BX316D GNSS Kit

With 2W/460MHz Radio

Overview

BX316D Kit consists of BX316D Basic and 2W Radio Option. BX316D GNSS receiver is a cost efficient dual frequency GNSS RTK receiver providing accurate positioning, raw measurement output, and heading information. It offers real-time cm-level positioning as well as flexible interfaces.

2W Radio option provides reliable data communications between 457 MHz and 467 MHz for mission-critical applications where a combination of stability, superior performance and long distance are required. Equipped with dual antenna design for precise heading, the BX316D Kit is ideal for precision navigation, precision agriculture, and surveying.

Key Features

- Supports RTK positioning mode or RTK positioning + heading mode. The two modes are software configurable
- Supports 384 channels
- Command compatible with NovAtel protocol
- Pin-to-Pin compatible with NovAtel OEM617D
- Supports 20Hz RTK solution updates and raw data outputs
- Supports in-built 4GB memory, which makes data collection easy
- Supports PPS output and event mark input
- Serial ports with LVTTL level
- External antenna inputs 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

Note: If users want to customize the product portfolio, please contact sales@tersus-gnss.com by email.

Technical Specifications - BX316D enclosure

Performance

Signal Tracking for Primary Antenna:	GPS L1/L2, GLONASS L1/L2, BeiDou B1/B2
Signal Tracking for Secondary Antenna:	GPS L1+GLONASS L1 or GPS L1+BeiDou B1
GNSS Channels:	384
Single Point Positioning Accuracy (RMS):	
– Horizontal:	1.5m
– Vertical:	3.0m
RTK Positioning Accuracy (RMS):	
– Horizontal:	10mm+1ppm
– Vertical:	15mm+1ppm
Observation Accuracy (zenith direction):	
– C/A Code:	10cm
– P Code:	10cm
– Carrier Phase:	1mm
Heading Accuracy:	
– 1m Baseline (RMS):	0.15°
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%
Correction:	RTCM 2.x/3.x/CMR/CMR+
Max. Update Rate:	20Hz
Input Voltage:	5V~28V DC
Power Consumption (typical):	2.8W
Active Antenna Input Impedance:	50Ω
Storage:	In-built 4GB memory

Communication

Serial Ports:	LVTTL x2
USB Ports:	USB 2.0 device x1
CAN Ports:	ISO/DIS 11898 x1*
PPS Ports:	LVTTL x1
Event Mark:	LVTTL x1
Antenna Connector:	SMA female x2
COM Baud Rate:	Up to 460800bps

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

Physical

Size:	100x57x24mm
Weight:	150g
Operating Temperature:	-40℃ ~ +85℃

Website | www.tersus-gnss.com
Sales Inquiry | sales@tersus-gnss.com
Technical Support | support@tersus-gnss.com

Technical Specifications - 2W Radio RS460

General

Frequency Range:	457MHz~467MHz
Band Width:	10 MHz
Channel Width:	25KHz
Operation Voltage:	5V~12V
Power Consumption (typical):	
– Transmitting 2W:	6.5W@DC5.5V
– Transmitting 1W:	4W@DC5.5V
– Receiving:	< 400mW@DC5.5V
Dimension:	107x62x26.6mm
Weight:	≈213g
Operation Temperature:	-30℃ ~ +60℃
Storage Temperature:	-40℃ ~ +85℃
Antenna Port:	TNC Female
Antenna Impedance:	50Ω
VSMR:	≤ 1.5

Transmitter

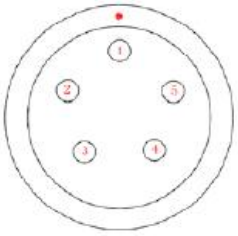
Frequency Stability (at 25℃):	≤±1.5ppm
Configurable Channels:	10
Adjacent Channel Selectivity:	≥ 60dB
RF Output Power:	
– High Power Level (2W):	33.5±0.5dBm@DC5.5V
– Low Power Level (1W):	30±0.5dBm@DC5.5V

Modem

Air Baud Rate:	9600bps @ 25KHz
Modulation Type:	GMSK
RF Sensitivity:	Better than 13dB @ -119dBm
Decode Sensitivity:	-116 dBm BER 10E-5 @ 9600bps
Protocol:	Transparent EOT, TT450S and Tersus

Interface (Pin) Definition

Type:	RS232
Pin 1:	Power Ground, GND
Pin 2:	Power Ground, GND
Pin 3:	Power, 5V~12V DC
Pin 4:	RXD
Pin 5:	TXD



Overview of Interface (Pin)

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