Technical Specifications

T300 Plus

Signal Tracking

- 572 channels for simultaneously tracking satellite signals
  - GPS: L1, L2, L2C, L5
  - BeiDou: B1, B2, B3
  - BeiDou Global Signal: B1C, B2a
  - GLONASS: L1, L2
  - Galileo: E1, E5a, E5b
  - QZSS (Reserved)
  - SBAS: WAAS, EGNOS, MSAS, GAGAN

Performance Specifications

- Cold start: <50 s
- Warm start: <30 s
- Hot start: <15 s
- Initialization time: <10 s
- Signal re-acquisition: <1.5 s
- Initialization reliability: >99.9%

Positioning Specifications

- PostProcessing (static and fast static)
  - Horizontal: 2.5 mm + 0.5 ppm
  - Vertical: 5 mm + 0.5 ppm
- Long Observations static
  - Horizontal: 3 mm + 0.1 ppm
  - Vertical: 3.5 mm + 0.4 ppm
- Real Time Kinematic
  - Horizontal: 8 mm + 1 ppm
  - Vertical: 15 mm + 1 ppm
- DGPS:<0.4m RMS
- SBAS: 1 m 3D RMS
- Standalone: 1.5 m 3D RMS

Communications

- 1 x 7 pin lemo port (Combined Serial and USB function)
  Baud rates up to 921600bps for serial
- UHF modem[1]: Tx/Rx with full frequency range from 410-470 MHz[2]
  - Transmit power: 0.5-2 W adjustable
  - Range: 1-5 km[3]
- WIFI/4G modem[1]
  - 4G Bands: 800/900/1800/2100/2600 MHz
  - 3G Bands: 900/2100 MHz
  - 2G Bands: 900/1800 MHz
  - Support GSM, Point to Point/Points and NTRIP
- Position data output rates: 1 Hz, 2 Hz, 5 Hz, 10 Hz, 20 Hz
- 5 LEDs (indicating Power, Satellite Tracking, GPRS Status and Differential Data)
- Bluetooth® : V 4.0 protocol, compatible with Windows OS and Android OS
- Tilt sensor

Data Format

- Correction data I/O:
  - RTCM SC104 Version 2.x, 3.x formats,CMR(GPS only), CMR+(GPS only)
- Position data output:
  - ASCII: NMEA-0183 GSV, RMC, HDT, VHD, GGA, GSA, ZDA, VTG, GST; PTNL, PJK; PTNL, AVR; PTNL, GGK
  - ComNav Binary update to 20 Hz

Physical

- Size(W × H): Φ 15.8 cm × 7.5 cm
- Weight: 0.95 kg with two batteries

Environmental

- Operating temperature: -40 °C to + 65 °C (-40 °F to 149 °F)
- Storage temperature: -40 °C to + 85 °C (-40 °F to 185 °F)
- Humidity: 100% non-condensing
- Waterproof and dustproof: IP67, protected from temporary immersion to depth of 1 m
- Shock: Designed to survive a 2 m drop onto concrete

Electrical and Memory

- Input voltage: 7-28 VDC
- Power consumption: 3.1 W[4]
- Li-ion battery capacity: 2 × 2000 mAh, up to 9 hours typically
- Memory: 8 GB[5]

Software

- Survey Master Android-based data collection software
- Carlson SurvCE field data collection software (optional)
- MicroSurvey FieldGenius field data collection software (optional)

1. UHF Modem and 4G Modem is default configuration and it can be removed according to your specific needs.
2. Integrated UHF ranges from 410 to 470 MHz with 12.5 KHz channel spacing.
3. Working distance of internal UHF is varies in different environments, the maximum distance is 5 Km in ideal situation.
4. Power consumption will increase if transmitting corrections via internal UHF.
5. 8GB is the default internal memory and optional 16GB, 32GB is available to order. Please clarify when placing the order.

Specifications subject to change without notice.

