



UAV/RTK  
Automated  
GNSS Sensor



[www.satlabgps.com](http://www.satlabgps.com)

# UAV/RTK Automated GNSS Sensor

Satlab UAVRTK is a multi-constellation and multi-frequency GNSS Sensor with heading capability, designed for high precision UAV/UAS applications.

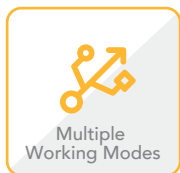
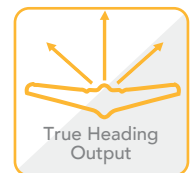


## Fully Automated GNSS Sensor

Satlab UAV/RTK contains a computer controlling the complete operation according to the pre-set parameters. Powering up the sensor is enough to initiate the field operation.

## True Heading Output

Novatel ALIGN Heading™ generates high precision True heading based on the direction between the two included GNSS Helix Antennas

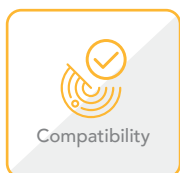
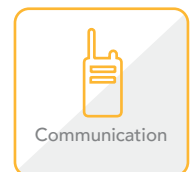


## Multiple Working Modes

Real Time Kinematic (RTK) and Post Processing Kinematic (PPK) are both available in Satlab UAV/RTK sensor. Internal internet modem with NTRIP client and UHF radio are used to deliver corrections in RTK mode. At the same time, raw GNSS data can also be logged for PPK processing. It means, full redundancy if failure in either method.

## Communication

The sensor is equipped with Bluetooth, two serial ports (Low Level TTL), event marker input, PPS output, power input and USB port. One of the serial ports supplies 5V 1A DC for powering external UHF radio, Autopilot, Camera or any other electronics.



## Compatibility

The sensor not only controls the operation but also logs the events, GGA messages and raw data files in the internal memory of 8GB. Logging makes it possible to use Satlab UAV/RTK sensor with any autopilot/photogrammetric systems as long as camera trigger signal is available.

## Latest GNSS Technology

Satlab UAV/RTK utilizes a Novatel\* GNSS OEM receiver with heading and all options enabled. The GNSS board can be controlled through Serial Port for custom applications. It tracks multi constellation satellite as well as SBAS satellites. The UAV/RTK is ready to use RTK corrections from NTRIP casters and Satlab InternetRTK servers.



## Fast and Reliable Technical Support

One of the greatest benefits with Satlab is support. We ensure spare parts are always available and easy to access from any place in the world. We keep our distribution network apprised on all software updates and support them with everything needed to guarantee a great user experience.



### System

- Multi Purpose GNSS Receiver
- Internal Memory: 8 GB
- microSD External Memory (Max. 32 GB)



### Channel Configuration

- 120 Channels GNSS Tracking
- GPS : L1, L2, L2C
- GLONASS : L1, L2
- BEIDOU : B1, B2
- GALILEO\*\* : E1, E5b
- QZSS : L1, L2C
- SBAS : L1 C/A



### Horizontal Position Accuracy (RMS)

- Single Point L1: 1.5 m
- Single Point L1/L2: 1.2 m
- SBAS: 0.6 m
- DGPS: 0.4 m
- RTK: 1 cm + 1 ppm
- Initialization Time < 10 s
- Initialization Reliability > 99.9%



### Heading Accuracy

Baseline	Accuracy (RMS)
2 m	0.08 deg
4 m	0.05 deg



### Power

- 6-36 VDC (2S to 9S Li-Po UAV Batteries)



### Measurement Precision (RMS)

	GPS	GLONASS
- L1 Carrier Phase	0.5 mm	1 mm
- L2 Carrier Phase	1 mm	1 mm
- L2C Carrier Phase	1 mm	1 mm



### Formats

- NTRIP, intRTK
- Navigation Output
- Support for NMEA 0183, NovAtel\* ACSII and Binary Logs
- Differential Correction
- Support for RTCM 2.1, 2.3, 3.0, 3.1, 3.2, CMR, CMR+ and RTCA
- Raw data recording for Post Processing
- Differential GPS Positioning



### Interface and Hardware

- USB (Data Storage)
- Dual RF for External GNSS Antenna
- 2 x LowLevel TTL Serial
- Event Market input and PPS Output
- Integrated 4G
- Bluetooth



### Physical

- Size: 9.4 x 5.2 x 2.8 cm
- Weight: 190 grams

\*NovAtel is a registered trademark of NovAtel Inc.

\*\*Optional

Specifications subject to change without notice.



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