Tersus GNSS

David30-D GNSS Receiver

Overview

The Tersus David30-D is a multi-constellation high precision RTK positioning and heading GNSS receicer which offers centimeter-accurate positioning. It is desighed for intelligent transportation, construction, machine control, precision agriculture, and navigation applications.

The David30-D GNSS receiver is bulit for outdoor environments with IP67-rated enclosure. The compact palm size makes it easy to integrate with various application systems.

Key Features

- ✓ Supports multi-constellation including BeiDou, GPS, GLONASS, Galileo, and QZSS
- ✓ Supports RTK positioning and heading
- ✓ Supports 1408 channels
- ✓ Supports RTCM v2.x/3.x corrections
- ✓ Flexible for integration in different applications
- ✓ Data update rate up to 20Hz
- ✓ IP67-rated dust- & waterproof enclosure, for reliability in challenging environmental conditions

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Technical Specifications

Performance

Signal Tracking:		
GPS L1, L2, L5; Galileo E1, E5a, E5b;	GLONASS L1, L2; QZSS L1, L2, L5	BDS B1I, B2I, B3I;
Channels:		1408
Single Point Positioning Accuracy (RMS):		
- Horizontal:		1.5m
- Vertical :		2.5 m
DGPS Positioning Accuracy (RMS):		
- Horizontal:		0.4m
- Vertical:		0.8m
Real Time Kinematic/RTK (RMS):		
- Horizontal:		8mm+1ppm
- Vertical:		15mm+1ppm
Initialization (Typical):		<5s(1)
Initialization Reliability:		>99.9%(2)
Observation Accuracy (zenith direction):		
- C/A Code:		10cm
- P Code:		10cm
- Carrier Phase:		1mm
Time To First Fix (TTFF):		
- ColdStart:		<30s
- WarmStart:		<5s
Re-acquisition:		<1s
Timing Accuracy (RMS):		20ns
Velocity Accuracy (RMS):		0.03m/s
Heading Accuracy:		0.1 degree/1m baseline
Differental Data Format:		RTCM v2.x/3.x
Data Output:		NMEA-0183, Tersus Binary
Data Update Rate:		20Hz

Electrical

Input Voltage:	5~12V DC(3)
Power Consumption(at 25℃):	2.8W without external radio

Software Support

Tersus GNSS Center

Other third party software support NMEA-0183

Communication

Serial Ports:	RS232 x3
Serial Baud Rate:	9600, 19200, 38400, 57600, 115200(default), 230400, 460800bps
CAN Port:	CAN x1
PPS Port:	LVTTL x1
EVENT Ports:	LVTTL x2
Antenna Connectors:	TNC Female x2

Physical

Dimension:	124x79.5x37mm
Weight:	≈360g(4)

Environmental

Operating Temperature:	-40℃~ +70℃
Storage Temperature:	-40℃~ +85℃
Humidity:	95% non-condensing
Dust-& waterproof:	IP67

Note:
(1) The initialization time depends on various factors, including the number of satellites, observation time, atmospheric conditions, multi-path, obstructions, satellite geometry, etc.
(2) The initialization reliability may be affected by atmospheric conditions, signal multipath, and satellite geometry.
(3) It is recommended using 2A instead of 1A when the external power is 5V.
(4) The actual size/weight may vary depending on the manufacturing process and measurement method.

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