

# Precis-BX306 GNSS RTK Board

*GPS L1/L2, GLONASS G1/G2, BDS B1/B2 with 192 GNSS Channels*

Datasheet  
V2.0-170324

Precis-BX306 is a GNSS RTK board for accurate position. This board offers real-time, cost-efficient, cm-level positioning capability and uses standard serial port module for communication. A special connector makes it easy to integrate to its host devices or autopilots. Precis-BX306 board supports multi-GNSS RTK positioning, which improves the continuity and reliability in challenging environment. The flexible interfaces, hardware size and the main commands make it compatible with GNSS boards in the market.

## Key Features:



- Supports three constellations, six frequencies
  - GPS L1/L2
  - GLONASS G1/G2
  - Beidou B1/B2
- Supports 192 GNSS channels
- Rapid RTK integer ambiguity resolution
- Supports 20Hz or higher position/velocity/time solutions
- Supports camera shutter synchronization
- Serial ports with LVTTL
- External antenna input through MCX 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
- 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
- CAN Ports.....ISO/DIS 11898 x2
- PPS Ports.....LVTTL x1
- Event Mark.....LVTTL x2

### Physical Characteristics

- Input Voltage.....3.3V DC
- Power Consumption(typical).....2.8W
- Active Antenna Input Impedance.....50Ω
- Size.....46x71x12mm
- Weight.....23g
- Antenna Connector.....MCX Receptacle x1
- COM Baud Rate.....Up to 460800bps

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