

BX316 GNSS RTK Board

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

BX316 is a GNSS RTK board for accurate positioning and heading. This board offers real-time, cost efficient and cm-level positioning as well as flexible interfaces for a variety of applications, such as precision navigation, precision agriculture, surveying and UAVs system. BX316 board supports multi-constellations, which can output continuous and reliable RTK positioning and heading even in harsh environments.

On-board SD card (up to 32GB) makes the data collection convenient in the applications.

Key Features:



- Supports RTK positioning mode or RTK positioning + heading mode, and modes are software configurable
- Command compatible with Novatel protocol
- Supports 20Hz RTK solution and raw data output
- supports IMU raw data output
- Supports external 32G SD card, which makes data collection easy
- supports PPS output and event mark input
- Serial ports with LVTTTL or RS-232.
- External antenna input through SMA connectors
- Data output: NMEA-0183 and Tersus Binary format
- Correction: RTCM 2.x/3.x/CMR/CMR+
- Easy to integrate with Pixhawk and other autopilots
- Supports large range of input power.



Technical Specifications

Performance Specifications

- Frequencies from primary antenna.....GPS L1/L2, GLONASS G1/G2, BDS B1/B2
- Frequencies from secondary antennaGPS L1+ GLONASS G2 or GPS L1 + BDS 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)
 - Cold Start.....<50s
 - Warm Start.....<30s
- Timing Accuracy (RMS).....20ns
- Velocity accuracy (RMS)0.03m/s
- 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 or RS-232 x2
- USB Ports.....USB device x1
- Ethernet..... 10/100M BASE-T 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.....50g
- Antenna Connector.....SMA female x2
- COM Baud Rate.....Up to 921600bps
- Operating Temperature.....-40°C ~ +85°C

* This port's function is related to FW version.

Optional Accessories

- AX3702 GNSS antenna
- 3m GNSS antenna cable with TNC/SMA connectors
- Tersus GNSS instrument transport case

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