

# Tersus GNSS

## David30-TAP GNSS Receiver

### Overview

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

The David30-TAP GNSS receiver includes "TAP", the satellite-based precise point positioning service developed by Tersus GNSS. With TAP, the GNSS rover receiver will not need to work with the local RTK base station or CORS, but directly receives corrections broadcast by the satellites, such as ephemeris error, satellite clock error, etc.

### Key Features

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- ✓ Multi-constellation including BeiDou, GPS, GLONASS, Galileo, QZSS, SBAS and L-Band
- ✓ 576 channels
- ✓ TAP service
- ✓ RTCM2.x/3.x, CMR/CMR+ corrections
- ✓ Flexible for integration in different applications
- ✓ Data update rate up to 20Hz
- ✓ Input power range is 5~28V DC<sup>(1)</sup>
- ✓ Built-in 8GB storage benefits data collection
- ✓ IP67-rated dust- & waterproof enclosure, for reliability in harsh environmental conditions
- ✓ Supports Nuwa surveying software



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### Technical Specifications

#### Performance

Signal Tracking:	
GPS L1 C/A, L2C, L2P, L5	
GLONASS L1 C/A, L2 C/A	
BDS B1, B2, B3, supports BDS-3	
Galileo E1, E5a, E5b	
QZSS L1 C/A, L2C, L5	
SBAS supports WAAS, EGNOS, GAGAN, SDCM, MSAS L-Band	
Channels:	576
Single Point Positioning Accuracy (RMS):	
- Horizontal:	1.5m
- Vertical :	3.0m
DGPS Positioning Accuracy (RMS):	
- Horizontal:	0.25m
- Vertical:	0.5m
High-Precision Static (RMS):	
- Horizontal:	2.5mm+0.1ppm
- Vertical:	3.5mm+0.4ppm
Post Processed Kinematic (RMS):	
- Horizontal:	2.5mm+1ppm
- Vertical:	5mm+1ppm
Real Time Kinematic (RMS):	
- Horizontal:	8mm+1ppm
- Vertical:	15mm+1ppm
Initialization (Typical):	4s <sup>(2)</sup>
Initialization Reliability:	>99.99%
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
Re-acquisition:	<2s
Timing Accuracy (RMS):	20ns
Velocity Accuracy (RMS):	0.03m/s

Note:

(1) Input of 28~36V DC can be customized.

(2) The initialization time depends on various factors, including the number of satellites, observation time, atmospheric conditions, multi-path, obstructions, satellite geometry, etc.

TAP Positioning Accuracy (RMS):	
- Horizontal:	15mm
- Vertical:	30mm
TAP Convergence Time:	3 minutes
TAP Coverage:	Global
TAP Signal Stability:	99.99%
Correction:	RTCM 2.x/3.x, CMR/CMR+
Data Output:	NMEA-0183, Tersus Binary
Max. Update Rate:	20Hz
Storage:	Built-in 8GB

#### Software Support

Tersus Nuwa	
Other third party software support NMEA-0183	

#### Communication

Serial ports:	RS-232 x2
COM baud rate:	Up to 921600bps
USB ports:	USB 2.0 OTG x1
CAN ports:	CANx1
PPS ports:	LVTTL x1
Event mark:	LVTTL x2
Antenna Connector:	TNC female x1

#### Electrical and Physical

Input voltage:	5V~28V DC <sup>(1)</sup>
Power consumption (typical):	3.6W
Dimension:	124x79.5x37mm
Weight:	≈ 360g

#### Environmental

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