

**NAVON**

**AIRACE**

**Compact all-band RTK GNSS receiver  
with tilt compensation and laser.**





# ALL-BAND RTK BASE AND ROVER

## **PORTABLE AND LIGHTWEIGHT**

Designed with lightweight and compact features, making them highly portable and easy to use without the need for bulky and cumbersome equipment.

## **MILLIMETRE ACCURATE DATA**

Intelligent processing techniques include factors such as signal quality, atmospheric interference, and satellite geometry to provide highly accurate and reliable positioning information.

## **ANYONE CAN USE RTK**

The interface is designed to be intuitive and easy to navigate with clear and concise instructions.

# LIGHT SPEED TARGETING, ROCK SOLID ACCURACY

## LASER AND VISION POSITIONING SYSTEM

The Airace LVPS is a cutting-edge, proprietary sensor module designed to redefine survey efficiency. By fusing high-precision RTK GNSS data with an integrated Laser Rangefinder and advanced Vision Positioning technology, the Navon creates a seamless workflow for capturing data in complex environments.

# PRODUCT SPECIFICATION

## RECEIVER SPECIFICATION:

SIGNAL TRACKING & SIGNAL RECEIVED GPS - L1, L1 C/A, L2, L2 C, L2 E, L2 P, L5  
GLONASS - L1, L2, L2 C/A, L2 P, L3  
BEIDOU - B1, B2, B2a, B2b, B3  
GALILEO - E1, E5 a, E5 b, E5 ab, E6  
SBAS WAAS, EGNOS, BDSBAS, MSAS, GAGAN, SDCM  
QZSS - L1c/a, L1c, L5, L2c, L6  
NAVIC - NAVIC L5  
L-BAND

NUMBER OF CHANNELS: 672+ channels

UPDATE RATE: Up to 20 Hz

MEMORY: Internal memory of 32 GB

RTK & PPK BASELINE: Up to 100KM

PPP POSITIONING: Any point on Earth

IMU POSITIONING: 9 DOF, Calibration Free (0° - 60° tilt compensation RTK Mode) +/- 5 mm +0.4mm/°

LASER POSITIONING ≤ 7.5cm (10m range, ≤ 45° tilt in RTK mode)

## PHYSICAL SPECIFICATION :

DIMENSIONS: 190 mm (H) X 40 mm (W) X 75 mm (L)

WEIGHT 400 grams

OPERATING TEMPERATURE -40°C to 65°C

STORAGE TEMPERATURE -40°C to 85°C

WATER/DUST PROOF IP67 rated (waterproof and dustproof)

HUMIDITY 5% to 95% non-condensing

DUST TEST COMPLIANCE IEC-60529

WATER INTRUSION TEST COMPLIANCE IEC-60529

VIBRATION/SHOCK TEST COMPLIANCE MIL-STD-810 F

TESTING LAB NABL ACCREDITED

## DATA FORMAT :

RTCM 2.X, RTCM 3.0, RTCM 3.1, RTCM 3.2, VRS, NTRIP

NMEA 0183, LLH/XYZ

RINEX, NMEA

## COMMUNICATION :

BLUETOOTH: Bluetooth 5.0 for wireless connectivity

WI-FI: Built-in Wi-Fi 2.4 GHz & 5 GHz, 802.11 b/g/n for network communication & data transfer

NETWORK COMMUNICATION: Internal 4G  
TDD-LTE/ FDD-LTE/ WCDMA/ GPRS/ GSM (900MHz & 1800 MHz), WCDMA 2100MHZ/900MHZ, LTE BAND 1,3,7,8,20

TYPE C: USB Type C port for charging & data transfer

NMEA OUTPUT: NMEA-0183 output for compatibility with external devices over Bluetooth

OPERATING SYSTEM: FreeRTOS

STARTUP TIME: 5 SECONDS

## POWER SUPPLY :

RECHARGEABLE BATTERY: Lithium-ion battery  
10,000 mAh (included)

OPERATING PERIOD: Rover Mode - 24 hours  
Base Mode - 15 hours

CHARGING TIME: LESS THAN 4 hrs

## POSITIONING PERFORMANCE :

HIGH PRECISION STATIC (PHASE) 3 mm + 0.1 ppm (horizontal)  
LONG OBSERVATION 3.5 mm + 0.4 ppm (vertical)

FAST STATIC/PPK 3 mm + 0.5 ppm (horizontal)  
5 mm + 0.5 ppm (vertical)

REAL TIME KINEMATIC (RTK) 6 mm + 0.5 ppm (horizontal)  
10 mm + 1 ppm (vertical)

TILT RTK+5mm+0.4mm/\* tilt (up to 60\*)RMS

RTK-NETWORK/CORS 6 mm + 0.5 ppm (horizontal)  
10 mm + 1 ppm (vertical)

PPP 4 cm+1ppm or better with Network RTK  
(Horizontal+ Vertical)

LASER RTK ≤ 7.5cm (10m range, ≤ 45° tilt in RTK mode)

DGPS ACCURACY 0.25 m + 1 ppm RMS (horizontal)  
0.40 mm + 1 ppm RMS (vertical)  
SBAS: typically <2m 3DRMS

L BAND ACCURACY 2 cm (horizontal)  
3 cm (vertical)

# AIRACE

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