

# Tersus GNSS

## David30 GNSS Receiver

### Overview

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

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

### Key Features

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- ✓ Supports multi-constellation including BeiDou, GPS, GLONASS, Galileo, and QZSS
- ✓ Supports 576 channels
- ✓ Supports RTCM2.x/3.x, CMR/CMR+ corrections
- ✓ Flexible for integration in different applications
- ✓ Data update rate up to 20Hz
- ✓ In-built 8GB (Optional:32GB) storage benefits data collection
- ✓ IP67-rated dust- & waterproof enclosure, for reliability in challenging environmental conditions
- ✓ Supports Nuwa surveying software



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### Technical Specifications

#### Performance

Signal Tracking:	
GPS L1C/A, L2C, L2P, L5; BDS B1, B2, B3, support BDS-3; Galileo E1, E5a, E5b; SBAS supports WAAS, EGNOS, GAGAN, SDCM, MSAS	GLONASS L1C/A, L2C/A; QZSS L1 C/A, L2C, L5;
Channels:	576
Single Point Positioning Accuracy (RMS):	
- Horizontal:	1.5m
- Vertical :	3.0m
DGPS Positioning Accuracy (RMS):	
- Horizontal:	0.25m
- Vertical:	0.5m
Real Time Kinematic/RTK (RMS):	
- Horizontal:	8mm+1ppm
- Vertical:	15mm+1ppm
Initialization (Typical):	<10s <sup>(1)</sup>
Initialization Reliability:	>99.9% <sup>(2)</sup>
High-Precision Static (RMS):	
- Horizontal:	2.5mm+0.1ppm
- Vertical:	3.5mm+0.4ppm
Observation Accuracy (zenith direction):	
- C/A Code:	10cm
- P Code:	10cm
- Carrier Phase:	1mm
Time To First Fix (TTFF):	
- ColdStart:	<50s
- WarmStart:	<30s
Re-acquisition:	<2s
Timing Accuracy (RMS):	20ns
Velocity Accuracy (RMS):	0.03m/s
Differential Data Format:	RTCM 2.x/3.x, CMR/CMR+
Data Output:	NMEA-0183, Tersus Binary
Data Update Rate:	20Hz
Storage:	In-built 8GB (Optional: 32GB)

#### Electrical

Input Voltage:	5~28V DC <sup>(3)</sup>
Power Consumption(at 25°C):	3.6W

#### Software Support

Tersus GNSS Center
Other third party software support NMEA-0183

#### Communication

Serial Ports:	RS232 x3
Serial Baud Rate:	up to 921600bps
USB Port:	USB 2.0 OTG x1
CAN Port:	CAN x1
PPS Port:	LVTTTL x1
EVENT Ports:	LVTTTL x2
Antenna Connectors:	TNC Female x1

#### Physical

Dimension:	124x79.5x37mm
Weight:	≈360g <sup>(4)</sup>

#### Environmental

Operating Temperature:	-40°C~ +70°C
Storage Temperature:	-40°C~ +85°C
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) Input of 28~36V DC can be customized. 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.