

Stabila IP65 Tech Electronic Level

by Bruce Greenlaw

I've never rushed out to buy the latest spirit level. My 78-inch Empire aluminum I-beam, for instance, is about 30 years old, predating the arrival of aluminum box-beam frames with solid-block acrylic vials. Despite its age, the frame is still true, and one plumb and one level barrel vial still work, provided I obey my alignment arrows.

Regardless, when I recently tried a Stabila Type 196E Tech box-beam electronic spirit level while building a fence and two decks, I discovered that the electronics can be a blessing, especially when working solo. Stabila is now replacing that level, which debuted in 2006, with the new IP65 Tech. After evaluating the new model, I think it offers the same benefits as its predecessor, plus some noteworthy upgrades.

The Digital Advantage

The new IP65 Tech is, above all, a first-rate spirit level. According to Stabila, the plumb and level vials are accurate to within .029 degrees in any working position, which matches the accuracy of the company's conventional Type 196 box-beam spirit level. Press the IP65's power button, though, and digital displays on the front and top clearly indicate level and plumb (using arrows to help guide you there quickly) or read slopes in your choice of degrees (in .05



The Stabila Type 196E Tech (top) is being replaced by the IP65 Tech (bottom). New features include a backlight for much easier viewing in dim light, better seals, and bouncier removable end caps.

or .1 increments), percent (in .1 increments), millimeters per meter, or inches per foot (in .01 or 1/8 increments). The displays deliver a measurement within about a second after the level comes to rest. Flip the level over and the front display flips right-side up. Not only can you quickly check a roof pitch or determine the slope of a drainpipe, gutter, or patio, but you can easily establish running and cross slopes that meet ADA standards for accessible design.

I find that feature useful even if it helps me only occasionally, like the LED headlight on my cordless drill. But what I really like is that instead of being forced to look directly at a vial, you can view the dual display off-center, which can make even basic leveling and plumbing much easier. In cases where that doesn't help, you can press an audio button to make the level beep progressively faster and then emit a steady tone as it approaches and then hits level or plumb. Go too far and the beeps return with a different pitch so you know which direction to move the level. That's all good for solo carpentry tasks like plumbing fence posts while nailing braces to them, using long horizontal 2-bys with the level on top for transferring layout marks, and shimming cabinets, not to mention leveling a pool table.

Other Features

The display's tidy dashboard includes several other useful buttons. The "HOLD" button freezes a measurement,



Stabila IP65 Tech Specs

Vial accuracy: $\pm .029^\circ$

Digital accuracy: $\pm .05^\circ$ at 0° and 90° ; $\pm .2^\circ$ between 0° and 90°

Lengths, nonmagnetic edge: 14, 24, and 48 inches

Lengths, magnetic edge: 24 and 48 inches

Price range (for level, two AA batteries, and soft case): \$200 to \$280

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The display is typically calibrated by holding the level against a vertical surface, leveling it visually with the center vial, and then pressing the CAL button twice.



The IP65 Tech offers two back-light options. The soft backlight stays on until you turn it or the display off (or the display shuts itself off). The bright one turns off after a minute to save energy.



Unlike vials, the display can be viewed off-center, which makes even basic leveling and plumbing a lot easier.



The level can read slopes in a variety of formats. Here, it's indicating a common 2 percent drainage slope (above) and a 4/12 roof pitch (right).



which can be handy when you need to check a slope but can't easily view the display, or when you need to transfer an angle to a saw. The "REF" (or alternate-zero) button sets any angle or slope to zero, which simplifies repetitive work and allows you to use the audio signal to pinpoint the referenced angle or slope. A button with a key-shaped icon on it locks the REF and measurement settings and retains an alternate-zero setting even when the display is turned off. Another button turns on a backlight, which makes the display much easier to read in dim light; you can choose a bright backlight that shuts off in a minute or a softer, more energy-efficient one that isn't on a timer. The display itself can be set to shut off after idling for either 7½ minutes or two hours.

The display should be recalibrated regularly — especially if you drop the level or use it in widely fluctuating temperatures — and the IP65 Tech makes this easy to do. You just hold the tool against a vertical surface such as a wall or a window, use the level vial to level it exactly, press the "CAL" button twice, wait a few seconds for "rdY" to appear on the screen, and you're good to go. Or, for optimal digital accuracy in all working positions, you can do a four-point advanced calibration instead that still uses a vertical surface and takes about a minute rather than the usual 10 seconds.

According to the maker, the IP65 is dust-tight and water-resistant; you can hose it off at the end of a dusty day or use it in the rain. Numbers on the display are replaced by dashes if the level tilts forward or back too far and buttons beep when you change a setting, which can help prevent mistakes. The end caps grip vertical surfaces for easier calibrating and layout, and are removable so you can carry layout lines into corners. They also serve as shock absorbers. I couldn't quite bring myself to drop one of these levels from the top of a ladder just to see what would happen, but I did bounce the 4-foot version on its end caps like a pogo stick as I walked down a concrete sidewalk. I didn't even have to recalibrate.

Two AA batteries are supposed to deliver about 150 hours of runtime on average, and a low-battery alert tells you when to replace them.

The Bottom Line

The IP65 Tech is a highly accurate spirit level. Its electronics cover all the angles, and you can view the display from various vantage points even in dim light — or use audio signals instead. I wish a 78-incher were available, but Stabila tried that with the first-generation Tech and decided to discontinue it. Would I spend \$260 for the 4-footer? I'd consider it a bargain.

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