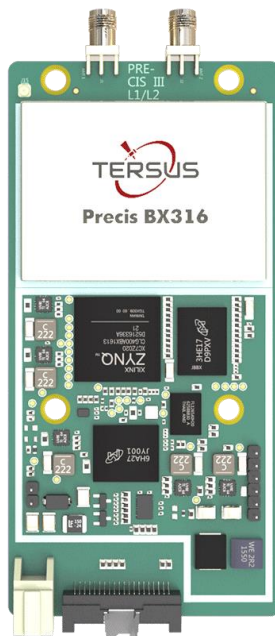


# Precis-BX316 GNSS RTK Board

*GPS L1/L2, GLONASS G1/G2, BDS B1/B2 with Heading*

Precis-BX316 is a GNSS RTK board for precise positioning and heading. It supports delivering multi-constellation RTK baselines between two connected antennae and to a remote base station. This board offers real-time, cost efficient cm-level positioning capability as well as flexible interfaces for a number of applications, such as precision navigation, precision agriculture, surveying and UAVs. Precis-BX316 can be integrated with other host devices or can serve as an independent positioning system. It uses standard serial port module for communication. A special connector makes it easy to integrate with host devices or autopilots. Precis-BX316 board supports multi-GNSS RTK positioning, which improves continuity and reliability of RTK positioning.

## Key Features:



- Supports three constellations, six frequencies
  - GPS L1/L2 + GPS L1/L2 heading mode
  - GLONASS G1/G2
  - Beidou B1/B2
- Supports 192 GNSS channels
- Supports 32G on-board SD card, which makes data collection easy
- Rapid RTK integer ambiguity resolution
- Achieves instant heading by dual antenna single board
- High integration SoC solution
- Supports 20Hz or higher position/velocity/time solutions
- Supports camera shutter synchronization
- Serial ports with LVTTTL
- External antenna input through SMA connector
- Data output: NMEA-0183 and Tersus Binary format
- Supports logging of raw observation data
- Correction: RTCM 2.x/3.x/CMR/CMR+
- Easy to integrate with Pixhawk and other autopilots
- Compact design and low power consumption



## Technical Specifications

### Performance Specifications

- Channel Number.....192
- Frequencies.....GPS L1/L2、GLONASS G1/G2、Beidou B1/B2
- Standard Positioning Accuracy
  - Horizontal(RMS).....1.5m
  - Vertical(RMS).....3.0m
- RTK Positioning Accuracy
  - Horizontal(RMS).....10mm+1ppm
  - Vertical(RMS).....15mm+1ppm
- Observation Accuracy
  - C/A Code(zenith direction).....10cm
  - P Code(zenith direction).....10cm
  - Carrier Phase(zenith direction).....1mm
- Heading Accuracy
  - 1m Baseline(RMS).....0.1°
- Time to First Fix (TTFF)
  - Code Start.....<50s
  - Warm Start.....<30s
- Timing Accuracy(RMS).....20ns
- Initialization(typical).....<10s
- Initialization Reliability.....>99.9%
- Differential Data Format.....RTCM 2.x/3.x/CMR/CMR+
- Max Update Rate.....20Hz

### Communication

- Serial Ports.....LVTTL x2
- USB Ports.....USB device x1
- Ethernet.....RJ45 x1
- CAN Ports.....ISO/DIS 11898 x2
- PPS Ports.....LVTTL x1
- Event Mark.....LVTTL x2

### Physical Characteristics

- Input Voltage.....5V~12V DC
- Power Consumption(typical).....3.5W
- Active Antenna Input Impedance.....50Ω
- Size.....108x54x12mm
- Weight.....33g
- Antenna Connector.....SMA Receptacle x1
- COM Baud Rate.....Up to 230400bps

### Optional Accessories

- AX3701 GNSS antenna
- 3m GNSS antenna cable with TNC/SMA connectors
- Tersus GNSS instrument case

Information and related materials are subject to change without notice. © Copyright 2017 Tersus GNSS Inc.