

Electronic Level – User Manual (Firmware v1.2.0)



Overview

The NGHobbies Electronic Level is a precision digital leveling tool designed for fast, accurate angle indication with rechargeable battery. It features a five-LED bar display, adjustable sensitivity and brightness, a centering function for calibration, and a memory that retains your calibration even after power is turned off.

Getting Started

Powering On and Off. Use the power switch located on the back of the device to turn it on or off. When powered on, the LEDs perform a short sweeping animation to confirm startup. The device automatically loads your saved calibration settings and begins to display the current level position.

Charging

This device is supplied with a built in, non replaceable Lithium battery. To charge the battery, connect the device to a USB-C telephone charger and turn the device ON from the ON/OFF button on the back. After about 5 seconds of inactivity, the green LED will begin slow flashing indicating that the device is charging. There is no full charge indication, this device cannot be over-charged. Unplug the device after about 3-4 hours of charging, it should be fully charged by then.

This device has been designed to consume the minimal amount of battery when in operation, one full charge should keep the device powered continuously for 24-48 hours. On light use a single charge could last an entire season.

LED Display Meaning

<u>Level Condition</u>	<u>LED Indication</u>
Perfectly level	Center LED lights up
Slight tilt to the right	Right LED(s) light up
Strong tilt to the right	Right-most LED lights
Slight tilt to the left	Left LED(s) light up
Strong tilt to the left	Left-most LED lights

The displayed LED pattern continuously updates to show the current tilt. Smoother motion is achieved through internal angle filtering.

Button Functions

The Electronic Level has two buttons on the bottom panel:

Sensitivity & Centering Button

This button controls both sensitivity and the centering (zero calibration) function.

<u>Action</u>	<u>Function</u>
Short Press	Cycles through three sensitivity levels
Long Press (hold ≈ 1.2 s)	Sets and saves a new 'center' position (calibration)

Sensitivity Levels

<u>Level</u>	<u>Range (degrees)</u>	<u>Description</u>
0	$\pm 0.5^\circ$, $\pm 1.5^\circ$, $\pm 3^\circ$	Fine sensitivity
1	$\pm 1^\circ$, $\pm 3^\circ$, $\pm 6^\circ$	Standard sensitivity
2	$\pm 2^\circ$, $\pm 5^\circ$, $\pm 8^\circ$	Coarse sensitivity

After each short press, the left LED blinks one, two, or three times to show the selected level.

Centering (Zero Calibration) Function

When the level is perfectly horizontal (for example, your rifle or bench platform is level):

1. Hold the Sensitivity button for about 1.2 seconds.
2. The center LED blinks twice, confirming that the current position has been recorded as the new 'zero' or center point.
3. This calibration is automatically saved to memory, so the device will remember it even after power-off.
4. You can recalibrate at any time using the same method.

Tip: Always re-center the device after installing it on a new rifle or adjusting its position on the rail.

Brightness Button

Short Press: Cycles through five brightness levels.

<u>Level</u>	<u>Brightness</u>	<u>LED Feedback</u>
1	Dim	1 blink
2	Low	2 blinks
3	Medium	3 blinks
4	Bright	4 blinks
5	Maximum	5 blinks

After pressing the brightness button, the right LED blinks to indicate the new brightness level.

Saving and Loading Settings

When you set a new center (by holding the sensitivity button), the calibration is automatically saved to internal memory. The saved center point is automatically restored each time you power on the device. Sensitivity and brightness return to their default levels (1) at startup.

Updating Firmware

When a new FW is available, a single click updater executable is released. The device supports firmware updates through USB. Follow the update tool's on-screen instructions to complete the process.

Quick Reference

<u>Function</u>	<u>Button</u>	<u>Hold Time</u>	<u>LED Feedback</u>	<u>Saved</u>
Change sensitivity	Sensitivity	Short	Left LED blinks 1–3×	No
Set new center	Sensitivity	≥ 1.2 s	Center LED blinks 2×	Yes
Change brightness	Brightness	Short	Right LED blinks 1–5×	No
Check firmware	USB command	Type 'v'	Version shown on screen	—

Troubleshooting

<u>Symptom</u>	<u>Possible Cause</u>	<u>Solution</u>
No lights at power-up	Power switch off or battery discharged	Turn on and recharge
LEDs sweep once and stay off	Sensor not ready	Turn off and restart
Buttons unresponsive	Mechanical issue or long press too short	Try again or check buttons
Incorrect level reading	Calibration needed	Re-calibrate by holding sensitivity button
No response via USB	Wrong settings in terminal	Contact customer service

Maintenance

- Keep the device dry and free of dust.
- The case is 3D printed; it will resist some impact, but will break on fall onto hard surfaces or heavy impacts.
- Do not expose to extreme temperatures.
- Turn off the power switch when not in use to conserve battery life.