



BX316R

GNSS Post Processing Kinematic (PPK) Board

Overview

The BX316R is a GNSS Post Processing Kinematic (PPK) board for accurate positioning. It supports raw measurement output from two antennas. An external SD card (up to 32GB) makes it convenient for users to collect data for post processing. Coupled with Tersus AX3702/AX3703 GNSS antennas, this receiver can output stable measurements even in harsh environmental conditions.

The BX316R has versatile interfaces for a number of applications, such as precision navigation, precision agriculture, surveying, and UAVs. A standard connector makes it easy to integrate the receiver with other devices.

Key Features

Supports measurements output

- GPS L1/L2, GLONASS G1/G2, BeiDou B1/B2 from primary antenna
- GPS L1/GLONASS G2 or GPS L1/BeiDou B2 from secondary antenna

Supports external 32GB SD card, making data collection easy

High integration System-on-a-Chip (SoC) solution

Supports PPS output and event mark input

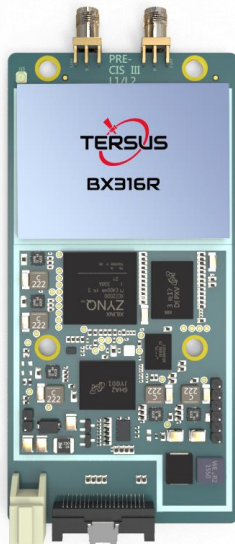
Serial ports with LVTTTL or RS232

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





Technical Specifications

Performance

Frequencies From Primary Antenna:	
GPS L1/L2, GLONASS G1/G2, BeiDou B1/B2	
Frequencies From Secondary Antenna:	
GPS L1+GLONASS G2 or GPS L1+BeiDou B2	
Standard Positioning Accuracy:	
– Horizontal (RMS):	1.5m
– Vertical (RMS):	3.0m
PPK 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
Velocity Accuracy (RMS):	0.03m/s
Initialization (typical):	<10s
Initialization Reliability:	>99.9%
Max. Update Rate:	20Hz

Communication

Serial Ports:	LVTTTL x2 or RS232 x2
USB Ports:	USB 2.0 device x1
CAN Ports:	LVTTTL or ISO/DIS 11898 x2*
PPS Ports:	LVTTTL x1
Event Mark:	LVTTTL x2*
Ethernet:	10/100M BASE-T x1*

* This port's function is related to FW version

Physical

Input Voltage:	5V~12V DC
Power Consumption (typical):	3.5W
Active Antenna Input Impedance:	50Ω
Size:	108x54x12mm
Weight:	44g
Antenna Connector:	SMA female x2
COM Baud Rate:	Up to 921600bps
Operating Temperature:	-40°C ~ +85°C

Optional Accessories

AX3702/AX3703 GNSS Antenna
3m GNSS antenna cable with TNC/SMA connectors
Tersus GNSS instrument transport case

