Tersus GeoBee

Cost-effective Solution for Ntrip Corrections

Overview

The Tersus GeoBee is a dedicated and cost- effective solution to transmit or receive Ntrip corrections. With Tersus Ntrip Caster Service, Ntrip Modem and David Receiver, the GeoBee opens the possibility for users to transmit Real Time Kinematic (RTK) corrections via Internet (Ethernet or 2G/3G/4G) in a simple, user-friendly way, just using a SIM card or Ethernet cable without any need of a static IP. GeoBee can also work as GNSS Rover to receive RTK corrections from Tersus Ntrip Caster or any CORS service.

Ntrip server mode: use David GNSS receiver to create a base station. This temporary base or CORS are for surveying, agriculture, UAV, machine control, and etc. It is also ideal for deformation monitoring. Tersus GNSS Inc. provides Ntrip Caster to transfer data.

Ntrip client mode: connect David or other Tersus GNSS receivers to Tersus Ntrip Caster or any Ntrip/CORS service. David is mainly used for surveying, and also used as a GNSS sensor in various applications, such as mobile mapping, machine control, precision agriculture, and etc.

Key Features

- ✓ Supports multiple constellations & frequencies
  - GPS L1, L2
  - GLONASS L1, L2
  - BeiDou B1, B2
- ✓ Supports 384 channels
- ✓ Supports RTCM2.3/3.x, CMR/CMR+ corrections
- ✓ Supports 4GB internal storage
- ✓ Rapid RTK integer ambiguity resolution
- ✓ Supports stable, high-precision measurement output
- ✓ Supports Ethernet is default while 2G/3G/4G is hot standby
- ✓ Supports Ntrip Server and Ntrip Client protocol
- ✓ Supports RS232 and RS485
- ✓ Supports remote access and operation

Tersus GNSS

David GNSS Receiver

Technical Specifications

Performance

Signal Tracking:	
	GPS L1, L2; GLONASS L1, L2; BeiDou B1, B2
Channels:	384
Single Point Positioning Accuracy (RMS):	
- Horizontal:	1.5m
- Vertical :	3.0m
Real Time Kinematic (RMS):	
- Horizontal:	10mm+1ppm
- Vertical:	15mm+1ppm
Post Processed Kinematic (RMS):	
- Horizontal:	10mm+1ppm
- Vertical:	15mm+1ppm
Static Post Processing (RMS):	
- Horizontal:	3mm+0.5ppm
- Vertical:	5mm+0.5ppm
Observation Accuracy (zenith direction):	
- C/A Code:	10cm
- P Code:	10cm
- Carrier Phase:	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%
Differential Data Format:	RTCM 2.x/3.x, CMR/CMR+
Data Output:	NMEA-0183, Tersus Binary
Data Update Rate:	20Hz
Storage:	Built-in 4GB

Communication

Serial Ports:	RS232 x2
Serial Baud Rate:	Up to 460800bps
USB Ports:	USB 2.0 OTG x1
Antenna Connector:	SMA female x1

Software Support

Tersus Nuwa
MicroSurvey FieldGenius
Other Third Party Software Support NMEA-0183

Electrical

Input Voltage:	5V~12V DC(1)
Power Consumption (at 25℃):	3.65W
Active Antenna Input Impedance:	50Ω

Physical

Dimension:	104x65x31mm (David only)
Weight:	≈ 250g (David only)

Environmental

Operating temperature:	-40℃ ~ +85℃
Storage temperature:	-40℃ ~ +85℃
Dust- & Waterproof:	IP67

Optional Accessories

2W/28W 410-470MHz radio to transmit/receive RTK corrections
Battery bank

Note:
(1) When using 5V external power supply, it is recommended to use 2A current input;

Tersus GNSS
Ntrip Modem TR600

Technical Specifications

Performance

Input Voltage:	12V~48V DC
Operating Current:	350mA @ +12V DC
Standby Current:	250mA @ +12V DC
Power Consumption (typical):	4.2W

Physical

Dimension:	118x91x34mm (w/o connectors)
Weight:	335g
Operating Temperature:	- 40℃ ~ +80℃
Relative Humidity:	95% @ +40℃

Interfaces

Serial Port:	RS232 x1, RS485 x1
Ethernet:	RJ45 x2 (LAN, LAN/WAN)
Antenna Connector:	SMA Female x2 (4G, WiFi)

Communication

Network:
Chinese version:
- 2G: GSM/GPRS/EDGE/CDMA2000 1x
- 3G: UMTS/WCDMA/HDSPA/HSPA+/TD-SCDMA /CDMA2000 EVDO
- 4G: TDD-LTE/FDD-LTE

Eurasian version (Europe, Middle East, Africa, South Korea, Thailand):
- 2G: GSM/GPRS/EDGE
- 3G: UMTS/WCDMA/HDSPA/HSPA+
- 4G: TDD-LTE/FDD-LTE

North American version:
- 3G: UMTS/WCDMA/HDSPA/HSPA+
- 4G: FDD-LTE

Australian version (New Zealand, Australia, South America):
- 2G: GSM
- 3G: WCDMA
- 4G: FDD-LTE/TDD-LTE

Operating Frequency:
Chinese version:
- TDD-LTE B38/B39/B40/B41
- FDD-LTE B1/B3/B8
- UMTS/HSDPA/HSPA+ B1/B8
- TD-SCDMA B34/B39
- CDMA2000 1x/EVDO BC0
- GSM/GPRS/EDGE 900/1800 MHz

Eurasian version:
- TDD-LTE B38/B40
- FDD-LTE B1/B3/B7/B8/B20
- UMTS/HSDPA/HSPA+ B1/B8
- GSM/GPRS/EDGE 900/1800 MHz

North American version:
- FDD-LTE B2/B4/B5/B17
- UMTS/HSDPA/HSPA+ B2/B5

Australian version:
- FDD-LTE B1/B2/B3/B4/B5/B7/B8/B28
- TDD-LTE B40
- WCDMA B1/B2/B5/B8
- GSM 850/900/1800/1900

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