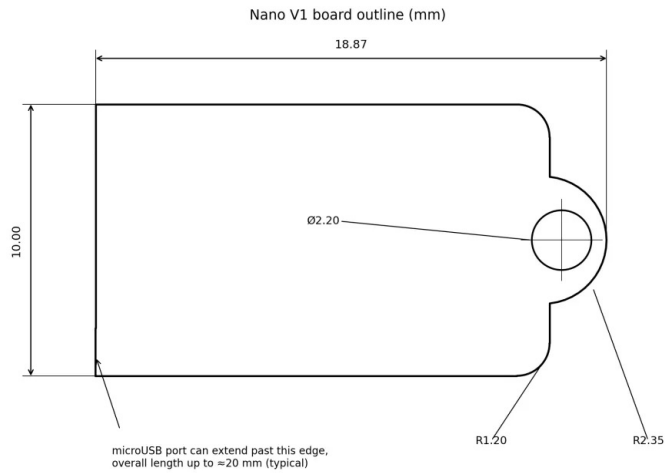


The Nano V1 altimeter specifications

The Nano V1 altimeter manual · v1.1

<https://www.altimetercloud.com/support/nano-v1/specifications/>

The Nano V1 is a tiny, lightweight barometric altimeter and flight data logger. Below are the specifications across hardware revisions. **Revision 4 and later** boards add an inertial measurement unit (IMU) and an upgraded pressure sensor — the hardware revision is printed on the back of the PCB. You can also identify your revision over the USB connection.



You can find a 3D model of the PCB and the

electronics bay holding cover files on the [Technical & compliance page here](#).

Physical

Specification

Rev 3 & earlier

No IMU

Rev 4+

Current production

Dimensions (PCB)

20 × 10 × 8.9 mm

Weight

1.5 g

1.65 g

Connector

Micro-USB

Mounting

Electronics bay or shock cord (no case)

Min tube diameter

10 mm

Pressure sensor & altitude

Specification

Rev 3 & earlier

Rev 4+

Pressure sensor

Bosch BMP390

Bosch BMP581

Pressure range

300 – 1250 hPa

Max reliable altitude

~9,200 m (30,000 ft)

Temperature compensation

Automatic

Max logging rate

50 Hz

100 Hz

Filtering

True Path V1.0 (proprietary)

Accelerometer & gyroscope (IMU)

Specification

Rev 3 & earlier

Rev 4+

IMU

Not fitted

LSM6DSO32

Accelerometer

—

3-axis, ± 32 G

Gyroscope

—

3-axis, $\pm 2,000$ °/s

Orientation outputs

—
Tilt, pitch, roll & yaw (6-axis fusion)

IMU sample rate

—
100 Hz

Data logging

Logged data

Time, altitude, velocity, air pressure and temperature. **Rev 4+ also logs** tilt, pitch, roll, yaw, acceleration (magnitude and per-axis) and gyroscope (per-axis).

Flight events detected

Launch, motor burnout, apogee, landing

Log rate (IMU & pressure)

100 Hz

Sampling mode

Hybrid (default) — dynamic sampling at full rate while events are happening and a reduced rate in between, to extend recording time
Fixed rate — selectable from 10 Hz to 100 Hz

Max samples per flight

Up to 24,000

Recording stop

Automatic or manual

Log integrity

Ed25519 digital signature (tamper-evident)

Flight log format

CSV files on the onboard USB storage drive

Power & battery

Battery

1S LiPo, 20 mAh (8 × 8 × 5 mm), soldered to board, no protection circuit

Battery life (flight mode)

> 4 hours

Charging

Micro-USB (from phone, laptop, etc.)

Charge controller

MCP73831, ~20 mA, 4.2 V termination

Charge time

< 1 hour from empty

Charge indicator

Charge LED (on while charging, off when complete)

Operating temperature

-10 °C to 45 °C

Thermal shutdown

60 °C (protects the battery)

Connectivity & interface

USB

Micro-USB (charge, serial, configuration, mass-storage drive)

WiFi

Not available — no antenna fitted and permanently disabled in encrypted firmware

Cloud & charts

Drag and drop log files from the USB storage drive onto Altimeter Cloud for advanced interactive charts (account optional)

Onboard web server

None

Processor & memory

Microcontroller

Espressif ESP32-S2

Flash

4 MB

PSRAM

2 MB

Firmware & security

Firmware

AES-256 encrypted (custom firmware cannot be loaded)

Flight log verification

Ed25519 digital signature (tamper-evident)

Firmware updates

Via Altimeter Cloud over USB

Configuration

Via USB

Specifications are subject to change with firmware updates. Some features require the latest firmware version. The hardware revision number is printed on the back of the PCB. If you are unsure which revision you have, please contact us.