TRIMBLE AP+ 50 AIR

NEXT GENERATION EMBEDDED GNSS-INERTIAL SOLUTION FOR ROBUST AIRBORNE POSITIONING AND DIRECT GEOREFERENCING

POWERFUL ENOUGH FOR USE ON CREWED PLATFORMS YET SMALL ENOUGH FOR USE ON UNCREWED AERIAL VEHICLES (UAVS)

The Trimble AP+Air GNSS-inertial system is comprised of next-generation compact, low-power hardware, featuring dual embedded survey-grade GNSS chipsets, an onboard inertial measurement unit (IMU), an external IMU, and the all-new Applanix IN-Fusion+ GNSS-aided inertial firmware.

INTEGRATE ONCE, USE MANY

The “Integrate once, use many” concept means a single hardware platform can be used to build a complete range of mapping payloads, from UAV to crewed aircraft, using the same design. This consistency saves costs associated with design and integration.

The Trimble AP+Air is configurable to support the Direct Georeferencing accuracy demands of everything from low-flying UAVs to high-altitude crewed platforms. Compatible with photogrammetric cameras, LiDAR, hyperspectral and multispectral cameras, Synthetic Aperture Radar and virtually any other type of airborne remote sensor, the Trimble AP+Air is a powerful, compact, and versatile solution. Easily integrated with any type of platform, AP+Air saves significant costs in all types of surveys.

THE BEST SOLUTION JUST GOT BETTER

The Trimble AP+Air OEM solution is fully supported by the industry-leading Applanix POSPac MMS post-processing software, featuring Post-Processed Trimble CenterPoint® RTX™ for centimeter position accuracy without base stations, making it the ultimate solution for integrators wishing to produce a highly efficient airborne mapping system. For LiDAR integrators, the Trimble AP+Air OEM is fully compatible with the POSPac MMS LiDAR QC Tools for UAV.

Key Features

- “Integrate once, use many” concept means a single platform can be used to build a complete range of mapping payloads, from UAV to crew operated aircraft, using the same design, which saves costs
- Reduced SWaP
  - 54% smaller footprint, 64% lighter, 75% less power
- Next generation, survey-grade GNSS receiver
- Dual inertial support (onboard and external) for simple gimbal mount support
- Two antenna heading support
- Next generation In-Fusion+ Aided-Inertial Firmware
- Completely configurable, from entry-level UAV applications, all the way up to high-accuracy solutions for high altitude LiDAR mapping
**DATASHEET**

**AP+ 50 AIR**

**TECHNICAL SPECIFICATIONS**

**System Summary**
- Applanix IN-Fusion™ GNSS-inertial integration technology
- Onboard IMU with solid-state MEMS inertial sensors and Applanix SmartCal™ compensation technology
- High performance external IMU
- Advanced Trimble Maxwell Custom GNSS survey technology with 2 x 336 tracking channels
- Optional Dual Antenna, GAMS (GNSS Azimuth Measurement System) included
- Secondary Antenna:
  - GPS: L1/C/A, L2, L2E, L5
  - GLONASS: L1/C/A, L2/C/A, L3
  - QZSS: L1 C/A, L1S, L1C, L2C
  - IRNSS: L5
- MSS L Band: Trimble RTX

**Performance**
- Accuracy is subject to quality of GNSS, data set duration, and regional coverage.
- Post-Processed GPS positioning mode
  - Real-time 100Hz position, attitude, velocity, track and speed, dynamics, performance metrics, raw IMU data (200 Hz), raw GNSS data (5 Hz)
- GALILEO: L1 C/A, L2C, L2E, L5
- GLONASS: L1 C/A, L2 C/A, L3
- QZSS: L1 C/A, L1S, L1C, L2C, L2E, L5
- IRNSS: L5
- SBAS: L1 C/A, L2 C/A, L3
- GPS: L1/C/A, L2, L2E, L5
- GLONASS: L1/C/A, L2/C/A, L3
- QZSS: L1 C/A, L1S, L1C
- IRNSS: L5
- SBAS: L1/C/A, L2/C/A, L3
- GPS: L1/C/A, L2, L2E, L5
- GLONASS: L1/C/A, L2/C/A, L3
- QZSS: L1 C/A, L1S, L1C
- IRNSS: L5
- SBAS: L1/C/A, L2/C/A, L3
- GPS: L1/C/A, L2, L2E, L5
- GLONASS: L1/C/A, L2/C/A, L3
- QZSS: L1 C/A, L1S, L1C
- IRNSS: L5
- SBAS: L1/C/A, L2/C/A, L3

**Specifications subject to change without notice.**

**TRIMBLE APPLANIX**

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