Best Inclinometer App for Precision Slope Measurements: Roofs, Ramps, Vehicles & More (2026)

Need to measure slope precisely — for a roof pitch, drainage grade, vehicle tilt, or accessibility ramp? We tested inclinometer apps beyond basic leveling to find the most accurate options.

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When a Bubble Level Is Not Enough

A bubble level answers one question: is this flat? An inclinometer answers a harder one: *how much is this tilted, and in which direction?*

If you work with slopes — roof pitch, drainage grades, wheelchair ramps, vehicle suspension alignment, solar panel angles, trail grades — you need numeric precision, not a green bubble. You need degrees, percent grade, or ratio readings. You need calibration you can trust. And increasingly, you need it on a device you already carry.

We tested inclinometer apps on tasks that demand real accuracy: measuring a 4/12 roof pitch from a rafter, verifying a 2% drainage slope on a patio, checking vehicle tilt on a lift, and confirming a hiking trail grade against posted signs. Here is what held up — and what did not.

What Separates an Inclinometer App From a Basic Level

Capability	Basic Level App	Inclinometer App
Measures tilt angle	Visual only (bubble)	Numeric (° / % / mm-m / ratio)
Multiple axes	Usually one (horizontal)	Horizontal + vertical + free angle
Calibration	Zero-point or none	Multi-point (180° flip) with profiles
Accuracy potential	±1–2°	±0.1–0.3° (calibrated)
Tolerance / pass-fail	No	Configurable thresholds
Sensor diagnostics	No	Stability/confidence indicators
Use case	"Is this level?"	"What is the exact slope?"

1. Bubble Level & Angle Gauge — Best for All-Around Precision

Price: Free | **Ads:** None | **Size:** 21 MB | **Platforms:** Android, iOS

This is the inclinometer app that takes precision seriously without making you pay for it. It combines the simplicity of a bubble level with the accuracy of a dedicated inclinometer — all in one lightweight package.

Why it is the best inclinometer for most users:

- **True inclinometer mode** — measures slope as a numeric value, not just a visual bubble. Read the exact tilt in degrees, percent grade, mm/m, or ratio (e.g., 4:12 for roof pitch).
- **180° flip calibration** — the most accurate phone calibration method. Places the sensor error on both sides of zero, then averages it out. Save calibration profiles per device or case. Includes self-check to verify calibration quality.
- **Tolerance guidance** — set your target slope (e.g., 2% for drainage, 1:12 for ADA ramp, 18.4° for 4/12 roof pitch) and get instant **OK / NEAR / OUT** feedback. No mental math, no conversion tables.
- **Confidence bar** — shows real-time sensor stability. Critical for precision work: if the bar is low, the surface is vibrating or the phone is moving — wait before trusting the reading.
- **Hold function** — freeze the measurement. Essential when measuring in cramped spaces (attics, under vehicles, overhead surfaces) where you cannot read the screen while the phone is in position.
- **Measurement card sharing** — export a reading as a shareable card with value, unit, mode, and timestamp. Useful for inspection documentation and team communication.
- **No ads, no data collection, 21 MB** — installs in seconds. No distractions during measurement. Privacy label confirms zero data collection.

Available on Google Play and App Store.

2. Clinometer + Bubble Level by Plaincode

Price: Free / $1.99 Pro | **Platforms:** iOS, Android

The veteran inclinometer app. Its standout feature is camera-based slope measurement: overlay angle lines on the live camera view to measure the slope of a distant object (roof edge, hillside, ramp from afar).

Best for:

Measuring slopes from a distance using the camera overlay — e.g., estimating roof pitch from the ground without climbing.

Limitations:

Basic calibration (no 180° flip or profiles). No tolerance guidance. No confidence indicator. Ads in the free version.

3. Dioptra by Workshop512

Price: Free / $3.99 Pro | **Platforms:** Android only

A multi-function outdoor measurement tool that combines inclinometer, compass, rangefinder, and GPS. Originally designed for forestry (measuring tree height and slope), it is popular with hikers, surveyors, and outdoor professionals.

Best for:

Outdoor field work where you need slope + compass bearing + distance estimation in one app. Measuring trail grades, hillside angles, and tree heights.

Limitations:

Android only. Complex interface — overkill for simple slope measurements. Accuracy of distance estimation depends on GPS quality. Pro version required for full features.

4. Smart Tools — Level & Clinometer

Price: Free (ads) / $2.99 Pro | **Platforms:** Android

Part of the Smart Tools suite (ruler, compass, protractor, noise meter). The clinometer shows numeric angles with a visual horizon line. Calibration is available.

Best for:

Users who want multiple measurement tools in one app and are willing to pay for the Pro version to remove ads.

Limitations:

Ads in the free version. Requests more permissions than necessary (including location). Android only. No tolerance guidance. No confidence indicator.

5. Apple Measure Level (Built-in)

Price: Free | **Platforms:** iPhone only

The iPhone's built-in level in the Measure app shows degrees and lets you zero the reference point. For a built-in tool, it is decent — but it is a level, not a true inclinometer.

