

Precis-BX305 GNSS RTK Receiver

GPS L1/L2, GLONASS G1, BDS B1/B3

Datasheet
V2.0-170921

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
- Centimeter level positioning accuracy
- Rapid RTK integer ambiguity resolution
- Up to 20Hz position/velocity/time solutions
- Serial ports with LVTTL
- 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

- 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

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