and the hold button simultaneously. When the module is switched into the 2 hour mode, there will be a symbol of a clock in the lower right hand corner of the screen. To change the auto shut-off back to 10 minutes, simply repeat the step of pushing the sound and hold button at the same time.

- **Illumination**

- **Explanation:**

- When the illumination button is pressed briefly, the illumination of the display is switched on for approx. 60 seconds (auto off).
 - When the button is pressed longer (confirmed by an acoustic signal) the illumination of the display is switched on permanently. When the button is pressed again, the illumination of the display is switched off.
 - This function will still be applicable when the display is locked (keylock function).

Cleaning: The inclinometer and the display windows should be cleaned with a moist cloth or brush.

Attention: Do not use solvents or diluting agents! This might harm the surface of the inclinometer.



Changing the batteries

If the voltage of the battery is too low, the battery symbol is shown on the display. The battery compartment is positioned on the back side of the inclinometer. Remove cover of battery compartment, take out the used batteries and put in new batteries (make sure that the battery poles are on the right side!). Use alkaline batteries AA only (Mignon, LR06, MN1500).

If necessary, the inclinometer will also work with only one battery, but this will reduce the lifetime of the battery considerably!

Please note: Do not leave used batteries in the inclinometer - even batteries that are protected against leaking might corrode and release chemicals. These chemicals might be dangerous to your health and damage the battery compartment. Used batteries have to be disposed in suitable containers.

Cleaning: The inclinometer and the display windows should be cleaned with a moist cloth.

Attention: Do not use solvents or diluting agents! This might harm the surface of the inclinometer.

Technical data

Operating temperature range: -10°C to $+50^{\circ}\text{C}$ = 14°F to 122°F
Storage temperature range: -20°C to $+65^{\circ}\text{C}$ = -4°F to 149°F

Measuring accuracy at 0° and 90° : $\pm 0,05^{\circ}$
Measuring accuracy from $0,1^{\circ}$ to $89,9^{\circ}$: $\pm 0,2^{\circ}$
Power supply: 2*1,5V Mignon (AA) Alkaline
Operating time: > 150 hours (measuring cycle: 5min measuring, instrument off for 1min, every 30th measurement with 30 seconds illumination)

Measuring accuracy of level:
In normal position: $\pm 0,029^{\circ}$ = 0,50mm/m
Overhead measuring: $\pm 0,029^{\circ}$ = 0,50mm/m

Dust and water protection: IP65

Technical details subject to change without notice.

The instrument is available in different level lengths.