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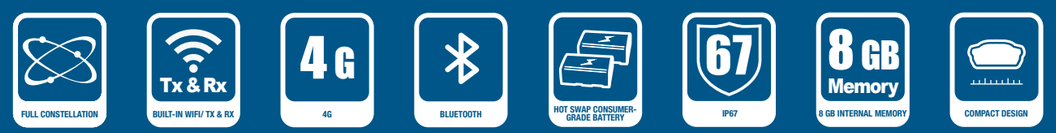
SinoGNSS®
By ComNav Technology Ltd.

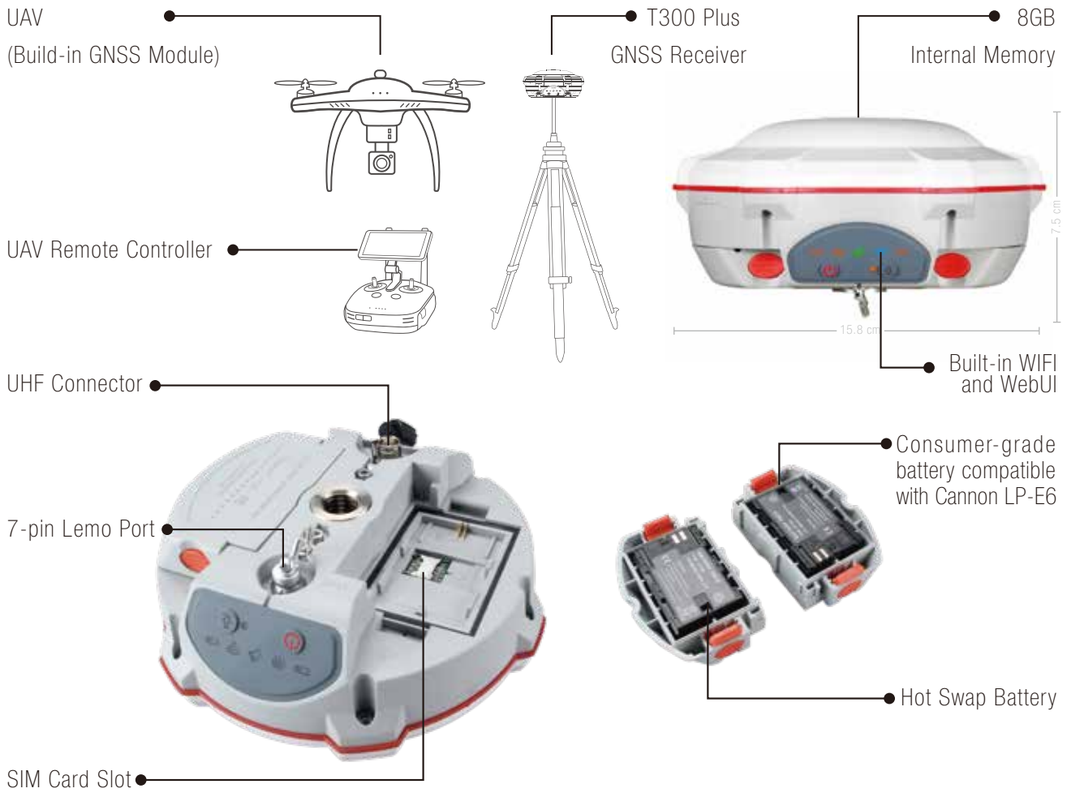
T300 Plus GNSS Receiver

Reliable Base Station for Your UAV

Compatible with most of brand UAVs
Easy setup and stable performance



The professional unmanned aerial surveying solution is a strong alliance between the high-precision navigation industry and the commercial drone industry. With the powerful T300 Plus GNSS Receiver as the base station, this solution will provide easy workflow and centimeter-grade accuracy.



FULL-CONSTELLATION

572 channels track all current and future constellations, always provide reliable data when working as base station.

STANDARD DATA FORMAT

With standard Rinex and RTCM format, T300 Plus can work fluently with all GNSS modules embedded in UAVs.

