

# Precis-BX305 GNSS RTK Receiver

*GPS L1/L2, GLONASS G1, BDS B1/B3 with 192GNSS Channels*

Precis-BX305 is a compact GNSS RTK receiver which offers real-time, cost efficient centimeter-level positioning capability as well as flexible interfaces for a number of applications, such as precision navigation, precision agriculture, surveying and UAVs. Precis-BX305 can be integrated into other host devices or can serve as an independent positioning system, which is dedicated to delivering high precision, reliable positions. Precis-BX305 receiver supports multi-GNSS RTK positioning, which improves continuity and reliability of RTK positioning.

## Key Features:

- Support three constellations, five frequencies
  - GPS L1/L2
  - GLONASS G1
  - BDS B1/B3
- Support 192 GNSS channels
- Centimeter level positioning accuracy
- Rapid RTK integer ambiguity resolution
- Up to 20Hz position/velocity/time solutions
- Serial ports with LVTTTL
- Easy to integrate with Pixhawk and other autopilots
- External antenna input through SMA connector
- Data output: NMEA-0183
- Correction: RTCM 2.x/3.x and CMR
- Support IMU raw data output
- Support logging of raw observation data
- Compact design and low power consumption





# Technical Specifications

## Performance Specifications

- Channel Number.....192
- Frequencies.....GPS L1/L2, GLONASS G1, BDS B1/B3
- 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)
  - Cold Start.....<50s
  - Warm Start.....<30s
- Timing Accuracy (RMS).....20ns
- Initialization (typical)..... <10s
- Initialization Reliability.....>99.9%
- Velocity Accuracy (RMS).....0.03m/s
- Differential Data Format.....RTCM 2.x/3.x/CMR
- Max Update Rate.....20Hz

## Communication

- Serial Ports.....LVTTL x3
- PPS.....LVTTL x1

## Physical Characteristics

- Power.....5V DC
- Power Consumption (typical).....1.56W
- Active Antenna Input Impedance.....50Ω
- Max. Antenna Bias Current Draw.....100mA
- GNSS input sensitivity.....-85 dBm ~ -105 dBm
- Size.....92x54x13mm
- Weight.....104g
- Operating temp ..... -40°C ~ +85°C
- Antenna Connector.....SMA female x1
- COM Baud Rate.....Up to 230400bps

## Optional Accessories

- AX3702 GNSS antenna
- Compact 500mW UHF transceiver (433MHz/915MHz)
- Tersus USB connector and instrument transport case
- 3m GNSS antenna cable with TNC/SMA connectors

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