Best for:

iPhone users doing quick level checks who do not want to install anything.

Limitations:

Single mode (surface level only). No angle gauge. No percent grade or ratio. No tolerance guidance. No measurement export. iPhone only.

Full Comparison

App	Inclinometer Mode	Calibration	Units	Tolerance	Confidence	Hold	Share	Ads	Price	Platforms
Bubble Level & Angle Gauge	Yes (dedicated)	180° + profiles	° % mm/m ratio	OK/NEAR/OUT	Yes	Yes	Card	None	Free	Android, iOS
Clinometer (Plaincode)	Yes + camera	Basic	°	None	No	No	No	Free/Pro	Free/$1.99	iOS, Android
Dioptra	Yes + compass	Yes	° %	None	No	No	Photo	Free/Pro	Free/$3.99	Android
Smart Tools Level	Basic	Yes	°	None	No	Yes	No	Moderate	Free/$2.99	Android
Apple Measure Level	No (level only)	Zero-point	°	None	No	No	No	None	Free	iOS

Professional Use Cases

Roof pitch measurement

Place your phone on a rafter in the attic, or against the roof edge from a ladder. Read the angle in degrees or ratio. A standard residential roof is 4/12 to 9/12 (18.4° to 36.9°). Use the angle gauge mode with ratio units for direct pitch reading.

Drainage slope verification

Patios, sidewalks, and driveways need a minimum slope for water drainage — typically 1–2% (0.6°–1.1°). Set your tolerance to 1% and get instant pass/fail as you check along the surface.

Wheelchair ramp compliance

ADA requires max 1:12 slope (4.76° or 8.33%). Set tolerance to this threshold. Walk along the ramp with your phone flat against the surface. Green = compliant, red = too steep.

Vehicle suspension and alignment

Check if a vehicle is sitting level side-to-side (roll) and front-to-back (pitch). Place phone on the roof or a flat chassis point. Useful for diagnosing suspension issues, leveling RVs and trailers, and setting up off-road vehicles.

Solar panel angle

Optimal solar panel tilt depends on your latitude. Set the target angle and verify each panel reads within tolerance. The hold function lets you place the phone on the panel, freeze the reading, and step back to document it.

Trail and hiking grade

Posted trail grades (e.g., "15% grade") can be verified with your phone. Useful for accessibility planning, fitness tracking accuracy, and outdoor education.

Tips for Precision Inclinometer Measurements

1. **Always calibrate on a known flat surface first** — use a machined metal surface, glass table, or a granite countertop. Kitchen counters work well.
2. **Use 180° flip calibration** — this eliminates sensor bias that single-point calibration cannot correct.
3. **Remove phone case for critical measurements** — cases can introduce tilt. Or calibrate with the case on.
4. **Wait for the confidence bar to stabilize** — vibration, wind, and hand movement affect readings. Give it 2-3 seconds.
5. **Measure multiple points** — surfaces are not perfectly uniform. Take 3-5 readings along a slope and average them.
6. **Note temperature** — extreme cold or heat can affect sensor accuracy. Most phones are accurate between 10°C and 40°C.

FAQ

How accurate is a phone inclinometer compared to a professional one?

A well-calibrated phone app typically achieves ±0.1° to ±0.3° accuracy. A professional digital inclinometer (like Bosch GIM 60) achieves ±0.05°. For most practical purposes — construction, DIY, inspections — phone accuracy is sufficient. For laboratory or precision engineering, use a dedicated instrument.

What is the difference between an inclinometer, clinometer, and tilt meter?

They are essentially the same thing: a tool that measures the angle of a surface relative to gravity. "Inclinometer" and "clinometer" are interchangeable. "Tilt meter" usually refers to instruments that measure very small angles (used in geology and structural monitoring).

Can I measure slope in percent instead of degrees?

Yes. Percent grade = tan(angle) × 100. A 1° slope is approximately 1.75% grade. Most basic level apps only show degrees, but Bubble Level & Angle Gauge supports degrees, percent, mm/m, and ratio natively.

Why does my phone show different readings when I rotate it 180°?

This is sensor offset — the accelerometer's zero point is not perfectly aligned with the phone's physical edge. This is normal and expected. 180° flip calibration specifically corrects this error by averaging the offset from both orientations.

The Bottom Line

A basic level app tells you "flat or not flat." An inclinometer app tells you exactly how much something is tilted and whether that tilt is within your acceptable range. For anyone who works with slopes — roofs, ramps, drainage, vehicles, solar panels, trails — the difference is between guessing and knowing.

Bubble Level & Angle Gauge is the most complete inclinometer you can get for free: 180° calibration, four units, tolerance guidance, confidence indicators, and measurement sharing — with no ads and no data collection. It does not replace a $300 precision instrument, but for 99% of real-world slope measurements, it is all you need.

Download for Android | Download for iPhone

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