L300

GNSS receiver

PRECISION

you can trust

IMU TILT | UHF RADIO | WEBUI | FULL GNSS

Performance specification

Satellite signals tracked simultaneously	GPS: L1 C/A,L1C,L2P(Y),L2C,L5
	GLONASS: L1,L2,L3
	BEIDOU: B1I,B2I,B3I,B1C,B2a,B2b
	GALILEO: E1,E5a,E5b,E6
	QZSS: L1,L2,L5,L6
	SBAS: L1,L5 IRNSS: L5
Channels	1408 tracking Channels
Cold start	<60 s
Hot start	<15 s
Positioning output rate	1Hz - 20Hz
Signal Reacquisition	<1s
RTK Initialization time	<10s
Initialization Reliability	>99.99%
Time accuracy	20 ns

Positioning[1]

Code differential GNSS positioning	Horizontal: 0.25 m + 1 ppm RMS
	Vertical: 0.50 m + 1 ppm RMS
	SBAS differential positioning accuracy[2]: typically <5m 3DRMS
Static GNSS surveying	Horizontal: 2.5 mm + 0.5 ppm RMS
	Vertical: 5 mm + 0.5 ppm RMS
Real Time Kinematic Surveying	
Single Baseline < 30 KM	Horizontal: 8 mm + 1 ppm RMS Vertical: 15 mm+ 1ppm RMS
Network RTK[3]	Horizontal: 8 mm + 0.5 ppm RMS Vertical: 15 mm + 0.5 ppm RMS

HARDWARE

PHYSYCAL	
Material	Magnesium alloy
Dimensions	150mm * 71mm (without bottom connector 60mm)
weight	≤1.0 Kg
Operating temperature	-40°C to + 75°C
Storage temperature	-55°C to + 85°C
Protection IP	IP67 dust proof, protected from 30min immersion to depth of 1m
Shock	Survive a 2m pole drop onto concrete
Vibration	MIL-STD-810G
Humidity	100%, condensing

1- Precision and reliability may be subject to anomalies due to multipath, obstructions, satellite geometry, and atmospheric conditions. The specifications stated recommend the use of stable mounts in an open sky view, EMI and multipath clean environment, optimal GNSS constellation configurations. Base lines longer than 30 km require precise ephemeris and occupations up to 24 hours may be required to achieve the high precision static specification.

2- Depends on SBAS system performance

3- Network RTK PPM values are referenced to the closest physical base station and depends on network performances.

ELECTRYCAL	
Power: 9~24 V DC external power input on 5 pin LEMO port	
Support USB Type-C fast charging	
Internal 6800mA lithium-ion battery	
Battery Life	Rover Mode: 12 hours Base Mode: 7 hours Static Mode: 15 hours

Communication & Data Storage

I/O interface	
LEMO port (5pin)	Supports power input, serial port control, and external radio communication
USB Type-C port	Data download / Charging
Sim card slot	Supports Nano-SIM
Antenna port	UHF antenna interface
Radio modem	
Transmit power	1/2 w switchable, Work range can reach to 15km under AlphaTalk15 protocol
Frequency band	410MHz-470MHz; supports to set the frequency
Protocols	AlphaTalk15, TrimTalk450s, SOUTH, Satel, PCC-EOT
Cellular	
Integrated full frequency multi band 4G modem, supports WCDMA/CDMA2000/TDD-LTE/FDD-LTE	
WIFI	
802.11 b/g standard, access point & client mode, supports access to hotspot for correction transmission	
Bluetooth	
Fully integrated Bluetooth V4.0, range ≤ 50m	
Data format	
RTCM2x, RTCM3x, CMR & CMR+, sCMRx	
Dat, RINEX, NMEA outputs	
storage	
8GB internal memory, supports cyclic storage; with ability to collect over one year raw observation based on 5 seconds interval	

Others

System integration	
OS system:	Intelligent LINUX operating system
Tilt Compensation	IMU up to 60° (Calibration free)
Relay station	CORS relay, Radio relay
Supported controllers	All android devices with supported software
Design	
button	Power key
Indicator	Power indicator, data link indicator, satellite indicator, Bluetooth indicator
Voice	Intelligent voice prompts
WEBUI	Support WEBUI configuration

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L300

GNSS receiver

L300 is a compact new generation of smart GNSS receiver designed for any surveying project using the latest GNSS technology.This receiver is equipped with all modern required connectivity modules: Bluetooth, Internal radio, WIFI & 4G modem. 6800mAh Built-in battery, IMU tilt technology and WebUI are other latest technologies used in L300 receivers.

■ Multi constellation

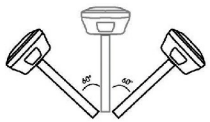
L300 with its 1408 channels new generation full GNSS chipset & ability to support multiple satellite constellation including GPS, GLONASS, BEIDOU, GALILEO, QZSS, SBAS and IRNSS provides precise and accurate spatial data for all users around the world.

■ WiFi and WebUI

L300 serves as a WIFI hotspot, so users can easily access, manage the status, set the configuration or download static and PPK raw data through advanced WebUI using computer, smartphone or other electronic devices with WIFI support without any need to third party software or cable.

■ IMU Tilt Sensor

L300 is equipped with a fast initialization, calibration free & immune to magnetic interference Inertial Measurement Unit (IMU). All users can use this technology to collect or stakeout topo points up to 60°.



■ GSM & Super radio

A fast internet connection is guaranteed with a built-in 4G module that accelerate receiving correction data using all telecommunication signals and bands. L300 comes with an integrated 15 km-range Tx/Rx internal UHF radio that ranges from 410 MHz to 470 MHz with selectable frequency providing ability to connect and collect accurate real time data in Base/Rover mode.

UHF

■ Battery & Power

L300 is delivered with an internal large capacity 6800mAh lithium-ion internal battery supporting USB type-C fast charging which allows users to work for more than 12 hours in daily field work.

12h

■ IP67

Choosing a small, light but professional, reugged GNSS receiver has always been a concern among professional surveyors. L300 with its high quality magnesium alloy body provides such advantages without decreasing quality or notable increase in price.

■ Working mode

Every surveyor needs to operators and choose suitable working method based on project requirements and required accuracy. In order to work in such condition users will need a device to be able to work in different modes such as Static, Network RTK, UHF RTK, PPK & etc. L300 is offering all you need in a package!