CONSUMER-GRADE INTERNAL BATTERY DESIGN

The T300 Plus can work at least 9 hours with two batteries, ensuring the daily work needs. And the battery is compatible with Canon LP-E6, which can be easily replaced in the local market.

WIFI CONNECTION

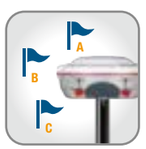
Stable and fast data transmission via WIFI between T300 Plus and UAV with the integrated Ntrip protocol.

WEB UI

Simple Configuration and status check through web-based UI of T300 Plus.

FLEXIBLE COMMUNICATION INTERFACES

T300 Plus has flexible interfaces, including serial port, Bluetooth®, 4G Ntrip, WIFI etc. to provide different choices to all kinds of UAVs.



ACCURACY CHECK

Except from base station, T300 Plus can also work with Rover Mode to measure and check the ground control points.

8GB MEMORY WITH USB MODE CONNECTION

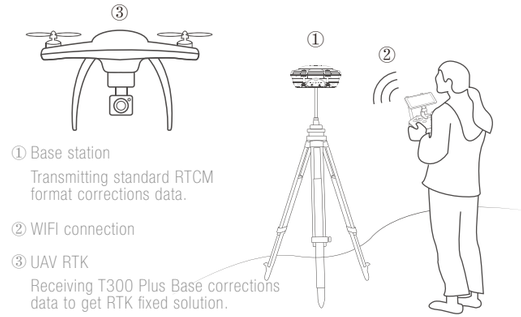
T300 Plus has 8GB internal memory and can easily download the static data by USB connections with laptop.

To meet different demands of UAV users, there are 2 work modes, PPK Mode and RTK Mode, which can be also applied simultaneously.

RTK WORK MODE

In this mode, UAV GNSS position can be corrected according to the base station RTCM data in real time. With T300 Plus WIFI link function, users can transmit RTCM format data between the base station and the drone.

In addition, T300 Plus has powerful communication interfaces and the RTCM data also can be transmitted by Bluetooth, 4G Ntrip, serial port etc. to satisfy different UAVS' demands.



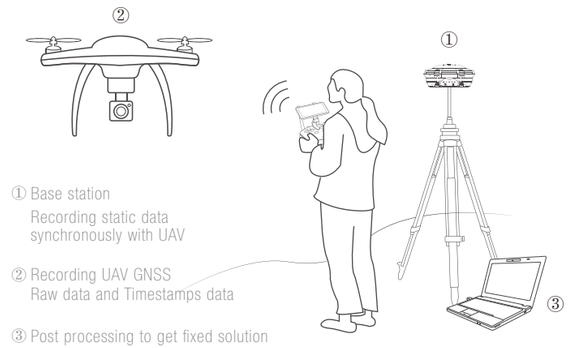
① Base station
Transmitting standard RTCM format corrections data.

② WIFI connection

③ UAV RTK
Receiving T300 Plus Base corrections data to get RTK fixed solution.

PPK WORK MODE

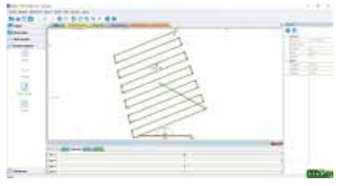
In this mode, drone GNSS positions will be corrected according to the base station after surveying. No need to establish a link between the drone and base station.



① Base station
Recording static data synchronously with UAV

② Recording UAV GNSS
Raw data and Timestamps data

③ Post processing to get fixed solution



POST-PROCESSING SOFTWARE

SINOGNSS COMPASS SOLUTION SOFTWARE

- Provides the complete GPS/GLONASS/BeiDou/GALILEO processing solution
- Supports GNSS observation data in RINEX and ComNav Raw Binary Data formats
- Supports DJI's P4R data format. Processing results can be imported into photogrammetry and 3D modeling software directly
- Supports different post-processing in static and kinematic modes
- Outputs analysis reports in various formats (web format, DXF, TXT, KML)